Australian Government
Civil Aviation Safety Authority

MULTI-PART ADVISORY CIRCULAR AC 64.B-01, AC 139-14 AND AC 172-04 v1.0

Radiotelephony manual for ground operators

File ref: D25/40328

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Advisory circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Advisory circulars should always be read in conjunction with the relevant regulations.

Audience

This advisory circular (AC) applies to:

- airside aircraft maintainers
- air traffic service (ATS) personnel
- aerodrome vehicle drivers
- any person who uses an aviation radiocommunication system whilst airside on an aerodrome.

Note: Multi-Part AC 64.B-02, AC 91-35 and AC 172-05 - *Radiotelephony manual for flight operations*, which provides equivalent guidance aimed at flight operations.

Purpose

This AC provides guidance about standard radiotelephony phraseology for ground vehicles when using an aeronautical telecommunications system.

For further information

For further information or to provide feedback on this AC visit CASA's contact us page.

Notifying errors or opportunities for improvement

We want to keep this AC up-to-date and relevant.

If you notice any error or have suggestions for improvement, please submit an improvement to civil aviation safety rules.

Note: Provide enough information for us to properly identify the AC and to understand the issue. You don't have to fill out every field on the form.

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this AC are references to the *Civil Aviation Safety Regulations 1998 (CASR)*.

Status

This version of the AC is approved by the National Manager, Flight Standards Branch.

Table 1: Status

Version	Date	Details
v1.0	December 2025	Initial Multi-Part AC.

Contents

Acknowledgement of Country

The Civil Aviation Safety Authority (CASA) respectfully acknowledges the Traditional Custodians of the lands on which our offices are located and their continuing connection to land water and community and pays respect to Elders past present and emerging.

Artwork: James Baban.

1 Reference material

1.1 Acronyms and abbreviations

The acronyms and abbreviations used in this AC are listed in the table below.

Table 2: Acronyms and abbreviations

Acronym/Abbreviation	Description
AC	advisory circular
AFIS	aerodrome flight information service
ATC	air traffic control
ATS	air traffic service
CA/GRS	certified air/ground radio service
CASR	*Civil Aviation Safety Regulations 1998*
CTAF	common traffic advisory frequency
FIS	flight information service
ILS	instrument landing system (pronounced 'EYE-EL-ESS')
MOS	manual of standards
RCR	runway condition report
RV	runway visibility
RWYCC	runway condition code
SFIS	surveillance flight information service
UTC	coordinated universal time
VHF	very high frequency (30–300MHz)

1.2 References

Legislation

Legislation is available on the Federal Register of Legislation website https://www.legislation.gov.au/

Table 3: Legislation references

Document	Title
Part 64 of CASR	Authorisations for non-licensed personnel
Part 139 MOS	Part 139 (Aerodromes) Manual of Standards 2019

International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from http://store1.icao.int/

Many ICAO documents are also available for reading, but not purchase or downloading, from the ICAO eLibrary (https://elibrary.icao.int/home).

Table 4: ICAO references

Document	Title
Annex 10 Volume II	Annex 10 to the Convention on International Civil Aviation - Aeronautical Telecommunications Volume II - Communication Procedures including those with PANS status
Doc. 4444	Doc 4444 AN/501 titled Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM)
Doc. 9432	Doc 9432 AN/925 Manual of Radiotelephony

2 Introduction and fundamentals

2.1 About this AC

2.1.1 Radiotelephony is the primary means by which people involved in aviation communicate with each other. Use of correct, precise and standardised phraseology cannot be over-emphasised, as it enhances aviation safety and efficiency. Conversely, non-standard procedures and phraseology can cause misunderstanding and an increased the risk of incidents and accidents.

2.1.2 The advice in this AC is general in nature and does not substitute for or override any legislative requirement to carry a radio or to make radio broadcasts or reports.

2.1.3 Unless there is a regulation specifying a requirement for a particular communication or form of communication, the phrases in this AC are not enforceable in law. Nevertheless, CASA encourages all persons communicating on aeronautical frequencies to follow the recommended phraseologies and to apply best practice - short, succinct and relevant communications using standard phrases whenever possible.

2.2 Focus on ground operations

2.2.1 This AC focuses on communications involving vehicle drivers and ground personal.

2.2.2 See Multi-Part AC 64.B-02, AC 91-35 and AC 172-05 - *Radiotelephony manual for flight operations*, which provides equivalent guidance aimed at flight operations.

2.3 Transmitting technique

2.3.1 The following transmitting techniques will help ensure that transmitted speech is clearly and satisfactorily received:

- Before transmitting:
  - check that the receiver volume is set at the optimum level
  - listen on the frequency to avoid over-transmitting someone who is already transmitting.
- Talk directly into the microphone or radio.
  - Place the microphone close to your lips but avoid contact between the two.
  - Keep the same distance between microphone and lips and do not turn your head away from the microphone as you speak.
- Use a normal, conversational tone and volume of speech with an even rate of speech, SLIGHTLY SLOWER than conversational speed (no more than 100 words per minute).
- Pause momentarily before and after numbers to help make them easier to understand.
- Avoid using hesitation markers such as ‘er’ or ‘um’.
- Depress the transmit switch fully before speaking and do not release it until the message is complete.
- After pressing the transmit button, pause briefly before beginning to speak and pause briefly again before releasing the button.

2.3.2 Effective radio communications requires:

- **planning** – know what you want to say, before transmitting
- use of standard aviation phraseology whenever possible
- short, succinct and relevant transmissions

- avoidance of courtesies and non-relevant 'chatter'.

2.3.3 The following are the 4 components of an effective transmission:

a. On first contact, **WHO** you are calling
e.g. 'CAPRICORN GROUND'

b. **WHO** you are
e.g. 'CAR TWO'

c. **WHERE** you are
e.g. 'ON TAXIWAY ECHO TWO'

d. **WHAT** you wish to do
e.g. 'REQUEST ENTER RUNWAY 16 FOR INSPECTION'

2.3.4 Be careful to avoid a 'stuck' microphone button.

- After transmitting, check that the transmit button has released.
- Stow any hand-held microphone to avoid accidental activation.

> **Note:** Absence of an expected response or 'radio chatter' or a lit transmit light are potential indicators of a stuck microphone/transmit button

2.3.5 At a non-controlled aerodrome with an aerodrome frequency response unit (AFRU), you can use the AFRU to confirm your radio is functioning and that the radio is on the correct frequency.

