

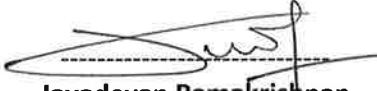
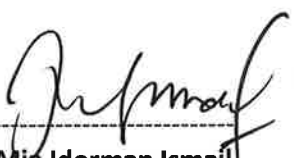



DIMENSION BID

WIRELINE INTERVENTION | PERFORATION SERVICES

ENVIRONMENTAL MANAGEMENT AND PROTECTION PROCEDURE DBSB-HSE-19

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1.0 PURPOSE

The Procedure outlines aspects pertaining to the environmental management and protection to ensure the operational activities carried out within Dimension Bid (M) Sdn Bhd are in line with the following requirements:

- Adherence to Dimension Bid (M) Sdn Bhd HSE Policy;
- Compliance to approved legislation statutory;
- Identification of potential environment issues and impacts to the natural environment

2.0 SCOPE

The scope of the document covers all Dimension Bid (M) Sdn Bhd operation:

The environmental management procedure is a practical document, which will:

- Outline Dimension Bid (M) Sdn Bhd's commitment to minimize potential onshore and offshore environmental impacts;
- Summarize environmental issues and legislative requirements applicable to onshore and offshore project activities;
- Provide concise and clear instruction to project personnel, regarding measures and action taken to protect the onshore and offshore environment and minimizing potential adverse effects; and
- Outlines steps for compliances monitoring with applicable regulations.

3.0 DEFINATIONS/ABBREVIATIONS

Environment	Surrounding in which an organization operates; including air, water, land, natural resources, flora, fauna, human and their interrelation.
Environmental Aspect	Element of organization's activities, products or services that can interacts with the environment
Environmental Impact	Any change to the environment, whether adverse or beneficial, wholly or partially, resulting from an organization's activity, products or services.
Environmental Performance	Measurable results of the environmental management system, related to an organization's control its environmental aspects, based on its Environmental policy, objectives and target,

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Environmental Policy	Statement by the organization of its intentions and principles in relation to its overall environmental performance, which provides a framework for Action and for the setting of its environmental objectives and targets
Waste	Any unavoidable material, resulting from the company's operations, For which there is no economic demand and must be disposed. "Includes any matter prescribed to be scheduled waste, or any matter Whether in a solid, semisolid or liquid form, or in the form of gas or vapor Which is emitted, discharged or deposited in the environment in such Volume, composition or manner as to cause pollution. (As defined in the EGA) Categorized by: Domestic, Industrial & Scheduled.
Industrial Waste	Generated during industrial activity. These include rags, empty containers And packaging materials.
Waste Generator	The originator of the area that generates wastes
Scheduled Waste	Any waste falling within the categories of wastes listed in the First Schedule Of Environmental Quality Act (Scheduled Waste) Regulations, 1989
Non-Scheduled Waste	Any other general waste that is not categorized under Scheduled Waste
Solid Waste	All dry waste, except Schedules Waste and food waste. Domestic Waste Office and kitchen wastes.
MSDS	Acronym for Material Safety Data Sheets. The Material Safety Data Sheets (MSDS) are available from every manufacture of chemicals and contain all of The relevant protective equipment needed, the First Aid Treatment the Effects of the chemicals on the body, as well as Spill and other physical data About the chemicals.
Flammable Material	Flammable material means all types of combustible/explosive liquids and so solids
Threshold Limit Values (TLV)	The Threshold Limit Values (TLV) refers to the noise level where it is believed that nearly all workers can be exposed to noise repeatedly day After day, without an adverse effect on their hearing. Because of individual Susceptibility, a small percentage of workers may experience some discomfort at levels lower than the TLV.
Decibel	The decibel is the unit of measurement for noise. The <i>1/1K</i> scale is referred to Throughout because it is the scale on the noise meter that closely matches the Range of the ears. Decibels on the "A" scale are referred to as "dBA".
Toxicity	A relative property of a chemical agent. Refers to the ability of a chemical Agent to produce a harmful effect on the health or wellbeing of a living Organism

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Fume	Welding, cutting and brazing operations can produce mixtures of gases, Fumes and smoke, the composition of which depends on welding Temperatures, arc intensity, base metal, electrode type etc.
Radioactive Material	Any nuclear fuel, radioactive product or radioactive waste

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4.0 REFERENCES

- 4.1 Environment Quality Act, 1974;
- 4.2 Occupational Safety and health (Use and standards of Exposure of Chemicals Hazardous to Health) Regulations, 2000;
- 4.3 Health, Safety and Environment Management System Manual (Doc No: DBSB-HSE-00)
- 4.4 Local Government Act 1976 and Refuse Collection, Removal and Disposal By-Law,
- 4.5 Factories and Machinery Act, 1967
- 4.6 Waste Management System (Doc No: DBSB-HSE-14)

5.0 RESPONSIBILITY

The responsibilities of Dimension Bid (M) Sdn Bhd in environment management are specified as follows:

1. Chief Executive officer

- Ensure adequate budget and resources are provided for effective environmental management and protection;
- Ensure compliance to an approved statutory and regulatory with regards to the environmental protection and it's requirement; and
- Be accountable in meeting environmental protection's objectives and targets in respective Business Units.

