



DECOMMISSIONING OF THE DELIMARA POWER STATION – PHASE 1

DEMOLITION AND DISMANTLING OF BOILERS, TURBINES, GENERATORS AND TRANSFORMERS

OCCUPATIONAL HEALTH AND SAFETY RISK ASSESSMENT

Version 1 (June 2017)

Report Reference:

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Quality Assurance

Decomissioning of the Delimara Power Station - Phase 1 Occupational Health and Safety Risk Assessment for the demolition and dismantling of boilers, turbines, generators and transformers - Version 1 June 2017

Report for: General Smontaggi

Revision Schedule

Rev	Date	Details	Prepared by	Reviewed by	Approved by
00	Jun 2017	Submission to Contractor	Steven Treeby Health and Safety Officer	Rachel Xuereb Director	Mario Sabolo Project Manager

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PURPOSE AND SCOPE OF WORKS

This document is the Occupational Health and Safety Risk Assessment for demolition and dismantling works carried out on the boilers, turbines, generators and transformers as part of the Decommissioning of the Delimara Power Station – Phase 1.

Part II Art 6 (1) of the Occupational Health and Safety Authority Act XXVII of 2000 states that *“it shall be the duty of an employer to ensure the health and safety at all times of all persons who may be affected by the work being carried out”*. If *“in pursuance of the foregoing an employer enlists competent services or persons, the employer shall not be discharged from such incumbent duties arising out of this Act and out of regulations made out of this Act.”*

This report has been prepared by En-Sure Ltd for General Smontaggi and is based upon the Method Statements prepared by the Contractor (Job ref: DPS-WMS02-Boilers – Revision 3; DPS-WMS03-Turbines - Revision 3; and DPS-WMS04-Transformers – Revision 3) issued on 31 May 2017, uploaded on the Project’s Google Drive System.

En-Sure Ltd cannot be held liable for any dangers resulting from matters which were not divulged to them during the risk assessment.

The list of identified occupational health and safety hazards is non-exhaustive and includes those hazards that workers might encounter during the course of their work. The listed control measures are intended to minimise and, where possible, eliminate as far as is reasonably practicable the risks posed by the potential hazards.

The Contractor must ensure that the necessary control measures are put in place in order to prevent accidents from occurring and in order to conform to local Occupational Health and Safety legislation.

The recommended control measures are to be considered as a guide for action to be taken into consideration by the Contractor and any Sub-Contractors. However, it is important that professional competent persons are engaged to carry out civil, mechanical and electrical works.

It is imperative that the Contractor explains all hazards identified within this risk assessment to all workers employed on the Project. It is recommended that this risk assessment be reviewed regularly in order to ensure its continued applicability and effectiveness to the work.

All workers are to follow instructions received by the Contractor’s Management during site induction training or any other relevant toolbox talks.

Suitable Personal Protective Equipment shall be worn by all workers at all times.

Good housekeeping and a satisfactory state of cleanliness shall be maintained by all workers in all areas of work as well as public areas surrounding the site.

A stocked first aid kit shall be available for use on site. A trained first aider shall also be present on site at all times during works.

The removal of potentially hazardous substances (such as Sulphuric Acid, Caustic Soda, Waste oils, Heavy Fuel Oil Sludge, Batteries, Flyash, Waste Electrical and Electronic Equipment (WEEE) and ammonia) found at the Delimara Power Station does not fall within the remit of this risk assessment. Specific risk assessments will have to be carried out by the sub-contractor responsible for removal of such hazardous material.

Risk Assessment Form			
1. Project title:	Decommissioning of the Delimara Power Station – Demolition and dismantling of boilers, turbines, generators and transformers		
2. Version number: 01	3. Date: 26/06/2017	4. Location of work: Delimara	
5. Duration of work: Refer to Contractor's Method Statement		6. Number of persons involved in work on Site at any one time: 13	
7. Name and contact details of Main Contractor: General Smontaggi SpA Viale dell' Industria, 5, 28060 San Pietro Mosezzo (NO) sabolo@generalsmontaggi.com [REDACTED]		8. Name of Sub-Contractor/s: En-Sure Ltd;	
9. Name and Contact details of PSDS: Malcolm Falzon on behalf of Shield Security Consultants Ltd pscs@shield.com.mt [REDACTED]		10. Name and Contact details of PSCS: Malcolm Falzon on behalf of Shield Security Consultants Ltd pscs@shield.com.mt [REDACTED]	
11. Name and Contact details of Contractor's H&S Site Officer: Steven Treeby obo En-Sure Ltd. steven.treeby@ensure.com.mt [REDACTED]		12. Name and Contact details of Contractor's Site Administrator/Site Foreman: Ermegildo Porzionato porzionato@generalsmontaggi.com [REDACTED]	
13. Name and Contact details of Project Manager: Mario Sabolo sabolo@generalsmontaggi.com [REDACTED]			

14. Safe Works Method Statement

An induction training session will be carried out for all workers who will be involved in some way or another during the demolition of the boilers, turbines, generators and transformers prior to commencement of works. Site offices, first aid facilities, welfare facilities and fire fighting equipment will be made available prior to commencement of works and shall be accessible at all times. An assembly point will also be designated.

The boiler demolition is performed in the following steps:

- The first step is to ensure that only cables that have been cut from the power supply and a permit to work issued by Enemalta personnel and equipment are removed. The contractor shall not remove any cable which has not been cut from both ends by the Enemalta's engineers. All the equipment (except cables and cable trays) that can be removed during the decommissioning activity, plant circuits, such as combustible gas, lubrication and valve control oil, cooling and injection water and power electro-instrumental equipment disconnection will be marked in red as an indication to the Contractor that they have been disconnected.
- The second step consists in identification and marking of components to be removed containing parts consisting of mineral/vitreous wool. The mineral wool removal will be carried out before any other disassembly operation. The removal of insulation wool in a free area will be carried out by using suitable PPE, most importantly eye and respiratory protection (P3 protection level) as well as protective hand wear for all the operating staff. Work areas involving insulation wool stripping shall be properly shielded in order to limit airborne dispersal. Works will be lightly sprayed with water during insulation wool stripping if required and appropriate warning signs shall be installed. Appropriate tools to strip off rock wool insulations will be used. While the use of manual cutting tools is preferred, if power

tools are used, these are to be fitted with guarding and extraction devices. Hands will be rinsed in cold water when finished stripping insulation wool.

- The third step consists in the demolition of all auxiliary parts of the furnace that might interfere with the subsequent lowering of the furnace central body. Prior to the structural sectioning, the element to be removed is secured with bands or chains and, then, lowered with a lifting device of sufficient capacity, positioned in the adjacent specially provided areas. Hot cutting operations will be carried out by operators working on an aerial platform, scaffoldings or parts of the structure not to be demolished. All hot works shall be covered by a hot work permit by the Contractor. The compressed gas cylinders used for hot works shall be properly checked for content identification and ensure that the compressed gas cylinders, piping and fittings are not damaged. If cylinders are required to be lifted, suitable cradles or platforms are to be used. Valves and regulators are not to be removed before moving the cylinder. Compressed gas cylinders are to be stored in an upright position, secured to a fixed point on level ground and stored at a proper temperature. A fire watch shall be present during hot works and no smoking shall be allowed in enclosed areas or where flammable material will, or will likely, be present. Smoking will only be permitted in designated areas within the Site. Cigarette butts are to be extinguished in designated buckets filled with sand, labelled and fitted with a lid. A smoking sign shall be posted at the permitted area. Containers that contained flammable substances are to be properly cleaned or moved well away from the hot works area. Wet floors are to be covered with non-combustible material or welding blankets. Suitable portable fire extinguishers shall be available and operable and workers must ensure that the area of works, including underlying surfaces and openings, are free from combustible or flammable material; or if such materials are present, these are entirely protected. All the necessary precautions in sampling, testing and purging / cleaning of contaminated structures are to be taken. The work equipment must be checked that it is in good working condition and that the equipment is fitted with flashback arrestors before use. Workers must wear correct PPE during hot works, including fire resistant clothing. Any works at height will require the use of a harness if the railing is in the process of being completed /commissioned or lacking. During shut down, all equipment must be

turned off and disconnected from the gas cylinders. Damaged or wasted gas cylinders must be marked accordingly. A fire watch shall remain to inspect the hot works station for signs of smouldering material for at least 30 minutes after hot works have been concluded. All hot works are to cease at least 30 minutes before the end of the working shift and the hot work permit signed off and kept in the health and safety file for record purposes.