> **Note:** An AFRU will provide a response of the aerodrome name (if no transmission has been received within the last 5 minutes), or a 'beep back' if a transmission is received that is greater than 2 seconds in length.

2.4 Explanation of scenarios

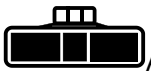
2.4.1 Scenarios shown in this AC are examples that represent ideal or preferred radiotelephony communications in optimum conditions. Fictitious call signs and locations are used because this avoids information becoming obsolete or misleading when a location's actual procedures or names change over time. Any similarity with real-life situations is coincidental.

2.4.2 Readers should be aware the examples represent ideal or preferred radiotelephony communications in optimum conditions. Unless there is a regulation specifying a requirement for a particular communication, the phrases in this AC are not enforceable in law. Nevertheless, CASA encourages persons communicating on aeronautical frequencies to apply best practice.

2.4.3 The tables with radiotelephony examples should be read in a linear fashion from top to bottom. Unrelated but similar examples–delineated by a DOUBLE HORIZONTAL LINE–are sometimes included in a single table. In the examples, the agency or station making the transmission is identified by a representative symbol and text in Table 5. To help readers to follow the sequence of the messages, each subsequent message commences below the previous one throughout the exchange.

Table 5: Key to symbols and example callsigns

Symbol	Meaning
 ATS	An Air Traffic Control (ATC) unit: • CAPRICORN GROUND • THORNHILL TOWER

Symbol	Meaning
 AGS	Aeronautical Ground Station (aerodrome flight information service) • SUNNY BEACH RADIO
 AMS	Apron management service • WESTING APRON
 vehicle	Car or other smaller vehicle: • CAR ONE etc
 vehicle	Larger vehicle (e.g. fire tender) • TENDER FIVE etc
 tug	Vehicle towing an aircraft • TUG DELTA WHISKEY etc
 mower	A tractor mower • MOWER FORTY
 worker	A person or persons working on the aerodrome and using a hand-held communication device • WORKS PARTY
 pilot	Any aircraft, but the example is larger commercial aircraft: • FASTAIR 345

2.4.4 The title of the ground station addressed is generally omitted in responses to communications.

2.5 Phonetic alphabet

2.5.1 Table 6 lists the phonetic alphabet for transmitting letters. Syllables to be emphasised are in UPPER CASE.

Table 6: Phonetic alphabet

Letter	Phonetic letter	Pronunciation
A	ALFA	AL fah
B	BRAVO	BRAH voh
C	CHARLIE	CHAR lee or SHAR lee
D	DELTA	DELL tah
E	ECHO	ECK oh
F	FOXTROT	FOKS trot
G	GOLF	GOLF
H	HOTEL	Ho TELL
I	INDIA	IN dee ah

Letter	Phonetic letter	Pronunciation
J	JULIETT	JEW lee ETT
K	KILO	KEY loh
L	LIMA	LEE mah
M	MIKE	MIKE
N	NOVEMBER	no VEM ber
O	OSCAR	OSS cah
P	PAPA	pah PAH
Q	QUEBEC	keh BECK
R	ROMEO	ROW me oh
S	SIERRA	see AIR rah
T	TANGO	TANG go
U	UNIFORM	YOU nee form or OO nee form
V	VICTOR	VIK tah
W	WHISKEY	WISS key
X	X-RAY	ECKS ray
Y	YANKEE	YANG key
Z	ZULU	ZOO loo

2.6 Pronunciation of numbers

2.6.1 Table 7 lists the phonetic spelling of numbers and number terms. In this table, syllables to be emphasised are in UPPER CASE.

Table 7: Pronunciation of numbers

Number	Pronunciation
0	ZE-RO
1	WUN
2	TOO
3	TREE
4	FOW-er
5	FIFE
6	SIX

Number	Pronunciation
7	SEV-en
8	AIT
9	NIN-er
Decimal	DAY-SEE-MAL
Hundred	HUN-dred
Thousand	TOU-SAND

2.7 Transmitting numbers

2.7.1 Numbers are generally transmitted by pronouncing each digit separately. Table 8 shows how runway designators are transmitted using separate digits.

Table 8: Runway designators

Example	Transmitted as	Pronounced as
19	Runway one nine	Runway WUN NIN-er
06	Runway zero six	Runway ZE-RO SIX
19L	Runway one nine left	Runway WUN NIN-er LEFT

2.7.2 When providing information regarding relative bearing in terms of the 12-hour clock, the information should be transmitted by pronouncing the double digits as TEN, ELEVEN, or TWELVE [O'CLOCK].

2.7.3 As shown in Table 9, numbers containing a decimal point should be transmitted with the decimal point in appropriate sequence being indicated by the word DECIMAL.

Table 9: Transmitting numbers with decimal points

Application	Example	Transmitted as	Pronounced as
Frequency - 1 decimal point	**128.3**	one two eight decimal three	WUN TOO AIT DAY-SEE-MAL TREE
Frequency - 2 decimal points	**135.75**	one three five decimal seven five	WUN TREE FIFE DAY-SEE-MAL SEV-en FIFE

2.7.4 When transmitting time, each digit should be pronounced separately, as shown in Table 10. Only the minutes of the hour are normally required. However, the hour should be included if there is any possibility of confusion.

Table 10: Transmitting the time

Example	Transmitted as	Pronounced as
0803	time zero three or time zero eight zero three	time ZE-RO TREE or time ZE-RO AIT ZE-RO TREE
1300	time one three zero zero	time WUN TREE ZE-RO ZE-RO
2057	time five seven or time two zero five seven	time FIFE SEV-en or time TOO ZE-RO FIFE SEV-en

Note: Coordinated universal time (UTC) is used in aviation communications.

2.8 Standard words and phrases

2.8.1 The words and phrases in Table 11 below are commonly used in radiotelephony communications; each with an associated meaning as shown.

