Republic of the Philippines
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

MEMORANDUM CIRCULAR NO.: 031-2022

TO : ALL CONCERNED

FROM : THE ACTING DIRECTOR GENERAL

SUBJECT : AMENDMENT TO THE SECOND EDITION OF MANUAL OF STANDARDS FOR AIR TRAFFIC SERVICES (MOS-ATS) INCORPORATING AMENDMENT 11 TO PANS-ATM, PROVISIONS FOR AERODROME FLIGHT INFORMATION SERVICE (AFIS) AND OTHER SUPPLEMENTARY /CONSEQUENTIAL AMENDMENTS TO MOS-ATS

REFERENCE:

1. Philippine Civil Aviation Regulations- Air Navigation Services Part 11 Amendment No. 6
2. Manual of Standards for Air Traffic Services, 2nd Edition
3. PANS-ATM Amendment 11
4. MC 1-80 Aerodrome Advisory Service
5. ICAO Circular 211 Aerodrome Flight Information Service (AFIS)
6. CAAP Regulations Amendment Procedures
7. Board Resolution No. 2012-054 dated 28 September 2012

Pursuant to the powers vested in me under the Republic Act 9497, otherwise known as the Civil Aviation Authority Act of 2008 and in accordance with the Board Resolution No.: 2012-054 dated 28 September 2012, I hereby approve the following amendments to the Manual of Standards for Air Traffic Services.

ORIGINAL REGULATION SUBJECT FOR REVIEW AND REVISION:

MANUAL OF STANDARDS FOR AIR TRAFFIC SERVICES (MOS-ATS)

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INTRODUCTION

1. Manual of Standards for Air Traffic Services (MOS-ATS)

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1.2 This document is divided into the following chapters:

Chapter 1 contains definitions and abbreviations.

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Chapter 22 contains provisions regarding Aerodrome Flight Information Service.

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4. Related documents

The users of MOS-ATS are invited to read the following publications for additional information:

a) Aeronautical Information Publication – Philippines

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e) ICAO Circular 211-AN/28 – Aerodrome Flight Information Service (AFIS)

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CHAPTER 1 – DEFINITIONS AND ABBREVIATIONS

1.1 DEFINITIONS

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Aerodrome. A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Note. — The term "aerodrome" where used in the provisions relating to flight plans and ATS messages is intended to cover also sites other than aerodromes which may be used by certain types of aircraft, e.g. helicopters or balloons.

Aerodrome Advisory Service. Air traffic advisory service for aerodrome traffic at uncontrolled aerodromes or at those aerodromes where the appropriate authority determines that the provision of aerodrome control service is not justified.

Aerodrome Advisory Zone. The area within five (5) nautical miles from surface up to but excluding 2000 ft of an uncontrolled aerodrome on which is located a Flight Service Station providing aerodrome flight information service and alerting service to aerodrome traffic.

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Aerodrome elevation. The elevation of the highest point of the landing area.

Aerodrome Flight Information Service. Flight information service for aerodrome traffic.

Note. – On an uncontrolled aerodrome where a Flight Service Station is located, an aircraft is in the vicinity of the aerodrome when it is entering, leaving, or operating within the aerodrome Traffic Circuit.

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Data link initiation capability (DLIC). A data link application that provides the ability to exchange addresses, names and version numbers necessary to initiate data link applications.

Data link-VOLMET (D-VOLMET). Provision of current aerodrome routine meteorological reports (METAR) and aerodrome special meteorological reports (SPECI), aerodrome forecasts (TAF), SIGMET, special air-reports not covered by a SIGMET and, where available, AIRMET via data link.

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Expected approach time. The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for a landing.

Note. — The actual time of leaving the holding fix will depend upon the approach clearance.

Favored runway. A Runway that the ATMOs considered most suitable for use by the types of aircraft expected to land or take off at the aerodrome, taking into consideration wind direction and speed, runway conditions, ground traffic and other relevant factor or restrictions.

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Flight plan. Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.

Note. — Specifications for flight plans are contained in CAR-ANS Part 14, 14.3.3. A Model Flight Plan Form is contained in Appendix 2 to this document.

Flight Service Station. An aeronautical telecommunication facility that provides any or all of the following: aerodrome advisory service, aerodrome flight information service, pre-flight briefing service, flight following service, enroute air- ground or in-flight assistance service and alerting service.

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Precision approach radar (PAR). Primary radar equipment used to determine the position of an aircraft during final approach, in terms of lateral and vertical deviations relative to a nominal approach path, and in range relative to touchdown.

Note. — Precision approach radars are designated to enable pilots of aircraft to be given guidance by radio communication during the final stages of the approach to land.

Preferred runway. A runway that the pilot-in-command considered most suitable for use by the aircraft, taking into consideration wind direction and speed and other relevant factor or restrictions.

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VMC. The symbol used to designate visual meteorological conditions.

VOLMET broadcast. Provision, as appropriate, of current METAR, SPECI, TAF and SIGMET by means of continuous and repetitive voice broadcasts.

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World area forecast center (WAFC). A meteorological center designated to prepare and issue significant weather forecasts and upper-air forecasts in digital form on a global basis direct to States using the aeronautical fixed service Internet-based services.

1.2 ABBREVIATIONS

AAZ	Aerodrome Advisory Zone
ACAS	Airborne Collision Avoidance System
ACC	Area Control Center
ACP	Acceptance Messages
ADS-B	Automatic Dependent Surveillance-Broadcast
ADS-C	Automatic Dependent Surveillance-Contract
AFIS	Aerodrome Flight Information Service
AFTN	Aeronautical Fixed Telecommunication Network
AIDC	ATS Interfacility Data Communication
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service
ANS	Air Navigation Service
ANSP	Air Navigation Service Provider
ARIWS	Autonomous Runway Incursion Warning System
ARR	Arrival Messages
ATC	Air Traffic Control
ATD	Actual Time of Departure
ATFM	Air Traffic Flow Management

ATIS	Automatic Terminal Information Service
ATM	Air Traffic Management
ATN	Aeronautical Telecommunication Network
ATS	Air Traffic Service
CAAP	Civil Aviation Authority of the Philippines
CAR-ANS	Civil Aviation Regulations for Air Navigation Services
CARs	Civil Aviation Regulations
CDN	Coordination Messages
CNL	Flight Plan Cancellation Messages
CNS	Communications, Navigation and Surveillance Systems
CPDLC	Controller-Pilot Data Link Communications
CPL	Current Flight Plan
DLA	Delay Messages
DLIC	Data Link Initiation Capability
DME	Distance Measuring Equipment
DPA	Departure Messages
EST	Estimate Messages
ETD	Estimated Time of Departure
FIR	Flight Information Region
FIC	Flight Information Center
FPL	Filed Flight Plan
FPS	Flight Progress Strips
FSS	Flight Service Station
GNSS	Global Navigation Satellite Systems
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rule
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
ITP	In-Trail Procedure
LAM	Logical Acknowledgement Messages
METAR	Meteorological Terminal Air Report
MOS	Manual of Standards
MSAW	Minimum Safe Altitude Warning
NDB	None-directional Beacon
NOTAM	Notice to Airmen
NOZ	Normal Operating Zone
NTZ	No Transgression Zone
PBN	Performance-Based Navigation
PCAR	Philippine Civil Aviation Regulations
PSR	Primary Surveillance Radar
RA	Resolution Advisory
RAIM	Receiver Autonomous Integrity Monitoring
RCF	Radio Communication Failure
RCP	Required Communication Performance Messages
RCR	Runway Condition Report
RNAV	Area Navigation
RNP	Required Navigation Performance
RPL	Repetitive Flight Plan
RQP	Request Flight Plan Messages
RQS	Request Supplementary Flight Plan Messages

RTF	Radiotelephony
RVR	Runway Visual Range
SAR	Search and Rescue
SCTA	Short-term Conflict Alert
SELCAL	Selective Calling System
SID	Standard Instrument Departure
SLOP	Strategic Lateral Offset Procedures
SMR	Surface Movement Radar
SMS	Safety Management System
SSR	Secondary Surveillance Radar
SSR	Special Service Request
STAR	Standard Instrument Arrival
TAF	Terminal Aerodrome Forecast
TMA	Terminal Control Area
UTC	Universal Time Coordinated
VFR	Visual Flight Rules
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
WAFC	World Area Forecast Center

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CHAPTER 12 – PHRASEOLOGIES

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12.3.3 Approach control services

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Circumstances	*Phraseologies*
12.3.3.2 TRAFFIC INFORMATION ...	... g) CLEARED *(type of approach)* RUNWAY *(number)* FOLLOWED BY CIRCLING TO RUNWAY *(number)*; h) CLEARED APPROACH [RUNWAY *(number)*]; i) COMMENCE APPROACH AT *(time)*; ... ~~*y) REQUEST (MLS/RNAV plain language designator);~~ ~~z) CLEARED *(MLS/RNAV plain language designator).*~~ * Denotes pilot transmission.
Note.— The instrument approach procedure identification in the aeronautical chart is used to specify the type of approach. Where the identification uses a parenthetical suffix to include exceptional conditions, e.g. "(LNAV/VNAV only)" or "(AR)" etc., the text in the parentheses does not form part of the ATC clearance.	

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12.3.5 Aerodrome Advisory Service Phraseologies

12.3.5.(A) - The FSS does not issue instructions and clearances but only provides suggestions and information. Consequently, the use of the words clear [approve], clears, cleared, clearance or its equivalent shall be avoided by the station. except when preceded by ATC (ex. ATC CLEARS . . .)

12.3.5.(B) - When a course of action is proposed to an aircraft to avoid a potential hazard, the station shall use either the word "MAY ", "SUGGEST" or the word "ADVISE" to precede applicable standard ATC phraseologies (ex. RPC123 MAY LAND RWY24; SUGGEST TO MAKE A 180 FOR SPACING, ETC)

For status of service and radiotelephony phraseology refer to 22.1.5 and 22.1.6.

Circumstances	*Phraseologies*
12.3.5.1 TRAFFIC INFORMATION ... to pass traffic information ... to acknowledge traffic information	a) TRAFFIC *(information)*; b) NO REPORTED TRAFFIC; *c) LOOKING OUT; *d) TRAFFIC IN SIGHT; *e) NEGATIVE CONTACT *[reasons]*; f) [ADDITIONAL] TRAFFIC *(direction)* BOUND *(type of aircraft) (level)* ESTIMATED (*or* OVER) *(significant point)* AT *(time)*; g) TRAFFIC IS *(classification)* UNMANNED FREE BALLOON(S) WAS [*or* ESTIMATED] OVER *(place)* AT *(time)* REPORTED *(level(s))* [*or* LEVEL UNKNOWN] MOVING *(direction) (other pertinent information, if any)*. * Denotes pilot transmission.
12.3.5.2 METEOROLOGICAL CONDITIONS	a) [SURFACE] WIND *(number)* DEGREES *(speed) (units)*; b) WIND AT *(level) (number)* DEGREES *(number)* KILOMETRES PER HOUR (*or* KNOTS); *Note. — Wind is always expressed by giving the mean direction and speed and any significant variations thereof.* c) VISIBILITY *(distance) (units) [direction]*; d) RUNWAY VISUAL RANGE (*or* RVR) [RUNWAY *(number)*] *(distance) (units)*; e) RUNWAY VISUAL RANGE (*or* RVR) RUNWAY *(number)* NOT AVAILABLE (*or* NOT REPORTED);

... for multiple RVR observations	f) RUNWAY VISUAL RANGE (*or* RVR) [RUNWAY *(number)*] *(first position) (distance) (units), (second position) (distance) (units), (third position) (distance) (units)*; *Note 1. — Multiple RVR observations are always representative of the touchdown zone, midpoint zone and the roll-out/stop end zone, respectively.* *Note 2. — Where reports for three locations are given, the indication of these locations may be omitted, provided that the reports are passed in the order of touchdown zone, followed by the midpoint zone and ending with the roll-out/stop end zone report.*
... in the event that RVR information on any one position is not available this information will be included in the appropriate sequence	g) RUNWAY VISUAL RANGE (*or* RVR) [RUNWAY *(number)*] *(first position) (distance) (units), (second position)* NOT AVAILABLE, *(third position) (distance) (units)*; h) PRESENT WEATHER *(details)*; i) CLOUD *(amount, [(type)] and height of base) (units)* (*or* SKY CLEAR); j) CAVOK; *Note. — CAVOK pronounced CAV-O-KAY.* k) TEMPERATURE *(number)* (*and/or* DEWPOINT *(number)*); l) QNH *(number) [units]*; m) QFE *(number) [(units)]*; n) *(aircraft type)* REPORTED *(description)* TURBULENCE [IN CLOUD] *(area) (time)*; o) REPORT FLIGHT CONDITIONS.

12.3.5.3 ADDITIONAL REPORTS

... to request a report at a specified place or distance	a) REPORT PASSING *(significant point)*; b) REPORT *(distance)* MILES (GNSS *or* DME) FROM *(name of DME station) (or significant point)*;
... to report at a specified place or distance	*c) *(distance)* MILES (GNSS *or* DME) FROM *(name of DME station) (or significant point)*;
... to request a report of present position	d) REPORT PASSING *(three digits)* RADIAL *(name of VOR)* VOR;

	e) REPORT (GNSS *or* DME) DISTANCE FROM *(significant point) or (name of DME station)*;
... to report present position	f) REPORT POSITION
Note. – These transmissions from the FSS are requests and do not constitute an instruction.	*g) *(distance)* MILES (GNSS *or* DME) FROM *(name of DME station) (or significant point)*. * Denotes pilot transmission.
12.3.5.4 AERODROME INFORMATION	a) [*(location)*] RUNWAY *(number)* SURFACE CONDITION [CODE *(three digit number)*] followed as necessary by:
Note 1. – 11.4.3.4.3 for requirements for passing RCR to pilots	1) ISSUED AT (date and time UTC);
Note 2. – This information is provided for runway thirds or the full runway, as applicable.	2) DRY, or STANDING WATER, or WET;
	3) DEPTH *((depth of deposit)* MILLIMETERS *or* NOT REPORTED);
	4) COVERAGE *((number)* PER CENT *or* NOT REPORTED);
	5) ESTIMATED SURFACE FRICTION (GOOD, *or* GOOD TO MEDIUM, or MEDIUM, *or* MEDIUM TO POOR, *or* POOR, *or* LESS THAN POOR);
	6) AVAILABLE WIDTH *(number)* METERS;
	7) LENGTH REDUCED TO *(number)* METERS;
	8) LOOSE SAND *or* STONE *or* GRAVEL or ASPHALT;
	9) TAXIWAY *(identification of taxiway)* POOR;
	10) APRON *(identification of apron)* POOR;
	11) *Plain language remarks*
	b) [*(location)*] RUNWAY SURFACE CONDITION RUNWAY *(number)* NOT CURRENT;
	c) LANDING SURFACE *(condition)*;

	d) CAUTION CONSTRUCTION WORK *(location)*; e) CAUTION *(specify reasons)* RIGHT (*or* LEFT), (*or* BOTH SIDES) OF RUNWAY *[number]*; f) CAUTION WORK IN PROGRESS (*or* OBSTRUCTION) *(position and any necessary advice)*; g) BRAKING ACTION REPORTED BY *(aircraft type)* AT *(time)* GOOD (*or* GOOD TO MEDIUM, *or* MEDIUM, *or* MEDIUM TO POOR, *or* POOR); h) TAXIWAY *(identification of taxiway)* WET [*or* STANDING WATER, *or* LOOSE SAND *or* STONE *or* GRAVEL or ASPHALT; i) TOWER OBSERVES *(weather information)*; j) PILOT REPORTS *(weather information)*.
12.3.5.5 OPERATIONAL STATUS OF VISUAL AND NON-VISUAL AIDS	a) *(specify visual or non-visual aid)* RUNWAY *(number) (description of deficiency)*; b) *(type)* LIGHTING *(unserviceability)*; c) TAXIWAY LIGHTING *(description of deficiency)*; d) *(type of visual approach slope indicator)* RUNWAY *(number) (description of deficiency)*.