- The final step consists in the lowering of the furnace and removal of the furnace load-bearing structures. The first element to be removed is the roof framework in order to free the hanging devices and the dead space area. Secondly, all external pipes and ducts will be removed before lowering the furnace. Then, the furnace will be progressively lowered to take the parts still to be dismantled at a height that allows to work in safety and limit the falling height of any removed fragments. The furnace lowering is carried out by using specially provided strand jacks positioned on the top of the load-bearing structure and connected to the load-bearing harps through two cross beams. The strand jack ropes will replace the existing suspension wires in holding the furnace, allowing the operators to fully remove the existing hanging devices. The strand jacks will be pre-loaded before cutting the existing suspension bars. The strand jacks and their lifting attachments will be certified accordingly by a competent mechanical engineer prior to use. Lowering consists in removing the lower parts of the furnace and bringing it down by using hydraulic jacks. Exclusion zones will be set up in order to ensure that no unauthorised access is present within areas above which demolition, dismantling and lowering activities are carried out. After the demolition of the lower part of the furnace by hot works (as per how works procedure above), a superstructure is assembled on the roof and anchored to the top framework main beams that will host the pairs of strand jacks used for handling. Once all the suspension cables have been assembled and equipped with a terminal, hanging is carried out. This system allows to fully free the original suspension wires from the load, moving the whole weight of the residual part of the furnace to the stand jack cables. Before lowering, vertical runners shall be arranged to constrain the structure against horizontal translations and allow for vertical translation, ensuring stability in all phases. Upon completion of the furnace lowering, the metal structures that supported the furnace shall be removed by means of

hot works procedure. Prior to the structural sectioning, the element to be removed is secured with slings or chains and, then, lowered with a lifting device of sufficient capacity positioned in the adjacent specially provided areas. All lifting equipment shall be certified by a warranted engineer and certification provided to Enemalta.

The turbines demolition is performed in the following steps:

- The first activity will be the removal of lube oil. Operators will open the lower point of each turbine that will allow the draining by gravity of the oils. Portable fire extinguishers shall be easily accessible nearby. After the turbines have been completely emptied, cleaned and purged from oily residues, the sub-contractor responsible for such works shall certify that the turbines are oil-free. After this confirmation has been issued, the parts of the turbines can be removed by means of hot works while other parts may require the mechanical disassembly of components by removing nuts and bolts. Impact wrench/pneumatic ratchet components/tools shall be inspected prior to use to ensure that they are safe to use. Only trained personnel shall operate impact loosening tools, which shall be used for their intended purpose. Work areas shall be kept clean and well lit. All guards are to be appropriately fitted and kept in a good state of repair. Tools are never to be hoisted or grabbed by their cord and shall be insulated if there is a risk of contact with live electricity. The impact pneumatic ratchet shall be placed over the wheel nut and the operator must ensure that it is tightly fit. The operator shall keep a constant eye contact with the joints between the pneumatic ratchet and the wheel nut to ensure that they are snug. Workers shall not keep their fingers on the switch-on button of the tool in order to avoid accidentally starting the tool. Steady and even pressure shall be supplied and the worker shall adopt a safe stance and a suitable balance at all times. The worker shall release the trigger to disengage power from the pneumatic ratchet once the nut is off the bolt. The nut shall be removed from the pneumatic ratchet's socket by pointing the pneumatic ratchet towards the ground and allowing the nut to fall. Nuts and bolts shall be deposited in apposite storage containers and good housekeeping maintained at all times.

- Once the turbines to be removed have been reached, they will be mechanically removed. During the disassembly, particular attention will be paid to issues related to operators' safety and the identification of each removed item. It is important that any pipes that pass from the turbine shed to the boiler will be cut and suspended properly on the other boundary. Enemalta personnel will be marking in red paint all the equipment (except cables and cable trays) that can be removed during the decommissioning activity. Only cables that have been cut from the power supply and a permit to work issued by Enemalta personnel and equipment shall be removed. The contractor shall not remove any cable which has not been cut from both ends by the Enemalta's engineers. The operators will access high levelled disassembly areas both from the existing surfaces – if possible - and through the aerial platform and by adjusting the means position to the disassembly progress to constantly prevent the risk of fall from height and ensure the best access to the working areas. Before disassembly, cutting or mechanical lines and gripping points will be marked out. For the handling of disassembled parts, given the operating space, it might be necessary to drive some parts through ropes or devices in order to prevent collisions with the structure or equipment not to be disassembled. Drop-off edges left after removing the turbines structures shall be guarded with physical barriers to prevent workers from leaning over the edge. Should workers need to access areas where a drop-off height of greater than two metres is present, these workers must wear a full body safety harness attached to a safe and fixed anchorage point to prevent them from falling over.

The transformers demolition is performed in the following steps:

- The components of the transformers to be removed will be sectioned by cutting and removing nuts and bolts (as per above procedure). Once the transformers to be removed have been reached, they will be mechanically removed. During the disassembly, particular attention will be paid to issues related to operators' safety and the identification of each removed item. Before disassembly, cutting or mechanical

lines and gripping points will be marked out. Each transformer will be broken down into small portions according of the operating spaces. Cutting and mechanical disassembling include the following operations, to be cyclically repeated until full removal of each tranformers. No hot cutting works will be carried out on the transformers. Any WEEE will be removed manually before starting any cutting works. Excavator scissors will be used to cut the transformers into smaller pieces inside the bunded area. Exclusion zones will be set up by erecting barricades and visible signage warning of the presence of demolition work at a safe distance in order to prevent unauthorised access. A banksman shall be posted outside the exclusion zone while work is in progress. Prior to commencement of scissor cutting works, the operator must ensure that plant and equipment used to carry out such tasks is safe to use, is properly balanced, free from any defects, certified by a competent mechanical engineer and a trained operator responsible for carrying out the task. Operators should always keep windows and doors closed during demolition particularly when shearing and breaking to avoid injury from flying debris. Any damaged parts should be replaced as soon as it is practical. The demolition attachment should only be used in the manner for which it was manufactured and should never be used as a bludgeon to break or weaken a structure or to push or pull. Once demolition of the transformers is completed, waste will be sorted and hauled away to apposite waste management facilities and the Site cleared up. All cleaning will be done inside a bund.