2. HSE Manager

- Be the management's representative, with direct responsibility for the company's environmental management and protection system and procedure;
- Communicate actively with the Project Manager on environmental management and protection;
- Review regularly the environmental management and protection system to ensure the effectiveness;
- Ensure adequate training is provided to appropriate personnel handling and monitoring the site environmental protection programs;
- Ensure adequate equipment and PPE are provided to all personnel;
- Instill a sense of environmental awareness among all staff; and
- Ensure site-specific plans are developed, for response to emergency incidents related to environmental impacts.

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3. Safety Officer

- Monitor compliance of all personnel, with regard to the environmental hazards associated with work;
- Monitor the setup of adequate protection;
- Ensure adequate PPE is provided;
- Ensure monitoring, sampling and mapping of the potential hazards that could affect health of personnel at the work place;
- Provide feedback to the HSE Manager and the site management on the effectiveness of the environmental management programs at the work place;
- Keep accurate records of environmental management monitoring at site for the purpose of audit and present monthly monitoring reports, with the assistance of the HSE Manager, at the monthly contract meetings and at the Authority Steering Committee Meetings

4. Material Coordinator

- Coordinates waste handling activities with all agents at any designated Supply Bases;
- Advises on waste handling requirements and availability of disposal sites;
- Generates necessary statutory documentation on Scheduled Waste produced offshore and at any designated Supply Base

5. Supervisor

- Ensure that Site Environmental Management Procedure is complied with;
- Instill environmental hazard and protection awareness to all workers during the Daily ToolBox Talks and during other pre-work discussions; and
- Ensure environmental hazards, associated with the work, are being eliminated or reduced to the Acceptable level, where appropriate.

6.0 ENVIRONMENTAL PROTECTION AND REQUIREMENT

Emissions of black smoke from other sources or fuel burning equipment, subject to the Environment Quality (Clean Air) 1978, shall comply with the relevant standards. Best practicable means shall be employed to prevent the emission of noxious or offensive substances and to render them harmless or inoffensive.

6.1 Noise

Noise generated by the operations phases of the project is governed by the DOE Boundary Noise Level Criteria. Protection of site personnel, from the effect of excessive exposure to noise, falls under the Department of Occupational Health and Safety (DOSH) via the Factories and Machinery (Noise Exposure) Regulations, 1989.

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Designed parameters dictate that the noise level from equipment installed within the company's facilities should not exceed 85 dB (A) at a distance of 1.0 m from the source. If this level cannot be achieved, the affected area shall be designated an Ear Protection Zone, and ear protectors should be available for use in the area.

All areas and locations, where the noise level exceeds 90 dB (A), must be clearly marked with signs posted at the entrances to the site, as well as within the site.

Area Description	Noise Limit
Workshop area	70dB(A)
Workshop office,	60dB(A)
Office premises	50dB(A)
Accommodation area (living quarter)	45 dB(A)

The following are the standards that the company recommends, with respect to emission of noise by machinery and equipment and with respect to hearing conversation:

- The maximum level of noise, which may be accepted over one eight hour working day (or forty hours working week) without ear protection, shall be 85 dBA;
- For noise levels between 85 dBA and 90 dBA, hearing protection should be used; and
- Above 90 dBA exposure, employees shall wear the recommended Hearing protection aids.

The threshold limit value (TLV) refers to the noise level that nearly all worker exposed to repeatedly day after day, without adverse effect on their hearing. Refer to the TLV table below:

Duration (Hours)	Noise Level (BA)
12	80
8	85
2	95
1	100
1/2	105
1/4	110
1/8	115

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Note:

- a. No person shall be exposed to impulsive noise of 140 dB (peak) or more,
Even with hearing protection; and
- b. No person shall be exposed to steady-state noise of 115 dB (A) or more, even with adequate hearing protection at any time.

6.2 Atmospheric Emissions

The Environment Quality (Clean Air) Regulations, 1978, prohibits the burning of any combustible material/refuse provided the license is granted by the Director-General of Environment (Regulation 11). The installation of fuel burning equipment, e.g. temporary generator sets is prohibited without prior written approval from the DOE (Regulation 36).

Source emission to the atmosphere is mainly from generators, welding equipment and barge/equipment exhaust. Fugitive release of volatile organic compounds, from the fuel bunkering activities and cleaning solvent, could be another source of emission to the atmosphere.