12.3.6 Phraseologies for use on and in the vicinity of the aerodrome

Circumstances	*Phraseologies*
12.3.6.1 IDENTIFICATION OF AIRCRAFT	SHOW LANDING LIGHTS.
12.3.6.2 ACKNOWLEDGEMENT BY VISUAL MEANS	a) ACKNOWLEDGE BY MOVING AILERONS (*or* RUDDER); b) ACKNOWLEDGE BY ROCKING WINGS; c) ACKNOWLEDGE BY FLASHING LANDING LIGHTS.

12.3.6.3 STARTING PROCEDURES	
... to request permission to start engines	*a) *[aircraft location]* REQUEST START UP; *b) *[aircraft location]* REQUEST START UP, INFORMATION *(ATIS identification)*;
... at aerodromes where FSS can control start up, FSS replies	c) START UP APPROVED; d) START UP AT (*time*)
... at aerodromes where FSS can not control start up, FSS replies	e) START UP AT OWN DISCRETION; f) EXPECT DEPARTURE *(time)* START UP AT OWN DISCRETION. g) START UP AT OWN DISCRETION (*local information*) h) EXPECT DEPARTURE (*time*) START UP AT OWN DISCRETION * Denotes pilot transmission.

12.3.6.4 PUSHBACK PROCEDURES	
Note. — When local procedures so prescribe, authorization for pushback should be obtained from the FSS.	
... aircraft/FSS	*a) *[aircraft location]* REQUEST PUSHBACK; b) PUSHBACK AT OWN DISCRETION; c) EXPECT *(number)* MINUTES DELAY DUE *(reason)*. * Denotes pilot transmission.

12.3.6.5 TAXI	
... aircraft/FSS	*a) READY TO TAXI *(position)* b) [TRAFFIC (*details*)] AERODROME CONDITIONS (details) (*aircraft call sign)* MAY TAXI TO HOLDING POINT (*name*) RUNWAY (*number*) VIA TAXIWAY (*name*) *c) WILL TAXI TO HOLDING POINT *(name)* RUNWAY (*number*) VIA TAXIWAY (*name*) d) TRAFFIC (*details*) ADVISE TO HOLD (*name*)

	*e) HOLDING * Denotes pilot transmission.
12.3.6.6 RELAYING CLEARANCE ... FSS ... confirmation or otherwise of the readback of clearance	a) *(ATC unit)* CLEARS *(details of clearance)* b) THAT IS CORRECT; c) NEGATIVE [I SAY AGAIN] ... (as appropriate)
12.3.6.7 TAKE-OFF	a) [REPORT READY] *b) READY FOR DEPARTURE c) TRAFFIC (*details*) ADVISE TO HOLD *d) HOLDING; e) RUNWAY *(number)* (*aircraft call sign)* MAY TAKE-OFF [REPORT AIRBORNE]; *f) WILL TAKE OFF RUNWAY (*number*). g) [*or* RUNWAY *(number)* OCCUPIED (*or* BLOCKED) BY *(aircraft or vehicles or persons)*] (*aircraft call sign)* MAY LINE-UP [BACKTRACK VIA] (*runway number*) *h) WILL LINE UP RUNWAY [BACKTRACK VIA] (*runway number*); * Denotes pilot transmission.
12.3.6.8 AFTER TAKE-OFF ... to request airborne time	a) REPORT AIRBORNE; b) REQUEST AIRBORNE *(time)*; c) AFTER PASSING *(level) (contact instructions)*
12.3.6.9 ENTERING AN AERODROME TRAFFIC CIRCUIT	*a) *[aircraft type] (position) (level)* FOR LANDING; b) *[(direction of circuit in use)]* [RUNWAY *(number)*] [SURFACE] WIND *(direction and speed) (units)* [TEMPERATURE *(number)*]

... when ATIS information is available	QNH *(number) [(units)]* [TRAFFIC *(detail)*] REPORT (*leg of traffic circuit or next reporting point*); *c) *(aircraft type) (position) (level)* INFORMATION *(ATIS identification)* FOR LANDING; d) ROGER *(circuit in use)* [RUNWAY *(number)*] QNH (*or* QFE) *(number) [(units)]* [TRAFFIC *(detail)*]. * Denotes pilot transmission.
12.3.6.10 IN THE CIRCUIT	*a) (*position in circuit, e.g.* (DOWNWIND/FINAL); b) ROGER [RUNWAY *(number)* FREE] or [TRAFFIC (*detail*) *[additional information if required]*. * Denotes pilot transmission.
12.3.6.11 APPROACH *Note. — The report "LONG FINAL" is made when aircraft turn on to final approach at a distance greater than 7 km (4 NM) from touchdown or when an aircraft on a straight in approach is 15 km (8 NM) from touchdown. In both cases a report "FINAL" is required at 7 km (4 NM) from touchdown.*	a) REPORT BASE (or FINAL, or LONG FINAL); *b) BASE [*or* FINAL, *or* LONG FINAL]; c) TRAFFIC (*details*); d) NO REPORTED TRAFFIC RUNWAY (*number*); e) RUNWAY *(number)* FREE (*aircraft call sign)* MAY LAND; *f) WILL LAND [RUNWAY (*number*)]; *g)* [RUNWAY *(number)* OCCUPIED] ADVISE TO GO AROUND; *h) GOING AROUND. * Denotes pilot transmission
12.3.6.12 INFORMATION TO AIRCRAFT	

... when pilot requested visual inspection of landing gear	a) LANDING GEAR APPEARS DOWN; b) RIGHT (*or* LEFT, *or* NOSE) WHEEL APPEARS UP (*or* DOWN); c) WHEELS APPEAR UP; d) RIGHT (*or* LEFT, *or* NOSE) WHEEL DOES NOT APPEAR UP (*or* DOWN);
... wake turbulence	e) CAUTION WAKE TURBULENCE [FROM ARRIVING (*or* DEPARTING) *(type of aircraft)*] *[additional information as required]*;
... jet blast on apron or taxiway	f) CAUTION JET BLAST;
... propeller-driven aircraft slipstream	g) CAUTION SLIPSTREAM.

12.3.6.13 RUNWAY VACATING AND COMMUNICATIONS AFTER LANDING	a) TAXIWAY (name) AVAILABLE TO APRON (STAND) b) STAND (*or* GATE) *(designation)*;

12.3.7 Phraseology for vehicles/persons on the maneuvering area

Circumstances	*Phraseologies*
12.3.7.1 VEHICLE TRAFFIC	*a) *[vehicle call sign]] [location]* REQUEST PROCEED TO *[intentions]*; b) PROCEED TO HOLDING POINT *[number]* [RUNWAY *(number)*] [HOLD SHORT OF RUNWAY *(number)* (*or* CROSS RUNWAY *(number)*)]; *c) *[vehicle call sign]* REQUEST DETAILED INSTRUCTIONS;
... where detailed instructions are required	d) PROCEED TO HOLDING POINT *[number]* [RUNWAY *(number)*] VIA *(specific route to be followed)* [HOLD SHORT OF RUNWAY *(number)* (*or* CROSS RUNWAY *(number)*)]; e) TAKE (*or* TURN) FIRST (*or* SECOND) LEFT (*or* RIGHT); f) PROCEED VIA *(identification of taxiway)*; g) PROCEED VIA RUNWAY *(number)*;

... general	h) PROCEED TO TERMINAL (*or other location, e.g.,* GENERAL AVIATION AREA)]; *i) *(vehicle call sign) (location) REQUEST PROCEED TO (destination on aerodrome)*; j) PROCEED STRAIGHT AHEAD; k) PROCEED WITH CAUTION; l) GIVE WAY TO *(description and position of aircraft or other vehicle)*; *m) GIVING WAY TO *(traffic)*; *n) TRAFFIC *(or type of aircraft)* IN SIGHT; o) FOLLOW *(description of other aircraft or vehicle)*; p) VACATE RUNWAY *(number)*; q) RUNWAY *(number)* VACATED; r) EXPEDITE *[(reason)]*; *s) EXPEDITING; t) [CAUTION] proceed SLOWER *[reason]*; *u) SLOWING DOWN. * Denotes vehicle driver transmission.
12.3.7.2 HOLDING - VEHICLES	‡a) HOLD *(direction)* OF *(position, runway number, etc.)*; ‡b) HOLD POSITION; ‡c) HOLD *(distance)* FROM *(position)*; ‡d) HOLD SHORT OF *(position)*; *e) HOLDING; *f) HOLDING SHORT. ‡ Requires specific acknowledgement from the vehicle driver. * Denotes vehicle driver transmission. The procedure words ROGER and WILCO are insufficient acknowledgement of the instructions HOLD, HOLD POSITION and HOLD SHORT OF (position). In each case the acknowledgement shall be by the phraseology HOLDING or HOLDING SHORT, as appropriate.

12.3.7.3 TO CROSS A RUNWAY – VEHICLES	*a) REQUEST CROSS RUNWAY *(number)*; *Note. — If the FSS is unable to see the crossing vehicle/person (e.g., night, low visibility), the instruction should always be accompanied by a request to report when the runway has been vacated.* b) CROSS RUNWAY *(number)* [REPORT VACATED]; c) EXPEDITE CROSSING RUNWAY *(number)* TRAFFIC *(aircraft type) (distance)* KILOMETRES (*or* MILES) FINAL; d) PROCEED TO HOLDING POINT *[number]* [RUNWAY *(number)*] VIA *(specific route to be followed)*, [HOLD SHORT OF RUNWAY *(number)*] or [CROSS RUNWAY *(number)*]; *e) RUNWAY VACATED. * Denotes driver transmission
Note. — The driver will, when requested, report "RUNWAY VACATED" when the vehicle is beyond the relevant runway holding position.	

12.3.8 CLOSING OF FSS STATION

Circumstances	*Phraseologies*
To ensure that there are no aircraft within the service range of the Flight Service Station which may still need the services of the station beyond its prescribed hours of operation, the station shall broadcast within two minutes before closing time, the appropriate phraseology, on the aerodrome flight information frequency twice.	ALL STATIONS (three times); THIS IS (Station Identification); AERODROME INFORMATION; THIS STATION WILL CLOSE DOWN IN (*number of minutes*) – CONTACT IMMEDIATELY IF STATION SERVICES ARE STILL NEEDED – (pause); (Repeat) THIS IS (Station Identification).

12.3.9 Coordination between FSS and other ATS units

Circumstances	*Phraseologies*

12.3.9.1 ESTIMATES AND REVISIONS	a) ESTIMATE *[direction of flight] (aircraft call sign)* [SQUAWKING *(SSR code)*] *(type)* ESTIMATED *(significant point) (time) (level)* (*or* DESCENDING FROM *(level)* TO *(level)*) [SPEED *(filed TAS)*] *(route)* [REMARKS];
... sending unit	b) ESTIMATE *(significant point)* ON *(aircraft call sign)*;
... receiving unit reply (if flight plan details are not available)	c) NO DETAILS;
... receiving unit reply (if flight plan details are available)	d) *(aircraft type) (destination)*;
... sending unit reply	e) [SQUAWKING *(SSR code)*] [ESTIMATED] *(significant point) (time)* AT *(level)*; *Note. — In the event that flight plan details are not available the receiving station shall reply to b) NO DETAILS and transmitting station shall pass full estimate as in a).* f) ESTIMATE UNMANNED FREE BALLOON(S) *(identification and classification)* ESTIMATED OVER *(place)* AT *(time)* REPORTED FLIGHT LEVEL(S) *(figure or figures)* [*or* FLIGHT LEVEL UNKNOWN] MOVING *(direction)* ESTIMATED GROUND SPEED *(figure) (other pertinent information, if any)*; g) REVISION *(aircraft call sign) (details as necessary)*.
12.3.9.2 CHANGE OF CLEARANCE	a) REQUEST TO CHANGE CLEARANCE OF *(aircraft call sign)* TO *(details of alteration proposed)*; b) AGREED TO *(alteration of clearance)* OF *(aircraft call sign)*; c) UNABLE *(aircraft call sign)*; d) UNABLE *(desired route, level, etc.)* [FOR *(aircraft call sign)*] [DUE *(reason)*] *(alternative clearance proposed)*.
12.3.9.3 APPROVAL REQUEST	a) REQUEST *(aircraft call sign)* ESTIMATED DEPARTURE FROM *(significant point)* AT *(time)*;

	b) *(aircraft call sign)* REQUEST APPROVED *[(restriction if any)]*; c) *(aircraft call sign)* UNABLE *(alternative instructions)*.
12.3.9.4 EXPEDITION OF CLEARANCE	a) EXPEDITE CLEARANCE *(aircraft call sign)* EXPECTED DEPARTURE FROM *(place)* AT *(time)*; b) EXPEDITE CLEARANCE *(aircraft call sign)* [ESTIMATED] OVER *(place)* AT *(time)* REQUESTS *(level or route, etc.)*.

Editorial Note: - Adjust numbering

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12.4 ATS SURVEILLANCE SERVICE PHRASEOLOGIES

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12.4.2 Radar in approach control service

Circumstances	*Phraseologies*
12.4.2.1 VECTORING APPROACH	a) VECTORING FOR *(type of ~~pilot-interpreted aid~~ approach)* APPROACH RUNWAY *(number)*; ...
12.4.2.2 VECTORING FOR ILS AND OTHER ~~PILOT-INTERPRETED AIDS~~ APPROACH PROCEDURES	a) POSITION *(number)* KILOMETERS (*or* MILES) from *(fix)*. TURN LEFT (*or* RIGHT) HEADING *(three digits)*; b) YOU WILL INTERCEPT (FINAL APPROACH COURSE *or ~~(radio aid or track)~~*) *(distance)* FROM (*significant point or* TOUCHDOWN); ...
... instructions and information	e) REPORT ESTABLISHED ON [~~ILS~~] LOCALIZER (*or* ON [~~GBAS~~GLS/~~SBAS~~RNP/MLS] [FINAL] APPROACH [COURSE]); ... h) EXPECT VECTOR ACROSS THE (*~~(localizer course~~* LOCALIZER *or* [GLS/RNP/MLS] FINAL APPROACH COURSE *or radio aid~~)~~*) *(reason)*; i) THIS TURN WILL TAKE YOU THROUGH THE (*~~(localizer course~~* LOCALIZER *or* [GLS/RNP/MLS] FINAL APPROACH COURSE *or radio aid~~)~~*) [*(reason)*];

	j) TAKING YOU THROUGH THE (~~*localizer course*~~ LOCALIZER *or* [GLS/RNP/MLS] FINAL APPROACH COURSE *or radio aid*~~)~~) [*(reason)*]; ... m) INTERCEPT ~~*localizer course*~~ (LOCALIZER *or* [GLS/RNP/MLS] [FINAL] APPROACH [COURSE] *or radio aid*~~)~~) [RUNWAY *(number)*] [REPORT ESTABLISHED].
12.4.2.3 MANOEUVRE DURING INDEPENDENT AND DEPENDENT PARALLEL APPROACHES	... b) YOU HAVE CROSSED THE LOCALIZER (*or* ~~GBAS~~GLS/~~SBAS~~RNP/MLS FINAL APPROACH COURSE). TURN LEFT (*or* RIGHT) IMMEDIATELY AND RETURN TO THE LOCALIZER (*or* ~~GBAS~~GLS/~~SBAS~~RNP/MLS FINAL APPROACH COURSE) [RUNWAY *(number)*];

...

