

	AI Seal Contracting & Trading Co. (WLL)		Document Reference	
	RISK MANAGEMENT SYSTEM		ALSEAL/HSE/CTS-FORM-021	
	RISK ASSESSMENT		Rev. No.	Rev. Date
			00	MAY-2018
			Page	

## AI Seal Contracting Risk Management System

### Risk Assessment- Installation of External Landscape Lighting Works

Contract number and title: <b>COMMUNICATIONS TOWERS AT AL RUWAIS, AL GHASHAM AND HALUL ISLAND, Q-406-01</b>	RA number:	Element of work: Installation of External Landscape Lighting Works	Risk assessment	Date: 14/05/2018
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Severity		Likelihood		Evaluation of risk		
NO INJURY MINOR MODERATE MAJOR FATALITY	1	RARE	1	12 - 25	High	Action required urgently to control the risk, further resources may be required, work must stop immediately
	2	UNLIKELY	2	5 – 10	Med	Action required to control the risk, interim measures may be necessary in the short term, able to proceed with work under supervision
	3	OFTEN	3			
	4	LIKELY	4			
	5	EXPECTED	5	1 – 4	Low	This represents a low risk, although control measures must be maintained

Job Steps	Hazards	Who might be harmed? Employees Contractors Public Others Environment	How?	Initial risk?			What controls are required?	Residual risk?			Action by
				Severity	Likelihood	Risk Rating		Severity	Likelihood	Risk Rating	
Constructi on Site	Activities Ignorance of site rules	All Construction Personnel	Physical & Mental harm from construction activities	5	5	25	<ul style="list-style-type: none"> <li>HSE induction to be conducted to all personnel engaged prior to start of any work; Activity Hazard Analysis (AHA) to be furnished including equipment entry permit request, person entry permit Start briefing</li> </ul>	2	2	4	Site Engineers and Supervisors



# AL Seal Contracting & Trading Co. (WLL)

## RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

							prior to work activities.				
	Language	All	Non English speakers not being able to understand work instructions or emergency signs etc.	4	5	15	<ul style="list-style-type: none"> <li>Where this situation exists, cause adequate levels of communication to be achieved through a suitable interpreter. The persons concerned must not commence work until a suitable interpreter is available.</li> <li>Cause the site rules, emergency signs and other relevant signs to be communicated in languages that reflect the site operative's needs.</li> </ul>	2	2	4	Site Engineers and Supervisors
	Dust and air debris	Persons involved in activities and others around the working areas	Risk of eye injuries	3	4	12	<ul style="list-style-type: none"> <li>Workshop facilities to have eye wash facilities in place. Eye wash stations will be placed at strategic points around site. Light eye protection will be mandatory for all staff &amp; operatives. Roads and haul roads will be damped down as and when required</li> </ul>	2	2	4	Site Engineers and Supervisors
	Manual Handling	Operatives	Hand & back injuries, heat stress	4	3	12	<ul style="list-style-type: none"> <li>Manual handling training, not lifting loads beyond the capabilities of the operative, use of correct hand protection. Supervision</li> </ul>	2	2	4	Site Engineers and Supervisors
	House Keeping – material, waste.	All	Slips, trips & falls	4	4	16	<ul style="list-style-type: none"> <li>Regular housekeeping inspections, keeping area well prepared and free from debris, materials, cables and waste.</li> </ul>	3	2	6	Site Engineers and Supervisors
	Sun	Operatives involved in the task	Heat stress - operatives working in direct sun light constructing office set up	5	5	25	<ul style="list-style-type: none"> <li>Provide shaded shelter for operatives to take regular breaks during each hour, provide adequate supply of drinking water, provide shaded light eye protection.</li> </ul>	2	4	8	Site Engineers and Supervisors



# AL Seal Contracting & Trading Co. (WLL)

## RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

	Ground Conditions & Access	All	Trips and falls caused by poor, general access around the site and to the facilities and accommodation	4	5	20	<ul style="list-style-type: none"> <li>All accesses, where people have to walk, to be well defined, properly constructed and maintained in good condition.</li> <li>Suitable steps to be provided and maintained, where appropriate.</li> <li>Where appropriate, because of the need of access during darkness, cause suitable levels of lighting to be provided and maintained.</li> </ul>	1	3	3	Site Engineers and Supervisors
	Control of Plant	Plant Operators	Badly designed or defined haul roads or poorly maintained surfaces leading to a loss of operator control and mechanical damage to plant.	4	5	25	<ul style="list-style-type: none"> <li>Haul road construction to avoid unnecessary cambers or bends and the line of the road to be well defined, where appropriate.</li> <li>Running surface to be maintained in good condition.</li> </ul>	1	4	4	Site Engineers and Supervisors
Ground Investigation	Persons	Surveyors, Engineers & other workers on site	Being struck by moving plant / equipment	5	3	15	<ul style="list-style-type: none"> <li>Competent &amp; certificated plant operators to operate all items of plant.</li> <li>Plant certification to be provided prior to commencing on site, segregation of plant &amp; operatives with barriers &amp; signage, operatives briefed not to walk / stand around rear of machinery or items of plant.</li> <li>Operatives instructed to maintain eye contact with plant operators at all times. Operatives to wear high visibility vests &amp; safety helmets, safety footwear, light eye protection, overalls. mobile phones not to be used whilst operating equipment.</li> </ul>	2	2	4	Site Engineers and Supervisors
Hydro & Air Testing	hand tools / power tools	Tool operators	Due to unapproved tools (unsafe), unauthorised operatives and poor supervision	4	5	20	<ul style="list-style-type: none"> <li>Before handing out tools, visual inspection will be carried out, by competent electrician.</li> </ul>	2	2	4	Site Engineers and Supervisors



