

Risk Assessment Analysis			Page ..... of .....
Job Description:	Job Address:	Job Area:	Date:
Stradler Cranes	DP World Port Botany	RTG 517-518-519-520 Diesel Generator	29/11/2017

**IMPORTANT :** The requirements of Standards do not override the regulatory authorities or OH&S Legislation. This document is only an extract of the requirements of standards – this is a starting point only, and does not replace the need to read and refer to the full standards

**Hazard Analysis** shall be carried out by personnel competent in risk assessment, with consultation from the Owner, Operator, Maintenance Personnel, Supplier, Insurer and other persons where applicable. The hazard analysis should be updated continuously at intervals (within 5 years) or when any changes are made to the equipment, the operating environment, the operator or if an incident, such as a fire or collision, occurs.

**Type of Hazard**                      Class A   **X**                      Class B   **X**                      Class E   **X**                      Class D

**Determine the possible fire scenarios.** This includes: What can happen? When and where can it happen? Why and how can it happen? Examples of information that should be included in this section is fuel sources, ignition sources, normal operational conditions, foreseeable misuse and the effects of possible fires. In vehicles, areas in which possible fire scenarios can occur include but are not limited to;

Risk Area	Addressed by System
Turbo chargers	Yes
Fuel systems (Incl. piping, hoses, pumps valves & injectors close to ignition sources)	Yes
Cooling systems (including hydraulics, engine and transmission),	Yes
Exhaust systems	Yes
Hydraulics systems (including piping, hoses, pump and valves)	Yes
Lubrication systems (including engine and transmission systems and grease systems)	Yes
Braking systems (including retarders, park brakes and service brakes)	N/A
Electrical systems (including alternators, generators, batteries, wiring and switch gear)	Yes
Conveyor belts	N/A
Areas where combustible materials can accumulate (including belly plates, engine valleys and wheel arches)	Yes

**Quantify the risk exposure** by determining the likelihood and consequences of the fire scenarios. This shall take into account normal operating conditions as compared to intended operating conditions. This includes, poor maintenance practices, operator use/misuse, inexperienced operators, use of oils and greases, equipment interaction, wear and tear of components and the operating environment (for example; road conditions, equipment speeds or time of day). The analysis should include the following, where applicable;

- Health and safety of the operator and passengers,
- Health and safety of people in the vicinity,
- Property loss
- Production loss,
- Environmental damage.

**Prioritize the possible fire risks** based upon the likelihood of a fire event occurring and the potential damage caused. This should take into account existing controls such as; the availability of firefighting equipment and/or personnel, egress points, means of fire detection and the availability and response time of external support. If the results of the risk evaluation indicate an unacceptable level of risk exists, then fire risk reduction measures should be undertaken.

What Can Happen? Determine the possible fire scenarios. Include When, Where and How it can happen. Include drawings/schematics.	How likely is this to happen? Quantify the risk exposure by determining the likelihood and consequences of the fire scenarios.	Prioritise the possible fire risks. What risk needs to be addressed first, and how? What existing controls are in place?
Fuel and Hydraulic system failure Electrical component failure	Subject to maintenance and loadings of components	Maintenance of components to manufacturers specifications.
External interference -Collisions, Lightening Strike, Refueling	Main risk is during refueling	Spills to be addressed by operating procedures, equipment maintenance to be to manufacturers specifications

### System Design Agreement

Fire Fighting Agent	FirePro Condensed Aerosol
Detection System	Linear Heat Detection Cable - 185°C
Control System	FirePro FPC-2 Sub Control Panel Connected to Main FIP – Sigma XT Panel
Shutdown Protocols	On Detection completed shut down of unit.
Operating Limitations	Normal Site Conditions – No Overloading – No Excessive speeds – Flat Gradient.

Hazard Analyst:		Hazard Analyst:		Site Supervisor:	
Position:	INSURER	Position:		Position:	
Signature:	<i>A. P. Coffe</i>	Signature:		Signature:	

Risk Assessment Analysis			Page ..... of .....
Job Description:	Job Address:	Job Area:	Date:
Stradler Cranes	DP World Port Botany	RTG 517-518-519-520 Electrical Control Room – E House	29/11/2017

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**Hazard Analysis** shall be carried out by personnel competent in risk assessment, with consultation from the Owner, Operator, Maintenance Personnel, Supplier, Insurer and other persons where applicable. The hazard analysis should be updated continuously at intervals (within 5 years) or when any changes are made to the equipment, the operating environment, the operator or if an incident, such as a fire or collision, occurs.

**Type of Hazard**                      Class A   **X**                      Class B                      Class E   **X**                      Class D

**Determine the possible fire scenarios.** This includes: What can happen? When and where can it happen? Why and how can it happen? Examples of information that should be included in this section is fuel sources, ignition sources, normal operational conditions, foreseeable misuse and the effects of possible fires. In vehicles, areas in which possible fire scenarios can occur include but are not limited to;

Risk Area	Addressed by System
Cooling systems (including hydraulics, engine and transmission),	Yes
Electrical systems (including alternators, generators, batteries, wiring and switch gear)	Yes
Areas where combustible materials can accumulate (including belly plates, engine valleys and wheel arches)	Yes

**Quantify the risk exposure** by determining the likelihood and consequences of the fire scenarios. This shall take into account normal operating conditions as compared to intended operating conditions. This includes, poor maintenance practices, operator use/misuse, inexperienced operators, use of oils and greases, equipment interaction, wear and tear of components and the operating environment (for example; road conditions, equipment speeds or time of day). The analysis should include the following, where applicable;

- Health and safety of the operator and passengers,
- Health and safety of people in the vicinity,
- Property loss,
- Production loss,
- Environmental damage.

**Prioritize the possible fire risks** based upon the likelihood of a fire event occurring and the potential damage caused. This should take into account existing controls such as; the availability of firefighting equipment and/or personnel, egress points, means of fire detection and the availability and response time of external support. If the results of the risk evaluation indicate an unacceptable level of risk exists, then fire risk reduction measures should be undertaken.

What Can Happen? Determine the possible fire scenarios. Include When, Where and How it can happen. Include drawings/schematics.	How likely is this to happen? Quantify the risk exposure by determining the likelihood and consequences of the fire scenarios.	Prioritise the possible fire risks. What risk needs to be addressed first, and how? What existing controls are in place?
Electrical component failure	Subject to maintenance and loadings of components	Maintenance of components to manufacturers specifications.
External interference -Collisions, Lightning Strike, Refueling	Main risk is component failure	Equipment operated within manufacturers specifications

#### System Design Agreement

Fire Fighting Agent	FirePro Condensed Aerosol
Detection System	Dual Detection – Photo Elect Smoke & Thermal 60°C Detectors
Control System	FirePro FPC-2 Sub Control Panel Connected to Main FIP – Sigma XT Panel
Shutdown Protocols	On Detection completed shut down of unit.
Operating Limitations	Normal Site Conditions – No Overloading – No Excessive speeds – Flat Gradient.

Hazard Analyst:		Hazard Analyst:		Site Supervisor:	
Position:	INSTALLER	Position:		Position:	
Signature:	J-S Cuffe	Signature:		Signature:	