CHAPTER 22 – AERODROME FLIGHT INFORMATION SERVICE

22.1 General

22.1.1 Aerodrome flight information service (AFIS) is the term used to describe the provision of information useful for the safe and efficient conduct of aerodrome traffic at those aerodromes where the appropriate authority determines that the provision of aerodrome control service is not justified, or is not justified on a 24-hour basis. AFIS Is not intended to be used at aerodromes designated as regular or alternate aerodromes for international commercial air transport operations.

22.1.2 In determining whether aerodrome control service or AFIS should be provided at a given aerodrome, the appropriate ATS authorities, or where there is yet to be established ATS facility, the airport management, are expected to give due consideration to the type(s) of air traffic involved, the density of air traffic, the topographical and meteorological conditions, and such other factors as may be pertinent to safety and efficiency.

22.1.3 AFIS shall be provided by a FSS located at the uncontrolled aerodrome.

22.1.4 The FSS is not an air traffic control unit. When relaying clearance from ATC, FSS personnel shall only pass information and warnings to pilots. Pilots are therefore wholly responsible for maintaining proper spacing in conformity with the rules of the air (CAR-ANS 14).

22.1.5 In order that pilots may readily identify the status of the service they are receiving, the call sign "RADIO" following the name of the aerodrome should be used in aeronautical mobile communications to identify a unit providing AFIS, e.g., "SAN JOSE RADIO". This will avoid any possible confusion with a unit providing aerodrome control service which is identified by the call sign "TOWER".

22.1.6 If at any time it is apparent that the pilot is not aware that aerodrome control service is not provided, the pilot should immediately be informed of this fact using the following phraseology: "AERODROME CONTROL SERVICE NOT PROVIDED I SAY AGAIN NOT PROVIDED".

22.1.7 The hours of availability of AFIS shall be determined by the appropriate ATS authority.

22.1.8 AFIS should be provided from a location which ensures the best possible view of the aerodrome, the surrounding area and, in particular, the maneuvering area, e.g., a control tower, or a room facing the aerodrome and at least the approach ends of the runway, with unobstructed view from large windows.

22.1.9 The equipment in the FSS should, to the extent possible, be similar to the equipment required for the aerodrome control tower at an aerodrome with low traffic density.

22.2 Qualifications and training of AFIS personnel

As a minimum requirement, FSS shall be manned by personnel holding Aeronautical Station Operator License in accordance with PCAR Part 2, 2.9.3.

22.3 Procedures for AFIS

22.3.1 General

22.3.1.1 FSS shall issue information to aircraft in its area of responsibility to achieve a safe, orderly and expeditious flow of air traffic on and in the vicinity of an aerodrome with the objective of assisting pilots in preventing collision(s) between:

a) aircraft flying within the designated area of responsibility of the FSS, including the aerodrome traffic circuits;

b) aircraft operating on the maneuvering area;
c) aircraft landing and taking off;
d) aircraft and vehicles operating on the maneuvering area; and
e) aircraft on the maneuvering area and obstructions on that area.

22.3.1.2 FSS personnel-on-duty shall, when practicable, maintain a continuous watch by visual observation on all flight operations on and in the vicinity of an aerodrome as well as vehicles and personnel on the maneuvering area.

22.3.1.3 Visual observation shall be achieved in accordance with MOS-ATS 7.1.1.2.1.

22.3.2 Selection of Favored Runway

22.3.2.1 The term *"favored runway"* shall be used to indicate the runway that, at a particular time, is considered by the FSS to be the most suitable for use by the types of aircraft expected to land or take off at the aerodrome.

22.3.2.2 Normally, an aircraft will land and take off into wind unless safety, the runway configuration, meteorological conditions and available instrument approach procedures or air traffic conditions determine that a different direction is preferable. In selecting the runway; however, the FSS shall take into consideration, besides surface wind speed and direction, other relevant factors such as the aerodrome traffic circuits, the length of runways, and the approach and landing aids available.

22.3.2.3 Upon receipt of advice from the pilot-in-command of an aircraft that he will use a runway other than the favored runway, the station shall immediately transmit the information to all aerodrome traffic concerned with which it is in contact.

22.3.3 Initial call to FSS

22.3.3.1 For aircraft being provided with aerodrome flight information service, the initial call shall contain:

a) designation of the station being called; ex. *"San Jose Radio"*
b) call sign and type of aircraft;
c) position;
d) level/altitude;
e) intentions; and
f) additional elements, as required by the appropriate ATS authority.

22.3.3.2 When a pilot erroneously uses the word "TOWER" instead of "RADIO" in calling the station; when a pilot uses erroneous phraseologies such as "REQUEST CLEARANCE", or "AM I CLEARED TO LAND?" etc.; or whenever, in the judgement of the FSS personnel, the aircraft assumes either that a control tower is in operation or that aerodrome control service is being provided, the phrase "NO CONTROL TOWER IN OPERATION" shall be transmitted to convey the exact nature of the flight information service being provided by the station.

22.3.4 Information related to the operation of aircraft – General

22.3.4.1 Traffic Information to Aircraft

22.3.4.1.1 The following information shall be provided as appropriate:

a) direction of flight of aircraft concerned;
b) type and wake turbulence category (if known) of aircraft concerned;
c) level/altitude of aircraft concerned, including eventual changes;
d) relative bearing of the aircraft concerned in terms of the 12-hour clock as well as distance from the conflicting traffic; or
    1) actual or estimated position of the aircraft concerned; or
    2) estimated times; and
e) any other information considered relevant (e.g., approaching, entering/leaving the aerodrome flight information zone, estimated take-off or landing time).

22.3.4.2 Essential Local traffic information

22.3.4.2.1 Information on essential local traffic should be issued in a timely manner, either directly or through other ATS unit when, in the judgment of the FSS Personnel, such information is necessary in the interests of safety, or when requested by aircraft.

22.3.4.2.2 Essential local traffic should be considered to consist of any aircraft, vehicle or personnel on or near the maneuvering area or traffic operating in the vicinity of the aerodrome, which may constitute a hazard to the aircraft concerned.

22.3.4.2.3 Local traffic shall be described so as to be easily identified by the pilot.

22.3.4.3 Runway free

22.3.4.3.1 FSS personnel shall provide information to departing and arriving aircraft that the runway is free when no aircraft, vehicles or other obstructions are on the runway or closer to the runway than:

a) at a taxiway/runway intersection — at a runway-holding position; and`

b) at a location other than a taxiway/runway intersection — at a distance equal to the separation distance of the runway-holding position.

22.3.4.4 Wake turbulence and jet blast hazards

22.3.4.4.1 The responsibility for wake turbulence avoidance rests entirely with the pilot-in-command. FSS shall, to the extent practicable, advise aircraft of the expected occurrence of hazards caused by turbulent wake. Such information will be provided by the warning 'caution wake turbulence' and may also include relevant information on the aircraft concerned.

Note. — Occurrence of turbulent wake hazards cannot be accurately predicted and FSS cannot assume responsibility for the issuance of advice on such hazards at all times, nor for its accuracy.

22.3.4.4.2 In providing information, FSS should take into account the hazards caused by helicopter downwash turbulence and propeller slipstream to taxiing aircraft, to aircraft taking off or landing, and to vehicles and personnel operating on the aerodrome.

Note. — Jet blast, helicopter downwash turbulence and propeller slipstream can produce localized wind velocities of sufficient strength to cause damage to other aircraft, vehicles and personnel operating within the affected area. Further guidance on these effects is contained in the ICAO Air Traffic Services Planning Manual (Doc 9426), Part II, Section 5, Chapter 3.

22.3.4.5 Essential information on aerodrome conditions

22.3.4.5.1 Essential information on aerodrome conditions is information necessary to safety in the operation of aircraft, which pertains to the movement area or any facilities usually associated therewith. For example, construction work on a taxi strip not connected to the runway-in-use would not be essential information to any aircraft except one that might be taxied in the vicinity of the construction work. As another example, if all traffic must be confined to runways, that fact should be considered as essential aerodrome information to any aircraft not familiar with the aerodrome.

22.3.4.5.2 Essential information on aerodrome conditions shall include information relating to the following:

a) construction or maintenance work on, or immediately adjacent to the movement area;
b) rough or broken surfaces on a runway, a taxiway or an apron, whether marked or not;
c) water on a runway, a taxiway or an apron;
d) other temporary hazards, including parked aircraft and birds on the ground or in the air;
e) failure or irregular operation of part or all of the aerodrome lighting system; and
f) any other pertinent information.

Note. — Up-to-date information on the conditions on aprons may not always be available to the FSS. The responsibility of the FSS in relation to aprons is limited to the transmission to aircraft of the information which is provided to it by the authority responsible for the aprons.

22.3.4.5.3 Essential information on aerodrome conditions shall be given to every aircraft, except when it is known that the aircraft already has received all or part of the information from other sources. The information shall be given in sufficient time for the aircraft to make proper use of it, and the hazards shall be identified as distinctly as possible.

22.3.4.5.4 When a not previously notified condition pertaining to the safe use by aircraft of the maneuvering area is reported to or observed by the FSS personnel, the appropriate aerodrome authority shall be informed and operations on that part of the maneuvering area terminated until otherwise advised by the appropriate aerodrome authority.

22.3.4.6 Abnormal aircraft configuration and condition

22.3.4.6.1 Whenever an abnormal configuration or condition of an aircraft, including conditions such as landing gear not extended or only partly extended, or unusual smoke emissions from any part of the aircraft, is observed by or reported to the FSS, the aircraft concerned shall be advised without delay.

22.3.4.6.2 When requested by the flight crew of a departing aircraft suspecting damage to the aircraft, the departure runway used shall be inspected without delay and the flight crew advised in the most expeditious manner as to whether any aircraft debris or bird or animal remains have been found or not.

22.3.5 Information related to the operation of aircraft - Departing traffic

22.3.5.1 Start-up time procedures

22.3.5.1.1 At FSS where start up procedures are employed, or when pilots request a start-up clearance, FSS personnel shall provide start up instructions.

22.3.5.1.2 When so requested by the pilot prior to engine start, an expected take-off time should be given.

22.3.5.1.3 Start-up time procedures should be implemented where necessary to avoid congestion and excessive delays on the maneuvering area or when warranted by ATFM regulations. Start-up time procedures should be contained in local instructions or Facility Manual of Operations, and should specify the criteria and conditions for determining when and how start-up times shall be calculated and issued to departing flights.

22.3.5.1.4 When an aircraft is subject to ATFM regulations, it should be advised to start up in accordance with its allocated slot time.

22.3.5.2 Aerodrome and meteorological information

22.3.5.2.1 Prior to taxiing for take-off, aircraft shall be advised of the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

a) the favored runway;
b) the surface wind direction and speed, including significant variations therefrom;
c) the QNH altimeter setting;
d) the air temperature for the runway to be used, in the case of turbine-engine aircraft;
e) the visibility representative of the direction of take-off and initial climb, if less than 10 km, or, when applicable, the RVR value(s) for the runway to be used; and
f) the correct time.

22.3.5.2.2 Prior to take-off aircraft shall be advised of:

a) any significant changes in the surface wind direction and speed, the air temperature, and the visibility or RVR value(s) given in accordance with 22.3.5.2.1; and
b) significant meteorological conditions in the take-off and climb-out area, except when it is known that the information has already been received by the aircraft.

Note. — Significant meteorological conditions in this context include the occurrence or expected occurrence of cumulonimbus or thunderstorm, moderate or severe turbulence, wind shear, hail, severe squall line, severe mountain waves, or waterspout in the take-off and climb-out area.

22.3.6 Information related to the operation of aircraft – arriving traffic

22.3.6.1 Prior to entering the traffic circuit or commencing its approach to land, an aircraft shall be provided with the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

a) the favored runway;
b) the surface wind direction and speed, including significant variations therefrom;
c) the QNH altimeter setting;
d) current runway surface conditions, in case of precipitants and other temporary hazards;
e) changes in the operational status of visual and non-visual aids essential for approach and landing; and

f) other relevant information.

22.3.6.2 For arriving IFR traffic that intends to conduct an instrument approach the FSS shall, as early as practicable after an aircraft has established communication with the unit, transmit to the aircraft the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

a) the favored runway;
b) meteorological information, as follows:
    1) surface wind direction and speed, including significant variations;
    2) visibility and, when applicable, RVR;
    3) present weather;
    4) cloud below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility when available;
    5) air temperature;
    6) dew point temperature;
    7) altimeter setting; and
    8) any available information on significant meteorological phenomena in the approach area.

22.3.6.3 In applying the provisions in 22.3.6.1 and 22.3.6.2, it should be recognized that information published by NOTAM or disseminated by other means may not have been received by the aircraft prior to departure or during en-route flight.

22.3.6.4 At the commencement of final approach, the following information shall be transmitted to aircraft:

a) significant changes in the mean surface wind direction and speed;

Note. — Significant changes are specified in CAR-ANS Part 3, 3.4. However, if the FSS personnel possesses wind information in the form of components, the significant changes are:

- *Mean headwind component: 19 km/h (10 kt)*
- *Mean tailwind component: 4 km/h (2 kt)*
- *Mean crosswind component: 9 km/h (5 kt)*

b) the latest information, if any, on wind shear and/or turbulence in the final approach area;
c) the current visibility representative of the direction of approach and landing or, when provided, the current runway visual range value(s) and the trend.

22.3.6.5 During final approach, the following information shall be transmitted without delay:

a) the sudden occurrence of hazards (e.g., unauthorized traffic on the runway);
b) significant variations in the current surface wind, expressed in terms of minimum and maximum values;
c) significant changes in runway surface conditions;
d) changes in the operational status of required visual or non-visual aids;
e) changes in observed RVR value(s), in accordance with the reported scale in use, or changes in the visibility representative of the direction of approach and landing.

22.3.6.6 In addition to the information listed in 22.3.6.1, before entering the traffic circuit an aircraft should be informed of the current traffic circuits and other traffic when necessary.

22.3.6.7 Visual signals

22.3.6.7.1 When conditions make it necessary, the FSS may use the signal below to aircraft in the air to indicate that the aerodrome is unsafe.

Light signal	Meaning
Red flashes to aircraft in the air	Aerodrome unsafe, do not land

22.3.7 Coordination between Air Traffic Control (ATC) Unit and FSS

22.3.7.1 General

22.3.7.1.1 Where necessary, letters of agreement should be developed between the appropriate ATC unit and the FSS for the control of arriving and departing aircraft. The procedures in paragraphs 22.3.7.2 and 22.3.7.3 below may be used as a template for the inter unit coordination procedures detailed within such a letter of agreement.

22.3.7.2 Arriving traffic

22.3.7.2.1 For arriving IFR traffic the appropriate ATC unit shall provide an ETA to the FSS. The ETA message shall if possible be provided at least 15 minutes before the ETA. Revisions to the ETA shall be provided when the time difference is 5 minutes or more.

22.3.7.2.2 When the FSS has received an ETA for an arriving IFR aircraft, it shall provide the ATC unit with information about known traffic which the arriving aircraft should be aware of before transfer of communication to the FSS. The information shall be provided in such a time as being relevant and should be revised as necessary. The ATC unit shall relay the information to the arriving aircraft.

22.3.7.2.3 Where relevant, the FSS should provide the ATC unit with QNH and the ATC unit shall relay this information to the aircraft.

22.3.7.2.4 Transfer of communications shall be achieved not later than when the aircraft passes the controlled airspace boundary, if no other agreement has been made between the units concerned.

22.3.7.2.5 Should the aircraft fail to establish communications with the AFIS unit within 5 minutes after the latest received ETA, the FSS shall inform the ATC unit concerned.