## Al Seal Contracting & Trading Co. (WLL)

### RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

							<ul style="list-style-type: none"> <li>hearing protection shall be used if exposed to noise levels of 85 db(a) or above</li> <li>Competent operators shall handle the tools &amp; competent supervision will be ensured.</li> <li>All tools used will be well maintained and defect free.</li> <li>Electrically operated tools shall comply with established safety requirements-double insulated / colour coded / properly grounded.</li> <li>appropriate PPE</li> </ul>				
	Use of Ladders	Operatives involved in the task	<ul style="list-style-type: none"> <li>Falls of persons from ladders.</li> <li>Collapse of ladders.</li> <li>Dislodgement of ladders.</li> <li>Contact with, or arcing from, power sources.</li> </ul>	3	4	12	<ul style="list-style-type: none"> <li>Only ladders of class 1 (industrial heavy duty) or class 2 (light trade) ladders, as appropriate, shall be used.</li> <li>Ladders shall carry identification and shall be free from defect. Inspection shall be carried out before use and at the regular intervals specified in the Company procedure.</li> <li>Prior to erection, the erection site shall be surveyed and note taken of any visible hazard such as loose materials, insecure structures or exposed powersources.</li> <li>Erection of ladders shall only be carried out by fully instructed and trained operatives.</li> <li>Ladders shall always be erected on firm level standings. Where the base is not level, then suitable and secure packing</li> </ul>	2	2	4	Site Engineers and Supervisors



## Al Seal Contracting & Trading Co. (WLL)

### RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

will be provided.

- Ladders shall be set at an angle of 750 (4 vertical to 1 horizontal).
- Ladders shall always be secured on both stiles, except where this is impracticable on ladders less than 5 metres which may be footed for work of short duration.
- Ladders shall not be rested against fragile or flexible supports, such as plastic guttering.
- Ladders shall extend 1.05 metres above the landing place, except where an alternative adequate handhold is provided.
- For scaffold access ladders, the preferred option is that they be erected internally. Where this is impracticable, the ladder shall be erected parallel and close to the scaffold.
- Except in specific circumstances of short duration, work should not be carried out from ladders.
- Only one person is permitted on a ladder at any one time. That person should have both hands free to grip the ladder.
- Loads should not be carried up ladders; suitable material handling methods should be provided.
- Suitable pouches, bags or belts should be provided for the carrying of tools.
- Maker's instructions regarding the use of extending ladders should be available on



# AL Seal Contracting & Trading Co. (WLL)

## RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

							site should always be observed by those erecting ladders.				
	Working at height	All workforce (around the work area)	<ul style="list-style-type: none"> <li>Falls of persons</li> <li>Falls of materials</li> </ul>	4	5	20	<ul style="list-style-type: none"> <li><b>Planning:</b> Work is planned to ensure a safe means of access is provided. See separate assessments for use of ladders, scaffolding, mobile elevating working platforms and mobile scaffold towers.</li> <li>All equipment is provided and maintained to required legal and other standards.</li> <li>Suitable signs and barriers will be positioned directly below works to warn of overhead operations.</li> <li><b>Physical:</b> Suitable rigid edge protection will be erected at places of work where falls of more than 2m could occur. Where edge protection is removed for access, or is not reasonably practicable, personal suspension equipment will be used by operatives working at or near the edge.</li> <li>Where there is likely to be debris falling, fans, chutes or full enclosures will be used to protect third parties.</li> <li>All operatives working below overhead operations will wear safety helmets.</li> <li><b>Managerial/Supervisory:</b> All equipment used will be checked to ensure it is in good order, to correct specification, and in</li> </ul>	2	3	6	Site Engineers and Supervisors