Table 11: Standard words and phrases

Word/Phrase	Meaning
ACKNOWLEDGE	Let me know that you have received and understood this message.
AFFIRM	Yes.
APPROVED	Permission for proposed action granted.
BREAK	I hereby indicate the separation between portions of the message *(to be used where there is no clear distinction between the text and other portions of the message)*.
CANCEL	Annul the previously transmitted clearance.
CONFIRM	I request verification of: (clearance, instruction, action, information).
CONTACT	Establish communications with …
CORRECT	True *or* Accurate.
CORRECTION	An error has been made in this transmission (or message indicated) the correct version is …
DISREGARD	Ignore.
HOW DO YOU READ?	What is the readability of my transmission? **Note:** See section 2.14
I SAY AGAIN	I repeat for clarity or emphasis

Word/Phrase	Meaning
MONITOR	Listen out on (frequency).
NEGATIVE	No *or* Permission is not granted *or* That is not correct *or* Not capable.
PROCEED	Authorised to proceed under the conditions specified.
READ BACK	Repeat all, or the specified part, of this message back to me exactly as received.
REPORT	Pass me the following information.
REQUEST	I should like to know, or I wish to obtain.
ROGER	I have received all of your last transmission *(under no circumstances to be used in reply to a question requiring read back or a direct answer in the affirmative or negative)*
SAY AGAIN	Repeat all, or the following part, of your last transmission.
SPEAK SLOWER	Reduce your rate of speech.
STANDBY	Wait and I will call you.
UNABLE	I cannot comply with your request, instruction or clearance (normally followed by a reason).
WILCO	I understand your message and will comply with it.

2.9 Ground station call signs

2.9.1 Ground stations are identified by the name of the location followed by the service name as shown in Table 12 below.

Table 12: Ground station call signs

Service name	Function
TOWER	Aerodrome control, or aerodrome and approach control where combined.
GROUND	Surface movement control.
INFORMATION	Aerodrome Flight Information Service (AFIS) or Surveillance Flight Information Service (SFIS)
RADIO	Certified air/ground radio service (CA/GRS)
APRON	Apron management service

2.9.2 The name of the location or the service may be omitted after satisfactory communications have been established.

2.10 Call signs for ground vehicles

2.10.1 Ground vehicles should be identified by the type of vehicle or an ATS approved format, followed by the assigned vehicle number spoken in group form[1], for example: ‘TENDER ONE’, ‘TRUCK TWELVE’, ‘CAR TWENTY-THREE’, ‘MOWER FORTY’ etc.

2.11 Establishing and continuing communications

2.11.1 On initial contact, inform ATS about who you are (using your full call sign) and where you are. This gives them a better idea as how to proceed with your request. Next, identify the destination you want to go to and your intentions once you get there.

2.11.2 If ATS simply responds with your call sign, you can consider this an invitation to proceed with your message.

> **Note:** ATC does not respond to transmissions with ‘GO AHEAD’ because of the risk that this is interpreted as permission to proceed.

2.11.3 Figure 1 is an example of a vehicle driver establishing communication with an ATS unit, while Figure 2 is an example where a vehicle driver initiates communication with advice of a request.

Communicator	Communication
 vehicle	THORNHILL TOWER CAR ONE
 ATS	CAR ONE THORNHILL TOWER or CAR ONE THORNHILL TOWER PASS YOUR MESSAGE

Figure 1: Establishing communication

Communicator	Communication
 vehicle	THORNHILL TOWER CAR ONE REQUEST
 ATS	CAR ONE THORNHILL TOWER PASS YOUR MESSAGE

Figure 2: Establishing communication with advice of a request

[1] ‘Group form’ is the pronunciation of a series of numbers as the whole number, or pairs of numbers they represent rather than pronouncing each separate digit.

2.11.4 The name of the location or the ground station may be omitted if satisfactory communication has been established.

2.11.5 If there is doubt that a message has been correctly received, a repetition of the message should be requested in full or in part as shown in Table 13 below.

Table 13: Repetition of messages

Phrase	Meaning
SAY AGAIN	Repeat entire message.
SAY AGAIN … (item)	Repeat specific item.

2.11.6 When a station is called but is uncertain of the identity of the calling station, the calling station should be requested to repeat its call sign until the identity is established. Figure 3 illustrates this process.

Communicator	Communication
 vehicle	THORNHILL TOWER ONE
 ATS	STATION CALLING THORNHILL TOWER SAY AGAIN YOUR CALL SIGN
 vehicle	THORNHILL TOWER CAR ONE

Figure 3: Uncertain about identity

2.12 Correcting a transmission

2.12.1 The word ‘CORRECTION’ should be used in a transmission to correct an error. As shown in Figure 4, the last correct group or phrase is repeated and then the correct version transmitted.

Communicator	Communication
 vehicle	TOWER CAR ONE RUNWAY ONE FIVE VACATED ENTERING THE EASTERN CORRECTION ENTERING THE SOUTHERN APRON
 ATS	CAR ONE TOWER ROGER

Figure 4: Correcting transmissions

2.12.2 If a correction can best be made by repeating the entire message, the operator should use the phrase ‘CORRECTION I SAY AGAIN’ before transmitting the message a second time.

2.13 Changing frequency

2.13.1 When instructed, a vehicle driver or radio operator must change frequency and contact the specified ATS unit (which may be the same ATS unit), either immediately or at the time or place specified. Figure 5 shows an example of a frequency change transmission.

Communicator	Communication
 ATS	TRUCK TWELVE CONTACT TOWER
 vehicle	CONTACT TOWER TRUCK TWELVE

Figure 5: Frequency change

2.14 Radio test procedures

2.14.1 Test transmissions should take the following form:

a. the identification of the station being called

b. identification of the station calling

c. the words RADIO CHECK

d. the frequency being used.

2.14.2 Replies to test transmissions should be as follows:

a. the identification of the station calling

b. the identification of the station replying

c. information regarding the readability of the transmission.

2.14.3 The readability of the transmission should be classified in accordance with the readability scale in Table 14.

Table 14: Readability scale

Code Number	Meaning
1	Unreadable.
2	Readable now and then.
3	Readable but with difficulty.
4	Readable.
5	Perfectly readable.