22.3.7.2.6 When the aerodrome where the FSS is located within a TMA, the FSS shall as soon as possible inform the ATC unit about local traffic concerned as follows:

a) when necessary, inform the ATC unit when the first aircraft in a sequence is in contact with and is seen by the FSS and there is a reasonable assurance that it will land or has landed, depending on what occurs first;
b) missed approach, if the aircraft will leave the area of responsibility of the FSS or when the missed approach may affect other arriving traffic; and
c) any aircraft on or near the maneuvering area, or operating in the vicinity of the aerodrome, which may constitute a hazard to an arriving aircraft still under the control of the ATC unit.

22.3.7.2.7 When an ATC unit is providing approach control to arriving aircraft within a terminal area the following applies:

a) information about an approach with position information shall be given to the FSS in time for the FSS to be able to inform other traffic concerned and to ensure that the runway is free for landing as regards vehicle movements or work on the runway;
b) if the ATC unit is vectoring aircraft for a straight in approach, the FSS shall be timely informed of this fact;
c) the FSS shall provide information on relevant local traffic to the ATC unit which shall relay this information to the aircraft concerned.

22.3.7.3 Departing traffic

22.3.7.3.1 The FSS shall provide the appropriate ATC unit with:

a) estimated time of departure (ETD) and any revisions of 5 minutes or more;
b) when necessary, the departure runway; and
c) actual time of departure (ATD).

22.3.7.3.2 The appropriate ATC unit shall provide the FSS with ATC clearance when required as well as actual traffic information about such known traffic that the departing aircraft will need to be informed of before departure, and transponder code.

22.3.7.3.3 The FSS shall read-back the ATC clearance received.

22.3.7.3.4 The FSS shall relay the ATC clearance provided, traffic information and transponder code to the aircraft before departure and in exactly the form it was received.

22.3.7.3.5 If no agreement exists between the FSS and the appropriate ATC unit, the transfer of communication from the FSS to the ATC unit shall be made as follows:

a) as soon as safely possible and not more than 2 minutes after departure when the FSS is located within or in close proximity to a TMA and the aircraft will climb into this TMA;

b) in other cases, at a time suitable taking into consideration the traffic in the Aerodrome traffic information zone (TIZ);
c) in all cases, transfer of communication shall be made not later than when the aircraft is estimated to exit the TIZ.

22.3.7.4 Read-back of clearance

22.3.7.4.1 When relaying ATC clearances, the FSS personnel shall ensure that the flight crew reads back the safety-related parts of ATC clearances and instructions which are transmitted by voice. The following items shall always be read back:

a) ATC route clearances; and
b) Favored runway, altimeter settings, SSR codes, level instructions, heading and speed instructions.

22.3.7.4.2 Other clearances or instructions shall be read back or acknowledged in a manner to clearly indicate that they have been understood and will be complied with.

22.3.7.4.3 The FSS personnel shall listen to the read-back to ascertain that the clearance or instruction has been correctly acknowledged by the flight crew and shall take immediate action to correct any discrepancies revealed by the read-back.

22.4 Aerodrome Traffic

22.4.1 General

22.4.1.1 As the view from the flight deck of an aircraft is normally restricted, the FSS shall ensure that information which require the flight crew to employ visual detection, recognition and observation are phrased in a clear, concise and complete manner.

22.4.2 Traffic on the maneuvering area

22.4.2.1 Taxiing aircraft

22.4.2.1.1 On receiving information that an aircraft is about to taxi, the FSS shall determine where the aircraft concerned is parked. Relevant information on local traffic and aerodrome conditions shall be provided to assist the flight crew in selecting taxi routes to avoid collision with other aircraft or objects.

22.4.2.2 Taxiing on the runway

22.4.2.2.1 If the FSS is unable to determine that a vacating or (crossing) aircraft has cleared the runway, the aircraft shall be requested to report when it has vacated the runway. The report shall be made when the entire aircraft is beyond the relevant runway-holding position.

22.4.2.3 Helicopter taxiing operations

22.4.2.3.1 Situations which require small aircraft or helicopters to taxi in close proximity to taxiing helicopters should be avoided and consideration should be given to the effect of turbulence from taxiing helicopters on arriving and departing light aircraft.

22.4.2.3.2 A frequency change should not be issued to single-pilot helicopters hovering or air-taxiing. Whenever possible, the relay of control instructions from the ATS unit should be delayed as necessary until the pilot is able to change frequency.

Note. — Most light helicopters are flown by one pilot and require the constant use of both hands and feet to maintain control during low-altitude/low-level flight. Although flight control friction devices assist the pilot, changing frequency near the ground could result in inadvertent ground contact and consequent loss of control.

22.4.3 Control of ground vehicles and personnel

22.4.3.1 Entry to the maneuvering area

2.2.4.3.1.1 The movement of persons or vehicles including towed aircraft on the maneuvering area shall be subject to authorization by the FSS. Persons, including drivers of all vehicles, shall be required to obtain authorization from the FSS before entry to the maneuvering area. Notwithstanding such an authorization, entry to a runway or runway strip or change in the operation authorized shall be subject to a further specific authorization by the FSS.

22.4.3.2 Priority on the maneuvering area

22.4.3.2.1 All vehicles and persons shall give way to aircraft which are landing, taxiing or taking off, except that emergency vehicles proceeding to the assistance of an aircraft in distress shall be afforded priority over all other surface movement traffic. In the latter case, all

movement of surface traffic should, to the extent practicable, be halted until it is determined that the progress of the emergency vehicles will not be impeded.

22.4.3.2.2 When an aircraft is landing or taking off, vehicles shall not be permitted to hold closer to the runway-in-use than:

a) at a taxiway/runway intersection — at a runway-holding position; and
b) at a location other than a taxiway/runway intersection — at a distance equal to the separation distance of the runway-holding position.

22.4.3.3 Communication requirements and visual signals

22.4.3.3.1 At the aerodromes where the FSS is located, all vehicles that will operate on the maneuvering area shall be capable of maintaining two-way radio-communication with the FSS, except when the vehicle is only occasionally used on the maneuvering area and is:

a) accompanied by a vehicle with the required communications capability; or
b) operating in accordance with a pre-arranged plan established with the FSS.

22.4.3.3.2 When communications by a system of visual signals is deemed to be adequate, or in the case of radio-communication failure, the procedures given under 7.6.3.2.3 of this manual shall be observed.

22.4.4 Use of runway-holding positions

22.4.4.1 Aircraft shall not hold closer to a runway than at a runway-holding position.

Note. — Runway-holding position locations in relation to runways are specified in the Manual of Standards for Aerodrome (MOS-Aerodrome).

22.4.4.2 Aircraft shall not line up and hold on the runway whenever another aircraft is landing, until the landing aircraft has passed the point of intended holding.

22.4.5 Order of priority for arriving and departing aircraft

An aircraft landing or in the final stages of an approach to land shall normally have priority over an aircraft intending to depart from the same or an intersecting runway.

22.4.5.1 Departing aircraft

22.4.5.1.1 FSS personnel shall provide relevant information on local traffic and aerodrome conditions to assist the flight crew to decide when to take-off. Such information shall be updated at FSS personnel's discretion or when requested by the pilot. Pilots shall inform the FSS of their intentions, e.g., 'holding', 'lining up', 'taking off'. Pilots shall not take off if there are other aircraft on the runway.

22.4.5.1.2 When an ATC clearance is required prior to take-off, the FSS personnel shall not issue "runway free" information until the ATC clearance has been transmitted to and acknowledged by the aircraft concerned. The ATC clearance shall be forwarded to the aircraft with the least possible delay after receipt of a request made or prior to such request if practicable.

22.4.5.1.3 Subject to 22.4.5.1.2, the "runway free" information shall be transmitted when the aircraft is ready for take-off and at or approaching the departure runway, and the traffic situation permits.

22.4.5.2 Arriving aircraft

22.4.5.2.1 Pilots shall not land if there are other aircraft on the runway. FSS shall provide relevant information on local traffic and aerodrome conditions to assist the flight crew in deciding whether to land or go-around. Such information shall be updated at FSS personnel's discretion or when requested by the pilot.

22.4.5.2.2 A landing aircraft shall not normally be informed that the runway is free until the preceding departing aircraft has crossed the end of the runway, or has started a turn, or until all preceding landing aircraft have vacated the runway.

22.4.5.2.3 When necessary or desirable, e.g., due to low visibility conditions, a landing or a taxiing aircraft may be requested to report when a runway has been vacated. The report shall be made when the entire aircraft is beyond the relevant runway-holding position.

22.4.6 Runway incursion or obstructed runway

22.4.6.1 In the event the FSS personnel becomes aware of a runway incursion or the imminent occurrence thereof, or the existence of any obstruction on or in close proximity to the runway likely to impair the safety of an aircraft taking off or landing, appropriate action shall be taken to inform the aircraft of the runway incursion or obstruction and its location in relation to the runway.

Note. — Animals and flocks of birds may constitute an obstruction with regard to runway operations. In addition, an aborted take-off or a go-around executed after touchdown may expose the aeroplane to the risk of overrunning the runway. Moreover, a low altitude missed approach may expose the aeroplane to the risk of a tail strike. Pilots may, therefore, have to exercise their judgement in accordance with PCAR Part 8, 8.5.1.1 and CAR-ANS Part 14, 14.2.4, concerning the authority of the pilot-in-command of an aircraft.

22.4.6.2 Pilots and FSS personnel shall report any occurrence involving an obstruction on the runway or a runway incursion. The report shall be recorded.

Note 1. – Information regarding runway incursion and reporting forms together with instructions for their completion are contained in the Manual on the Prevention of Runway Incursions (ICAO Doc 9870). Attention is drawn to the guidance for analysis, data collection and sharing of data related to runway incursions (see Chapter 5 of ICAO Doc 9870).

Note 2. – The provisions in 22.4.6.2 have the objective of supporting the State's safety program and safety management system (SMS).

22.4.7 Aeronautical ground lights

The provisions in Chapter 7, 7.16 of this manual applies to advisory aerodromes.

22.5 Phraseology and AFIS requirements for communications

22.5.1 Communication procedures

22.5.1.1 The communications procedures shall be in accordance with *CAR-ANS Part 2 governing Aeronautical Telecommunications – Communication Procedures with PANS Status*, and pilots, ATS personnel and other ground personnel shall be thoroughly familiar with the radiotelephony procedures contained therein.

22.5.2 General

Note. — Requirements for read-back of clearances and safety-related information are provided in Section 22.3.7.4 of this manual.

22.5.2.1 Most phraseologies contained in Chapter 12, 12.3.5 show the text of a complete message without call signs. They are not intended to be exhaustive, and when circumstances differ, pilots, ATS personnel and other ground personnel will be expected to use plain language, which should be as clear and concise as possible.

22.5.2.2 All phraseologies shall be used in conjunction with call signs (aircraft, ground vehicle, FSS) as appropriate. In order that the phraseologies listed should be readily discernible in Chapter 12, 12.3.5 and 12.3.6, call signs have been omitted. Provisions for the compilation of RTF messages, call signs and procedures are contained in *CAR-ANS Part 2, 2.8 Aeronautical Mobile Service – Voice Communications.*

22.5.2.3 The call sign of the FSS shall be the name of the aerodrome followed by "RADIO".

22.5.2.4 Chapter 12, 12.3.5 and 12.3.6 include phrases for use by pilots, AFIS personnel and other ground personnel.

22.5.2.5 As regards phraseologies for the movement of vehicles on the maneuvering area, the word "PROCEED" shall be used.

22.5.2.6 The phraseology in Sections 12.3.5 and 12.3.6 does not include phrases and regular radiotelephony procedure words contained in the *CAR-ANS Part 2, 2.8 Aeronautical Mobile Service – Voice Communications.*

22.5.2.7 Words in parentheses indicate that specific information, such as a level, a place or a time, etc., must be inserted to complete the phrase, or alternatively that optional phrases may be used. Words in square parentheses indicate optional additional words or information that may be necessary in specific instances.

22.5.2.8 For aircraft in the heavy wake turbulence category, the word "HEAVY" shall be included in all communications with the FSS.

22.5.3 FSS Requirements for Communications

22.5.3.1 Air-ground communication

22.5.3.1.1 Air-ground communication facilities shall enable direct, rapid, continuous and static-free two-way communications to take place between the FSS unit and appropriately equipped aircraft operating at any distance within 45 km (25 NM) of the aerodrome concerned and within the associated aerodrome traffic information zone (TIZ).

22.5.3.2 Aeronautical fixed service (ground-ground communications)

22.5.3.2.1 An FSS, in addition to being connected to the area control center (ACC) and the approach control unit as applicable, shall have facilities for communications with the following:

a) Aerodrome operator;
b) Appropriate Military unit(s);
c) MET office serving the airport;

d) Air operators;
e) Unit providing apron management service, when separately established; and
f) Aeronautical Information Service (AIS).

22.5.4 FSS Requirement for Information

22.5.4.1 Meteorological Information

22.5.4.1.1 The FSS shall be supplied with up-to-date information on existing meteorological conditions as necessary for the performance of their respective functions. The information shall be supplied in such a form as to require a minimum of interpretation on the part of FSS personnel and with a frequency which satisfies the requirements of the FSS concerned.

22.5.4.1.2 FSS should be supplied with available detailed information on the location, vertical extent, direction and rate of movement of meteorological phenomena in the vicinity of the aerodrome, and particularly in the climb-out and approach areas, which could be hazardous to aircraft operations.

22.5.4.1.3 The FSS shall be supplied with meteorological information listed in 22.5.4.1.4 below for the aerodrome with which they are concerned. Special reports shall be communicated to the FSS as soon as they are necessary in accordance with established criteria, without waiting for the next routine report.

22.5.4.1.4 The following meteorological information shall be supplied, as necessary, to the FSS by its associated meteorological office:

a) local routine and special reports, METAR and SPECI, TAF and trend forecasts and amendments thereto, for the aerodrome concerned;
b) SIGMET and AIRMET information, wind shear warnings and alerts and aerodrome warnings; and
c) any additional meteorological information agreed upon locally, such as forecasts of surface wind for the determination of possible runway changes.

22.5.4.1.5 The FSS shall be provided with current pressure data for setting altimeters for the aerodrome concerned.

22.5.4.1.6 The FSS shall be equipped with surface wind display(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists. Where

multiple sensor(s) are used, the displays to which they are related shall be clearly marked to identify the runway and section of the runway monitored by each sensor.

22.5.4.1.7 The FSS at aerodromes where runway visual range values are measured by instrumental means shall be equipped with display(s) permitting read-out of the current runway visual range value(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists.

22.5.4.1.8 The FSS at aerodromes where the height of cloud base is assessed by instrumental means should be equipped with display(s) permitting read-out of the current value(s) of the height of cloud base. The displays should be related to the same location(s) of observations and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists.

22.5.4.1.9 The FSS shall be supplied with information on wind shear, when available, which could adversely affect aircraft on the approach or take-off paths or during circling approach and aircraft on the runway during the landing roll or take-off run.

22.5.4.2 Information on Aerodrome Conditions and the Operational Status of Associated Facilities

22.5.4.2.1 The FSS shall be kept currently informed of the operationally significant conditions of the movement area, including the existence of temporary hazards, and the operational status of any associated facilities at the aerodrome(s) with which they are concerned.

22.5.4.3 Information on the Operational Status of Navigation Aids

22.5.4.3.1 The FSS shall be kept currently informed of the operational status of non-visual navigation aids, and those visual aids essential for take-off, departure, approach and landing procedures within their area of responsibility and those visual and non-visual aids essential for surface movement.

22.5.4.3.2 Information on the operational status, and any changes thereto, of visual and nonvisual aids as referred to in 22.5.4.3.1 should be received by the appropriate FSS on a timely basis consistent with the use of the aid(s) involved.

22.6 Alerting Service

Alerting Service shall be provided in accordance with the provisions of CAR-ANS Part 11, 11.5 and Chapter 9, 9,2 of this manual.

22.7 Emergency, communication failure and contingencies

Emergency, communication failure and contingency procedures shall be in accordance with the provisions of Chapter 15 of this manual.