Impact from this emission will not be significant, since the emission will be mainly transient in nature. Nevertheless, the following measures will further reduce any impact:

- a. All engines and machinery used must be well maintained; and
- b. Volatile chemical containers must be tightly closed and stored in a cool room.

The Project Manager shall ensure that air emission control is emphasized during the engineering design stage of the project, by looking into the following:

- a. Selection of clean fuel;
- b. Clean technology; and
- c. Equipment specifications.

Environmental Quality (Clean Air) Regulations, 1978

No.	Reg. No	Section	Requirement
1	7,11 & 12	Industrial Waste	No burning of industrial waste/trade waste, combustible materials and refuse/products is allowed to be carried out the open field or area. Exemption is allowed for emergency simulation and training.
2	36	Fuel Burning Equipment	No installation of fuel burning equipment e.g. diesel power pack are allowed without written approval from DOE "fuel burning equipment" are equipment that will consume 15kg of liquid fuel.

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7.0 INCIDENT AFFECTING NATURAL ENVIRONMENT

Any incidents, which affect the natural environment, shall be reported to the management by using The Incident Reporting & Investigation document no: DBSB-HSE-16.

8.0 ENVIRONMENTAL MONITORING AND SURVEILLANCE PEROGRAM

The environmental monitoring and surveillance program shall be established at the work place on a Regularbasis;

- a. Air quality emission;
- b. Radioactive survey and mapping;
- c. Noise survey and mapping;

9.0 CHEMICALS

Chemical selected must be environment friendly, low toxicity and if possible biodegradable. Concentration of any chemicals used must be of the lowest effective concentration as possible.

The Material Safety Data Sheets (MSDS) must be made available and provided to any worker, who may be exposed to paint, paint fumes or solvents.

The MSDS will give specific information on the chemical properties and hazards. The Information on the First Aid Treatment, as well as spill and disposal information will also be given. All the Work Supervisors involved in the work prior to start-up must review the MSDS's information.

All personnel involved with chemical activities shall adhere strictly to the instruction and Precaution in the Material Safety Data Sheet (MSDS/CSDS), especially when handling toxic Chemical.

The following rules shall be adhered to at all times when dealing with flammable Chemicals:

- a. Flammable chemicals shall be handled, transported and stored away from sources of potential ignition;
- b. Naked flames or lighted cigarettes are not permitted near flammable chemicals;
- a. All flammable chemicals must be labeled accordingly, together with appropriate warning signs;
- b. Storage facilities for flammable chemicals must be secure locked areas
- c. Adequate ventilation shall be provided where flammable chemicals are stored and handle

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The highly reactive chemicals will create a chemical reaction that may produce flammable or toxic gases, fire or explosion or loss of containment. Examples of these are:

- a. Strong oxidizing agents,
- b. Materials that react vigorously with water;
- c. Unstable or explosive compound.

10.0 DEFINITIONS AND CATEGORIES OF WASTE

The Environment Quality Amendment Act, 1996, defined waste as "any matter prescribed to be scheduled waste or any matter, whether solid, semi-solid or liquid form or in the form of gas or vapors, which is emitted, discharged or deposited in the environment in such a volume, composition or manner as to cause pollution".

The wastes that the Malaysian Government considers most hazardous to the environment or people are termed scheduled waste

10.1 Schedule Waste

These are regulated or controlled waste and covers any waste falling within the categories of waste listed in the First Schedule' to the Environmental Quality (Scheduled Wastes) Regulations, 1989 (Ref.6). (A subset of hazardous waste)

The handling and disposal of scheduled materials is covered under the Environmental Quality (Scheduled Wastes) Regulations, 1989.

Under the First schedule of these Regulations, 107 categories of toxic and hazardous waste have been classified as schedule waste.

The list of the prescribed 'scheduled waste' is as per the Environmental Quality Act 1974 (89), which include chemical, oil, lubricants, batteries, pharmaceutical and etc. Their disposal is governed by law, which dictates:

- a. Disposal in the 'approved manner' at the 'approved site(s)'; and
- b. Records of their transportation, hand-over and disposal shall be kept as per the legal requirements.

10.2 Non-Scheduled Waste (General Waste)

Any other waste, which is not categorized under scheduled waste.

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10.3 Domestic Waste

Wet waste, such as sewage, bathroom/shower, food and kitchen waste are biodegradable waste, which are typical waste, generated by personnel involved in the project. All food and kitchen waste (wet waste) shall be macerated before releasing into seawater.

The impact of the macerated food waste on the marine water quality and biological system would be insignificant, temporary and localized due to the high assimilative capacity of the sea, rapid dispersion by water current and biodegradable food waste.

Non-biodegradable material from domestic use must not be flashed into the sewage system.