2.14.4 Figure 6 shows examples of radio test transmissions and radio checks.

Communicator	Communication
 vehicle	THORNHILL TOWER TRUCK THREE RADIO CHECK 118.7

Communicator	Communication
	or THORNHILL TOWER TRUCK THREE HOW DO YOU READ
 ATS	STATION CALLING THORNHILL TOWER READABILITY TWO TRANSMISSIONS BROKEN *or* TRUCK THREE TOWER READABILITY THREE LOUD BACKGROUND WHISTLE *or* TRUCK TOWER READABILITY FIVE

Figure 6: Radio checks

3 Vehicles on a controlled aerodrome

3.1 Operations with a blanket clearance

3.1.1 At some controlled aerodromes safety vehicles will ordinarily be operating on, or would be issued, a more generic blanket clearance that allowed them to access anywhere on an aerodrome other than a runway. The example phrases in this section do not change existing blanket clearance arrangements.

3.2 Read back

3.2.1 Section 14.06 of the Part 139 Manual of Standards (MOS) requires the driver of a vehicle operating or intending to operate on the manoeuvring area of an aerodrome to read back to ATC the safety-related parts of any clearance or instruction which ATC has transmitted by voice.

3.2.2 For paragraph 3.2.1, the driver of a vehicle must always read back the following parts of a clearance or instruction:

a. any route specified in a clearance or instruction

b. any clearance to, any conditional clearance to, or any instruction to, operate on, enter, stop on, wait on, hold short of, cross, or vacate, any runway or taxiway

c. any radio frequency instructions.

3.2.3 Figure 7 shows examples of read backs during typical vehicle communications on a controlled aerodrome.

Communicator	Communication
 vehicle	THORNHILL TOWER CAR ONE ON BRAVO REQUEST CROSS RUNWAY THREE FOUR
 ATS	CAR ONE THORNHILL TOWER ON BRAVO CROSS RUNWAY THREE FOUR
 vehicle	AT BRAVO CROSS RUNWAY THREE FOUR CAR ONE
 vehicle	TENDER FIVE RUNWAY VACATED REQUEST PROCEED TO STAND 7
 ATS	TENDER FIVE PROCEED TO STAND 7 VIA TAXIWAY ALFA
 vehicle	STAND 7 VIA TAXIWAY ALFA TENDER FIVE
 ATS	CAR ONE PROCEED TO AERO CLUB VIA BRAVO

Communicator	Communication
 vehicle	AERO CLUB VIA BRAVO CAR ONE

Figure 7: Vehicle communications on a controlled aerodrome

3.2.4 ATC will listen to the read back to ascertain that the clearance or instruction has been correctly acknowledged by the vehicle driver and will take immediate action to correct any discrepancies revealed by the read back.

3.2.5 Figure 8 shows that when a read back is incorrect, the responsible station should transmit the word 'NEGATIVE' followed by the correct version.

Communicator	Communication
 vehicle	THORNHILL TOWER CAR ONE REQUEST CROSS RUNWAY THREE FOUR AT CHARLIE
 ATS	CAR ONE THORNHILL TOWER HOLD AT BRAVO
 vehicle	HOLD AT CHARLIE CAR ONE
 ATS	CAR ONE NEGATIVE HOLD AT BRAVO
 vehicle	HOLD AT BRAVO CAR ONE

Figure 8: Incorrect read back

3.2.6 A driver should acknowledge messages that do not require a read back by transmitting the vehicle call sign.

3.2.7 For instructions not requiring specific read back, a driver must acknowledge receipt in a manner that clearly indicates the instructions have been understood and accepted. 'WILCO', 'ROGER' or 'COPIED' will generally suffice in this case.

3.2.8 A read back should be made or requested to verify receipt of an instruction if there is difficulty in reading a transmission.

3.3 Report position

3.3.1 ATC may ask you to report your position. Be sure to be as precise as possible in your response. Use runway numbers, taxiway letters, etc. Figure 9 shows a typical communication.

Communicator	Communication
 ATS	TENDER SIX REPORT POSITION

Communicator	Communication
 vehicle	TENDER SIX IS ON TAXIWAY BRAVO BETWEEN BRAVO TWO AND BRAVO THREE
 ATS	TENDER SIX

Figure 9: Report position

3.4 Requesting tow

3.4.1 An operator may require an aircraft to be towed from one part of the aerodrome to another. If the tow route includes a taxiway or runway crossing, specific ATC clearance will be required for the operation. Figure 10 shows a typical example.

Communicator	Communication
 tug	CAPRICORN GROUND TUG DELTA WHISKEY REQUEST TOW BIGJET A350 FROM BIGJET MAINTENANCE TO INTERNATIONAL BAY 71
 ATS	TUG DELTA WHISKEY CAPRICORN GROUND TOW APPROVED PROCEED VIA BRAVO ONE HOLD SHORT OF RUNWAY ONE SIX RIGHT
 tug	TOW VIA BRAVO ONE HOLD SHORT OF RUNWAY ONE SIX RIGHT TUG DELTA WHISKEY

Figure 10: Requesting tow

3.5 Request to drive from one location to another on the aerodrome

3.5.1 An operator may require a vehicle to be driven from one part of the aerodrome to another. Figure 10 shows a typical example.

Communicator	Communication
 tug	THORNHILL GROUND TUG LIMA DELTA MAIN APRON REQUEST PROCEED TO MAINTENANCE HANGARS.
 ATS	TUG LIMA DELTA THORNHILL GROUND PROCEED VIA KILO ALPHA AND FOXTROT ONE TO THE MAINTENANCE HANGARS.

Communicator	Communication
 tug	KILO, ALPHA AND FOXTROT ONE TUG LIMA DELTA

Figure 11: Vehicle movement across an aerodrome

3.6 Request to cross a runway

3.6.1 While every vehicle driver must have good situational awareness, this aspect is particularly important on an aerodrome and critically so when a runway crossing or runway operation is involved. With the high speeds involved during take-off and landing operations, it is critically important for the airside vehicle driver to have detailed knowledge of runways, taxiways and hot spots and to always know their exact location on the aerodrome.

3.6.2 It is equally important for the driver of a vehicle on a controlled aerodrome to have a specific clearance to cross a runway.

3.6.3 Before entering a runway, the driver of a vehicle must carefully check in both directions of the runway and the approach paths to the runway for the presence of an aircraft using the runway. If in any doubt, the driver should stop, remain outside the runway strip and recheck with ATC.