...

— END —

NEW/AMENDED REGULATION AFTER REVISION:

MANUAL OF STANDARDS FOR AIR TRAFFIC SERVICES (MOS-ATS)

...

INTRODUCTION

1. Manual of Standards for Air Traffic Services (MOS-ATS)

...

1.2 This document is divided into the following chapters:

Chapter 1 contains definitions and abbreviations

...

Chapter 22 contains provisions regarding Aerodrome Flight Information Service

...

4. Related documents

The users of MOS-ATS are invited to read the following publications for additional information:

a) Aeronautical Information Publication – Philippines

...

e) ICAO Circular 211-AN/28 – Aerodrome Flight Information Service (AFIS)

...

CHAPTER 1 – DEFINITIONS AND ABBREVIATIONS

1.1 DEFINITIONS

...

Aerodrome. A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Note. — The term "aerodrome" where used in the provisions relating to flight plans and ATS messages is intended to cover also sites other than aerodromes which may be used by certain types of aircraft, e.g. helicopters or balloons.

Aerodrome Advisory Service. Air traffic advisory service for aerodrome traffic at uncontrolled aerodromes or at those aerodromes where the appropriate authority determines that the provision of aerodrome control service is not justified.

Aerodrome Advisory Zone. The area within five (5) nautical miles from surface up to but excluding 2000 ft of an uncontrolled aerodrome on which is located a Flight Service Station providing aerodrome flight information service and alerting service to aerodrome traffic.

...

Aerodrome elevation. The elevation of the highest point of the landing area.

Aerodrome Flight Information Service. Flight information service for aerodrome traffic.

Note. – On an uncontrolled aerodrome where a Flight Service Station is located, an aircraft is in the vicinity of the aerodrome when it is entering, leaving, or operating within the aerodrome Traffic Circuit.

...

Data link initiation capability (DLIC). A data link application that provides the ability to exchange addresses, names and version numbers necessary to initiate data link applications.

Data link-VOLMET (D-VOLMET). Provision of current aerodrome routine meteorological reports (METAR) and aerodrome special meteorological reports (SPECI), aerodrome forecasts (TAF), SIGMET, special air-reports not covered by a SIGMET and, where available, AIRMET via data link.

...

Expected approach time. The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for a landing.

Note. — The actual time of leaving the holding fix will depend upon the approach clearance.

Favored runway. A Runway that the ATMOs considered most suitable for use by the types of aircraft expected to land or take off at the aerodrome, taking into consideration wind direction and speed, runway conditions, ground traffic and other relevant factor or restrictions.

...

Flight plan. Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.

Note. — Specifications for flight plans are contained in CAR-ANS Part 14, 14.3.3. A Model Flight Plan Form is contained in Appendix 2 to this document.

Flight Service Station. An aeronautical telecommunication facility that provides any or all of the following: aerodrome advisory service, aerodrome flight information service, pre-flight briefing service, flight following service, enroute air- ground or in-flight assistance service and alerting service.

Note. – Flight assistance service may include *aerodrome advisory service, pre-flight briefing service, flight following service, enroute air- ground or in-flight assistance service and alerting service.*

...

Precision approach radar (PAR). Primary radar equipment used to determine the position of an aircraft during final approach, in terms of lateral and vertical deviations relative to a nominal approach path, and in range relative to touchdown.

Note. — Precision approach radars are designated to enable pilots of aircraft to be given guidance by radio communication during the final stages of the approach to land.

Preferred runway. A Runway that the pilot-in-command considered most suitable for use by the aircraft, taking into consideration wind direction and speed and other relevant factor or restrictions.

...

VMC. The symbol used to designate visual meteorological conditions.

VOLMET broadcast. Provision, as appropriate, of current METAR, SPECI, TAF and SIGMET by means of continuous and repetitive voice broadcasts.

...

World area forecast center (WAFC). A meteorological center designated to prepare and issue significant weather forecasts and upper-air forecasts in digital form on a global basis direct to States using the aeronautical fixed service Internet-based services.

1.2 ABBREVIATIONS

AAZ	Aerodrome Advisory Zone
ACAS	Airborne Collision Avoidance System
ACC	Area Control Center
ACP	Acceptance Messages
ADS-B	Automatic Dependent Surveillance-Broadcast
ADS-C	Automatic Dependent Surveillance-Contract
AFIS	Aerodrome Flight Information Service
AFTN	Aeronautical Fixed Telecommunication Network
AIDC	ATS Interfacility Data Communication
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service
ANS	Air Navigation Service
ANSP	Air Navigation Service Provider
ARIWS	Autonomous Runway Incursion Warning System
ARR	Arrival Messages
ATC	Air Traffic Control
ATD	Actual Time of Departure
ATFM	Air Traffic Flow Management
ATIS	Automatic Terminal Information Service
ATM	Air Traffic Management
ATN	Aeronautical Telecommunication Network
ATS	Air Traffic Service
CAAP	Civil Aviation Authority of the Philippines
CAR-ANS	Civil Aviation Regulations for Air Navigation Services
CARs	Civil Aviation Regulations
CDN	Coordination Messages
CNL	Flight Plan Cancellation Messages
CNS	Communications, Navigation and Surveillance Systems
CPDLC	Controller-Pilot Data Link Communications
CPL	Current Flight Plan
DLA	Delay Messages
DLIC	Data Link Initiation Capability
DME	Distance Measuring Equipment

DPA	Departure Messages
EST	Estimate Messages
ETD	Estimated Time of Departure
FIR	Flight Information Region
FIS	Flight Information Service
FPL	Filed Flight Plan
FPS	Flight Progress Strips
FSS	Flight Service Station
GNSS	Global Navigation Satellite Systems
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rule
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
ITP	In-Trail Procedure
LAM	Logical Acknowledgement Messages
METAR	Meteorological Terminal Air Report
MOS	Manual of Standards
MSAW	Minimum Safe Altitude Warning
NDB	None-directional Beacon
NOTAM	Notice to Airmen
NOZ	Normal Operating Zone
NTZ	No Transgression Zone
PBN	Performance-Based Navigation
PCAR	Philippine Civil Aviation Regulations
PSR	Primary Surveillance Radar
RA	Resolution Advisory
RAIM	Receiver Autonomous Integrity Monitoring
RCF	Radio Communication Failure
RCP	Required Communication Performance Messages
RCR	Runway Condition Report
RNAV	Area Navigation
RNP	Required Navigation Performance
RPL	Repetitive Flight Plan
RQP	Request Flight Plan Messages
RQS	Request Supplementary Flight Plan Messages
RTF	Radiotelephony
RVR	Runway Visual Range
SAR	Search and Rescue
SCTA	Short-term Conflict Alert
SELCAL	Selective Calling System
SID	Standard Instrument Departure
SLOP	Strategic Lateral Offset Procedures
SMR	Surface Movement Radar
SMS	Safety Management System
SSR	Secondary Surveillance Radar
SSR	Special Service Request
STAR	Standard Instrument Arrival
TAF	Terminal Aerodrome Forecast
TMA	Terminal Control Area
UTC	Universal Time Coordinated
VFR	Visual Flight Rules

VHF	Very High Frequency
VMC	Visual Meteorological Conditions
WAFC	World Area Forecast Center

...

CHAPTER 12 – PHRASEOLOGIES

...

12.3.3 Approach control services

...

Circumstances	*Phraseologies*
12.3.3.2 TRAFFIC INFORMATION ... *Note.— The instrument approach procedure identification in the aeronautical chart is used to specify the type of approach. Where the identification uses a parenthetical suffix to include exceptional conditions, e.g. "(LNAV/VNAV only)" or "(AR)" etc., the text in the parentheses does not form part of the ATC clearance.*	... g) CLEARED *(type of approach)* RUNWAY *(number)* FOLLOWED BY CIRCLING TO RUNWAY *(number)*; h) CLEARED APPROACH [RUNWAY *(number)*]; i) COMMENCE APPROACH AT *(time)*; ... * Denotes pilot transmission.

...

12.3.5 Aerodrome Advisory Service Phraseologies

12.3.5.(A) - The FSS does not issue instructions and clearances but only provides suggestions and information. Consequently, the use of the words clear [approve], clears, cleared, clearance or its equivalent shall be avoided by the station. except when preceded by ATC (ex. ATC CLEARS . . .)

12.3.5.(B) - When a course of action is proposed to an aircraft to avoid a potential hazard, the station shall use either the word "MAY ", "SUGGEST" or the word "ADVISE" to precede applicable standard ATC phraseologies (ex. RPC123 MAY LAND RWY24; SUGGEST TO MAKE A 180 FOR SPACING, ETC)

For status of service and radiotelephony phraseology refer to 22.1.5 and 22.1.6.

Circumstances	*Phraseologies*
12.3.5.1 TRAFFIC INFORMATION	a) TRAFFIC *(information)*;
... to pass traffic information	b) NO REPORTED TRAFFIC;
... to acknowledge traffic information	*c) LOOKING OUT;
	*d) TRAFFIC IN SIGHT;
	*e) NEGATIVE CONTACT *[reasons]*;

	f) [ADDITIONAL] TRAFFIC *(direction)* BOUND *(type of aircraft) (level)* ESTIMATED (*or* OVER) *(significant point)* AT *(time)*; g) TRAFFIC IS *(classification)* UNMANNED FREE BALLOON(S) WAS [*or* ESTIMATED] OVER *(place)* AT *(time)* REPORTED *(level(s))* [*or* LEVEL UNKNOWN] MOVING *(direction) (other pertinent information, if any)*. * Denotes pilot transmission.
12.3.5.2 METEOROLOGICAL CONDITIONS	a) [SURFACE] WIND *(number)* DEGREES *(speed) (units)*; b) WIND AT *(level) (number)* DEGREES *(number)* KILOMETRES PER HOUR (*or* KNOTS); *Note. — Wind is always expressed by giving the mean direction and speed and any significant variations thereof.* c) VISIBILITY *(distance) (units) [direction]*; d) RUNWAY VISUAL RANGE (*or* RVR) [RUNWAY *(number)*] *(distance) (units)*; e) RUNWAY VISUAL RANGE (*or* RVR) RUNWAY *(number)* NOT AVAILABLE (*or* NOT REPORTED);
... for multiple RVR observations	f) RUNWAY VISUAL RANGE (*or* RVR) [RUNWAY *(number)*] *(first position) (distance) (units), (second position) (distance) (units), (third position) (distance) (units)*; *Note 1. — Multiple RVR observations are always representative of the touchdown zone, midpoint zone and the roll-out/stop end zone, respectively.* *Note 2. — Where reports for three locations are given, the indication of these locations may be omitted, provided that the reports are passed in the order of touchdown zone, followed by the midpoint zone and ending with the roll-out/stop end zone report.*
... in the event that RVR information on any one position is not available this information will be included in the appropriate sequence	g) RUNWAY VISUAL RANGE (*or* RVR) [RUNWAY *(number)*] *(first position) (distance) (units), (second position)* NOT AVAILABLE, *(third position) (distance) (units)*; h) PRESENT WEATHER *(details)*;

	i) CLOUD *(amount, [(type)] and height of base) (units)* (*or* SKY CLEAR); j) CAVOK; *Note. — CAVOK pronounced CAV-O-KAY.* k) TEMPERATURE *(number)* (*and/or* DEWPOINT *(number)*); l) QNH *(number) [units]*; m) QFE *(number) [(units)]*; n) *(aircraft type)* REPORTED *(description)* TURBULENCE [IN CLOUD] *(area) (time)*; o) REPORT FLIGHT CONDITIONS.

12.3.5.3 ADDITIONAL REPORTS

... to request a report at a specified place or distance	a) REPORT PASSING *(significant point)*; b) REPORT *(distance)* MILES (GNSS *or* DME) FROM *(name of DME station) (or significant point)*;
... to report at a specified place or distance	*c) *(distance)* MILES (GNSS *or* DME) FROM *(name of DME station) (or significant point)*;
... to request a report of present position	d) REPORT PASSING *(three digits)* RADIAL *(name of VOR)* VOR; e) REPORT (GNSS *or* DME) DISTANCE FROM *(significant point) or (name of DME station)*;
... to report present position	f) REPORT POSITION
Note. – These transmissions from the FSS are requests and do not constitute an instruction.	*g) *(distance)* MILES (GNSS *or* DME) FROM *(name of DME station) (or significant point)*. * Denotes pilot transmission.

12.3.5.4 AERODROME INFORMATION *Note 1. – 11.4.3.4.3 for requirements for passing RCR to pilots*	a) [*(location)*] RUNWAY *(number)* SURFACE CONDITION [CODE *(three digit number)*] followed as necessary by: 1) ISSUED AT (date and time UTC);

Note 2. – This information is provided for runway thirds or the full runway, as applicable.

2) DRY, or STANDING WATER, or WET;

3) DEPTH *((depth of deposit)* MILLIMETERS *or* NOT REPORTED);

4) COVERAGE *((number)* PER CENT *or* NOT REPORTED);

5) ESTIMATED SURFACE FRICTION (GOOD, *or* GOOD TO MEDIUM, or MEDIUM, *or* MEDIUM TO POOR, *or* POOR, *or* LESS THAN POOR);

6) AVAILABLE WIDTH *(number)* METERS;

7) LENGTH REDUCED TO *(number)* METERS;

8) LOOSE SAND *or* STONE *or* GRAVEL or ASPHALT;

9) TAXIWAY *(identification of taxiway)* POOR;

10) APRON *(identification of apron)* POOR;

11) *Plain language remarks*

b) [*(location)*] RUNWAY SURFACE CONDITION RUNWAY *(number)* NOT CURRENT;

c) LANDING SURFACE *(condition)*;

d) CAUTION CONSTRUCTION WORK *(location)*;

e) CAUTION *(specify reasons)* RIGHT (*or* LEFT), (*or* BOTH SIDES) OF RUNWAY *[number]*;

f) CAUTION WORK IN PROGRESS (*or* OBSTRUCTION) *(position and any necessary advice)*;

g) BRAKING ACTION REPORTED BY *(aircraft type)* AT *(time)* GOOD (*or* GOOD TO MEDIUM, *or* MEDIUM, *or* MEDIUM TO POOR, *or* POOR);

h) TAXIWAY *(identification of taxiway)* WET [*or* STANDING WATER, *or* LOOSE SAND *or* STONE *or* GRAVEL or ASPHALT;

i) TOWER OBSERVES *(weather information)*;

j) PILOT REPORTS *(weather information)*.

12.3.5.5 OPERATIONAL STATUS OF VISUAL AND NON-VISUAL AIDS	a) *(specify visual or non-visual aid)* RUNWAY *(number) (description of deficiency)*; b) *(type)* LIGHTING *(unserviceability)*; c) TAXIWAY LIGHTING *(description of deficiency)*; d) *(type of visual approach slope indicator)* RUNWAY *(number) (description of deficiency)*.

12.3.6 Phraseologies for use on and in the vicinity of the aerodrome

Circumstances	*Phraseologies*
12.3.6.1 IDENTIFICATION OF AIRCRAFT	SHOW LANDING LIGHTS.
12.3.6.2 ACKNOWLEDGEMENT BY VISUAL MEANS	a) ACKNOWLEDGE BY MOVING AILERONS (*or* RUDDER); b) ACKNOWLEDGE BY ROCKING WINGS; c) ACKNOWLEDGE BY FLASHING LANDING LIGHTS
12.3.6.3 STARTING PROCEDURES	
... to request permission to start engines	*a) *[aircraft location]* REQUEST START UP; *b) *[aircraft location]* REQUEST START UP, INFORMATION *(ATIS identification)*;
... at aerodromes where FSS can control start up, FSS replies	c) START UP APPROVED; d) START UP AT (*time*)
... at aerodromes where FSS cannot control start up, FSS replies	e) START UP AT OWN DISCRETION; f) EXPECT DEPARTURE *(time)* START UP AT OWN DISCRETION. g) START UP AT OWN DISCRETION (*local information*) h) EXPECT DEPARTURE (*time*) START UP AT OWN DISCRETION
	* Denotes pilot transmission.