## Al Seal Contracting & Trading Co. (WLL)

### RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

							<ul style="list-style-type: none"> <li>date for inspection.</li> <li>Work will be monitored to ensure that additional precautions and equipment is taken into use if edge protection is removed. Inspections must be carried out and recorded on all places of work and equipment, scaffolds, working platforms, harnesses, lanyards etc.</li> <li><b>Training:</b> Training/toolbox talks and instructions must be provided to all operatives and supervisory staff involved in the use of suspension equipment such as lines and harnesses, and how to inspect and assess PPE of this type before use.</li> </ul>				
	Installation and use of temporary electrical supplies	All workforce	<ul style="list-style-type: none"> <li>Electrocution</li> <li>Fire</li> <li>Damage to equipment</li> </ul>	5	5	25	<ul style="list-style-type: none"> <li><b>Planning:</b> Temporary supplies will be planned to take into account foreseen load requirements, environmental conditions, and progress of work and compatibility/maintenance of equipment. Competence of electrical sub-contractors will be checked before contracting work. The installation will be certified before being brought into use. Locked supply cabinets will form part of the system. Offices, stores, drying rooms and canteens will be regarded as permanent installations.</li> <li><b>Physical:</b> Supply and distribution units will be lockable and the keys controlled. Signs warning of electrical hazard will be displayed on supply units. Fire</li> </ul>	2	3	6	Site Engineers and Supervisors



# AL Seal Contracting & Trading Co. (WLL)

## RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

							<p>extinguishers (carbon dioxide) will be available adjacent to distribution units. Rubber gloves and rubber mats to an appropriate standard are to be used for live work. All cables will be routed so as to prevent damage to cables and avoid tripping hazards.</p> <ul style="list-style-type: none"> <li><b>Managerial/Supervisory:</b> Permit to work system or other suitable means of control to be used when work on live systems is foreseen. Operatives will not be permitted to work alone on live systems. Only competent electricians are authorised to install or modify temporary supplies; certification will be obtained after modification. Systems will be monitored for physical damage and will be checked and recertified every 4 months.</li> <li><b>Training:</b> Electricians will receive additional training in the above standards and HSE guidance material, toolbox talks will be given at regular intervals.</li> </ul>				
	Use of portable electrical equipment	Operatives and Helpers	<ul style="list-style-type: none"> <li>Electrocution</li> <li>Fire</li> <li>Damage to equipment</li> </ul>	4	4	16	<p><b>Planning:</b></p> <ul style="list-style-type: none"> <li>All portable electrical equipment will be identified individually and is subject to planned maintenance. Equipment supplied to site will be fit for its purpose with regard to voltage, power and environmental conditions.</li> </ul> <p><b>Physical:</b></p>	2	2	4	Site Engineers and Supervisors





## Al Seal Contracting & Trading Co. (WLL)

### RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

- All equipment found to be defective will be switched off and reported immediately. Visual inspection of equipment will be carried out before use. Leads and extension cables are to be routed so as to minimise the likelihood of damage and trip hazards.
  - Damaged lamps on festoon leads will be replaced, and only moulded socket holders will be used on sites.
  - Only equipment operating at a safe voltage will be permitted on site; higher voltages must be authorised in writing by management prior to use.
- Managerial/Supervisory:**
- Subcontractors will be made aware of the above policy concerning use of electrical equipment. Trained first-aider(s) will be available on site at all times when electrical equipment is in use.
  - Management are responsible for ensuring that attention is paid to site electrical requirements, including arrangements for design, testing and installation of circuits and their protection by fuses, residual current devices or similar. The use of electrical equipment will be monitored to ensure safe use. Management will ensure that only trained and competent persons test, repair and maintain portable electrical equipment.

**Training:**



# AL Seal Contracting & Trading Co. (WLL)

## RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

							<ul style="list-style-type: none"> <li>Operatives will be trained in the precautions and safe use of portable electrical equipment. Site first-aiders will receive training in electric shock treatment.</li> </ul>				
	Use of vertical drilling machines	Operatives and others who involve with the activities.	<ul style="list-style-type: none"> <li>Entanglement of hair or loose clothing</li> <li>Spinning of work piece</li> <li>Cutting of skin by contact with drill or hit to others (nearby)</li> </ul>	4	4	16	<p><b>Planning:</b></p> <ul style="list-style-type: none"> <li>Consideration will be given to the noise produced by the machine, especially when drilling sheet metal. This will depend on speed on the drill and the material. Noise assessments may be necessary.</li> <li>Guards or trip devices will be fitted to machines before being brought into use. Means of emergency stopping of machines will be fitted.</li> </ul> <p><b>Physical:</b></p> <ul style="list-style-type: none"> <li>First-aid facilities will be provided as necessary.</li> <li>Guards and/or trip devices will be in place before work starts. Any defective guards will be reported. Suitable eye protection will be used by personnel using drilling machines. The work-piece will be held securely in a vice or similar device, and the vice secured to the machine bed. The chuck key will be removed before the drill is switched on. Loose clothing (including sleeves and ties) will be removed and long hair covered before the machine is switched on. Electrical supply will be fitted by a competent electrician, and a check</li> </ul>	2	2	4	Site Engineers and Supervisors