15. Hazard Identification							
Ref.	Type of OHS Hazard	Present	Absent	Ref.	Type of OHS Hazard	Present	Absent
1	Slips and trips	✓		20	Noise	✓	
2	Moving vehicles and machines	✓		21	Lighting	✓	
3	Moving parts of machinery	✓		22	Electromagnetic fields		✓
4	Objects and parts with dangerous surfaces (sharp, rough, etc)	✓		23	Lifting equipment and related risks	✓	
5	Hot and cold surfaces or materials		✓	24	Third party Contractor / public safety		✓
6	Hand-held tools	✓		25	Confined spaces	✓	
7	High pressure tools / machinery	✓		26	Works in water or damp conditions	✓	
8	Whole body vibration		✓	27	Adverse weather conditions	✓	
9	Hand-arm vibration	✓		28	Lack of signage	✓	
10	Hot or cold climate	✓		29	Overhead high and low voltage cables		✓
11	Manual handling / ergonomics	✓		30	Lack of first aid arrangements	✓	
12	Environment	✓		31	Lack of Personal Protective Equipment	✓	
13	Falls from heights	✓		32	Excavation / trenching works		✓
14	Falling objects	✓		33	Demolition / dismantling works	✓	
15	Fire	✓		34	Lack of welfare / sanitary facilities	✓	
16	Explosion	✓		35	Smoking / consumption of alcohol	✓	
17	Chemical substances (Hazmat)	✓		36	Assembly, disassembly and use of scaffolding	✓	
18	Lack of security	✓		37	Underground services		✓
19	Electrical installations	✓					

16. Risk assessment guide

		Severity (S)				
		Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Extreme (5)
Probability (P)	Rare (1)	(L) Low	(L) Low	(M) Moderate	(H) High	(H) High
	Unlikely (2)	(L) Low	(L) Low	(M) Moderate	(H) High	(E) Extreme
	Moderate (3)	(L) Low	(M) Moderate	(H) High	(E) Extreme	(E) Extreme
	Likely (4)	(M) Moderate	(H) High	(H) High	(E) Extreme	(E) Extreme
	Certain (5)	(H) High	(H) High	(E) Extreme	(E) Extreme	(E) Extreme

Severity (S) ratings:

Insignificant - Near miss or very minor injuries addressed by in-house first aid treatment. Low financial loss.

Minor - Treatment by a medical doctor or at a hospital (as an out-patient). Medium financial loss.

Moderate - Significant non-permanent injury. Overnight hospitalisation required. High financial loss.

Major - Extensive permanent injury. Extended hospitalisation required.

Extreme - Death. Huge financial loss.

Probability (P) ratings:

Rare - An event that may take place in exceptional circumstances.

Unlikely - An event that is improbable to occur.

Moderate - Possibility that the event may occur at some time.

Likely - High possibility that the event may occur at some time.

Certain - Expected to occur at some time under most circumstances.

Risk ratings (RR):

Low (L) - Low risk to be managed by routine procedures.

Moderate (M) - Moderate risk whereby risk need to be reduced.

High (H) - High risk requiring urgent intervention.

Extreme (E) - Extreme risk requiring immediate intervention.

17. Assessment of risks

Reference	Hazard	Assessment without controls			Control measures	Assessment with Controls		
		P	S	RR		P	S	RR
1	Slips and trips	P3	S2	M	<ul style="list-style-type: none"> All workers must take reasonable care to avoid slipping or falling. All workers are required to give full attention to their surroundings during their work, especially in areas with the potential risk of falling from a height and when required to move close to rotating machinery. All surfaces are to be kept in good condition with minimal obstructions on floors. If any steps are present, these shall be kept in good maintenance and condition with hand rails in place. No cables, wires or other materials shall be left lying in the way of walkways and passageways without adequate protective covers. Where possible, electrical cords and wiring shall be routed in such a way as to avoid slips, trips and falls. Cables are to be protected by adequate means, such as cable ramps, against damage from vehicle traffic or raised at a safe height. Where possible C-rails and metal clamps or screw clamps shall be used for heavier cables. All other fastenings shall be executed using insulated wire or cable ties. Designated and segregated storage areas shall be decided upon and set up at ground level at the beginning of works. Where possible, debris shall be cleared from the site and carted away. Frequent inspections and cleaning practices shall be carried out by the Contractor in maintaining good housekeeping for the entire duration of works. All manholes and openings shall be suitably covered and / or surrounded by guardrails. Spills shall be cleaned as soon as is practicable in order to avoid creating a slip hazard. Drip trays will be placed underneath vehicles or any other mechanical plant as an interim measure in case of dripping oils, fluids or fuels. Absorbent material shall be kept on site to be used in the event of an emergency spill. Used absorbents will be treated and disposed of accordingly as hazardous waste. No material will be allowed to obstruct any of the internal routes, fire equipment or first aid stations at any time. 	P1	S2	L
2	Moving vehicles and	P3	S3	H	<ul style="list-style-type: none"> A good communication system with heavy plant operators and vehicle drivers shall be established. As far as is reasonably practicable, vehicle routes and pedestrian 	P2	S2	L

	machines				<p>routes shall be kept separate. If vehicle routes have to be accessed by pedestrians, workers shall signal to the vehicle or machine operator before crossing the driver's path. Banksman wearing high visibility clothing shall be used during movement of heavy vehicles.</p> <ul style="list-style-type: none"> • Operators shall not use mobile phones when operating equipment. • Exclusion zones shall be set up around rotating machinery such as cranes and excavators or a banksman posted nearby to ensure that no person is allowed within the rotating machinery's turning radius. • Vehicles shall enter and exit the site through designated passageways. 'No unauthorised entry' signage shall be posted in visible locations. • Heavy vehicle drivers shall abide with the general traffic rules during transport of material. • Appropriate management arrangements shall be implemented in order to ensure the smooth circulation of vehicles to and from the site. Vehicle passageways shall always be left unobstructed. • All workers must abide with all safety signs posted on site and make correct use of the machinery used during site operations. • All plant operators shall have sufficient knowledge, training and experience to carry out the role. Plant operators shall be fully aware of their roles and duties they are assigned. • A safe system of work / works method statement shall be set up and followed in order for operations to be safe and successful. • No machines shall be allowed underneath locations where demolition works are in progress or to be positioned inside the boiler body. • All vehicles and machines used during site operations shall be properly maintained, inspected and serviced regularly. A maintenance and service schedule is to be established and maintained. • Machines used by the Contractor shall be suitable for the purposes of work on site. All machines shall be fitted with suitable guarding mechanisms, whenever practical. • Machines are to be used properly, in accordance with the manufacturer's instructions. • Workers shall move away and attend at a safe distance from low loader trucks during loading / un-loading procedures. Vehicles used to transport material shall not be overloaded; loads shall be balanced, fully contained and properly secured within the vehicle. • All moving vehicles and machinery shall be equipped with automatically activated audible reversing beepers. 			
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					<ul style="list-style-type: none"> • Passengers must not be carried on vehicles unless the vehicle is designed for that purpose. • Manoeuvring areas shall be kept segregated and vehicle drivers shall not exceed 10km/hr when driving on Site. • Vehicle engines shall be switched off when not in use or left unattended. • Vehicles and machines shall in no way create additional risks to Site personnel, nor damage or unduly stress any other structure or installation. • The Contractor shall ensure that the appropriate safety distance from all live conductors is strictly observed by its personnel, particularly in regard to the installation and relocation of scaffolds and cranes, material transport and storage. Warning signs and exclusion zones shall be set up. The Contractor shall only proceed with works if a Permit to Work is issued by Enemalta. 			
3	Moving parts of machinery	P3	S3	H	<ul style="list-style-type: none"> • All workers shall keep out of the lifting equipments' jib turning radii. Lifting equipments' jib turning radii shall be cordoned off if and when required and/or a banksman posted nearby. • All machines shall be fitted with suitable guarding mechanisms, whenever practical. Any equipment with damaged or missing guards shall not be used. • Machines are to be used properly, in accordance with the manufacturer's instructions. • Any rotating components of machinery used on Site shall be securely guarded. Any unguarded moving parts of machinery must be immediately reported to the Site Management. No machinery with unguarded rotating parts shall be used on Site. • Only trained workers shall operate plant and machinery. Plant operators will inspect the machine before use and each worker will be responsible for his own health and safety and the health and safety of others whilst operating the heavy machinery. Heavy lifting equipment shall be mounted on solid ground with outriggers extended as required. Outrigger pads shall also be placed underneath the outriggers as necessary. 	P2	S2	L
4	Objects and parts with dangerous surfaces (sharp, rough, etc)	P3	S3	H	<ul style="list-style-type: none"> • Storage facilities shall be segregated and only authorised persons shall be allowed to access such areas. • Should dismantled components have dangerous, sharp or rough surfaces, the Contractor should make the necessary arrangements in order not to put workers at risk of injury. 	P2	S2	L