12.3.6.4 PUSHBACK PROCEDURES

Note. — When local procedures so prescribe, authorization for pushback should be obtained from the FSS.

... aircraft/FSS

*a) *[aircraft location]* REQUEST PUSHBACK;

b) PUSHBACK AT OWN DISCRETION;

c) EXPECT *(number)* MINUTES DELAY DUE *(reason)*.

* Denotes pilot transmission.

12.3.6.5 TAXI

... aircraft/FSS

*a) READY TO TAXI *(position)*

b) [TRAFFIC (*details*)] AERODROME CONDITIONS (details) (*aircraft call sign)* MAY TAXI TO HOLDING POINT (*name*) RUNWAY (*number*) VIA TAXIWAY (*name*)

*c) WILL TAXI TO HOLDING POINT *(name)* RUNWAY (*number*) VIA TAXIWAY (*name*)

d) TRAFFIC (*details*) ADVISE TO HOLD (*name*)

*e) HOLDING

* Denotes pilot transmission.

12.3.6.6 RELAYING CLEARANCE

... FSS

... confirmation or otherwise of the readback of clearance

a) *(ATC unit)* CLEARS *(details of clearance)*

b) THAT IS CORRECT;

c) NEGATIVE [I SAY AGAIN] ... (as appropriate);

12.3.6.7 TAKE-OFF

a) [REPORT READY]

*b) READY FOR DEPARTURE

c) TRAFFIC (*details*) ADVISE TO HOLD

*d) HOLDING;

e) RUNWAY *(number)* (*aircraft call sign)* MAY TAKE-OFF [REPORT AIRBORNE];

*f) WILL TAKE OFF RUNWAY (*number*).

g) [*or* RUNWAY *(number)* OCCUPIED (*or* BLOCKED) BY *(aircraft or vehicles or persons)*] (*aircraft call sign)* MAY LINE-UP [BACKTRACK VIA] (*runway number*)

*h) WILL LINE UP RUNWAY [BACKTRACK VIA] (*runway number*);

* Denotes pilot transmission.

12.3.6.8 AFTER TAKE-OFF

... to request airborne time

a) REPORT AIRBORNE;

b) REQUEST AIRBORNE *(time)*;

c) AFTER PASSING *(level) (contact instructions)*;

12.3.6.9 ENTERING AN AERODROME TRAFFIC CIRCUIT

*a) *[aircraft type] (position) (level)* FOR LANDING;

b) *[(direction of circuit in use)]* [RUNWAY *(number)*] [SURFACE] WIND *(direction and speed) (units)* [TEMPERATURE *(number)*] QNH *(number) [(units)]* [TRAFFIC *(detail)*] REPORT (*leg of traffic circuit or next reporting point*);

... when ATIS information is available

*c) *(aircraft type) (position) (level)* INFORMATION *(ATIS identification)* FOR LANDING;

d) ROGER *(circuit in use)* [RUNWAY *(number)*] QNH (*or* QFE) *(number) [(units)]* [TRAFFIC *(detail)*].

* Denotes pilot transmission.

12.3.6.10 IN THE CIRCUIT

*a) (*position in circuit, e.g.* (DOWNWIND/FINAL);

b) ROGER [RUNWAY *(number)* FREE] or [TRAFFIC (*detail*) *[additional information if required]*.

* Denotes pilot transmission.

12.3.6.11 APPROACH *Note. — The report "LONG FINAL" is made when aircraft turn on to final approach at a distance greater than 7 km (4 NM) from touchdown or when an aircraft on a straight in approach is 15 km (8 NM) from touchdown. In both cases a report "FINAL" is required at 7 km (4 NM) from touchdown.*	a) REPORT BASE (or FINAL, or LONG FINAL); *b) BASE [*or* FINAL, *or* LONG FINAL]; c) TRAFFIC (*details*); d) NO REPORTED TRAFFIC RUNWAY (*number*); e) RUNWAY *(number)* FREE (*aircraft call sign)* MAY LAND; *f) WILL LAND [RUNWAY (*number*)]; *g)* [RUNWAY *(number)* OCCUPIED] ADVISE TO GO AROUND; *h) GOING AROUND. * Denotes pilot transmission
12.3.6.12 INFORMATION TO AIRCRAFT ... when pilot requested visual inspection of landing gear ... wake turbulence ... jet blast on apron or taxiway ... propeller-driven aircraft slipstream	a) LANDING GEAR APPEARS DOWN; b) RIGHT (*or* LEFT, *or* NOSE) WHEEL APPEARS UP (*or* DOWN); c) WHEELS APPEAR UP; d) RIGHT (*or* LEFT, *or* NOSE) WHEEL DOES NOT APPEAR UP (*or* DOWN); e) CAUTION WAKE TURBULENCE [FROM ARRIVING (*or* DEPARTING) *(type of aircraft)*] *[additional information as required]*; f) CAUTION JET BLAST; g) CAUTION SLIPSTREAM.
12.3.6.13 RUNWAY VACATING AND COMMUNICATIONS AFTER LANDING	a) TAXIWAY (name) AVAILABLE TO APRON (STAND) b) STAND (*or* GATE) *(designation)*;

12.3.7 Phraseology for vehicles/persons on the maneuvering area

Circumstances	*Phraseologies*
12.3.7.1 VEHICLE TRAFFIC	*a) *[vehicle call sign]] [location]* REQUEST PROCEED TO *[intentions]*;
	b) PROCEED TO HOLDING POINT *[number]* [RUNWAY *(number)*] [HOLD SHORT OF RUNWAY *(number)* (*or* CROSS RUNWAY *(number)*)];
... where detailed instructions are required	*c) *[vehicle call sign]* REQUEST DETAILED INSTRUCTIONS;
	d) PROCEED TO HOLDING POINT *[number]* [RUNWAY *(number)*] VIA *(specific route to be followed)* [HOLD SHORT OF RUNWAY *(number)* (*or* CROSS RUNWAY *(number)*)];
	e) TAKE (*or* TURN) FIRST (*or* SECOND) LEFT (*or* RIGHT);
	f) PROCEED VIA *(identification of taxiway)*;
	g) PROCEED VIA RUNWAY *(number)*;
	h) PROCEED TO TERMINAL (*or other location, e.g.,* GENERAL AVIATION AREA)];
	*i) *(vehicle call sign) (location) REQUEST PROCEED TO (destination on aerodrome)*;
	j) PROCEED STRAIGHT AHEAD;
	k) PROCEED WITH CAUTION;
	l) GIVE WAY TO *(description and position of aircraft or other vehicle)*;
	*m) GIVING WAY TO *(traffic)*;
	*n) TRAFFIC *(or type of aircraft)* IN SIGHT;
	o) FOLLOW *(description of other aircraft or vehicle)*;
	p) VACATE RUNWAY *(number)*;
	q) RUNWAY *(number)* VACATED;
... general	r) EXPEDITE *[(reason)]*;
	*s) EXPEDITING;
	t) [CAUTION] proceed SLOWER *[reason]*;
	*u) SLOWING DOWN.

* Denotes vehicle driver transmission.

12.3.7.2 HOLDING - VEHICLES

‡a) HOLD *(direction)* OF *(position, runway number, etc.)*;

‡b) HOLD POSITION;

‡c) HOLD *(distance)* FROM *(position)*;

‡d) HOLD SHORT OF *(position)*;

*e) HOLDING;

*f) HOLDING SHORT.

‡ Requires specific acknowledgement from the vehicle driver.

* Denotes vehicle driver transmission. The procedure words ROGER and WILCO are insufficient acknowledgement of the instructions HOLD, HOLD POSITION and HOLD SHORT OF (position). In each case the acknowledgement shall be by the phraseology HOLDING or HOLDING SHORT, as appropriate.

12.3.7.3 TO CROSS A RUNWAY – VEHICLES

*a) REQUEST CROSS RUNWAY *(number)*;

Note. — If the FSS is unable to see the crossing vehicle/person (e.g., night, low visibility), the instruction should always be accompanied by a request to report when the runway has been vacated.

b) CROSS RUNWAY *(number)* [REPORT VACATED];

c) EXPEDITE CROSSING RUNWAY *(number)* TRAFFIC *(aircraft type)* *(distance)* KILOMETRES (*or* MILES) FINAL;

d) PROCEED TO HOLDING POINT *[number]* [RUNWAY *(number)*] VIA *(specific route to be followed)*, [HOLD SHORT OF RUNWAY *(number)*] or [CROSS RUNWAY *(number)*];

*e) RUNWAY VACATED.

Note. — The driver will, when requested, report "RUNWAY VACATED" when the vehicle is beyond the relevant runway holding position.

* Denotes driver transmission

12.3.8 CLOSING OF FSS STATION

Circumstances	*Phraseologies*
To ensure that there are no aircraft within the service range of the Flight Service Station which may still need the services of the station beyond its prescribed hours of operation, the station shall broadcast within two minutes before closing time, the appropriate phraseology, on the aerodrome flight information frequency twice.	ALL STATIONS (three times); THIS IS (Station Identification); AERODROME INFORMATION; THIS STATION WILL CLOSE DOWN IN (*number of minutes*) – CONTACT IMMEDIATELY IF STATION SERVICES ARE STILL NEEDED – (pause); (Repeat) THIS IS (Station Identification).

12.3.9 Coordination between FSS and other ATS units

Circumstances	*Phraseologies*
12.3.9.1 ESTIMATES AND REVISIONS	a) ESTIMATE *[direction of flight] (aircraft call sign)* [SQUAWKING *(SSR code)*] *(type)* ESTIMATED *(significant point) (time) (level)* (*or* DESCENDING FROM *(level)* TO *(level)*) [SPEED *(filed TAS)*] *(route)* [REMARKS];
... sending unit	b) ESTIMATE *(significant point)* ON *(aircraft call sign)*;
... receiving unit reply (if flight plan details are not available)	c) NO DETAILS;
... receiving unit reply (if flight plan details are available)	d) *(aircraft type) (destination)*;
... sending unit reply	e) [SQUAWKING *(SSR code)*] [ESTIMATED] *(significant point) (time)* AT *(level)*; *Note. — In the event that flight plan details are not available the receiving station shall reply to b) NO DETAILS and transmitting station shall pass full estimate as in a).* f) ESTIMATE UNMANNED FREE BALLOON(S) *(identification and classification)* ESTIMATED OVER *(place)* AT *(time)* REPORTED FLIGHT LEVEL(S) *(figure or figures)* [*or* FLIGHT LEVEL UNKNOWN] MOVING *(direction)* ESTIMATED GROUND SPEED *(figure) (other pertinent information, if any)*;

	g) REVISION *(aircraft call sign) (details as necessary)*.
12.3.9.2 CHANGE OF CLEARANCE	a) REQUEST TO CHANGE CLEARANCE OF *(aircraft call sign)* TO *(details of alteration proposed)*; b) AGREED TO *(alteration of clearance)* OF *(aircraft call sign)*; c) UNABLE *(aircraft call sign)*; d) UNABLE *(desired route, level, etc.)* [FOR *(aircraft call sign)*] [DUE *(reason)*] *(alternative clearance proposed)*.
12.3.9.3 APPROVAL REQUEST	a) REQUEST *(aircraft call sign)* ESTIMATED DEPARTURE FROM *(significant point)* AT *(time)*; b) *(aircraft call sign)* REQUEST APPROVED *[(restriction if any)]*; c) *(aircraft call sign)* UNABLE *(alternative instructions)*.
12.3.9.4 EXPEDITION OF CLEARANCE	a) EXPEDITE CLEARANCE *(aircraft call sign)* EXPECTED DEPARTURE FROM *(place)* AT *(time)*; b) EXPEDITE CLEARANCE *(aircraft call sign)* [ESTIMATED] OVER *(place)* AT *(time)* REQUESTS *(level or route, etc.)*.

Editorial Note: - Adjust numbering

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12.4 ATS SURVEILLANCE SERVICE PHRASEOLOGIES

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12.4.2 Radar in approach control service

Circumstances	*Phraseologies*
12.4.2.1 VECTORING APPROACH	a) VECTORING FOR *(type of approach)* APPROACH RUNWAY *(number)*; ...
12.4.2.2 VECTORING FOR ILS AND OTHER APPROACH PROCEDURES	a) POSITION *(number)* KILOMETERS (*or* MILES) from *(fix)*. TURN LEFT (*or* RIGHT) HEADING *(three digits)*;

... instructions and information	b) YOU WILL INTERCEPT (FINAL APPROACH COURSE *or radio aid*) *(distance)* FROM (*significant point or* TOUCHDOWN); ... e) REPORT ESTABLISHED ON LOCALIZER (*or* ON [GLS/RNP/MLS] [FINAL] APPROACH [COURSE]); ... h) EXPECT VECTOR ACROSS THE (LOCALIZER *or* [GLS/RNP/MLS] FINAL APPROACH COURSE *or radio aid*) *(reason)*; i) THIS TURN WILL TAKE YOU THROUGH THE (LOCALIZER *or* [GLS/RNP/MLS] FINAL APPROACH COURSE *or radio aid*) [*(reason)*]; j) TAKING YOU THROUGH THE (LOCALIZER *or* [GLS/RNP/MLS] FINAL APPROACH COURSE *or radio aid*) [*(reason)*]; ... m) INTERCEPT (LOCALIZER *or* [GLS/RNP/MLS] [FINAL] APPROACH [COURSE] *or radio aid*) [RUNWAY *(number)*] [REPORT ESTABLISHED].
12.4.2.3 MANOEUVRE DURING INDEPENDENT AND DEPENDENT PARALLEL APPROACHES	... b) YOU HAVE CROSSED THE LOCALIZER (*or* GLS/RNP/MLS FINAL APPROACH COURSE). TURN LEFT (*or* RIGHT) IMMEDIATELY AND RETURN TO THE LOCALIZER (*or* GLS/RNP/MLS FINAL APPROACH COURSE) [RUNWAY *(number)*];

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CHAPTER 22 – AERODROME FLIGHT INFORMATION SERVICE

22.1 General

22.1.1 Aerodrome flight information service (AFIS) is the term used to describe the provision of information useful for the safe and efficient conduct of aerodrome traffic at those aerodromes where the appropriate authority determines that the provision of aerodrome control service is not justified, or is not justified on a 24-hour basis. AFIS Is not intended to be used at aerodromes designated as regular or alternate aerodromes for international commercial air transport operations.

22.1.2 In determining whether aerodrome control service or AFIS should be provided at a given aerodrome, the appropriate ATS authorities, or where there is yet to be established ATS facility, the airport management, are expected to give due consideration to the type(s) of air traffic involved, the density of air traffic, the topographical and meteorological conditions, and such other factors as may be pertinent to safety and efficiency.

22.1.3 AFIS shall be provided by a FSS located at the uncontrolled aerodrome.

22.1.4 The FSS is not an air traffic control unit. When relaying clearance from ATC, FSS personnel shall only pass information and warnings to pilots. Pilots are therefore wholly responsible for maintaining proper spacing in conformity with the rules of the air (CAR-ANS 14).

22.1.5 In order that pilots may readily identify the status of the service they are receiving, the call sign "RADIO" following the name of the aerodrome should be used in aeronautical mobile communications to identify a unit providing AFIS, e.g., "SAN JOSE RADIO". This will avoid any possible confusion with a unit providing aerodrome control service which is identified by the call sign "TOWER".

22.1.6 If at any time it is apparent that the pilot is not aware that aerodrome control service is not provided, the pilot should immediately be informed of this fact using the following phraseology: "AERODROME CONTROL SERVICE NOT PROVIDED I SAY AGAIN NOT PROVIDED".

