FUTURE
ENGINEERING & COMMUNICATION

Future Engineering and Communication Pty Ltd ACN 050 840 321 as trustee
for the Future Engineering & Communication Unit Trust ABN 73 037 646 279
7 Tamara Drive Cockburn Central Western Australia 6164
Phone: +61 8 9417 4999 Facsimile: +61 8 9417 5666
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QUOTATION SHEET

Company: _____
Contact: _____
Address: _____
Phone: _____
Facsimile: _____
Email: _____

Date: _____
Project Title: _____
Site Location: _____
Site Conditions: _____
Site Access: _____
Soil Type: _____

STRUCTURE REQUIREMENT

STRUCTURE TYPE	STRUCTURE HEIGHT (M)	QUANTITY OF STRUCTURES	SUPPLY EX-WORKS, CIF, FIS, FOB	INSTALL YES / NO
Self Supporting Tower				
Guyed Mast				
Monopole				
Other:				

ACCESSORIES

Ladder: _____
Safety Climb: _____
Feeder Brackets: _____
Cable Ladder / Gantry: _____
Lightning Protection: _____
Earthing: _____
Surface Treatment: _____

Platforms: _____
Antenna Mounts: _____
Headframe: _____
Aircraft Warning Lights: _____
Anticlimb: _____
Antennas and Feeders: _____
Other: _____

ANTENNA DESIGN LOADING

ANTENNA SIZE / TYPE	ELEVATION (M)	BEARING (°)	FEEDER	REMARKS

REMARKS

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STRUCTURE TYPE

The choice of tower, mast or pole cannot be absolutely definitive, however broad guidelines are indicated in the following table.

TOWER	In locations and applications where: • Mounting heights generally less than 50 metres • Small footprint available due to confined build space • Work Platforms required
GUYED MAST	In location and applications where: • Mounting heights greater than 30 metres • Masts are generally more economical compared to towers at heights greater than 30 metres • Large footprints available for guy wires • Site is relatively level
MONOPOLE	In locations and applications where: • Mounting heights are less than 30 metres • Small footprint available for the antenna support structure • Aesthetics preferred in built up areas • Easy to restrict unauthorised access

IMPORTANCE LEVEL

IMPORTANCE LEVELS OF STRUCTURES	
IMPORTANCE LEVEL	**STRUCTURE TYPES**
1	Structures presenting a low degree of hazard to life and other property in the case of failure.
2	Structures not included in Importance Levels 1, 3 and 4.
3	Structures that are designed to contain a large number of people.
4	Structures that are essential to post-disaster recovery or associated with hazardous facilities.

Note: Cost increases depending on importance level selected.

RETURN INTERVAL

DESIGN EVENTS FOR SAFETY				
IMPORTANCE LEVEL	**ANNUAL PROBABILITY OF EXCEEDANCE**			
	WIND		**SNOW**	**EARTHQUAKE**
	NON-CYCLONIC	**CYCLONIC**		
1	1:100	1:200	1:100	1:500
2	1:500	1:500	1:150	1:500
3	1:1000	1:1000	1:200	1:500
4	1:2000	1:2000	1:250	1:800

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ACCESSORIES

LADDER

Generally light duty towers and guyed masts have external ladders or ladders are built in the face while heavy duty towers and guyed masts have internal ladders.

Poles are usually are fitted with step bolts, but a ladder can be supplied if preferred.

SAFETY CLIMB

In accordance with OH&S standards, riggers have to be attached at all times. FEC stock a full range of fall arrest systems. The safety device incorporates a galvanised steel cable, which is installed on the climbing structure. Riggers equipped with a harness and with sliding sleeve ascend the structure while constantly attached to the cable.

FEEDER BRACKETS

Towers and guyed masts generally have feeder brackets which secure the cables running up to the equipment on the structure. Depending on the number of cables that need to be run additional sets of feeder brackets can be added to other legs or even on the outside of the structure. Cables on poles are normally run internally so feeder brackets are not usually needed.

CABLE LADDER

Cable ladders have a similar purpose to feeder brackets. A cable ladder can be run vertically the whole way up the structure; however it is more commonly used to support and secure cables from the lower part of the structure horizontally to the equipment shelter (cable gantry).

LIGHTNING PROTECTION

A lightning finial is used at the top of the structure which under normal conditions would be struck by lightning instead of equipment fitted to the structure.

EARTHING

Our standard earthing kit comprises of a galvanised steel earth strap attached to the structure and connected to an earth stake in the ground.

SURFACE TREATMENT

All steel products are hot dipped galvanised in accordance with AS4680; however we also can paint or powder coat any structure to meet CASA & ICAO regulations for aircraft, also to keep corrosion at bay or simply for aesthetic value.

PLATFORMS

Platforms that can be supplied are:

- Work Platforms

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- Rest Platforms
- Lookout Platforms

ANTENNA MOUNTS

Antenna mounts can be supplied for any type of antenna. We stock many types of common antenna mounts.

HEADFRAMES

Headframes can be a simple frame, have a floor, have handrails or even be pannable; it depends on your proposed antennas loading and the directions that the proposed equipment needs to be facing. Headframes can be fitted at any height and come in a variety of designs.

- Triangular
- Circular
- Square
- Special Design

AIRCRAFT WARNING LIGHTS

Where required, FEC structures can be fitted with aircraft warning lights to comply with all relevant airport control authority requirements. These include:

- Single and Twin Lights – Low Intensity
- Beacon Lights – Medium Intensity
- Strobe Lights – High Intensity
- Photo Cells
- Power Cables

ANTI CLIMB

An anti climb device is a barrier around the base of the structure that deters unauthorised access to the structure.

ANTENNAS AND FEEDERS

FEC can arrange the ordering, delivery and installations of antennas and feeders.

OTHER

FEC has the capability to undertake all works associated with communication sites and is committed to providing customers with complete turnkey solutions. We offer a total package, which includes all or any of the following products and services:

- Site acquisition and general structure siting advice
- Powerline profiling
- Site documentation
- Design and construction of access tracks
- Structure design, manufacture and installation
- Foundation design and installation
- Powerline conductor, earthwire and OPGW stringing
- Fibre optic cable installation
- High voltage and low voltage cable installation
- Vertical and horizontal cable support systems
- Earthing and lightning protection systems
- Aircraft warning lights and structure painting
- Equipment shelter fabrication and installation
- Antenna and feeder installation
- Site fencing
- Anti climb devices
- Ongoing maintenance, inspection and testing services
- General project management services
- Testing and commissioning

CONTACT

If you would like more information about Future Engineering & Communication services and products, please contact us.

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CORE TRANSMISSION AUSTRALIA

FUTURE POWER WA PTY LTD

Austower

FUTURE SYSTEMS