



RISK ASSESSMENT / JOB SAFETY ANALYSIS

Rev: 00

JSA Title: Derrick Flare Structure Installation & Erection				JSA No: LEAD-RS-018	
Project Name: NEW LNG TRAIN SKIKDA		Contract No: 6404-SC-030		Date: 21/01/2010	
Work Location: DFB/DFC / DFE & DFH AREA		Prepared By: C Van Niekerk			
Approved By:					
Permit/s Required: (circle below)		Additional PPE Requirements: (list on pre-start)		Special Tools or Equipment Required	
Permit/s Required: (Tick below)					
Confined Space Vehicle Entry		1. Overall		1. Ladders	
Excavation Radiography		2. Safety Boots & Hat		2. Man lift & Qualified 3 rd Party certified operator	
Hot Work Cold Work X		3. Safety glasses		3. Man Basket with Heat shield	
Electrical work		4. Gloves as applicable		4. Heat resistant PPE	
Potential Environmental Hazards (circle below)		Hazardous Materials (attach MSDS)		Fire/Emergency Equipment Requirements	
Air Pollution (dust) Noise		1) N/A		1) First Aid Box	
Spills to Water Spills to ground		2)			
Hazards to flora and fauna Soil Erosion		3)			
Other Potential Hazards to Consider	Electrical	Chemical	Light/Dark	x	Other Comments Sufficient water supply during warm days
	Pressure (air, water, gas)	Heat/Cold	Dust and/or fume	x	
	Mechanical (crush points)	Ignition Sources	Other Trades		
	Manual Handling	Ground conditions	Wind	x	

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Step	ACTIVITY	HAZARD	RISK/CONSEQUENCES	CONTROL MEASURES	ADDITIONAL CONTROL REQUIRED
1	Assign Workers to specific tasks.	<p>Incompetent Workers.</p> <p>Workers exposed to hazards associated with the task to be performed.</p> <p>Heat.</p> <p>Unprotected body.</p>	<p>Injuries Fatalities</p> <p>Injuries Fatalities</p> <p>Heat stroke/exhaustion.</p> <p>Injuries Fatalities</p>	<p>All Workers will attend the LEAD HSE Induction and Manual Material handling and Hand safety & Small Tools training course.</p> <p>Competent persons will be assigned to tasks requiring special skills.</p> <p>Task steps and hazards will be discussed by means of JSA/TSTI before commencing with activities.</p> <p>Drinking water will be supplied.</p> <p>Heat Resistant PPE for the employees in the man basket</p> <p>Safety helmets will be worn at all times.</p> <p>Safety glasses will be worn at all times.</p> <p>Safety glasses together with a face shield will be worn when using an Angle grinder or any tool generating flying objects.</p>	<p>Newly employed persons will be identified by means of a green band around Safety Helmets.</p> <p>Newly employed persons will be placed with experienced Workers for a period in order to acquire the necessary skills.</p> <p>KBR HSE Induction, Supervisor, Small Tools, Training TSTI Training</p> <p>All employee entering KBR construction works area must comply with the Heat Resistant PPE requirements in this areas Supervisors / Foremen will ensure that person wearing the required Heat Resistant PPE. HSE staff to monitor during safety walks.</p>

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Leather gloves will be worn by all persons performing tasks which have a potential for hand injuries.

Ear protection will be worn when the noise level is exceeded especially when using an Angle Grinder.

Dust masks will be worn in dusty conditions.

Safety boots/shoes will be worn whilst in work areas.

All employees will wear gloves when entering and during works activities on site
(All areas where voices have to be raised in order to communicate).

Unavailability of Medical Staff.

Injuries Fatalities

A fully equipped Ambulance manned by a Medical Doctor will be stationed in the Lead Office

Medical staff will be in contact with Supervisors by means of Two Way radios or Mobile Phone.

2 Assign Workers to specific tasks
Derrick Flare Structure installation & Erection

Incompetent Workers.

Injuries Fatalities

All Workers will attend the LEAD HSE Induction and Training course.

Competent persons will be assigned to tasks requiring special skills.

Newly employed persons will be identified by means of a green band around Safety Helmets.

Newly employed persons will be placed with experienced Workers for a period in order to gain the necessary skills

Inexperienced Operators.

Injuries Fatalities

Operators will be assessed by the LEAD Heavy Vehicle Maintenance Supervisor.

Operators will attend the LEAD Driver Training Course in addition.

Workers exposed to

Injuries Fatalities

Task steps and hazards will be discussed by means of JSA's before commencing

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hazards associated with the task to be performed.

with activities.

Topic must be discussed at Toolbox Talks.

Heat.

Heat stroke/exhaustion.

Drinking water will be supplied.

Unprotected body.

Injuries Fatalities

Safety helmets will be worn at all times.

All employee entering KBR construction works area must comply with the PPE requirements to this areas Supervisors / Foremen will ensure that person wearing the required PPE. HSE staff to monitor during safety walks.

Safety glasses will be worn at all times.

Safety glasses together with a face shield will be worn when using an Angle grinder or any tool generating flying objects.

Leather gloves will be worn by all persons performing tasks which have a potential for hand injuries.

All employees will wear gloves when entering and during works activities on site
(All areas where voices have to be raised in order to communicate).

Ear protection will be worn when the noise level is exceeded especially when using an Angle Grinder.

Dust masks will be worn in dusty conditions.

Safety boots/shoes will be worn whilst in work areas.

Unavailability of Medical Staff.

Injuries Fatalities

A fully equipped Ambulance manned by a Medical doctor will be stationed in the Lead offices.

Medical staff will be in contact with Supervisors by means of Two Way radios

Steel erectors suffering from vertigo

Clamping down into man basket or steel structure

Pre-medical done by site doctor before any lift comments

Supervisor to check every morning if any one suffers from any medical condition

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3	Inspect the work area prior to commencing with activities.	Work activities performed by other Departments in the same area could pose a hazard to workers.	Injuries Fatalities	No work will be done where any activity poses a hazard to workers e.g. ➤ Radiography, ➤ Work underneath overhead activities etc.	Activities will be planned by each Supervisor and discussed in the daily Coordination meeting. Requests for PTW will be done at least 24 hours in advance. Excavation PTW & U/G drawings attached
4	Completing required HSE relevant document to the activity	Un informed works group	Injuries Fatalities	Supervisor to do TST/JSA Supervisor to have onsite MS and Risk Assessment	Supervisor to inform works group on all relevant document and works group to sign TSTI
5	Position two cranes at the required location.	Cranes could run persons over resulting in serious injuries	Injuries Fatalities	Cranes will travel at the required speed within the KBR area.	A Competent person will guide the Cranes to the required position.
		Cranes will be position that when operating they will not clash or swing in to each other.	Injuries /Fatalities or crane damage.	KBR will place and control crane for the lift in position till lifts is completed	The Cranes will be fitted with a reverse horn.
6	Lift and slew the pre-assembled Derrick structure to the required position.	Nip points.	Crush Hand or limbs	Leather gloves will be worn by riggers. Slinging will be done by a competent person.	Signal man will ensure that hands are removed from nip points prior to proceeding with the lift. 3 rd Party assessment of riggers or banks man for competence. Riggers will do crane & rigging safety/Material handling& Hand safety and qualified by 3 rd party.
	Lifting tackle could fail.		Injuries Fatalities/ damage to equipment	Lifting tackle will be inspected before use. Weight of the load including the rigging gear will be determined. Slings passing around sharp edges will be	Qualified 3 rd party Rigging supervisor will inspect all lifting equipment. All lifting equipment will be colour code as inspected as to the colour coding of KBR