22.1.7 The hours of availability of AFIS shall be determined by the appropriate ATS authority.

22.1.8 AFIS should be provided from a location which ensures the best possible view of the aerodrome, the surrounding area and, in particular, the maneuvering area, e.g., a control tower, or a room facing the aerodrome and at least the approach ends of the runway, with unobstructed view from large windows.

22.1.9 The equipment in the FSS should, to the extent possible, be similar to the equipment required for the aerodrome control tower at an aerodrome with low traffic density.

22.2 Qualifications and training of AFIS personnel

As a minimum requirement, FSS shall be manned by personnel holding Aeronautical Station Operator License in accordance with PCAR Part 2, 2.9.3.

22.3 Procedures for AFIS

22.3.1 General

22.3.1.1 FSS shall issue information to aircraft in its area of responsibility to achieve a safe, orderly and expeditious flow of air traffic on and in the vicinity of an aerodrome with the objective of assisting pilots in preventing collision(s) between:

a) aircraft flying within the designated area of responsibility of the FSS, including the aerodrome traffic circuits;
b) aircraft operating on the maneuvering area;
c) aircraft landing and taking off;
d) aircraft and vehicles operating on the maneuvering area; and
e) aircraft on the maneuvering area and obstructions on that area.

22.3.1.2 FSS personnel-on-duty shall, when practicable, maintain a continuous watch by visual observation on all flight operations on and in the vicinity of an aerodrome as well as vehicles and personnel on the maneuvering area.

22.3.1.3 Visual observation shall be achieved in accordance with MOS-ATS 7.1.1.2.1.

22.3.2 Selection of Favored Runway

22.3.2.1 The term *"favored runway"* shall be used to indicate the runway that, at a particular time, is considered by the FSS to be the most suitable for use by the types of aircraft expected to land or take off at the aerodrome.

22.3.2.2 Normally, an aircraft will land and take off into wind unless safety, the runway configuration, meteorological conditions and available instrument approach procedures or air traffic conditions determine that a different direction is preferable. In selecting the runway; however, the FSS shall take into consideration, besides surface wind speed and direction, other relevant factors such as the aerodrome traffic circuits, the length of runways, and the approach and landing aids available.

22.3.2.3 Upon receipt of advice from the pilot-in-command of an aircraft that he will use a runway other than the favored runway, the station shall immediately transmit the information to all aerodrome traffic concerned with which it is in contact.

22.3.3 Initial call to FSS

22.3.3.1 For aircraft being provided with aerodrome flight information service, the initial call shall contain:

a) designation of the station being called; ex. *"San Jose Radio"*
b) call sign and type of aircraft;

c) position;
d) level/altitude;
e) intentions; and
f) additional elements, as required by the appropriate ATS authority.

22.3.3.2 When a pilot erroneously uses the word "TOWER" instead of "RADIO" in calling the station; when a pilot uses erroneous phraseologies such as "REQUEST CLEARANCE", or "AM I CLEARED TO LAND?" etc.; or whenever, in the judgement of the FSS personnel, the aircraft assumes either that a control tower is in operation or that aerodrome control service is being provided, the phrase "NO CONTROL TOWER IN OPERATION" shall be transmitted to convey the exact nature of the flight information service being provided by the station.

22.3.4 Information related to the operation of aircraft – General

22.3.4.1 Traffic Information to Aircraft

22.3.4.1.1 The following information shall be provided as appropriate:

a) direction of flight of aircraft concerned;
b) type and wake turbulence category (if known) of aircraft concerned;
c) level/altitude of aircraft concerned, including eventual changes;
d) relative bearing of the aircraft concerned in terms of the 12-hour clock as well as distance from the conflicting traffic; or
    1) actual or estimated position of the aircraft concerned; or
    2) estimated times; and
e) any other information considered relevant (e.g., approaching, entering/leaving the aerodrome flight information zone, estimated take-off or landing time).

22.3.4.2 Essential Local traffic information

22.3.4.2.1 Information on essential local traffic should be issued in a timely manner, either directly or through other ATS unit when, in the judgment of the FSS Personnel, such information is necessary in the interests of safety, or when requested by aircraft.

22.3.4.2.2 Essential local traffic should be considered to consist of any aircraft, vehicle or personnel on or near the maneuvering area or traffic operating in the vicinity of the aerodrome, which may constitute a hazard to the aircraft concerned.

22.3.4.2.3 Local traffic shall be described so as to be easily identified by the pilot.

22.3.4.3 Runway free

22.3.4.3.1 FSS personnel shall provide information to departing and arriving aircraft that the runway is free when no aircraft, vehicles or other obstructions are on the runway or closer to the runway than:

a) at a taxiway/runway intersection — at a runway-holding position; and

b) at a location other than a taxiway/runway intersection — at a distance equal to the separation distance of the runway-holding position.

22.3.4.4 Wake turbulence and jet blast hazards

22.3.4.4.1 The responsibility for wake turbulence avoidance rests entirely with the pilot-in-command. FSS shall, to the extent practicable, advise aircraft of the expected occurrence of hazards caused by turbulent wake. Such information will be provided by the warning 'caution wake turbulence' and may also include relevant information on the aircraft concerned.

Note. — Occurrence of turbulent wake hazards cannot be accurately predicted and FSS cannot assume responsibility for the issuance of advice on such hazards at all times, nor for its accuracy.

22.3.4.4.2 In providing information, FSS should take into account the hazards caused by helicopter downwash turbulence and propeller slipstream to taxiing aircraft, to aircraft taking off or landing, and to vehicles and personnel operating on the aerodrome.

Note. — Jet blast, helicopter downwash turbulence and propeller slipstream can produce localized wind velocities of sufficient strength to cause damage to other aircraft, vehicles and personnel operating within the affected area. Further guidance on these effects is contained in the ICAO Air Traffic Services Planning Manual (Doc 9426), Part II, Section 5, Chapter 3.

22.3.4.5 Essential information on aerodrome conditions

22.3.4.5.1 Essential information on aerodrome conditions is information necessary to safety in the operation of aircraft, which pertains to the movement area or any facilities usually associated therewith. For example, construction work on a taxi strip not connected to the runway-in-use would not be essential information to any aircraft except one that might be taxied in the vicinity of the construction work. As another example, if all traffic must be confined to runways, that fact should be considered as essential aerodrome information to any aircraft not familiar with the aerodrome.

22.3.4.5.2 Essential information on aerodrome conditions shall include information relating to the following:

a) construction or maintenance work on, or immediately adjacent to the movement area;
b) rough or broken surfaces on a runway, a taxiway or an apron, whether marked or not;
c) water on a runway, a taxiway or an apron;
d) other temporary hazards, including parked aircraft and birds on the ground or in the air;
e) failure or irregular operation of part or all of the aerodrome lighting system; and
f) any other pertinent information.

Note. — Up-to-date information on the conditions on aprons may not always be available to the FSS. The responsibility of the FSS in relation to aprons is limited to the transmission to aircraft of the information which is provided to it by the authority responsible for the aprons.

22.3.4.5.3 Essential information on aerodrome conditions shall be given to every aircraft, except when it is known that the aircraft already has received all or part of the information from other sources. The information shall be given in sufficient time for the aircraft to make proper use of it, and the hazards shall be identified as distinctly as possible.

22.3.4.5.4 When a not previously notified condition pertaining to the safe use by aircraft of the maneuvering area is reported to or observed by the FSS personnel, the appropriate aerodrome authority shall be informed and operations on that part of the maneuvering area terminated until otherwise advised by the appropriate aerodrome authority.

22.3.4.6 Abnormal aircraft configuration and condition

22.3.4.6.1 Whenever an abnormal configuration or condition of an aircraft, including conditions such as landing gear not extended or only partly extended, or unusual smoke emissions from any part of the aircraft, is observed by or reported to the FSS, the aircraft concerned shall be advised without delay.

22.3.4.6.2 When requested by the flight crew of a departing aircraft suspecting damage to the aircraft, the departure runway used shall be inspected without delay and the flight crew advised in the most expeditious manner as to whether any aircraft debris or bird or animal remains have been found or not.

22.3.5 Information related to the operation of aircraft - Departing traffic

22.3.5.1 Start-up time procedures

22.3.5.1.1 At FSS where start up procedures are employed, or when pilots request a start-up clearance, FSS personnel shall provide start up instructions.

22.3.5.1.2 When so requested by the pilot prior to engine start, an expected take-off time should be given.

22.3.5.1.3 Start-up time procedures should be implemented where necessary to avoid congestion and excessive delays on the maneuvering area or when warranted by ATFM

regulations. Start-up time procedures should be contained in local instructions or Facility Manual of Operations, and should specify the criteria and conditions for determining when and how start-up times shall be calculated and issued to departing flights.

22.3.5.1.4 When an aircraft is subject to ATFM regulations, it should be advised to start up in accordance with its allocated slot time.

22.3.5.2 Aerodrome and meteorological information

22.3.5.2.1 Prior to taxiing for take-off, aircraft shall be advised of the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

a) the favored runway;
b) the surface wind direction and speed, including significant variations therefrom;
c) the QNH altimeter setting;
d) the air temperature for the runway to be used, in the case of turbine-engine aircraft;
e) the visibility representative of the direction of take-off and initial climb, if less than 10 km, or, when applicable, the RVR value(s) for the runway to be used; and
f) the correct time.

22.3.5.2.2 Prior to take-off aircraft shall be advised of:

a) any significant changes in the surface wind direction and speed, the air temperature, and the visibility or RVR value(s) given in accordance with 22.3.5.2.1; and
b) significant meteorological conditions in the take-off and climb-out area, except when it is known that the information has already been received by the aircraft.

Note. — Significant meteorological conditions in this context include the occurrence or expected occurrence of cumulonimbus or thunderstorm, moderate or severe turbulence, wind shear, hail, severe squall line, severe mountain waves, or waterspout in the take-off and climb-out area.

22.3.6 Information related to the operation of aircraft – arriving traffic

22.3.6.1 Prior to entering the traffic circuit or commencing its approach to land, an aircraft shall be provided with the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

a) the favored runway;
b) the surface wind direction and speed, including significant variations therefrom;
c) the QNH altimeter setting;
d) current runway surface conditions, in case of precipitants and other temporary hazards;
e) changes in the operational status of visual and non-visual aids essential for approach and landing; and
f) other relevant information.

22.3.6.2 For arriving IFR traffic that intends to conduct an instrument approach the FSS shall, as early as practicable after an aircraft has established communication with the unit, transmit

to the aircraft the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

a) the favored runway;
b) meteorological information, as follows:
   1) surface wind direction and speed, including significant variations;
   2) visibility and, when applicable, RVR;
   3) present weather;
   4) cloud below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility when available;
   5) air temperature;
   6) dew point temperature;
   7) altimeter setting; and
   8) any available information on significant meteorological phenomena in the approach area.

22.3.6.3 In applying the provisions in 22.3.6.1 and 22.3.6.2, it should be recognized that information published by NOTAM or disseminated by other means may not have been received by the aircraft prior to departure or during en-route flight.

22.3.6.4 At the commencement of final approach, the following information shall be transmitted to aircraft:

a) significant changes in the mean surface wind direction and speed;

Note. — Significant changes are specified in CAR-ANS Part 3, 3.4. However, if the FSS personnel possesses wind information in the form of components, the significant changes are:

- *Mean headwind component: 19 km/h (10 kt)*
- *Mean tailwind component: 4 km/h (2 kt)*
- *Mean crosswind component: 9 km/h (5 kt)*

b) the latest information, if any, on wind shear and/or turbulence in the final approach area;
c) the current visibility representative of the direction of approach and landing or, when provided, the current runway visual range value(s) and the trend.

22.3.6.5 During final approach, the following information shall be transmitted without delay:

a) the sudden occurrence of hazards (e.g., unauthorized traffic on the runway);
b) significant variations in the current surface wind, expressed in terms of minimum and maximum values;
c) significant changes in runway surface conditions;
d) changes in the operational status of required visual or non-visual aids;
e) changes in observed RVR value(s), in accordance with the reported scale in use, or changes in the visibility representative of the direction of approach and landing.

22.3.6.6 In addition to the information listed in 22.3.6.1, before entering the traffic circuit an aircraft should be informed of the current traffic circuits and other traffic when necessary.

22.3.6.7 Visual signals

22.3.6.7.1 When conditions make it necessary, the FSS may use the signal below to aircraft in the air to indicate that the aerodrome is unsafe.

Light signal	Meaning
Red flashes to aircraft in the air	Aerodrome unsafe, do not land

22.3.7 Coordination between Air Traffic Control (ATC) Unit and FSS

22.3.7.1 General

22.3.7.1.1 Where necessary, letters of agreement should be developed between the appropriate ATC unit and the FSS for the control of arriving and departing aircraft. The procedures in paragraphs 22.3.7.2 and 22.3.7.3 below may be used as a template for the inter unit coordination procedures detailed within such a letter of agreement.

22.3.7.2 Arriving traffic

22.3.7.2.1 For arriving IFR traffic the appropriate ATC unit shall provide an ETA to the FSS. The ETA message shall if possible be provided at least 15 minutes before the ETA. Revisions to the ETA shall be provided when the time difference is 5 minutes or more.

22.3.7.2.2 When the FSS has received an ETA for an arriving IFR aircraft, it shall provide the ATC unit with information about known traffic which the arriving aircraft should be aware of before transfer of communication to the FSS. The information shall be provided in such a time as being relevant and should be revised as necessary. The ATC unit shall relay the information to the arriving aircraft.

22.3.7.2.3 Where relevant, the FSS should provide the ATC unit with QNH and the ATC unit shall relay this information to the aircraft.

22.3.7.2.4 Transfer of communications shall be achieved not later than when the aircraft passes the controlled airspace boundary, if no other agreement has been made between the units concerned.

22.3.7.2.5 Should the aircraft fail to establish communications with the AFIS unit within 5 minutes after the latest received ETA, the FSS shall inform the ATC unit concerned.

22.3.7.2.6 When the aerodrome where the FSS is located within a TMA, the FSS shall as soon as possible inform the ATC unit about local traffic concerned as follows:

a) when necessary, inform the ATC unit when the first aircraft in a sequence is in contact with and is seen by the FSS and there is a reasonable assurance that it will land or has landed, depending on what occurs first;

b) missed approach, if the aircraft will leave the area of responsibility of the FSS or when the missed approach may affect other arriving traffic; and
c) any aircraft on or near the maneuvering area, or operating in the vicinity of the aerodrome, which may constitute a hazard to an arriving aircraft still under the control of the ATC unit.

22.3.7.2.7 When an ATC unit is providing approach control to arriving aircraft within a terminal area the following applies:

a) information about an approach with position information shall be given to the FSS in time for the FSS to be able to inform other traffic concerned and to ensure that the runway is free for landing as regards vehicle movements or work on the runway;
b) if the ATC unit is vectoring aircraft for a straight in approach, the FSS shall be timely informed of this fact;
c) the FSS shall provide information on relevant local traffic to the ATC unit which shall relay this information to the aircraft concerned.

22.3.7.3 Departing traffic

22.3.7.3.1 The FSS shall provide the appropriate ATC unit with:

a) estimated time of departure (ETD) and any revisions of 5 minutes or more;
b) when necessary, the departure runway; and
c) actual time of departure (ATD).

22.3.7.3.2 The appropriate ATC unit shall provide the FSS with ATC clearance when required as well as actual traffic information about such known traffic that the departing aircraft will need to be informed of before departure, and transponder code.

22.3.7.3.3 The FSS shall read-back the ATC clearance received.

22.3.7.3.4 The FSS shall relay the ATC clearance provided, traffic information and transponder code to the aircraft before departure and in exactly the form it was received.