6	Hand-held tools	P4	S4	E	<ul style="list-style-type: none"> • Non-ferrous tools shall be used in flammable atmospheres, if present, as far as is reasonably practicable. Spark-resistant tools made from aluminium, brass, wood or plastic will provide for safety. • Insulated tools shall be used if there is a risk of contact with live electricity. • Each and every tool shall be used for its intended purpose. • No foul play will be permitted with any hand-held tool used on site. • Tools shall be kept in good working condition. • Power tools shall never be carried by the cord and never disconnected by pulling on the cord. A proper technique shall be maintained in fastener removal. Tools shall be disconnected when not in use, when being serviced and when changing accessories such as blades, bits, etc. Tool cords shall be kept away from heat, oil and sharp edges. • When impact wrenches are used, workers making use of such tools shall ensure that the socket is properly secured, the air hose is uncoiled and check for holes and tangles. • Electric tools shall be stored in a dry place when not in use. • Electric tools shall not be used in wet or damp conditions unless they are approved for that purpose. • Plugs, sockets, outlets and couplers shall be of EN 60309 standard. • Workers shall ensure that the cords of electric tools do not pose a tripping hazard. • Workers shall not keep their fingers on the switch-on button of the tool in order to avoid accidentally starting the tool. • All hand-held tools shall be inspected by the user prior to use for damaged or faulty wires, plugs, etc. If damaged tools are discovered, the tools shall be reported immediately and must not be used. • Under no circumstance shall electrical repairs be carried out by workers not deemed to be a competent electrician. • Abnormal body posture shall be avoided. Workers making use of tools are to adopt a safe stance and suitable balance at all times. • All personnel required to use equipment shall have the necessary knowledge, training and experience to be able to operate the tools. • Hand-held tools used for grinding works shall be fitted with suitable guards that cover the entire blade of the saw and a retractable lower guard. Power-induced hand-held tools shall be equipped with a constant pressure control. Blades shall be well maintained and the proper blade used for the material being cut. 	P3	S2	M
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7	High pressure tools / machinery	P3	S2	M	<ul style="list-style-type: none"> • All pipes, hoses and fittings shall have a rating of the maximum pressure of the air compressor. • Hose ends must be secured in order to prevent whipping of the hose if an accidental cut or break occurs. • Compressed air shall only be used for its intended purposes. • All components shall be maintained in a good state. Damaged components shall be removed and replaced immediately. • The air compressor's shut-off valves shall be easily accessible and located as close as possible to the point of operation. • Hoses shall not be allowed to cross walkways and passageways in order to prevent workers from tripping and falling. • The air compressor shall be serviced regularly by a competent mechanical engineer and maintenance records kept and available for inspection. • Visual checks shall be conducted by the user of the air compressor on all components and connections. • Appropriate hearing protection shall be worn in close proximity to the air compressor. • Equipment should not become overheated. 	P2	S1	L
9	Hand-arm vibration	P3	S2	M	<ul style="list-style-type: none"> • Ensure good ergonomics and avoid abnormal or uncomfortable postures. • The right tool for the job shall be chosen. Workers shall allow the power tool to do the work by holding it with the slightest grip possible. • Ensure correct operation of grinders and impact wrenches. Ensure that the grinding disk is kept sharp and that breaking activities are carried out at an intermittent pace. • Job rotation mechanisms shall be considered if and when necessary. • Vibrating equipment shall be maintained in good working condition at all times as per manufacturer's instructions. • While the use of PPE is to be considered as a last resort, the use of anti-vibration industrial gloves is to be considered as mandatory when exposed to hazardous vibration levels. • Legal vibration exposure limit values shall never be exceeded. 	P1	S2	L
10	Hot or cold climate	P3	S2	M	<ul style="list-style-type: none"> • Workers exposed to hot temperatures are highly encouraged to drink water frequently and to take frequent, short breaks. • In the event of improbable but possible extremely cold weather, workers shall wear suitable clothing with a waterproof outer layer and take proper rest periods. • No works are to be carried out if working areas are exposed to bad weather conditions. 	P1	S2	L

					<ul style="list-style-type: none"> Sheltering areas and adequate welfare facilities must be available for the workers employed on the Site. All workers shall be notified about any useful emergency contact numbers prior to commencement of works, most importantly 112. 			
11	Manual handling / ergonomics	P3	S2	M	<ul style="list-style-type: none"> All workers shall be trained on the correct way of lifting heavy loads in accordance with Legal Notice 35 of 2003. Abnormal and uncomfortable body postures shall be avoided. A safe stance and proper body balance shall be maintained at all times. Workers shall not lift loads beyond their capacity. Workers are encouraged to seek help when a heavy load is to be moved. Precise information about the weight of loads shall be provided to the workers. If possible and reasonably practicable, loads are to be positioned close to the workstation in order to reduce the need to carry heavy loads over long distances. Workers shall ensure that no trip hazards are in the way while handling heavy loads and walking routes shall not be obstructed while carrying heavy loads. Where possible, mechanical assistance shall be provided. Where this is not reasonably practicable, ways of changing the task or spreading the load shall be looked into as an alternative. Workers shall be encouraged to use better manual handling techniques which rely more on the use of legs rather than on back muscles. Job rotation mechanisms shall be allowed. 	P2	S1	L
12	Environment	P3	S2	M	<ul style="list-style-type: none"> Areas beyond the site boundaries shall be kept in their original state of cleanliness. All loose dismantled material shall be stored in designated, segregated areas set up on site before such material is carted away off-site. All waste material shall be disposed of in the designated and corresponding waste receptacles properly. Where possible, workers are to reuse, reduce and recycle generated waste. Drip trays are to be placed underneath vehicles or any other mechanical plant as an interim measure in case of dripping oils, fluids or fuels. Spill kit material shall be kept on site to be used in the event of an emergency spill. A preventative maintenance approach should be adopted by the Contractor. No discharges to sea, of any type, shall be permitted. Airborne dust shall be minimised as far as is reasonably practicable. The Contractor shall make use of a 'fog cannon' in order to limit airborne dust and crystalline silica dispersal. 	P2	S1	L

					<ul style="list-style-type: none"> No rock wool stripping or removal of flyash shall be carried out in external areas when exposed to strong winds. The Contractor shall water down and collect fines immediately. Insulation shall be removed according to standard removal procedures, causing least disturbance and dispersal of mineral wool as possible. Insulation shall not be thrown down from heights but shall be removed carefully and put in specifically labelled jumbo bags near the working zone. Boiler insulation will be removed when the boiler is lowered to the ground in order to limit the propagation of insulation particles and fibres in air. The designated working area for mineral wool removal shall be surrounded by means of warning tape and barriers/fencing as well as suitable signs. Safety data sheets shall be followed when handling chemical substances. 			
13	Falls from heights	P3	S4	E	<ul style="list-style-type: none"> A fall prevention system by physical means shall be adopted at all times. Collective fall protection measures, including guard rails, scaffolds, secure work platforms, mobile elevating work platforms (MEWP) or cherry-pickers, safety nets, etc., have priority over individual fall protection measures. If a fall prevention system is defective, workers shall move away immediately, install clear warnings and seek to inform the Contractor's Management immediately for the necessary repairs to be made. All working platforms shall be fully decked. Guard rails, intermediate railings and toe boards shall be installed along all edges where there is a sheer drop height of two metres or greater. Installed edge protection along borders shall be made of suitable and secure material which is able to sustain the weight of any person walking close to it. All manholes and openings shall be adequately covered and secured. Where workers work on a roof or on surfaces made of potentially fragile and / or unstable material through which it is possible to fall, preventive measures shall be taken in order for workers not to inadvertently walk on such surfaces. Suspended platforms, such as man cages, shall be certified by a competent person before use. Suitable ladders must be provided to workers to be able to access working platforms. Ladders shall only be used as access/egress routes and not as working stations. Ladders must be of sound material, free from defects and safely secured from the top to the structure and tied from the side rails rather than from the rungs. All ladders must extend by at least one metre above the landing floor. Safety harnesses with fall restraint / arrest systems anchored to a suitable and 	P2	S4	H