# AL Seal Contracting & Trading Co. (WLL)

## RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.

Rev. Date

00

MAY-2018

Page

							<p>will be made every after three month on its condition. The result will be recorded. Warning notices in all relevant languages to be displayed where necessary.</p> <p><b><u>Managerial/Supervisory:</u></b></p> <ul style="list-style-type: none"> <li>Only personnel trained to do so will be permitted to operate drilling machines. The operators will be reminded to keep floors clear of obstructions and of the need to wear PPE required. Notices requiring eye protection and restricting the use of machines to trained personnel will be clearly displayed. A table of recommended drill speeds for the drill size and material will be available to all drill operators.</li> </ul> <p><b><u>Training:</u></b></p> <ul style="list-style-type: none"> <li>Management will be trained in the safe use of drilling machines. Personnel using drilling machines will be briefed on the use of the machine and the use of the needs for guards and tripping devices, and the potential for injury at the machine.</li> </ul>				
	Trench (Shallow) Excavation for laying uPVC Conduits	Persons involved in activities and others around the working areas	<ul style="list-style-type: none"> <li>Personal injury from Trip or fall on uneven ground.</li> <li>Oil Spillage.</li> <li>Injury from overturning machinery on unstable or uneven ground.</li> </ul>	4	4	16	<ul style="list-style-type: none"> <li>Care to be taken when climbing into or leaving machinery or using the manual excavator.</li> <li>Always wear proper PPE.</li> <li>One vehicle will be made available for the emergencies.</li> </ul>	2	2	6	Site Engineers and Supervisors



# AL Seal Contracting & Trading Co. (WLL)

## RISK MANAGEMENT SYSTEM

### RISK ASSESSMENT

#### Document Reference

ALSEAL/HSE/CTS-FORM-021

Rev. No.


Rev. Date

00

MAY-2018

Page

			<ul style="list-style-type: none"><li>• Person too close to machine struck /crushed by excavator.</li><li>• Eye injury from dust.</li><li>• Hearing damage from prolonged noise of machinery.</li></ul>				<ul style="list-style-type: none"><li>• Do not operate or use machinery on round conditions not suitable for that particular equipment or task.</li><li>• Supervisor to ensure all personnel &amp; onlookers are clear of machine prior to starting excavation work.</li><li>• Only certified operators to operate machinery.</li><li>• Provide proper access and ladders for deep excavation.</li><li>• Operators &amp; others to wear hearing &amp; eye protection when machinery in use.</li><li>• Use of Flagmen / Bank men is recommended when machine are backup</li></ul>				
	Installation of uPVC Conduits & LV Cables/Wires	Operatives and others who involve with the activities.	<ul style="list-style-type: none"><li>• Personal injury due to fall on uneven ground during Conduit/Cables loading/unloading/ laying etc.</li><li>• Injury during the cutting of uPVC ducts by cutter or hacksaw.</li></ul>	3	4	12	<ul style="list-style-type: none"><li>• Proper precaution &amp; care to be taken while loading/unloading/ laying the ducts at site either manually or by light crane or fork lift.</li><li>• Always wear proper PPE.</li><li>• Tools shall be checked before use &amp; damaged tools shall always be avoided.</li></ul>	2	2	4	Site Engineers and Supervisors
	Installation of Lighting Poles	Operatives and others who involve with the activities.	<ul style="list-style-type: none"><li>• Personal injury due to fall of poles during lifting/ erection etc.</li></ul>	4	4	16	<ul style="list-style-type: none"><li>• Proper precaution &amp; care to be taken while lifting &amp; erecting either with lift crane or manually.</li></ul>	2	4	8	Site Engineers and Supervisors

	Al Seal Contracting & Trading Co. (WLL)		Document Reference	
			ALSEAL/HSE/CTS-FORM-021	
	RISK MANAGEMENT SYSTEM		Rev. No.	Rev. Date
			00	MAY-2018
	RISK ASSESSMENT		Page	

	Grinding Works	Operatives and others who involve with the activities.	<ul style="list-style-type: none"> <li>Electric Shock, Eye injury, Finger Caught in between, Entanglement, Fire, Wheel damage</li> </ul>	4	5	20	<ul style="list-style-type: none"> <li>Check the Electrical circuit, Check the Grinder and wheel prior to use for any Break/crack or play, Keep combustible materials away from the working area.</li> <li>Use fire extinguisher, leather hand gloves, face mask, wheel guard and suitable PPE.</li> </ul>	3	2	6	Site Engineers and Supervisors
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