22.3.7.3.5 If no agreement exists between the FSS and the appropriate ATC unit, the transfer of communication from the FSS to the ATC unit shall be made as follows:

a) as soon as safely possible and not more than 2 minutes after departure when the FSS is located within or in close proximity to a TMA and the aircraft will climb into this TMA;
b) in other cases, at a time suitable taking into consideration the traffic in the Aerodrome traffic information zone (TIZ);
c) in all cases, transfer of communication shall be made not later than when the aircraft is estimated to exit the TIZ.

22.3.7.4 Read-back of clearance

22.3.7.4.1 When relaying ATC clearances, the FSS personnel shall ensure that the flight crew reads back the safety-related parts of ATC clearances and instructions which are transmitted by voice. The following items shall al`ways be read back:

a) ATC route clearances; and

b) Favored runway, altimeter settings, SSR codes, level instructions, heading and speed instructions.

22.3.7.4.2 Other clearances or instructions shall be read back or acknowledged in a manner to clearly indicate that they have been understood and will be complied with.

22.3.7.4.3 The FSS personnel shall listen to the read-back to ascertain that the clearance or instruction has been correctly acknowledged by the flight crew and shall take immediate action to correct any discrepancies revealed by the read-back.

22.4 Aerodrome Traffic

22.4.1 General

22.4.1.1 As the view from the flight deck of an aircraft is normally restricted, the FSS shall ensure that information which require the flight crew to employ visual detection, recognition and observation are phrased in a clear, concise and complete manner.

22.4.2 Traffic on the maneuvering area

22.4.2.1 Taxiing aircraft

22.4.2.1.1 On receiving information that an aircraft is about to taxi, the FSS shall determine where the aircraft concerned is parked. Relevant information on local traffic and aerodrome conditions shall be provided to assist the flight crew in selecting taxi routes to avoid collision with other aircraft or objects.

22.4.2.2 Taxiing on the runway

22.4.2.2.1 If the FSS is unable to determine that a vacating or (crossing) aircraft has cleared the runway, the aircraft shall be requested to report when it has vacated the runway. The report shall be made when the entire aircraft is beyond the relevant runway-holding position.

22.4.2.3 Helicopter taxiing operations

22.4.2.3.1 Situations which require small aircraft or helicopters to taxi in close proximity to taxiing helicopters should be avoided and consideration should be given to the effect of turbulence from taxiing helicopters on arriving and departing light aircraft.

22.4.2.3.2 A frequency change should not be issued to single-pilot helicopters hovering or air-taxiing. Whenever possible, the relay of control instructions from the ATS unit should be delayed as necessary until the pilot is able to change frequency.

Note. — Most light helicopters are flown by one pilot and require the constant use of both hands and feet to maintain control during low-altitude/low-level flight. Although flight control friction devices assist the pilot, changing frequency near the ground could result in inadvertent ground contact and consequent loss of control.

22.4.3 Control of ground vehicles and personnel

22.4.3.1 Entry to the maneuvering area

2.2.4.3.1.1 The movement of persons or vehicles including towed aircraft on the maneuvering area shall be subject to authorization by the FSS. Persons, including drivers of all vehicles, shall be required to obtain authorization from the FSS before entry to the maneuvering area. Notwithstanding such an authorization, entry to a runway or runway strip or change in the operation authorized shall be subject to a further specific authorization by the FSS.

22.4.3.2 Priority on the maneuvering area

22.4.3.2.1 All vehicles and persons shall give way to aircraft which are landing, taxiing or taking off, except that emergency vehicles proceeding to the assistance of an aircraft in distress shall be afforded priority over all other surface movement traffic. In the latter case, all movement of surface traffic should, to the extent practicable, be halted until it is determined that the progress of the emergency vehicles will not be impeded.

22.4.3.2.2 When an aircraft is landing or taking off, vehicles shall not be permitted to hold closer to the runway-in-use than:

a) at a taxiway/runway intersection — at a runway-holding position; and
b) at a location other than a taxiway/runway intersection — at a distance equal to the separation distance of the runway-holding position.

22.4.3.3 Communication requirements and visual signals

22.4.3.3.1 At the aerodromes where the FSS is located, all vehicles that will operate on the maneuvering area shall be capable of maintaining two-way radio-communication with the FSS, except when the vehicle is only occasionally used on the maneuvering area and is:

a) accompanied by a vehicle with the required communications capability; or
b) operating in accordance with a pre-arranged plan established with the FSS.

22.4.3.3.2 When communications by a system of visual signals is deemed to be adequate, or in the case of radio-communication failure, the procedures given under 7.6.3.2.3 of this manual shall be observed.

22.4.4 Use of runway-holding positions

22.4.4.1 Aircraft shall not hold closer to a preferred runway than at a runway-holding position.

Note. — Runway-holding position locations in relation to runways are specified in the Manual of Standards for Aerodrome (MOS-Aerodrome).

22.4.4.2 Aircraft shall not line up and hold on the runway whenever another aircraft is landing, until the landing aircraft has passed the point of intended holding.

22.4.5 Order of priority for arriving and departing aircraft

An aircraft landing or in the final stages of an approach to land shall normally have priority over an aircraft intending to depart from the same or an intersecting runway.

22.4.5.1 Departing aircraft

22.4.5.1.1 FSS personnel shall provide relevant information on local traffic and aerodrome conditions to assist the flight crew to decide when to take-off. Such information shall be updated at FSS personnel's discretion or when requested by the pilot. Pilots shall inform the FSS of their intentions, e.g., 'holding', 'lining up', 'taking off'. Pilots shall not take off if there are other aircraft on the runway.

22.4.5.1.2 When an ATC clearance is required prior to take-off, the FSS personnel shall not issue "runway free" information until the ATC clearance has been transmitted to and acknowledged by the aircraft concerned. The ATC clearance shall be forwarded to the aircraft with the least possible delay after receipt of a request made or prior to such request if practicable.

22.4.5.1.3 Subject to 22.4.5.1.2, the "runway free" information shall be transmitted when the aircraft is ready for take-off and at or approaching the departure runway, and the traffic situation permits.

22.4.5.2 Arriving aircraft

22.4.5.2.1 Pilots shall not land if there are other aircraft on the runway. FSS shall provide relevant information on local traffic and aerodrome conditions to assist the flight crew in

deciding whether to land or go-around. Such information shall be updated at FSS personnel's discretion or when requested by the pilot.

22.4.5.2.2 A landing aircraft shall not normally be informed that the runway is free until the preceding departing aircraft has crossed the end of the preferred runway, or has started a turn, or until all preceding landing aircraft have vacated the preferred runway.

22.4.5.2.3 When necessary or desirable, e.g., due to low visibility conditions, a landing or a taxiing aircraft may be requested to report when a runway has been vacated. The report shall be made when the entire aircraft is beyond the relevant runway-holding position.

22.4.6 Runway incursion or obstructed runway

22.4.6.1 In the event the FSS personnel becomes aware of a runway incursion or the imminent occurrence thereof, or the existence of any obstruction on or in close proximity to the runway likely to impair the safety of an aircraft taking off or landing, appropriate action shall be taken to inform the aircraft of the runway incursion or obstruction and its location in relation to the runway.

Note. — Animals and flocks of birds may constitute an obstruction with regard to runway operations. In addition, an aborted take-off or a go-around executed after touchdown may expose the aeroplane to the risk of overrunning the runway. Moreover, a low altitude missed approach may expose the aeroplane to the risk of a tail strike. Pilots may, therefore, have to exercise their judgement in accordance with PCAR Part 8, 8.5.1.1 and CAR-ANS Part 14, 14.2.4, concerning the authority of the pilot-in-command of an aircraft.

22.4.6.2 Pilots and FSS personnel shall report any occurrence involving an obstruction on the runway or a runway incursion. The report shall be recorded.

Note 1. – Information regarding runway incursion and reporting forms together with instructions for their completion are contained in the Manual on the Prevention of Runway Incursions (ICAO Doc 9870). Attention is drawn to the guidance for analysis, data collection and sharing of data related to runway incursions (see Chapter 5 of ICAO Doc 9870).

Note 2. – The provisions in 22.4.6.2 have the objective of supporting the State's safety program and safety management system (SMS).

22.4.7 Aeronautical ground lights

The provisions in Chapter 7, 7.16 of this manual applies to advisory aerodromes.

22.5 Phraseology and AFIS requirements for communications

22.5.1 Communication procedures

22.5.1.1 The communications procedures shall be in accordance with *CAR-ANS Part 2 governing Aeronautical Telecommunications – Communication Procedures with PANS Status*, and pilots, ATS personnel and other ground personnel shall be thoroughly familiar with the radiotelephony procedures contained therein.

22.5.2 General

Note. — Requirements for read-back of clearances and safety-related information are provided in Section 22.3.7.4 of this manual.

22.5.2.1 Most phraseologies contained in Chapter 12, 12.3.5 show the text of a complete message without call signs. They are not intended to be exhaustive, and when circumstances differ, pilots, ATS personnel and other ground personnel will be expected to use plain language, which should be as clear and concise as possible.

22.5.2.2 All phraseologies shall be used in conjunction with call signs (aircraft, ground vehicle, FSS) as appropriate. In order that the phraseologies listed should be readily discernible in Chapter 12, 12.3.5 and 12.3.6, call signs have been omitted. Provisions for the compilation of RTF messages, call signs and procedures are contained in *CAR-ANS Part 2, 2.8 Aeronautical Mobile Service – Voice Communications.*

22.5.2.3 The call sign of the FSS shall be the name of the aerodrome followed by "RADIO".

22.5.2.4 Chapter 12, 12.3.5 and 12.3.6 include phrases for use by pilots, AFIS personnel and other ground personnel.

22.5.2.5 As regards phraseologies for the movement of vehicles on the maneuvering area, the word "PROCEED" shall be used.

22.5.2.6 The phraseology in Sections 12.3.5 and 12.3.6 does not include phrases and regular radiotelephony procedure words contained in the *CAR-ANS Part 2, 2.8 Aeronautical Mobile Service – Voice Communications.*

22.5.2.7 Words in parentheses indicate that specific information, such as a level, a place or a time, etc., must be inserted to complete the phrase, or alternatively that optional phrases may be used. Words in square parentheses indicate optional additional words or information that may be necessary in specific instances.

22.5.2.8 For aircraft in the heavy wake turbulence category, the word "HEAVY" shall be included in all communications with the FSS.

22.5.3 FSS Requirements for Communications

22.5.3.1 Air-ground communication

22.5.3.1.1 Air-ground communication facilities shall enable direct, rapid, continuous and static-free two-way communications to take place between the FSS unit and appropriately equipped aircraft operating at any distance within 45 km (25 NM) of the aerodrome concerned and within the associated aerodrome traffic information zone (TIZ).

22.5.3.2 Aeronautical fixed service (ground-ground communications)

22.5.3.2.1 An FSS, in addition to being connected to the area control center (ACC) and the approach control unit as applicable, shall have facilities for communications with the following:

a) Aerodrome operator;
b) Appropriate Military unit(s);
c) MET office serving the airport;
d) Air operators;
e) Unit providing apron management service, when separately established; and
f) Aeronautical Information Service (AIS).

22.5.4 FSS Requirement for Information

22.5.4.1 Meteorological Information

22.5.4.1.1 The FSS shall be supplied with up-to-date information on existing and forecast meteorological conditions as necessary for the performance of their respective functions. The information shall be supplied in such a form as to require a minimum of interpretation on the part of FSS personnel and with a frequency which satisfies the requirements of the FSS concerned.

22.5.4.1.2 FSS should be supplied with available detailed information on the location, vertical extent, direction and rate of movement of meteorological phenomena in the vicinity of the aerodrome, and particularly in the climb-out and approach areas, which could be hazardous to aircraft operations.

22.5.4.1.3 The FSS shall be supplied with meteorological information listed in 22.5.4.1.4 below for the aerodrome with which they are concerned. Special reports shall be communicated to the FSS as soon as they are necessary in accordance with established criteria, without waiting for the next routine report.

22.5.4.1.4 The following meteorological information shall be supplied, as necessary, to the FSS by its associated meteorological office:

a) local routine and special reports, METAR and SPECI, TAF and trend forecasts and amendments thereto, for the aerodrome concerned;
b) SIGMET and AIRMET information, wind shear warnings and alerts and aerodrome warnings; and
c) any additional meteorological information agreed upon locally, such as forecasts of surface wind for the determination of possible runway changes.

22.5.4.1.5 The FSS shall be provided with current pressure data for setting altimeters for the aerodrome concerned.

22.5.4.1.6 The FSS shall be equipped with surface wind display(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists. Where multiple sensor(s) are used, the displays to which they are related shall be clearly marked to identify the runway and section of the runway monitored by each sensor.

22.5.4.1.7 The FSS at aerodromes where runway visual range values are measured by instrumental means shall be equipped with display(s) permitting read-out of the current runway visual range value(s). The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists.

22.5.4.1.8 The FSS at aerodromes where the height of cloud base is assessed by instrumental means should be equipped with display(s) permitting read-out of the current value(s) of the height of cloud base. The displays should be related to the same location(s) of observations and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists.

22.5.4.1.9 The FSS shall be supplied with information on wind shear, when available, which could adversely affect aircraft on the approach or take-off paths or during circling approach and aircraft on the runway during the landing roll or take-off run.

22.5.4.2 Information on Aerodrome Conditions and the Operational Status of Associated Facilities

22.5.4.2.1 The FSS shall be kept currently informed of the operationally significant conditions of the movement area, including the existence of temporary hazards, and the operational status of any associated facilities at the aerodrome(s) with which they are concerned.

22.5.4.3 Information on the Operational Status of Navigation Aids

22.5.4.3.1 The FSS shall be kept currently informed of the operational status of non-visual navigation aids, and those visual aids essential for take-off, departure, approach and landing procedures within their area of responsibility and those visual and non-visual aids essential for surface movement.

22.5.4.3.2 Information on the operational status, and any changes thereto, of visual and nonvisual aids as referred to in 22.5.4.3.1 should be received by the appropriate FSS on a timely basis consistent with the use of the aid(s) involved.

22.6 Alerting Service

Alerting Service shall be provided in accordance with the provisions of CAR-ANS Part 11, 11.5 and Chapter 9, 9,2 of this manual.

22.7 Emergency, communication failure and contingencies

Emergency, communication failure and contingency procedures shall be in accordance with the provisions of Chapter 15 of this manual.

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"End of Amendment"

i. ***Separability Clause.*** - If, for any reason, any provision of this Memorandum Circular is declared invalid or unconstitutional, the other part or parts thereof which are not affected thereby shall continue to be in full force and effect.

ii. ***Repealing Clause.*** - All orders, rules, regulations and issuances, or parts thereof which are inconsistent with this Memorandum Circular are hereby repealed, superseded or modified accordingly.

iii. ***Determination of changes.*** – To highlight the amendments and/or revisions in the Memorandum Circular, the deleted text shall be shown with strikethrough and the new inserted text shall be highlighted with grey shading, as illustrated below:

1. Text deleted: ~~Text to be deleted is shown with a line through it.~~
2. New text inserted: New text is highlighted with grey shading.
3. New text replacing existing text: ~~Text to be deleted is shown with a line through it~~ followed by the replacement text which is highlighted with grey shading.

iv. ***Effectivity Clause.*** - This Memorandum Circular shall take effect fifteen (15) days following completion of its publication in a newspaper of general circulation or the Official Gazette and a copy filed with the U.P. Law Center - Office of the National Administrative Register. The amendment shall be incorporated to Philippine Manual of Standards in the next regular Amendment Cycle.

So Ordered. Signed this 28 day of OCT 2022, at the Civil Aviation Authority of the Philippines, MIA Road, Pasay City, Metro Manila, 1301.

CAPTAIN MANUEL ANTONIO L. TAMAYO
Acting Director General