					secured anchor points are compulsory where works are performed near unprotected sheer drop areas of a height of two metres or more or if work is performed from a suspended platform such as a man cage. Suitable anchorage points, preferably at a height above the drop-off edge shall be chosen in order to reduce the fall distance and the pendulum effect. Workers shall receive prior information on the correct use of individual fall protection equipment.			
14	Falling objects	P4	S4	E	<ul style="list-style-type: none"> Lifting components of lifting machinery shall be certified by a competent engineer. All workers shall move away from overhead suspended objects and shall approach with caution only when it is safe to do so. Exclusion Zones or the use of a banksman shall be set up accordingly. No persons shall be allowed to stand underneath the load during manoeuvring or within exclusion zones. The Site area shall be completely hoarded / fenced and no unauthorised access permitted. Floors below which dismantling works are being carried out must be completely closed off to prevent access due to the risk of falling objects from above. The internal sides of the boilers structures shall be protected with barriers to prevent the intrusion of falling objects on the various floors of the boilers. No workers shall stand within set up exclusion zones during works, unless authorised by the Site Foreman to do so and all necessary safety precautions have been taken. Loads shall be properly secured and moved properly when lifted at a height. Work areas are to be kept clean and tidy at all times. If works are carried out on scaffolding or work platforms located at a height, secured and solid guard rails, intermediate railings and toe boards shall be installed. All material shall be stored at ground level in designated storage areas. No loose material shall be stored along walkways or working platforms which are located at a height. Hand tools are to be stored away from drop-off edges at all times. No object shall be lifted along routes below of which or close to which live electrical cables are present. When in the slightest doubt, workers are not to move lifted objects on their own initiative but should check and confirm with the Site Foreman that the travelling route is safe and free of hazards. When using the scissors excavator to cut large structures into smaller pieces, such as the transformers, the area of works shall be cordoned off and ample space allowed for the working zone to prevent workers/visitors from being hit by potential shooting components during scissor cutting. Elements in the immediate vicinity of the boilers will be adequately protected by means of metal protection covers or brick walls constructed around elements that will be retained. 	P2	S3	M

15	Fire	P3	S4	E	<ul style="list-style-type: none"> Workers shall familiarise themselves with emergency response arrangements set up by the Contractor. No smoking shall be allowed in enclosed areas or where flammable material will, or will likely be present. Smoking will only be permitted in designated areas within the Site. Cigarette butts are to be extinguished in designated buckets with lids filled with sand and labelled. A smoking sign shall be posted at the permitted area. A sufficient number of fire fighting equipment, depending upon the nature and quantity of combustible material exposed, shall be made available on site during works. The fire fighting equipment shall be strategically located and easily accessible. Portable fire extinguishers shall have affixed a certification label and be annually tested by a competent person. A sufficient number of workers present on site shall be trained on the proper use of fire fighting equipment. Records shall be kept for routine fire inspections and the maintenance and testing of fire fighting equipment, if applicable. Temporary electrical systems, if any, must comply with legal standards and shall be protected from weather elements. An electrician shall be appointed to ensure that all necessary precautions have been considered when changes in electrical systems are made. The provision of fire arrangements shall also be considered when such changes are made. No hot works shall be carried out above or close to live electrical cables which could be damaged in the process, unless fire resistant protective screens are used in the appropriate manner. No hot cutting works shall be carried out on the transformers. Hazardous material such as fuels and oils are to be stored in designated locations within bunds. Refuelling of machines and mechanical plant, if any, shall be carried out when such machines are switched off and cold to touch. Appropriate measures shall be put in place for refuelling such as using a funnel or spout to avoid fuel spillages in the surroundings. An ABC dry powder or CO₂ fire extinguisher shall be readily available during refuelling procedures. Flammable materials shall be stored in separate areas, protected from sources of ignition. Oil and solvent-soaked rags shall be stored and disposed of properly to prevent combustion fires. Suitable fire extinguishing equipment shall be maintained close to these storage areas. The levels of flammability inside confined spaces shall be tested before entry and cleaning. No hot works shall be carried out in areas and along structures that might be contaminated with flammable substances unless written confirmation is provided by the sub-contractor responsible for such works that potentially contaminated structures have been purged, cleaned and verified as non-hazardous and non- 	P2	S3	M
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				<p>flammable.</p> <ul style="list-style-type: none"> • Attention shall also be given to when performing hot works above structures that might potentially contain flammable substances. Adequate and complete containment measures such as the use of fire resistant screens or mats shall be set up before carrying out hot works, and a hot works permit is issued before commencement of such works, in order to prevent flying sparks from or through cracks and other floor openings, thus starting fires in hidden locations. • No hot works shall be carried out in ventilated ducts, near walls, ceilings or roofs that have a combustible covering or insulation, on walls that can ignite combustible materials on the other side or on pipes or other metallic surfaces that are in contact with combustible walls, partitions, ceilings or roofs or other combustibles which can lead to ignition through conductive heating. • If it is determined that hot work is necessary, the persons requesting and those who will be performing the hot work should contact a Hot Work Permit issuing supervisor (Mr Ermegildo Porzionato) and begin the permit process. • No hot work permits shall be issued unless the hot work permit supervisor visits the proposed hot works area and visually verifies that all permissive conditions of the hot works permit are met. A copy of the issued hot works permit shall be kept with those workers performing the hot works and another copy kept in the health and safety file. • Prior to works to be carried out in a confined space, a competent person shall check the atmosphere for suitable oxygen content (allowable range of 19.5% to 23.5%), combustible, reactive or toxic gases. • Containers, piping and ducting lines where hot works are to be carried out shall be isolated where feasible. Isolation valves shall be double-checked in order to prevent any accidental release. • The number of workers per hot work station shall be kept to the minimum and a fire watch present at all times. It is good practice that a fire watch is maintained for thirty minutes after hot work finishes. • Hot works shall be stopped immediately in the event of hazardous or emergency conditions. • Gas cylinders must be accompanied by conformity and certification documents and/or labels. • Liquid Petroleum Gas and Acetylene fuel gas supply facilities must be safeguarded against flashback. Flashback arrestors are to be replaced after a flashback or backfire. Hoses are to be purged before lighting the torch in order to remove potential residual explosive gas mixtures. The blow pipe is to be fitted with spring-loaded non-return valves. The correct gas pressure and nozzle size are to be used for 			
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					<p>the job.</p> <ul style="list-style-type: none"> Supply hoses are to be checked for defects before use. If any defects are discovered, the damaged supply hoses shall be replaced and disposed off immediately. All gas cylinders, full or empty, shall be secured in the upright position without risk of falling over. Gas cylinder regulators shall be checked prior to use. Empty gas cylinders shall be removed from the work area as soon as practicable. Emergency exit routes shall be kept clear and free from obstruction at all times. An appointed employee on Site shall be responsible for coordination and evacuation from the Site. Designated assembly points shall be situated at ground level and away from the Site. 			
16	Explosion	P2	S5	E	<ul style="list-style-type: none"> Explosion hazards may be derived from but not limited to: <ul style="list-style-type: none"> ➤ Heavy Fuel Oil; ➤ Petrol; ➤ Cellulose-based paints; ➤ Aerosols; ➤ Diesel fuels; ➤ Mineral oil lubricants; ➤ Hydrogen flammable atmospheres; ➤ Carbon Monoxide. In areas where flammable gases or vapours may arise in hazardous concentrations and their mixture with air could lead to explosions, measures for explosion protection shall be considered. Adequate supervision shall be provided by the Contractor when works are undertaken in potentially explosive environments. Oxy/fuel gas blow pipes shall never be used on a drum, pipe, or tank that has contained, or may have contained flammable material, unless gas tests confirmed that it is gas free and the sub-contractor responsible for removal of hazardous substances confirms that the drum, pipe, or tank is completely substance-free. All explosive zones shall be posted with the applicable warning signs at their entry. Exclusion zones shall be set up and no unauthorised access allowed within in accordance with Annex II of Legal Notice 41 of 2004. Any generated airborne dust or metal filings shall be removed with vacuums. Safety data sheets shall always be consulted beforehand and recommended safety measures followed when working in areas where chemical substances or gases are 	P1	S3	M

