



Australian Government

Department of Education, Employment and Workplace Relations

ICTTC032C Undertake a civil site survey

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit may apply to switching, transmission and radio (both fixed and mobile) network and the various transmission paths, i.e. cable, optic fibre, radio, microwave and satellite. The need for, and extent of, site surveys is determined during the development of project briefs - refer unit ICTTC031C.

Prerequisite Units: Nil

Equivalent Units: Nil

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Prerequisite Units: Nil

Equivalent Units: Nil

Application of the Unit

Not applicable.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Not applicable.

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

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Element	Performance Criteria
1 Prepare for survey	1.1 Detailed requirements are discussed with planning staff 1.2 Need for specialist studies are determined and organised to co-ordinate with on site visit as required 1.3 Need for on site discussions with site owner, local staff, community or government representatives is determined and appointments made 1.4 Site access arrangements are determined and appropriate approvals organised if necessary
2 Undertake survey of land, buildings and facilities both new and existing	2.1 Existing buildings are surveyed as to capability of meeting planned changes 2.2 Access, security, environmental conditions and power and earthing arrangements and network connections are assessed as to capability of meeting planned growth 2.3 Assessments are made as to altered building infrastructure requirements in the event that the building is unsuitable 2.4 Building options are assessed and documented should a new structure be necessary 2.5 Availability and ownership of land is determined 2.6 Availability of commercial power is assessed 2.7 Title searches are organised as required 2.8 Special geological/land surveys and/or archaeological studies are organised 2.9 Soil sample studies are organised and the results analysed 2.1 Geographical nature of land is assessed and barriers to signalling determined
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| | 2.1 | Work is conducted in a manner which is safe to self, fellow workers and the public at large |
| 3 | Undertake survey of environmental conditions | |
| | 3.1 | Existence of regulatory/statutory requirements is ascertained |
| | 3.2 | Customer/community attitude to development is surveyed |
| | 3.3 | Environmental impact of development is ascertained |
| | 3.4 | Prevailing weather conditions and impact on planned changes is studied |
| 4 | Document and report survey findings | |
| | 4.1 | Detailed report outlining all findings is prepared |
| | 4.2 | Various options to meet planned changes along with appropriate cost/benefit data are developed |
| | 4.3 | Detailed recommendations are presented as to the most viable option |

Required Skills and Knowledge

Not applicable.

Evidence Guide

Assessment location and resources

Either

A workplace conducting the operations covered by this competency unit, equipment and resources relevant to the context of the work (See Range Statement) and support from a competent supervisor or mentor.

Or

A simulated environment with similar provisions which conforms to the Assessment Guidelines.

Critical evidence

Assessment candidates should produce evidence of the following:

Mentor/assessor observes candidate:

- interacting with enterprise personnel, customers and other contractors
- reading, interpreting and using equipment/system manuals and specifications and relevant enterprise policy and documentation
- negotiating with customers, communities and community representatives including government officials
- applying all legislative impacts on the network including relevant operational codes
- complying with all related occupational health and safety requirements and work practices
- considering both environmental and propagation needs.

Candidate delivers at least one oral report:

- identifying key stakeholders
- considering both existing and proposed technologies and associated building, power needs
- complying with all related occupational health and safety requirements and work practices.

Mentor/assessor observes candidate's ability to consider both existing and proposed needs and comply with all related work practices.

Candidate submits a clear oral, and then a hard copy report, outlining all options and including recommendations with supporting reasons.

Skills and knowledge

Select from the following list to suit the learning and assessment context.

Codes refer to the Skill and Knowledge Register included in this training package:

CI610 Communication 6

CO620 Computer Programming 6

CO630 Planning Software 6

CS610 Customer Relations 6

EN660 Enterprise Pricing Policy 4

EN670 Selling 6

IN630 Negotiation 6

MA620 Mathematics 6

NE620 Network Architecture 6

NE640 Network Management Principles and Capabilities 6

OH610 Occupational Health and Safety 6

PK610 Product Knowledge 6

PS610 Plans and Specifications 6

PS630 Drawing Flowcharts 6

PS640 Spare Parts Dimensioning 6
PS680 Basic Building Trades Knowledge 6
RA620 Radio Frequency Theory and Hazards 6
RE610 Laws, Policies and Guidelines 6
SU610 Planning 6
SU670 Project Management 6
SU680 Resource Management 6
TE610 Telephony Principles 6
TR610 Transmission Theory 6

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Range Statement

The following statements cover a wide range of circumstances. Assessment of candidates should be within the range that applies to the candidate's particular role or workplace.

Traditional network technology boundaries

Are now being crossed with technologies such as:

Asynchronous Transfer Mode (ATM)

Digital European Cordless Telephone (DECT)

ISDN, and

intelligent networks.

Network systems and products

Vary considerably across the specific technologies and are usually unique to a particular vendor.

Technologies

Can be described in broad terms as:

switching

transmission

radio (fixed and mobile)

video

satellite.

Transmission medium

May be:

copper cable

coaxial cable

optic fibre cable

radio

video

satellite.

Network architecture

Can be described as:

Analogue (to be phased out by 2000)

PDH (plesiochronous digital hierarchy)

SDH (synchronous digital hierarchy)

ATM.

Network hierarchy

Can be described as:

backbone

transport

broadband

data

HLS

CLS.

Specialist studies

Relate to those activities requiring professionally qualified staff such as:

archaeologists

surveyors

environmental experts

geologists

heritage experts.

Building survey

Would include:

floor space

ceiling heights

security arrangements

access

existing environmental conditions

floor loading

building design

earthing arrangements

communications options.

Site survey data

May include:

site availability

site ownership and acquisition data

building availability and/or capacity

power availability

line of sight data

geological/land surveys

regulatory and statutory requirements

earthing requirements

environmental impact

weather conditions.

Building options

May include:

hut

container

new building

portable housing

underground housing.

Land

May be:

crown land

government owned, or

private.

Regulatory/statutory requirements

May be legislated/ordinances or operating codes developed by all levels of government.

Weather impact

May include:

flooding

fire risk

earthquake

cyclone

wind

fog

snow

rainfall.

Environmental impact

May include:

disturbance of flora/fauna

visual impact

safety hazards, e.g. radio frequency hazards

pollution - air, water, noise.

Barriers to signal path

May include:

distance

line of sight

weather conditions

land or water

local features.

Local environmental imperatives

May include:

seasonal changes

habitats

heritage values

environment

legislation

traditional landowners.

Local geographical/topological features

May include:

dams

fences

access

survey marks

hazards

potential hazards

location of other services/plant

potential soil erosion areas.

Relevant legislation, codes, regulations and standards may include:

ACA technical standards

Australian building codes and regulations

International Standards ISO 9000 and 9001

Environmental Protection

Fire regulations

Heritage legislation

Industrial relations awards and agreements

ITU recommendations

Local government

Telecommunications Act and Telecommunications National Code

Occupational Health&Safety Act

Privacy Act

Spectrum Management Authority

Trade Practices Act

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Trade Practices Act

Unit Sector(s)

Not applicable.