3.6.4 Figure 12 shows typical communications for a runway crossing.

Communicator	Communication
 vehicle	THORNHILL TOWER CAR ONE ON BRAVO REQUEST CROSS RUNWAY THREE FOUR
 ATS	CAR ONE THORNHILL TOWER ON BRAVO CROSS RUNWAY THREE FOUR
 vehicle	ON BRAVO CROSS RUNWAY THREE FOUR CAR ONE

Figure 12: Vehicle crossing a runway

3.7 Request to enter runway or protected area

3.7.1 The driver of a vehicle on a controlled aerodrome must have a specific clearance from ATC to enter a runway or to enter a protected area like the critical area for an instrument landing system (ILS).

3.7.2 Before entering a runway, the driver of a vehicle must carefully check in both directions of the runway and the approach paths to the runway for the presence of an aircraft using the runway. If in any doubt, the driver should stop and hold short of the runway and recheck with ATC.

3.7.3 Figure 13 shows typical communications for a runway inspection.

Communicator	Communication
 vehicle	THORNHILL TOWER CAR TWO ON KILO REQUEST ENTER RUNWAY ONE SIX FOR INSPECTION
 ATS	CAR TWO ON KILO ENTER RUNWAY ONE SIX REPORT VACATED
 vehicle	ON KILO ENTERING RUNWAY ONE SIX CAR TWO
 vehicle	Later… CAR TWO VACATED RUNWAY ONE SIX
 ATS	CAR TWO

Figure 13: Runway inspection

3.7.4 Figure 14 shows typical communications for a vehicle (like a mower) to enter and operate within an ILS critical area.

Communicator	Communication
 mower	THORNHILL TOWER MOWER FORTY ON THE PERIMETER ROAD REQUEST ENTER RUNWAY THREE FOUR ILS CRITICAL AREA FOR MOWING
 ATS	MOWER FORTY THORNHILL TOWER ENTER RUNWAY THREE FOUR ILS CRITICAL AREA
 mower	ENTER RUNWAY THREE FOUR ILS CRITICAL AREA MOWER FORTY
 mower	Later… MOWER FORTY WORK COMPLETE ILS CRITICAL AREA VACATED
 ATS	MOWER FORTY

Figure 14: Operation within an ILS critical area

3.8 ATC instruction to vacate runway or protected area

3.8.1 ATC may have to instruct the driver of a vehicle on a controlled aerodrome to vacate the runway. Figure 15 shows an example of a typical instruction.

Communicator	Communication
 ATS	CAR ONE VACATE RUNWAY
 vehicle	VACATE RUNWAY CAR ONE
 vehicle	When the runway is vacated… CAR ONE RUNWAY VACATED*
 ATS	CAR ONE

Figure 15: Vacate runway

Note that the required terminology is **'runway vacated'** not **'clear of runway'**.

3.8.2 ATC may have to instruct the driver of a vehicle on a controlled aerodrome to vacate the runway. Figure 15 shows an example of a typical instruction.

Communicator	Communication
 ATS	MOWER FORTY VACATE THE CRITICAL AREA
 mower	VACATE CRITICAL AREA MOWER FORTY
 mower	When the runway is vacated… MOWER FORTY CRITICAL AREA VACATED*
 ATS	MOWER FORTY

Figure 16: Vacate runway

Note that the required terminology is **'vacated'** not **'clear of'**.

3.9 ATC instruction to give way to other traffic

3.9.1 ATC may instruct the driver of a vehicle on a controlled aerodrome to give way to other traffic, including aircraft or other vehicles the runway. Figure 17 shows an example of a typical instruction.

Communicator	Communication
 ATS	TUG PAPA VICTOR GIVE WAY TO VIRGIN 737 CROSSING RIGHT TO LEFT
 tug	GIVE WAY TO VIRGIN 737 TUG PAPA VICTOR

Figure 17: Instruction to give way

3.10 ATC instruction to hold short

3.10.1 ATC may instruct the driver of a vehicle on a controlled aerodrome to hold short of (stop before) a runway, taxiway or location. Figure 18 shows an example of a typical instruction.

Communicator	Communication
 ATS	TUG DELTA WHISKEY HOLD SHORT OF TAXIWAY JULIET
 tug	HOLDING SHORT OF TAXIWAY JULIET TUG DELTA WHISKEY

Figure 18: Instruction to hold short

3.11 Low or reduced visibility operations

3.11.1 Low-visibility procedures (LVP) aim to ensure the safety of air and ground operations at an aerodrome in conditions of reduced visibility or low cloud.

3.11.2 When conditions require initiation of LVP, several measures come into effect, including:

- Withdrawing non-essential vehicles and personnel from airside
- Suspending routine maintenance
- Securing airside access and preventing inappropriate or inadvertent entry
- Limiting airside access to certain qualified airside drivers and personnel
- Strictly controlling airside operations by vehicles, drivers and other personnel.

3.11.3 Figure 19 shows an example of a communication from the Tower instructing a works party to vacate the work site due to deteriorating weather and the pending initiation of LVP.

Communicator	Communication
 ATS	WORKS PARTY TOWER

Communicator	Communication
worker	WORKS PARTY
ATS	WORKS PARTY DUE DETERIORATING WEATHER VACATE THE WORKS SITE
worker	VACATE THE WORKS SITE WORKS PARTY
worker	Later… TOWER WORKS PARTY VACATED TO LANDSIDE
ATS	WORKS PARTY TOWER ROGER

Figure 19: Vacating a work site due to weather conditions

3.11.4 Prior to initiating of LVP, an aerodrome safety officer may need to carry out an inspection as part of aerodrome operator preparations for LVP. Figure 20 shows example communications for a pre-LVP inspection.

Communicator	Communication
vehicle	TOWER CAR ONE
ATS	CAR ONE TOWER
vehicle	CAR ONE AT DELTA REQUEST ENTER RUNWAY ZERO NINE FOR LVP INSPECTION
ATS	CAR ONE AT DELTA ENTER RUNWAY ZERO NINE REPORT VACATED
vehicle	AT DELTA ENTER RUNWAY ZERO NINE WILCO CAR ONE
vehicle	Later… TOWER CAR ONE VACATED RUNWAY ZERO NINE

Communicator	Communication
 ATS	CAR ONE
 vehicle	Later… TOWER CAR ONE AERODROME SECURE FOR LVP
 ATS	CAR ONE TOWER ROGER

Figure 20: Securing the aerodrome due to the onset of low visibility conditions

3.12 Follow me services

3.12.1 During LVP and at other times, a follow-me service may be necessary to assist aircraft during ground movements. It is important for ATC, the aircraft involved, and the operator of the follow-me vehicle are absolutely where the marshalling begins and ends.