10.4 Solid Waste (Dry Wastes)

The domestic waste produced from, office work and kitchen/pantry, industrial waste from Dimension Bid wireline sites, excluding offices and etc., which include packing materials and other sources, such as boxes, pallets, wires, polystyrene/ sponge padding, plastics, drums (clean), rags, replaced parts of machinery, paint cans (empty) and etc.

The solid waste generated on site shall be managed accordingly as follows:

- a. Properly segregated into separate containers;
- b. Properly stored and labeled; and
- c. Transported and disposed at approved contractor and/or disposal sites.

The following strategies on Waste Management shall be applied:

- a. Machinery spaces on the installation vessels will be bounded to contain any deck spillage;
- b. Chemicals used/ stored on board the working vessels will be managed so as to prevent damage to the containers;
- c. All chemicals and hazardous waste will be segregated into clearly marked containers prior to inshore disposal;
- d. All storage facilities and handling equipment will be segregated in good order and designated in such a way as to prevent and contain any spillages as far as practicable; and
- e. Procedures will be in place on the installation vessels for the cleanup of small deck spillages.

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10.5 Radioactive Waste

- a. A substance that, if it were not waste, would be radioactive material; and
- b. A substance/article which has been contaminated in the course of the production; storage or use of any radioactive material; nuclear material or prescribed substance by contact with or proximity to any other waste, within the meaning of paragraph (a) of this definition.

10.6 Waste Management Process and Practices

The process of waste management involves a hierarchy of waste management practices, a site-specific waste reduction strategy and monitoring system. The risks of causing environmental damage and the costs associated with waste management can be reduced with a well-structured waste management program.

The overall aim of waste management is to reduce the volume of residual waste, which requires disposal at each stage of the waste cycle. This is expressed as the 4 Rs of waste management, which are in hierarchy of preference:

- a. Reduce: generate less waste through more efficient practices;
- b. Reuse: Re-use waste materials in their original form;
- c. Recycle: convert waste back into useable material;
- d. Recover: Extract material or energy from the waste for other uses.

Refer to Procedure for Waste Management System. Document No DBSB-HSE-14; for further guidance.

11.0 EFFLUENT DISCHARGE

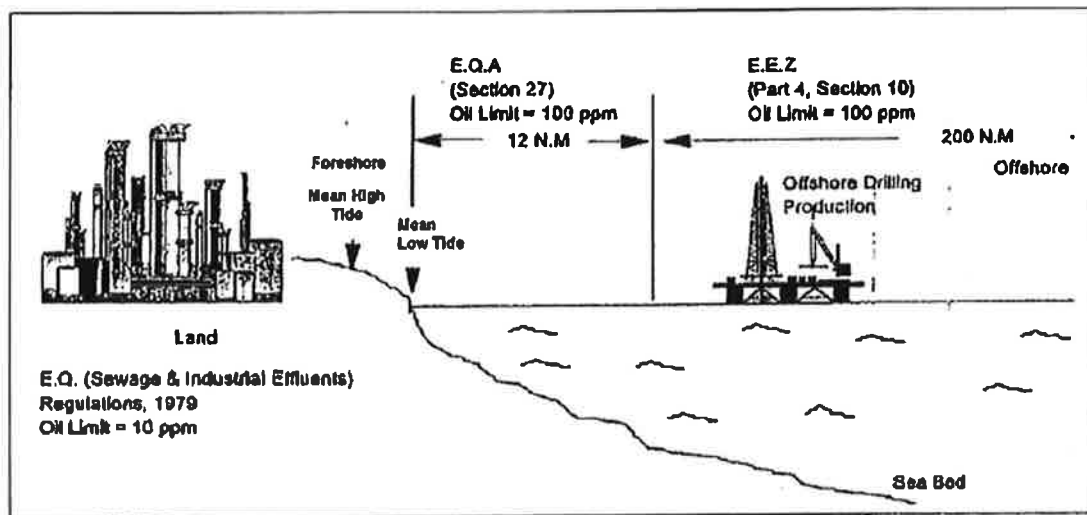
Effluent discharges to "inland waters" are controlled under the Environmental Quality (Sewage and Industrial Effluents) Regulations, 1979. The regulation specifies the limit of discharge of produced water to 10 ppm oil content for onshore and 100 ppm oil content for offshore.

All locations Effluent sampling reports need to be update to Department Of Environment in monthly basis.

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See the diagram below:

Environmental law/Regulations: covering onshore and offshore Effluents Discharge



maximum permissible of oil and grease discharged to water reserves must not exceed 10 mg/l.

No.	Reg. No	Section	Requirement
1	6 & 8	into inland waters and effluent limit	<p>All discharge above 60m³ / day in quantities into inland waters (river/lake or any part of the sea abutting on the foreshore), must not contain pollutant level or concentration above the limit set in Standard B.</p> <p>Regulated parameters include oil content suspended solid, carbon deposit, temperature, heavy metals, pH, BOD.</p>