

Methodology & Process:

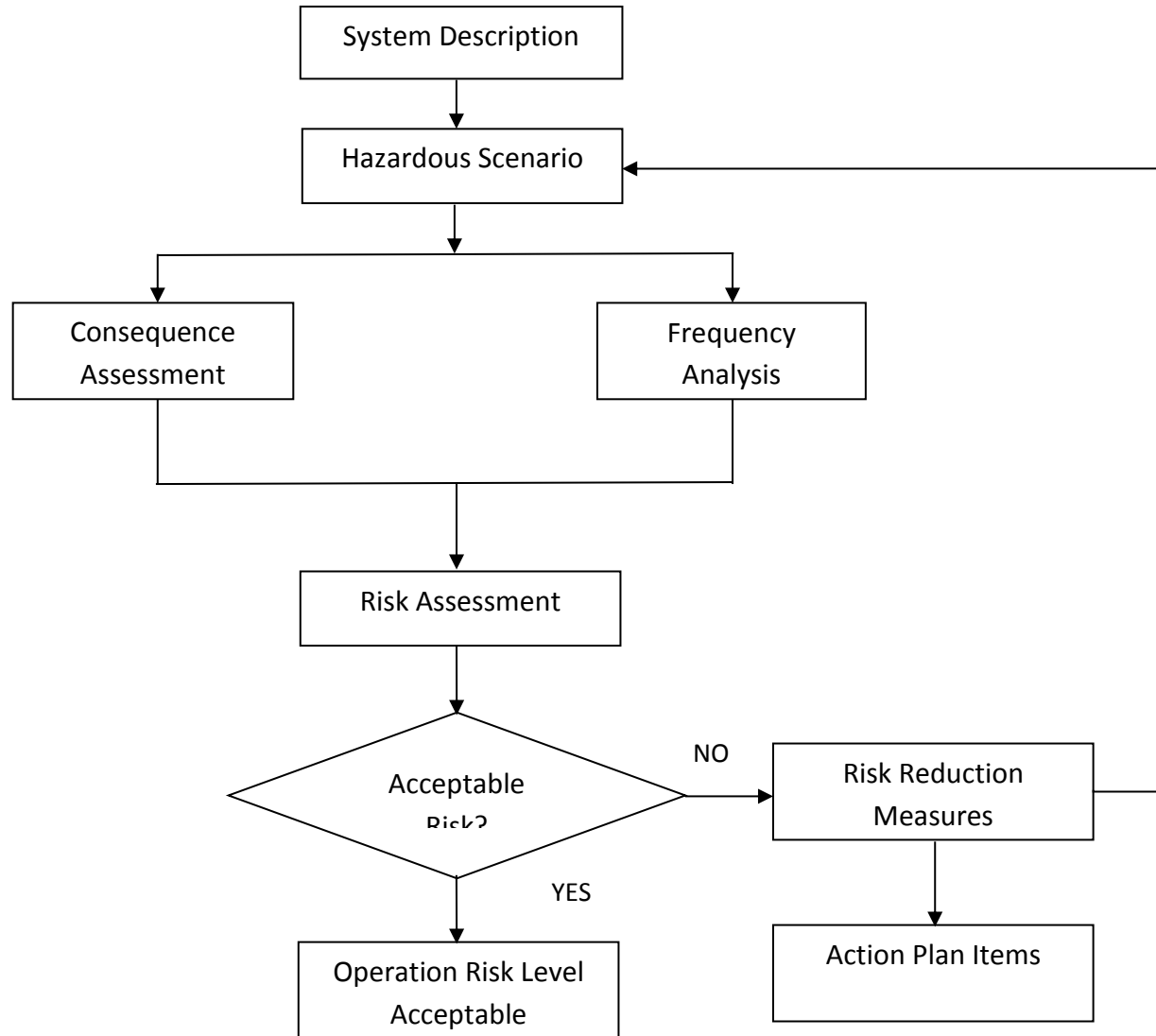
The process is a workshop based study carried out by a multi-disciplinary team of personnel. The procedure is a study which aims to systematically examine the process facility and design to identify and assess the potential hazards associated with design and operation, their likelihood and consequence and the methods for their control.

The technique is primarily a brainstorming techniques that provides the opportunity for people to contribute to the identification of hazards associated with the process facility, using their specialized knowledge. Through consulting with a diverse group of people and a systematic methodology, the chance of not identifying a major problem is significantly reduced.

Note:

- Site specific risks assessed as typical for lighting plants. Further site risks should be identified and managed by the client.
- The client shall review this document and integrate into their site training and documentation.

Risk Assessment Process Flow Chart:



Risk Assessment Matrix:

The risk assessment matrix used for the process is presented below. The matrix is used to rank each of the hazards in terms of likelihood and consequences. The definitions of each frequency are included and shown in the matrix below.