3.12.2 Figure 21 shows an example of communications for a follow- me service from a runway exit to the apron.

Communicator	Figure 21
 vehicle	TOWER CAR ONE AT VICTOR REQUEST PROCEED VIA ALPHA TO HOLDING POINT ALPHA ONE RUNWAY ZERO THREE LEFT FOR FOLLOW-ME
 ATS	CAR ONE TOWER PROCEED VIA ALPHA TO HOLDING POINT ALPHA ONE RUNWAY ZERO THREE LEFT REPORT IN POSITION
 vehicle	PROCEED VIA ALPHA TO HOLDING POINT ALPHA ONE WILCO CAR ONE
 vehicle	Later… CAR ONE IN POSITION ON ALPHA ONE
 ATS	CAR ONE ROGER Later… CAR ONE THE NEXT AIRCRAFT ON ALPHA ONE IS FASTJET 345 FOR FOLLOW-ME

Communicator	Figure 21
 vehicle	CAR ONE
 pilot	CAPRICORN GROUND FASTAIR 345 VACATING RUNWAY TWO ONE RIGHT AT ALPHA ONE
 ATS	FASTAIR 345 CAPRICORN GROUND FOLLOW ME VEHICLE IS ON ALPHA ONE REPORT IN SIGHT
 pilot	FASTAIR 345 VEHICLE IN SIGHT
 ATS	CAR ONE PROCEED WITH FASTAIR 345 VIA ALPHA AND BRAVO SIX TO PARKING BAY TWENTY REPORT WHEN FASTAIR 345 HAS ARRIVED AT THE PARKING BAY
 vehicle	VIA ALPHA AND BRAVO SIX TO PARKING BAY TWENTY WILCO CAR ONE
 ATS	FASTAIR 345 CAR ONE ADVISE WHEN READY TO PROCEED
 pilot	CAR ONE FASTAIR 345 READY
 vehicle	FASTAIR 345 CAR ONE PROCEEDING
 vehicle	Later… GROUND CAR ONE FASTAIR 345 HAS ARRIVED AT THE PARKING BAY CAR ONE IS IN POSITION ON THE APRON FOR FURTHER FOLLOW ME
 ATS	CAR ONE ROGER

Figure 21: Follow-me communications

3.13 Works adjacent to the runway

3.13.1 Essential maintenance for an aerodrome may require aerodrome maintenance personnel to carry out their works within the runway strip, including on foot. If ATC approves these works, a

Works Safety Officer (WSO) must have control of the works and must maintain continuous voice contact with ATC on the nominated frequency. Other requirements may also apply depending on the location and situation. Typically, runway side works will be prearranged between the aerodrome operator and ATC. Figure 22 shows typical communications between the WSO and ATC.

Communicator	Communication
vehicle	TOWER WORKS ONE
ATS	WORKS ONE TOWER
vehicle	WORKS ONE REQUEST PROCEED VIA ALPHA TO WORKS SITE NEXT TO THE RUNWAY BETWEEN ALPHA ONE AND ALPHA TWO
ATS	WORKS ONE PROCEED ON ALPHA TO ADJACENT THE WORKS SITE. DUE TRAFFIC REMAIN OUTSIDE THE RUNWAY STRIP
vehicle	PROCEED ON ALPHA TO THE ADJACENT THE WORKS SITE REMAIN OUTSIDE THE RUNWAY STRIP WORKS ONE
ATS	Later … WORKS ONE ENTER THE RUNWAY STRIP
vehicle	ENTER THE RUNWAY STRIP WORKS ONE
ATS	A situation develops requiring the works party to vacate… WORKS ONE TOWER
vehicle	TOWER WORKS ONE
ATS	WORKS ONE DUE ARRIVING AIRCRAFT VACATE THE RUNWAY STRIP REPORT VACATED
vehicle	VACATE THE RUNWAY STRIP WILCO WORKS ONE
vehicle	WORKS ONE RUNWAY STRIP VACATED
ATS	WORKS ONE
ATS	Later when the works party can re-enter the runway strip WORKS ONE ENTER THE RUNWAY STRIP

Communicator	Communication
 vehicle	ENTER THE RUNWAY STRIP WORKS ONE

Figure 22: Works adjacent to the runway

4 Vehicles on non-controlled aerodromes

4.1 General

4.1.1 An airside vehicle operating on a runway strip, a runway, a taxiway strip or a taxiway of a non-controlled aerodrome must be:

a. equipped with at least a VHF receiver capable of monitoring the CTAF or ATC frequencies, as applicable

or

b. under escort by another vehicle equipped in accordance with subparagraph a (above).

4.1.2 Chapter 14 of the Part 139 MOS also states that if using a transmitter, the operator of an airside vehicle operating on a runway strip, a runway, a taxiway strip or a taxiway must:

a. be certified under Part 64 of CASR for the use of radiocommunication equipment

b. monitor the relevant frequency at all times when operating on the manoeuvring area.

4.1.3 As shown in Figure 23 below, transmissions from the driver of a vehicle operating on the manoeuvring area of a non-controlled aerodrome should follow the following format:

- *(Location)* TRAFFIC
- Vehicle identifier (e.g. CAR ONE)
- Position/Intentions
- *(Location)*.