					<p>present.</p> <ul style="list-style-type: none"> Workers shall be appropriately trained in explosion protection. Any escape and, or release, whether or not intentional, of flammable gases, vapours, mists or combustible dusts, which may give rise to explosion hazards must be suitably diverted or removed to a safe place or, if that is not practicable, safely contained or rendered safe by some other suitable method. Prevention of ignition hazards must also take account of electrostatic discharges, where workers or the working environment act as charge carrier or charge producer. Workers must be provided with appropriate working clothes consisting of materials which do not give rise to electrostatic discharges that can ignite explosive atmospheres. Equipment shall be chosen in respect of the manufacturer's manual in terms of the conditions it is intended to be used for. No electric power tools shall be used, although lighting shall be used using explosion proof light sources, with switches being isolated far away from the area of works. 			
17	Chemical substances (Hazmat)	P3	S3	H	<ul style="list-style-type: none"> All hazardous materials present within the areas of works shall be identified prior to demolition and/or dismantling. No demolition or dismantling works shall be carried out in areas unless chemical substances have been completely cleared from these areas. Safety data sheets must be readily available and shall be followed when handling chemical substances. Appropriate PPE shall be worn by all workers handling hazardous chemical substances as described in the Safety Data Sheet. Workers must be aware of the contents of the Safety Data Sheets. If any dust-creating equipment or process is used, workers shall opt for either dust collection devices or wetting down of material. Wetting down of material is only to be carried out in a safe environment free from electrical hazards. Disposal of chemical substances and hazardous material is addressed in the Waste Management Plan; such materials must be managed according to recommendations in this Plan. Magnesium Oxide will be dosed in small quantities into the fuel line of the boilers to avoid dust deposits on boiler tubes from solidifying. This substance is classified as a non-dangerous mixture according to its corresponding Safety Data Sheet; however should any of the workers come into contact with mixtures of Magnesium Oxide, suitable hand protection, tightly sealed safety glasses and suitable protective clothing must be worn. Workers shall not eat, drink or smoke at the workplace and shall wash their hands before breaks and after work as a precaution and a good 	P2	S2	L

					hygiene practice.			
18	Lack of security	P3	S2	M	<ul style="list-style-type: none"> All workers admitted to the Site shall report at Enemalta's Security Room near the main gate before entering. In this way, a roll call could easily be called out in the event of an emergency. Access to the Site shall be strictly controlled by Enemalta Plc. Sufficiently high temporary hoarding / fencing will be placed around the perimeter of the Site in order to prevent unauthorised access to work areas. Access to the demolition area around the turbine hall shed and the boilers shall be completely closed off during demolition. The fencing shall only be removed once the demolished material has been collected and carted away off-site. Access of staff not directly involved in the work is strictly prohibited. Areas of works shall be completely closed off when no works are carried out. 	P1	S2	L
19	Electrical installations	P4	S4	E	<ul style="list-style-type: none"> A thorough survey shall be carried out by Enemalta's engineers in order to identify all electrical distribution systems and that their respective routes are clearly marked and visible on site. Approval shall be obtained by the Contractor from Enemalta before the start of any works in order to ensure that no live electricity remains in areas close to dismantling / demolition works. Enemalta's engineers will be responsible for the cutting of cables and rendering them dead. If electricity routes cannot be cut off, isolated or re-routed, clear and visible warning signs shall be erected by the Contractor. No dismantling or demolition works, including hot works and lifting procedures, are to be carried out close to live electrical cables for any reason. Workers shall ask somebody from the Contractor's Management Representatives if in doubt whether electrical cables are still live or not. A permit to work must be issued by Enemalta for the Contractor to be able to proceed with dismantling/demolition works. A lock-out/tag-out system shall be in place to prevent unauthorized start-up. If any electricity distribution boxes are used for the duration of works on Site, these shall be kept under the control of authorised persons and kept locked at all times. Distribution panels shall be properly and securely installed in a safe place on Site. Where special tools and equipment require a supply of 240V AC or above, a Residual Current Device (RCD) shall be provided by the Contractor and connected into the circuit. The RCD be checked in compliance with applicable laws. All electricity cables used on site for temporary electrical supplies must be in accordance to local standards and equipped with ELCB protection. Every cable must be in good condition and frequently inspected for cracks / fraying. Under no circumstance shall electrical repairs be carried out by workers not deemed 	P2	S3	M

					<p>to be a competent electrician. Only suitably qualified electrically skilled personnel shall be employed to work on electricity distribution systems.</p> <ul style="list-style-type: none"> Generators and electrical equipment present on site, if any, shall be tested regularly. No unauthorised access shall be permitted. Only trained individuals shall operate generators or other equipment present on site. No equipment shall be plugged in with power on. No cables shall be unplugged with electrical units running. 			
20	Noise	P2	S4	H	<ul style="list-style-type: none"> Noise suppressing attachments shall be added to noisy plant, as is reasonably practicable. Workers who are exposed to noise levels greater than 80dB shall wear appropriate PPE, such as ear defenders. The use of PPE shall be considered as the last resort when implementing measures to reduce the impact from noisy work environments. 	P2	S2	L
21	Lighting	P2	S2	L	<ul style="list-style-type: none"> The level of light needs to match the demands of the job in hand and its location. Strobe lights or other suitable task lighting shall be used if and when necessary, should natural lighting conditions be low during works. Battery-operated task lighting shall be preferred over temporary or fixed lighting sourced from an industrial electrical distribution box. If the latter source is used, this has to be equipped with a main switch, miniature circuit breakers (MCBs) and Earth Leakage Circuit Breakers (ELCBs). Task lighting shall be securely mounted on a secured stand or wall mounted and must not have any electrical cables trailing on the ground. Lighting fixtures shall be guarded or shielded in order to prevent damage of the lighting fixture or coming into contact with the lighting element. Electrical lighting used on site shall be certified by a competent and qualified electrician and meet the requirements of local legislation. 	P1	S1	L
23	Lifting equipment and related risks	P3	S4	E	<ul style="list-style-type: none"> Machines are to be used properly, in accordance with the manufacturer's instructions. Lifting components of lifting machinery shall be certified by a competent engineer. Cranes and other lifting machinery, also including Enemalta's gantry crane in the turbine hall, shall be certified by a competent and warranted mechanical engineer once every twelve months whilst lifting slings, chains, tackles, etc shall be certified once every six months, as required by local occupational health and safety legislation. Hard copies of such certificates are to be kept by the Contractor on Site in the H&S file. The manufacturer's instructions shall be followed in determining the safe working 	P2	S3	M