RISK RATING CHART <i>(based on AS/NZS 4360 – Risk Management Standard)</i>		CONSEQUENCE				
		1. Insignificant No injury or damage expected	2. Minor Could cause 1 st Aid injury or minor damage	3. Moderate Could require medical attention and several days off work or moderate damage	4. Major Could cause serious long term illness or injury or major damage	5. Catastrophic Could kill, cause permanent disability or ill health or cause very serious damage
LIKELIHOOD	E. Almost Certain Could happen any time	H	H	E	E	E
	D. Likely At some point in time	M	H	H	E	E
	C. Possible Possible it might happen	L	M	H	E	E
	B. Unlikely Not likely to happen	L	L	M	H ↘	E
	A. Rare Could happen, but probably never will	L	L	M	H	H
Class E Class H Class M Class L	EXTREME RISK: – Immediate action required HIGH RISK: High risk, senior management attention required MODERATE RISK: Moderate risk; management responsibility must be specified LOW RISK: Low risk; manage by routine procedures					

No.	Hazardous Scenarios	Causes	Consequences	Initial Risk Rating	Proposed Controls/ Safeguard	Risk after Control Measures	Comments/Notes
				Likely hood, Consequences & Risk		Likely hood, Consequences & Risk	
1	Unit fall over	Incorrect unit setup	Possible fire, no power, personal injury, property damage, oil spill	C, 4, E	1. Place unit in an appropriate flat surface 2. Regular inspection 3. Make sure unit not set up in a wet area	B, 3, M	Client to ensure sufficient site training.
2	Mechanical Failure	Improper maintenance & servicing	Damage to unit, shorten service life, possible fire, person injury	C, 2, M	4. Regular servicing 5. Use correct parts 6. Service carried out by competent person 7. Use correct oil and coolant 8. Wear check on critical parts i.e. skid	B, 2, L	
3	Mechanical Failure	Overloading	Damage to prime mover, possible fire, no power, damage to electric equipment	C, 2, M	9. Unit operate by competent person 10. Overload protection available i.e. trip the generator 11. Use correct lighting glob	B, 2, L	
4	Safety guard damage/removed	Improper maintenance	Possible fire, damage to	B, 3, M	12. Inspection required at regular interval	A, 2, L	

		& servicing	unit, personal injury		13. Service carried out by competent person 14. Check pre-start checklist		
5	Enclosure Damage	Damage during transport, physical damage	Damage to equipment by water, possible electrical hazard	C, 3, H	15. Appropriate lifting procedure to follow during transport 16. Require post transport inspection 17. Regular inspection 18. Check pre-start checklist	A, 3, M	
6	Exhaust Failure	Improper maintenance & servicing	Damage to engine, possible fire, low engine performance	B, 2, L	19. Inspection required at regular interval 20. Require proper safe guard	A, 2, L	
7	Explosion/Fire	Battery charging	Fire, personal injury, damage to equipment	C, 3, H	21. Ensure all doors are open during charging battery 22. Place unit in well ventilated area	A, 3, M	
8	Electrical shock	Insufficient earthing, damage to electrical cable, damage to engine/alternator	Personal injury, damage to property, damage to equipment	C, 4, E	23. Earthing must be connected & tested before commissioning 24. Inspection & testing required at regular interval 25. RCD - Safety switch current to 30mA 26. Double pole circuit breaker used 27. Isolation and lock out system 28. Emergency stops for emergency shut down 29. Electrical installation as per AS3000	B, 2, L	

					30. Equal protection to all metallic parts		
9	Electric shock from overhead power line	Overhead power line	Electrocution, electric shock, damage to equipment, damage to power network, possible fire	C, 5, E	31. Operate by competent person 32. Follow site safety procedure	B, 4, H	
10	Electric shock from lighting	Lighting, weather condition	Electrocution, electric shock, damage to equipment, damage to power network, possible fire	C, 5, E	33. Weather monitoring 34. Follow emergency response plan 35. Operate in good weather condition	A, 4, H	
11	Equipment damage – Weather condition	Weather condition, high wind	Damage to equipment, electric shock, no power	D, 4, E	36. Not to operate in high windy condition 37. Not to set up in flooded area	B, 1, L	

12	Hydraulic fail	Mechanical failure	Unable to lower the boom, personal injury, damage to equipment, no power, damage to property	C, 3, H	38. Require regular inspection 39. Test the hydraulic line at regular interval	B, 3, M	
13	Burn	Hot surface	Personal injury	C, 3, H	29. Guarding provided to hot area 30. No work to be carried out on hot surface	B, 2, L	
14	Oil spill/Diesel fuel spill	Tank/hose damage	Possible fire if ignition source available, environmental impact, skin irritation	C, 2, M	31. Ensure MSDS is available 32. Visual inspection required 33. Check connection to/from tank 34. Follow environmental plan 35. PPE gloves and safety glasses required 36. Use appropriate material 37. Pressure test to be included in service schedule	B, 1, L	
15	Material of construction - corrosion	Corrosion	Damage to unit, personal injury if lifting point corrode	C, 4, E	37. Inspection required at regular interval	A, 1, L	
16	Environmental - Land	Oil spill	Possible fire if ignition source available, soil	C, 2, M	38. All liquid fill point/drain points are under bund area 39. Wiggins type fuel point available	B, 2, L	

			& water pollution		to protect from over filling 40. Oil spill kit required on site		
17	Noise	Noise pollution	Noise pollution	B, 4, H	41. PPE required 42. Unit to be place in an appropriate location 43. Do not operate with doors open unless PPE is worn	B, 2, L	