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<b>Secondary Systems and Telecommunications Equipment Maintenance Schedule - Guideline</b>	

# Secondary Systems and Telecommunications Equipment Maintenance Schedule - Guideline

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**Secondary Systems and Telecommunications Equipment Maintenance Schedule - Guideline**

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## 1. Secondary System and Telecommunication Maintenance

### 1.1 Routine Maintenance

Routine scheduled maintenance for telecommunications and secondary systems is based on pass-fail testing regimes and visual inspection, and is typically only conducted where hidden failures can occur that are not indicated via self-monitoring functionality of the equipment. There are no routine scheduled maintenance activities that involve servicing, time or duty based scheduled restoration or discard tasks. Two levels of routine scheduled maintenance are being applied:

- Routine inspection
- Routine Testing

#### 1.1.1 Inspection

Some hidden failure modes associated with telecommunications and secondary systems (e.g. insulation failure on wiring, open terminal connections, ingress of water or dust) can be successfully monitored through routine inspection.

#### 1.1.2 Testing

Depending on the technology, telecommunication and secondary system assets are tested to determine whether they are operating as specified. Powerlink has legacy electromechanical and electronic equipment that may require testing and re-calibration, however, for most digital technology, self-monitoring facilities indicate and alarm the failure of equipment at a component or unit level. For this reason, testing is undertaken at a functional level to determine the overall installation is performing as required. Examples of this include protection signalling loop time testing, where the routine maintenance tests the overall propagation delay of signals over systems consisting of digital terminal equipment, electrical/fibre optic interfaces, fibre optic cables and microwave radio systems.

### 1.2 Condition Based

Continuous performance monitoring, routine scheduled maintenance, visual inspection, condition monitoring, and testing are all used to detect deterioration of condition or degradation of performance.

### 1.3 Emergency Corrective

Emergency corrective maintenance is the immediate work that must be performed to minimise the danger to personnel and equipment and to restore the system to service. The emergency work is typically initiated through Network Operations Centre or Incident Management Team requesting that staff be immediately called out to rectify a situation.

### 1.4 Deferred Corrective

Deferred corrective maintenance is all work associated with rectifying an unacceptable plant condition to an acceptable condition, which is not emergency in nature.

### 1.5 Monitoring and compliance

Please refer to Appendix A.

### 1.6 Risk management

This schedule aligns both internally and externally with the Powerlink wide Risk, Governance and Information Policy available on the Powerlink website.

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**Appendix A. Summary of telecommunication and secondary systems maintenance**

Maintenance Type		Activity	Frequency
Preventative Maintenance	Routine Scheduled Maintenance	Protection Testing	6 yearly
		Revenue Metering Inspection	2.5 yearly
		Revenue Metering Testing	5 yearly
		LCF/HMI Inspection	2 yearly
		Powerline Carrier Testing	3 yearly
		Protection Signalling Loop Time Testing	6 yearly
		SVC secondary systems	4 yearly
		Routine Telecommunications Maintenance	6 monthly/Annual
		Routine Tower Inspection	Annual
	Condition Based Maintenance	Site infrastructure degraded	As required, from routine inspection.
		Electromechanical or electronic relays outside of tolerance	Associated with routine testing.
		Remote monitoring by Incident Management	12 months
Corrective Maintenance	Emergency Corrective Maintenance	Duplicated protection system out of service  Telecommunications network outage, multiple paths and geographical locations.	
	Deferred Corrective Maintenance	Failed digital device (protection relay, protection signalling unit, meter, network device, local control facility)	