4.2 Entering or crossing a runway

4.2.1 Figure 23 shows examples of vehicle communications entering or crossing a runway on a non-controlled aerodrome.

Communicator	Communication
 vehicle	MINETOWN TRAFFIC CAR ONE ON TAXIWAY BRAVO ENTERING RUNWAY TWO ZERO FOR INSPECTION MINETOWN
 vehicle	MINETOWN TRAFFIC TENDER TWO ON TAXIWAY CHARLIE CROSSING RUNWAY TWO ZERO MINETOWN

Figure 23: Entering or crossing a runway on a non-controlled aerodrome

4.3 Vacating a runway

4.3.1 Figure 24 shows examples of vehicle communications when vacating a runway on a non-controlled aerodrome.

Communicator	Communication
 vehicle	MINETOWN TRAFFIC CAR ONE VACATED RUNWAY TWO ZERO MINETOWN
 pilot	MINETOWN TRAFFIC FASTAIR 345 TAXIING FOR DEPARTURE RUNWAY TWO ZERO MINETOWN
 vehicle	FASTAIR 345 CAR TWO ON RUNWAY TWO ZERO RETRIEVING AN ANIMAL CARCASS
 pilot	CAR TWO FASTAIR 345 ROGER WILL HOLD AT THE HOLDING POINT UNTIL YOU HAVE VACATED
 vehicle	CAR TWO Later… FASTAIR 345 AND TRAFFIC MINETOWN CAR TWO VACATED RUNWAY TWO ZERO

Figure 24: Vacating a runway on a non-controlled aerodrome

4.4 Communications on a non-controlled aerodrome with an aerodrome information service

4.4.1 Aerodrome information services are local flight information services provided at several non-controlled aerodromes. There are several forms of aerodrome information services:

- AFIS
- SFIS
- CA/GRS.

4.4.2 Communications at aerodromes with local flight information services is similar to communications at non-controlled aerodromes without these services, except that the identifier of the service should be included together with the ‘(relevant location identifier if different) TRAFFIC’ for the initiation of communications (For example, ‘HEDLAND INFORMATION AND TRAFFIC’):

4.4.3 Figure 25 shows examples of radio communications at an aerodrome with aerodrome information service.

Communicator	Communication
 vehicle	SUNNY BEACH INFORMATION AND TRAFFIC CAR ONE ENTERING RUNWAY ONE THREE FOR INSPECTION SUNNY BEACH
 AGS	CAR ONE SUNNY BEACH INFORMATION ROGER
 AGS	CAR ONE AIRCRAFT ON APPROACH RECOMMEND VACATE RUNWAY
 vehicle	CAR ONE VACATING Later … SUNNY BEACH INFORMATION AND TRAFFIC CAR ONE VACATED RUNWAY SUNNY BEACH
 AGS	CAR ONE SUNNY BEACH INFORMATION ROGER

Figure 25: Aerodrome information service communications

5 Push-back

5.1 At many aerodromes at which large aircraft operate, the aircraft are parked with the nose towards the terminal. Aircraft must be pushed backwards by tugs before they can taxi for departure. Requests for pushback are made to ATC or apron management depending on the local procedures. Figure 26 shows communications between a pilot and ground crew for coordinating a push-back.

Communicator	Communication
 pilot	WESTING APRON FASTAIR 345 REQUEST PUSHBACK
 AMS	FASTAIR 345 WESTING APRON PUSHBACK APPROVED
 pilot	READY FOR PUSHBACK
 marshaller	CONFIRM BRAKES RELEASED
 pilot	BRAKES RELEASED
 marshaller	COMMENCING PUSH-BACK
 marshaller	PUSH-BACK COMPLETED CONFIRM BRAKES SET
 pilot	BRAKES SET: DISCONNECT
 marshaller	DISCONNECTING STAND BY FOR VISUAL AT YOUR LEFT
 pilot	ROGER

Figure 26: Pushback

6 Runway visibility assessments

6.1 Some aerodromes provide runway visibility (RV) assessments to facilitate landing and take-off operations during low visibility conditions or conditions of reduced visibility.

6.2 Unless carefully managed, the presence of a vehicle on an active runway in reduced or low visibility conditions represents a significant safety risk. Therefore, it is important that personnel carrying out RV reports:

a. are always certain about their location on the aerodrome and activities occurring around them

b. constantly monitor the appropriate ATS frequency, including being aware about any communications relating to the use of the runway (for example: clearances or instructions being issued to aircraft)

c. ensure they have appropriate clearance to be on the runway

d. positively inform ATS when entering or vacated from the runway.

6.3 As shown in Table 15, transmissions of visibility are prefixed by the type of visibility being reported with values containing whole hundreds and whole thousands being transmitted by pronouncing each digit in the number of hundreds or thousands followed by the word 'HUNDRED' or 'THOUSAND' as appropriate. Combinations of thousands and whole hundreds should be transmitted by pronouncing each digit in the number of thousands followed by the word 'THOUSAND' followed by the number of hundreds followed by the word 'HUNDRED'.

Table 15: Transmitting visibility and runway visibility

Example	Transmitted as	Pronounced as
350	runway visibility three five zero	runway visibility TREE FIFE ZE-RO
1,500	visibility one thousand five hundred	visibility WUN TOU-SAND FIFE HUN-dred
3,000	visibility three thousand	visibility TREE TOU-SAND
10 km	visibility one zero kilometres	visibility WUN ZE-RO kilometres

6.4 Figure 27 is an example of communication exchange when conditions are quiet, while Figure 28 is an example in busier conditions where the driver must await clearance and later vacate the runway due to traffic.

Communicator	Communication
 vehicle	TOWER CAR ONE AT ALPHA REQUEST ENTER RUNWAY ONE TWO LEFT FOR RUNWAY VISIBLITY ASSESSMENT
 ATS	CAR ONE TOWER ENTER RUNWAY ONE TWO LEFT FOR ASSESSMENT REPORT RUNWAY VACATED

Communicator	Communication
 vehicle	ENTER RUNWAY ONE TWO LEFT WILCO CAR ONE
 vehicle	Later… TOWER CAR ONE VACATED RUNWAY ONE TWO LEFT IN POSITION AT ALFA FOUR READY TO PASS ASSESSMENT
 ATS	CAR ONE ROGER PASS YOUR ASSESSMENT
 vehicle	CAR ONE RUNWAY VISIBILITY RUNWAY ONE TWO LEFT TOUCHDOWN NINE HUNDRED MIDPOINT SIX HUNDRED STOP END SIX HUNDRED ASSESSED AT TIME THREE FIVE.
 ATS	CAR ONE ROGER

Figure 27: Assessment and reporting of runway surface conditions - Example 1

Communicator	Communication
 vehicle	TOWER CAR TWO AT BRAVO REQUEST ENTER RUNWAY ONE SIX FOR RUNWAY VISIBLITY ASSESSMENT
 ATS	CAR TWO TOWER HOLD AT BRAVO REPORT WHEN A DEPARTING QANTAS AIRBUS A220 HAS PASSED YOUR POSITION
 vehicle	HOLD AT BRAVO WILCO CAR TWO
 vehicle	CAR TWO THE QANTAS AIRBUS A220 HAS PASSED MY POSITION
 ATS	CAR ONE ROGER ENTER RUNWAY ONE SIX FOR ASSESSMENT