					<p>loads of identifiable hooks. The use of open hooks without a safety latch is prohibited.</p> <ul style="list-style-type: none"> • All lifting equipment must be clearly indicated with the maximum permissible load it is able to carry, at various radii. • All cranes shall be only allowed to work within the required set limits. • Lifting equipment, also including any slings to be used, their fastenings and fittings, shall be inspected daily before use and kept in good working condition. • Heavy lifting equipment shall be mounted on solid ground with outriggers extended as required. Outriggers shall be mounted onto outrigger pads in order to enhance stability if necessary. Strand jacks shall be mounted on scaffolding and platform tops which have been inspected by the Project's architect and ensure that the scaffolding and platform tops can sustain the lifted loads. • The strand jack ropes will be pre-loaded before cutting is carried out in order to prevent accidental collapse of the structure being dismantled. • Workers shall not operate cranes or other lifting equipment unless they are qualified to do so. Crane operators shall be assisted with signallers and slingers at all times. Slingers shall ensure that the load is safely secured before lifting commences. Signallers shall ensure that no workers are standing underneath overhead lifted loads. • Lifting equipment shall not be used during significantly windy weather conditions, when instructed by the Site Management. • Tag lines shall be used when moving loads by means of lifting equipment, if possible. • The Contractor shall ensure that the appropriate safety distance from all live conductors is strictly observed by its personnel, particularly in regard to the installation and relocation of scaffolds and cranes, the use of sheer cutting machines and other machinery, and material transport and storage. No object shall be lifted along routes below which or close to which live electrical cables are present. When in the slightest doubt, workers are not to move lifted objects on their own initiative but should check and confirm with the Contractor's Site Management that the travelling route is safe and free of hazards. • No persons shall be allowed to stand underneath the load during manoeuvring. 			
25	Confined spaces	P4	S5	E	<ul style="list-style-type: none"> • For a space to be considered "confined" it shall meet ALL of the following three criteria: <ol style="list-style-type: none"> 1. Has limited openings for entry or egress; and/or 2. May contain insufficient levels of oxygen; and/or 3. Contain or produce dangerous air contaminants liable to cause a risk to the health and safety of workers who enter such a space. 	P2	S3	M

					<ul style="list-style-type: none"> • Spaces that may be considered as “confined” may include, but are not limited to, underground vaults, tanks, storage bins, pits and diked areas, vessels, sewers, wells, silos and the like. • All confined spaces shall be identified and posted with a warning sign: “Warning: Confined Space. Entry Only with a Valid Permit to Work” at all times. • Entry into a confined space shall be avoided if possible by undertaking work from the external side of the confined space. The site administrator / foreman shall ensure that all conditions have been assessed prior to entry into a confined space. • If entry into a confined space cannot be avoided, a safe system of work by the use of confined space entry permits shall be used prior to access into a confined space. • Prior to works to be carried out in a confined space, a competent person shall check the atmosphere for suitable oxygen content (allowable range of 19.5% to 23.5%), combustible, reactive or toxic gases. Portable gas detectors shall be carried with persons accessing confined spaces at all times. • All equipment which is used inside a confined space or which is used to enter and / or exit a confined space shall be suitable for the use in a confined space. • No equipment or mobile plant releasing exhaust fumes shall be operated close to confined spaces inside which workers are located. Exhaust fumes shall be directed towards the outside and must be free from obstruction. • Clear audible communications shall be maintained at all times between the stand-by person at the entry of the confined space and the persons actually within the confined space. A designated person shall always be posted at the entry location to the confined space and he shall not move away from this location during works in such confined spaces. • Entry into confined spaces shall be only allowed to competent persons who are authorised by the Contractor under the direction of the Site Administrator / Site Foreman. Persons entering confined spaces shall be certified as medically fit and have undergone health surveillance beforehand. • Personal Protective Equipment, including breathing apparatus, shall be worn by workers accessing confined spaces, depending on the conditions of the confined space and the risks within. However, the use of a safety harness attached to a certified safe rope is to be considered as mandatory when accessing confined spaces. The rope end is to be kept outside. • A safe means of access and egress from a confined space shall be allowed at all times. • Confined spaces shall be allowed to ventilate for at least ten minutes before entry. 			
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26	Works in water or damp conditions	P3	S3	H	<ul style="list-style-type: none"> No electrical equipment shall be used in damp conditions. Insulated tools shall be used at all times. Insulated gloves shall be worn as a precaution when operating electrical equipment. Cordless tools and tools with lower voltages are to be used if wet conditions are present. If possible, works shall be carried out in dry locations. If this is not possible, then adequate precautions shall be taken in preventing hazards resulting from works in damp conditions. 	P1	S1	L
27	Adverse weather conditions	P4	S2	H	<ul style="list-style-type: none"> Weather forecasts shall be checked before carrying out any work on site and changes monitored during the day. No mechanical plant which includes, but is not limited to, cranes and lifters, shall be operated during adverse weather conditions when lightning is present or in significantly windy conditions. Thunder is to be considered as a warning. No dismantling or demolition works are to be carried out when workers are exposed to inclement weather. 	P2	S2	L
28	Signage	P4	S3	H	<ul style="list-style-type: none"> The Contractor shall attach an occupational health and safety sign board for construction sites to designated entry point/s of the work area. The Contractor shall attach a notice board as stipulated by Schedule I Paragraph I of the Environmental Management Construction Site Regulations (Legal Notice 295 of 2007). All occupational health and safety signs shall be clearly visible as required by Legal Notice 45 of 2002. During demolition works, 'no unauthorised access' signs shall be attached to clearly visible locations along the boundary fencing. 	P2	S2	L
30	Lack of first aid arrangements	P4	S3	H	<ul style="list-style-type: none"> The Contractor shall ensure that workers have rapid access to first aid whenever needed. Stocked first aid boxes shall be made available in a strategic place on site as required by Legal Notice 11 of 2002. One first aid box shall cater for fifty persons employed on Site and additional first aid boxes provided for every fifty persons further employed. The first aid box shall be well maintained; items replenished or replaced when used or expired respectively and should be water and dust proof. A first aid room already set up at the Enemalta Site will be used in the event of an emergency. If tap water is not available, the Contractor shall provide a supply of sterile water or sterile normal saline in disposable containers. At least one qualified first aider per fifty employees shall be present on site during 	P2	S2	L

					<p>works.</p> <ul style="list-style-type: none"> In exceptional cases when qualified first aiders are not available on site, the Contractor shall nominate a designated person to take charge of emergency procedures in the event of an accident. 			
31	Lack of Personal Protective Equipment (PPE)	P3	S3	H	<ul style="list-style-type: none"> Appropriate and suitable PPE shall be provided by the Contractor to all employed workers on the Project, free of charge. Workers shall wear PPE when required. PPE shall be well-maintained and properly stored. All PPE must be CE marked and meet all EN standards. Safety footwear (with mid-sole and toe cap), high visibility clothing and hard hats are to be worn by all workers at all times. Task-related PPE is included in the following non-exhaustive list: <ul style="list-style-type: none"> Safety glasses to be used when cutting material, during power washing activities, when working close to cutting operations, when exposed to direct sunlight or when exposed to dusty draught; Hearing protection to be used in noisy environments, if any; Safety gloves to be used when handling material and when operating electric tools; Full face masks to be worn during hot works; Flame-resistant clothing including heavy, long-sleeved shirt and/or leather aprons and /or leather sleeves for additional protection; Respiratory Protective Equipment in work environments concentrated with dust, fumes, vapours, or gases; Impermeable gloves to be worn when working with irritant or corrosive chemicals, if any, and during power washing activities; and Full body safety harness to be used when working at height and edge protection cannot be installed or if working inside a confined space. Legs shall be entirely covered at all times. PPE is to be used as a last resort and when no other reasonable practicable measure can be taken. 	P2	S3	M
33	Demolition / dismantling works	P5	S5	E	<ul style="list-style-type: none"> Demolition works shall be carried out in accordance with building standards and codes. Enemalta Plc's competent persons will be informed in advance by the Contractor prior to dismantling and demolition works in different areas and / or of different elements. These shall issue official clearance in writing that the area is service 	P3	S3	H

