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## HAZARD CONTROL IN ASSET DESIGN – CHECK LIST

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### Document Review History

Version Number	Reviewed By.	Review Date	Reason
0.1	M McSherry	01/04/2010	New document first issue
0.3	C Cosma	16/11/2011	Content updated
1.0	R Griffiths	17/11/2011	Approved
2.0	R Griffiths	28/03/2013	Approved
3.0	R Griffiths	12/03/2015	Approved

### Purpose

This form is to be used to document hazard controls in the asset design process. The pre-printed columns contain the significant hazards identified during Westpower's hazard review process as updated from time to time

### Information Required

- Planned Controls.** This column is used to briefly describe the controls put in place by the designer to treat the significant risks. Use NA if it is not applicable.
- Adequate Controls.** This column contains a YES or NO statement indicating, in the designer's view, the controls have reduced the residual risk of the hazard category to an adequate level.
- Risk Owner.** This column is to contain the designer's signature.



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Hazard No.	Activity / Asset Description	Hazard(s)	Inherent Risk	Consequence	Significant Risk	Planned Controls	Adequate Controls	Risk Owner
1	Aircraft	Hitting OH power lines	800	Fatality. Total destruction of property.	Y			
2	Bare conductors at water ramps	Hitting OH power lines	600	Fatality. Total destruction of property.	Y			
3	Boring/Trenching underground	Hitting power cables	48	Equipment damage. Power outage	Y			
4	Transformer earth and/or neutral problem	Exposed live components. Over voltage	320	Electrocution or damage to the customer's equipment.	Y			
5	Broken overhead conductors	Live conductors on ground. Manual reclose after 15 minutes	480	Electrocution/fires	Y			
6	Conductors close to buildings	Exposed live components	240	Electrocution	Y			
7	Cables at inadequate depth	Hitting power cables	480	Electrocution or damage to the equipment	Y			
8	Cables without protection tape	Hitting power cables	192	Serious injury or damage to the equipment	Y			
9	Pole cables unprotected	Electrocution	120	Serious injury	Y			



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Hazard No.	Activity / Asset Description	Hazard(s)	Inherent Risk	Consequence	Significant Risk	Planned Controls	Adequate Controls	Risk Owner
10	Contractor work sites	Slip/fall/hit	320	Physical harm. Serious injury	Y			
11	Cross phasing	Exposed live components. Overvoltage. Electrocution	400	Electrocution or damage to the equipment	Y			
12	Crossarm fire or failure	Rising EPR. Falling conductors	200	Electrocution. Equipment damage	Y			
13	Defective poles	Falling poles/conduc tors	40	Electrocution. Equipment damage	Y			
14	No supply to vulnerable customers	Lack of vital services	400	Failure of life support	Y			
15	Pole earth faults	Earth potential rise	400	Electrocution. Equipment damage	Y			
16	Earthing copper theft	No earth point	400	Electrocution or damage to the equipment	Y			
17	Mobile Plant near power lines	Hitting power lines	96	Equipment damage. Power outage	Y			
18	Unprotected fault	Live conductors	480	Electrocution or damage to the equipment	Y			
19	Climbing aids close to restricted areas	Unauthorised Access. Contact with	400	Electrocution	Y			



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Hazard No.	Activity / Asset Description	Hazard(s)	Inherent Risk	Consequence	Significant Risk	Planned Controls	Adequate Controls	Risk Owner
		live conductors						
20	Explosion of equipment	Blast/Fire	200	Fatality. Burns. Equipment damage	Y			
21	33kV falling on 11kV lines	Overvoltage	160	Serious injury. Equipment damage	Y			
22	Inadequate substation earths	Contact with live equipment. Step and touch potential	400	Electrocution	Y			
23	Inadequate kiosk security	Contact with live equipment	600	Electrocution	Y			
24	Low conductors	Live conductors close to ground	400	Electrocution. Equipment damage	Y			
25	Defective Pillar boxes	Access to live components	320	Electrocution	Y			
26	Poles in vulnerable sites on road reserves	Hit by cars	800	Fatality. Property damage	Y			
27	Transferred voltages due to earth faults	Earth potential rise.	800	Electrocution	Y			



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Hazard No.	Activity / Asset Description	Hazard(s)	Inherent Risk	Consequence	Significant Risk	Planned Controls	Adequate Controls	Risk Owner
		Touch potential						
28	Trees encroaching within Vegetation Cutting Zone (VCZ) of lines	Contact with live conductors	800	Electrocution	Y			
29	Unauthorised tree trimming near live OH lines	Contact with live conductors	480	Electrocution. Property damage	Y			
30	Work around live service conductor	Contacting live lines	600	Electrocution	Y			
31	Vandalism	Damage of equipment, exposed live components	400	Electrocution	Y			
32	Assets susceptible to ground erosion	Live conductors close to ground/ exposed live components	480	Electrocution	Y			
33	Farm equipment, fencing and flexible gates near OH lines	Hitting power lines	800	Electrocution	Y			



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**Risk Assessment**

The product of the three measurements (Probability, Frequency/Exposure and Consequence) for any one hazard will determine the Risk level, which is scaled into four groups as presented below. If the result is greater than **40**, the hazard is considered to be **significant**.

<b>Risk =</b>	<b>Probability</b>		<b>X</b>	<b>Frequency/Exposure</b>		<b>X</b>	<b>Consequence</b>	
	0.04	Improbable		1	Rarely		0.1	Negligible
	0.20	Conceivable		10	Yearly/seldom		5	First aid required
	0.40	Possible		12	Monthly/occasional		20	Medical treatment
	0.80	Likely		15	Weekly/frequent		40	Serious injury
1.00	Almost Certain	20	Daily/continuous	100	Fatality			

	<b>Significant Risk/Hazard</b>		
<b>Acceptable &lt;40</b>	<b>Medium 40÷200</b>	<b>High 200÷800</b>	<b>Extreme &gt;800</b>