Communicator	Communication
 vehicle	ENTER RUNWAY ONE SIX CAR TWO
 ATS	CAR TWO DUE DEPARTING TRAFFIC VACATE RUNWAY ONE SIX REPORT VACATED
 vehicle	VACATE RUNWAY ONE SIX CAR TWO
 vehicle	TOWER CAR TWO RUNWAY ONE SIX VACATED HOLDING AT HOTEL
 ATS	CAR TWO ROGER
 ATS	Later… CAR TWO AT HOTEL RE-ENTER THE RUNWAY AND COMPLETE YOUR ASSESSMENT
 vehicle	AT HOTEL RE-ENTER THE RUNWAY WILCO CAR TWO
 vehicle	Later… TOWER CAR TWO VACATED RUNWAY ONE SIX READY TO PASS ASSESSMENT
 ATS	CAR TWO ROGER PASS YOUR ASSESSMENT
 vehicle	CAR ONE RUNWAY VISIBILITY RUNWAY ONE SIX TOUCHDOWN ONE THOUSAND MIDPOINT EIGHT HUNDRED ROLL OUT FOUR HUNDRED ASSESSED AT TIME FIVE ZERO.
 ATS	CAR ONE ROGER

Figure 28: Assessment and reporting of runway surface conditions - Example 2

7 Runway surface conditions

7.1 If reports are received about the presence of water or contaminants on an operational runway, an aerodrome reporting officer or other person may be required to carry out an assessment of runway surface conditions.

7.2 The results of such an assessment–called a runway condition report (RCR)–will be submitted to the aerodrome operators' responsible person but may also be reported directly to ATS.

7.3 An RCR contains a Runway Condition Code (RWYCC) and information that describes the runway surface condition, i.e. type of contaminants, depth, coverage for each runway third. See Multi-Part AC 91-32 and AC 139-22 'Global reporting format - Runway surface condition' for a full explanation of the assessment and reporting of runway surface conditions

7.4 Figure 29 shows an exchange of typical vehicle driver/ATS communications during the assessment and reporting of an RCR.

Communicator	Communication
 vehicle	TOWER CAR TWO REQUEST
 ATS	CAR TWO TOWER
 vehicle	CAR TWO AT KILO REQUEST ENTER RUNWAY TWO ONE RIGHT AND PROCEED FULL LENGTH TO ASSESS RUNWAY SURFACE CONDITIONS
 ATS	CAR TWO AT KILO ENTER AND OPERATE ON RUNWAY TWO ONE RIGHT REPORT COMPLETE AND RUNWAY VACATED
 vehicle	AT KILO ENTER AND OPERATE ON RUNWAY TWO ONE RIGHT WILCO CAR TWO
 vehicle	later… TOWER CAR TWO VACATED RUNWAY TWO ONE RIGHT RUNWAY CONDITION REPORT AVAILABLE
 ATS	CAR TWO PASS YOUR MESSAGE
 vehicle	CAR TWO RUNWAY TWO ONE RIGHT, SURFACE CONDITION CODE TWO, FIVE, FIVE STANDING WATER, DEPTH FIVE MILLIMETRES, WET, WET

Communicator	Communication
 ATS	CAR TWO ROGER

Figure 29: Assessment and reporting of runway surface conditions

8 Wildlife reports

8.1 Vehicle operators may spot or receive reports about wildlife on an aerodrome. It is important to report these sightings as soon as possible to ATC or to airside operations. Birds or animals can be a hazard to aircraft, causing major damage or potential accidents.

8.2 Figure 30 shows examples of a communications between a vehicle driver and ATC concerning wildlife occurrences.

Communicator	Communication
vehicle	TOWER CAR TWO REQUEST
ATS	CAR TWO TOWER or CAR TWO TOWER PASS YOUR MESSAGE
vehicle	CAR TWO THERE IS A FOX ON THE THRESHOLD OF RUNWAY ONE SIX LEFT REQUEST PROCEED ONTO THE THRESHOLD TO CHASE IT AWAY
ATS	CAR TWO HOLD SHORT OF RUNWAY ONE SIX LEFT
vehicle	HOLD SHORT OF RUNWAY ONE SIX LEFT CAR TWO
ATS	Later… CAR TWO ENTER RUNWAY ONE SIX LEFT
vehicle	ENTER RUNWAY ONE SIX LEFT CAR TWO
vehicle	TOWER CAR TWO HAS VACATED THE RUNWAY THE FOX HAS BEEN CHASED AWAY
ATS	CAR TWO
ATS	CAR TWO TOWER
vehicle	TOWER CAR TWO

Communicator	Communication
 ATS	CAR TWO A PILOT HAS REPORTED HITTING SEVERAL OBJECTS ON RUNWAY TWO ONE RIGHT NEAR ALFA THREE. REQUEST CARRY OUT A SERVICEABILITY INSPECTION
 vehicle	CAR TWO WILCO REQUEST ENTER RUNWAY TWO ONE RIGHT AT ALFA THREE
 ATS	CAR TWO ENTER RUNWAY TWO ONE RIGHT AT ALFA THREE
 vehicle	ENTER RUNWAY TWO ONE RIGHT AT ALFA THREE CAR TWO
 vehicle	TOWER CAR TWO RUNWAY TWO ONE RIGHT IS UNSERVICEABLE THERE IS EXTENSIVE ANIMAL DEBRIS ON THE RUNWAY APPROXIMATELY ONE FIVE MINUTES TO CLEAR
 ATS	CAR TWO RUNWAY TWO ONE RIGHT IS RELEASED TO YOU ADVISE WHEN SERVICEABLE
 vehicle	RUNWAY TWO ONE RIGHT RELEASED TO ME CAR TWO … CAR TWO arranges for the runway to be cleared including arranging for other vehicles and equipment to enter the runway. Afterwards … TOWER CAR TWO ALL VEHICLES AND EQUIPMENT HAVE VACATED RUNWAY TWO ONE RIGHT THE RUNWAY IS NOW SERVICEABLE AND RETURNED TO SERVICE
 ATS	CAR TWO ROGER

Figure 30: Communications about wildlife on an aerodrome