				<p>cleared and safe to work in. The Contractor's structural engineer / architect in charge must ensure and certify that there is no danger of structural instability or collapse of walls to all areas prior to demolition and dismantling works.</p> <ul style="list-style-type: none"> • A top-down work approach shall be adopted, with the exception of the dismantling of the auxiliary metal components of the boilers where dismantling by means of hot works will start from the lower parts and subsequently moving upwards. • In the event of structure deformation or if any unexpected movement is noticed, demolition / dismantling works shall be immediately suspended until the field engineer is consulted and a decision taken by himself on the best way forward. • Floors shall never be overloaded beyond their sustainable weight load capacity. • When dismantling / demolishing staircases, it must be ensured that a second staircase is available to be used in an emergency. • All services should be identified prior to demolition and dismantling works. • All persons employed to carry out dismantling and demolition works should be competent in the job they are expected to carry out and such works are to be well planned. Demolition and dismantling works shall be carried out under the supervision of a competent person such as an architect or engineer or site foreman or H&S representative. • A safe access and egress route shall be maintained on Site at all times during demolition works. • Roof demolition is to be carried out in such a way as to ensure that demolished material is secured without any risk of unforeseen collapse. Any roof openings shall be immediately boarded over in such a way that they are able to sustain the weight of any person walking over it. Warning signs shall be attached in the vicinities of roof openings. Demolition of roofs is to be systematic and sequential. Access to internal areas within the turbine hall shed subject to overhead demolition shall be completely closed off with barriers and fencing. • No demolition or dismantling works are to be carried out if workers are exposed to inclement weather conditions. • Support scaffolding systems must be maintained in good condition and certified by a competent engineer / architect. An engineer or an architect shall also certify suspended walkways and passageways. When conditions are considered unsafe, workers are to make use of alternative routes of access or make use of a man cage, which should be accompanied by the use of a certified safety harness with a fall arrestor/restraint system latched to the hook of the mobile crane. • Areas where demolition works are in progress shall be completely hoarded in order to prevent unauthorised access. Preferably, heras fencing is to be used in order to border exclusion zones. 		
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					<ul style="list-style-type: none"> Parts of the roads close to the areas of works will be closed during the dismantling. Only access for workers will remain accessible at all times. Signs warning persons about ongoing demolition works shall be posted in various parts of the Site, particularly at the Site entrance. No lone worker works and situations are permitted. 			
34	Welfare / sanitary facilities	P1	S3	M	<ul style="list-style-type: none"> A suitable number of toilet, welfare, and hygiene facilities shall be provided by the Contractor. Welfare facilities must include the following: <ul style="list-style-type: none"> Basin/s or sink/s large enough for workers to wash their face, hands, and forearms; A supply of hot or warm and cold running water; Soap and towels or dryers; A rest room; and Mobile toilets. 	P1	S1	L
35	Smoking / consumption of alcohol	P2	S3	M	<ul style="list-style-type: none"> No smoking shall be allowed in enclosed areas or where flammable material will, or will likely be present. Smoking will only be permitted in designated areas within the Site. Cigarette butts are to be extinguished in designated buckets with lids filled with sand and labelled. A smoking sign will be posted at the permitted area. It is strictly prohibited for employees to enter the Site under the influence of alcohol / drugs. Alcohols and drugs shall not be consumed on Site in any circumstance. 	P2	S1	L
36	Assembly, disassembly and use of scaffolding				<ul style="list-style-type: none"> All assembled scaffolding on Site shall conform to Legal Notice 281 of 2004 and Legal Notice 293 of 2016. In particular, scaffolds (fixed or mobile) shall be properly designed, constructed and maintained to ensure that it does not collapse or move accidentally. Mobile scaffolds shall be secured in order to prevent spontaneous movements. Scaffolds shall be properly dimensioned and protected with guardrails, intermediate railings and toe boards in order to reduce the risk of persons falling over. Scaffolding structures shall be erected only by trained and qualified persons. No persons shall stand on scaffolds if any of these are being moved. Scaffolds shall be erected on solid, horizontal ground and inspected by a warranted engineer before being put in service, subsequently at periodic intervals and after any modification period during which scaffolds were not used, following exposure to bad weather or exposed to conditions which could have compromised their stability and strength. 			

					<ul style="list-style-type: none"> • Scaffolding inspection records shall be kept readily available on Site. • Suitable steps and ladders shall connect one platform to the other on different platform levels of the scaffold. • All platform levels shall be fully planked and kept free from slip, trip and fall hazards. • Persons performing works on mobile scaffolds shall wear a safety harness with fall restraint / arrest systems anchored to a suitable and secured anchor point. • The bearing components of scaffolding must be prevented from slipping, whether by attachment to the bearing surface, provision of an anti-slip device or any other means of equivalent effectiveness, and the load-bearing surface must have a sufficient capacity. • The dimensions, form and layout of scaffolding decks must be appropriate to the nature of the work to be performed and suitable for the loads to be carried and permit work and passage in safety. • There must be no dangerous gap between the deck components and the vertical collective safeguards to prevent falls. • When parts of a scaffolding are not ready for use, for example during assembly, dismantling or alteration, they must be marked with general warning signs in accordance with the Work Place (Provision of Health and, or Safety Signs) Regulations, and be suitably delimited by physical means preventing access to the danger zone. 			
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18: Permits required			19: Training certificates required		
	Yes	No		Yes	No
Confined Space Entry	X		Scaffold	X	
Hot works	X		Fork lift	X	
Excavation		X	Crane operator	X	
Tower crane erection		X	Excavator / Sheer cutting machinery	X	
High voltage equipment		X	Electrician		X
Access riser shafts		X	Welders	X	
Use of harnesses	X		Mobile elevating platform	X	
Permit to access		X	Divers		X
Demolition	X		Others (strandjack)	X	
Works in an occupied building		X			
20: Personal Protective Equipment			21: Further risk assessments required		
	Yes	No		Yes	No
Safety helmet	X		Asbestos	X	
Safety boots or Protective footwear	X		Hazardous substances	X	
High visibility vest or jacket	X				
Eye protection	X				
Safety gloves	X				
Knee caps		X			
Hearing protection	X				
Full body safety harness	X				
Full face welding mask	X				
Heat resistant gloves	X				
Wet suit		X			



22: Emergency arrangements	
Any first aid measures	Any rescue / security measures required
<p>In case of an injured person, the emergency services must be contacted on 112.</p> <p>A log of all accident and near misses shall be kept at the Site offices by the Contractor.</p> <p>The first aid box is located in the Site offices.</p> <p>A first aider is to be present on Site at all times during works.</p> <p>The name and contact number of the designated first aider/s must be posted on Site in visible locations.</p> <p>The aims of a first aider are:</p> <ul style="list-style-type: none"> • To minimise injury and complications; • To recognise life threatening situations; • To call for medical assistance; • To supply artificial ventilation when required; • To control bleeding; • To prevent infection; and • To comfort the victim 	<p>In case of fire or in the case of an emergency, the emergency services must be contacted on 112.</p> <p>A log of all accident and near misses shall be kept at the Site offices by the Contractor.</p> <p>A suitable amount of fire extinguishers must be kept on Site at all times.</p> <p>In case of a work accident, the following procedure must be followed:</p> <ul style="list-style-type: none"> • Stop working; • Clear the work area and make it safe; • Call for help; • Ensure that the injured person/s are not in further danger; • Ensure that other persons do not interfere with injured persons or rescue services or expose themselves to danger; and • Debriefing and accident reporting.

23: Declaration:

This is to declare that En-Sure Ltd have prepared this occupational health and safety risk assessment for General Smontaggi for their works that will include demolition of the boilers, turbines, generators and transformers as part of the decommissioning of the Delimara Power Station – Phase 1.

It is the responsibility of General Smontaggi to ensure that all the necessary control measures listed within this Document are implemented.

General Smontaggi must also ensure that the findings of this risk assessment are explained to all workers appointed on the Project, including sub-contractors and authorised third parties that may visit the area of works.

24. Prepared by:	Name: Steven Treeby Health & Safety Officer obo En-Sure Ltd	Signature: 	Date: 26/06/2017
25. Reviewed by:	Name: Rachel Xuereb Director obo En-Sure Ltd	Signature: 	Date: 26/06/2017
26. Contractor's representative:	Name: Mario Sabolo Contractor's representative obo General Smontaggi	Signature:	Date: