

Draft Environmental and Social Impact Assessment Report (ESIA)

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February 2017

INO: Rantau Dedap Geothermal Power Project (Phase 2)

Volume VI: Appendix 12B – Safety, Health and Environmental Manual

Prepared by ESC for the Asian Development Bank

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SHE Procedure Jakarta Office Emergency Procedure


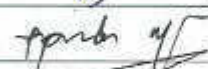



October 2014

ML/RB/RD-RSH/SHE-MAN-SOP03-Rev 0

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The Supreme Energy project companies - PT Supreme Energy Muara Laboh, PT Supreme Energy Rajabasa and PT Supreme Energy Rantau Dedap are independent companies developing geothermal projects in Sumatra, Indonesia. Based on the agreement of the shareholders of the individual project companies, the Supreme Energy companies are managed in an integrated way in order to maximize the synergies in terms of use of resources and organization of their core and supporting processes. Consequently, important portions of the documentation body developed and applied within each company (manuals, procedures, description of processes, guidelines etc.) are common to all project companies. The applicability of each document to one or several project companies is reflected in the reference of each document.


Any document applicable to PT Supreme Energy Muara Laboh contains the characters "ML" in the document reference.

Any document applicable to the PT Supreme Energy Rajabasa project company contains the characters "RB" in the document reference.

Any document applicable to the PT Supreme Energy Rantau Dedap project company contains the characters "RD" in the document reference.


If a document applies to all three Supreme Energy companies, the term "Supreme Energy" may refer to any and all of these companies.

Within each document, for any reference to the project company, the term "Company" will be used. This term will refer to those companies the names of which are referred to in the document reference. The term Project refers to the project developed by the Company.

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1. Introduction

Emergency situations can happen at any time and at any place in our office, and therefore we must be prepared to manage them when they occur.

The Jakarta Office is located at Equity Tower - 18th Floor, Sudirman Central Business District (SCBD) Lot 9, Jl. Jend. Sudirman Kav. 52 - 53, Jakarta 12190, Indonesia. It accommodates staff of the companies PT Supreme Energy Muara Laboh, PT Supreme Energy Rajabasa, and PT Supreme Energy Rantau Dedap and PT Supreme Energy.

Being prepared for an emergency is essential in order to react adequately when such situation, by definition unpredictable, effectively occurs. The organization, management, training and guidelines to follow in case of different types of emergencies which may occur in the Jakarta Office are the subject of this document.

2. Jakarta Office Emergency Response Team

The Jakarta Office Emergency Response Team is outlined below.

This Emergency Response Team (ERT) structure and membership are subject to revision at any time, as required.

3. Personnel Listing


List of all office personnel complete with his/her phone numbers will be maintained and kept by the Emergency Response Team Leader (ERT-L) and Floor Warden.

This list will be used to check the employee status in case of emergency through the "role-call action" following the gathering of all personnel at the "**Muster Point**" or "**Assembly Area**".

4. Emergency Alarm

If you hear the Emergency Alarm, please pay close attention. If you are instructed to evacuate the building, please take the following actions:

- Stay calm and do not panic
- Secure important documents
- Switch off and disconnect all electrical equipment
- Do not make unnecessary telephone calls, including mobile phone calls
- Listen carefully to the announcement made by Building Management through the Public Address system
- Follow the instructions provided by the Emergency Evacuation Team

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Membership of ERT	Name
Emergency Response Team Leader	Bagus Permadi
Deputy - 1 Emergency Response Team Leader	Leksono
Deputy - 2 Emergency Response Team Leader	Reyga Rivaldi
Floor Warden - East Wing	Evans Satya (alt. Ketut Murniata)
Floor Warden - West Wing	Begawan Manik (alt. Demas Seto)
Men First Aider	Faishal Dwi Ismail Indra Teguh H
Women First Aider	Aprilia Hermansyah Rizka Amalia
Ground Coordinator	Kenal Ramadhan S (alt. Fadlis Barnaji) (alt. Yundith H Hemawan)
Acting Security Superintendent / Security Guard On-duty	Hery Agus Susanto / Any Security Guard who is on duty when the Emergency happens

5. Emergency Situation

If you find an Emergency Situation or accident where assistance is required, please contact 021-2934-2056 or 0811-162-5212 (Emergency Response Team Leader's telephone No.) or 021-2934-2092 or 0813-8313-8667 (SHE Department).

5.1 Medical Emergency

If a serious illness or injury occurs to someone in the office:

- Contact his/her Supervisor and the Men First Aider or Women First Aider
- The Men First Aider and Women First Aider and/or Medical Officer (when available) shall assist in:
 - Giving initial treatment to the injured / ill persons.
 - Arranging an ambulance or car to take such persons to the nearest hospital if necessary.
 - Contact hospital or medical service providers

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Below is the List of Ambulance and Hospital for medical assistance which is arranged on priority basis:

No	Name	Location	Phone
1	RSPP Pertamina Pusat	Jl. Kyai Maja 43, Jakarta Selatan	+62-21-720 0290
2	RSAL Dr. Mintohardjo	Bendungan Hilir, Jakarta Pusat	+62-21-570 3081 - 5
3	RS MRCCC Siloam Hospitals	Jl. Garnisun Kav.2-3 Karet Semanggi, Setiabudi, Jakarta Selatan	+62-21-2996-2789
3	RS Jakarta	Jl. Sudirman, Jakarta Selatan	+62-21-5732241 Ext. 117
4	RS. Harapan Kita	Jl. S. Parman, Slipi, Jakarta	+62-21-5684085
5	RS MMC	Jl. Rasuna Said Kav C.21	+62-21-520 3435 / 522 5201

The first priority shall be Rumah Sakit Pertamina Pusat (RSPP). In case it is not possible to take the person to RSPP, e.g. due to hard traffic condition, the next shall be RSAL Dr. Mintohardjo. Thereafter, subsequent hospital based on the above priority order shall be contacted.

5.2 Fire Emergency

- When smoke or fire is noticed, keep calm and call for help: “Fire, Fire, Fire ...!!”
- Activate the nearest Fire Emergency Button by pushing-in and pulling down the button.


The Fire Emergency Buttons are located above the Fire Equipment Cabinets on each floor of the Equity Tower.

If the fire can potentially be extinguished and if you are trained, please:

- Extinguish fire using the nearest fire extinguisher (fire extinguishers are located in the Fire Cabinets, see *Appendix A*).
- Close all doors around the fire.
- Alert anyone in the area to leave immediately.
- Alert / call Floor Warden
- Inform Building Management (+62-21- 515 0222).

If you are un-trained:

- Call Security Guard On-duty to fight the fire.
- Contact Floor Warden.
- Inform Building Management (+62-21-515 0222).

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5.3 *Do's and Don't*

- Do not use lifts, use emergency stairways only
- Report to ground coordinator when you arrive at the muster point.
- Do not panic or run.
- For personal car owners, do not try to exit the building with your car.
- If caught in smoke:
 - take short breaths, cover your mouth and nose with handkerchief or cloth.
 - crawl to escape.

5.4 *Bomb Threat Procedure*

Bomb threat methods could be:


- call or message
- suspicious letter or package

If you receive a bomb threat:

- Be calm and do not panic.
- Obtain information from caller as detailed as possible (Use Bomb Threat Answering Checklist).
- Inform Security Guard On-duty, Floor Warden and/or Emergency Response Team Leader.
- Emergency Response Team Leader will inform Building Management.
- Do not attempt to find the bomb. Be prepared to evacuate from building.
- Listen to the announcement through building's Public Address system.
- Conduct quick inspection of your workstation area if possible, observing any suspicious objects.
- Do not touch or try to move any suspicious objects.
- Leave the building by following instructions from the Floor Warden.
- Leave doors open behind you (except fire doors) as you exit the building

If Discovering Suspicious Letter or Package:

- Call Security Guard On-duty immediately and inform Floor Warden
- Do not touch or try to move the object.
- Observe quickly to remember the characteristic of the letter / package.
- In case the package/letter is in your hand, lay it gently on the nearest stable surface.

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Floor Warden shall inform Emergency Response Team Leader and will coordinate with Building Management after instruction from Emergency Response Team Leader.

Security Guard On-duty shall isolate the place from the reach of any person until the Police or Building Management's representative comes.

5.5 Procedure in Case of Earthquake

- Please stay put. Do not attempt to leave the office and definitely do not use the elevators during the earthquake.
- Wait for an announcement from your Floor Warden, who will receive instructions from Building Management.

If you notice that some parts of the Building such as ceiling or windows are beginning to crack or fall down, follow these recommended actions:

- Get under a table or any piece of substantial furniture which will provide :
 - protection
 - air space.
- Move close to a building support column or into the Fire Escape stairs which may provide a safe place from falling pieces of ceiling.
- Stay away from windows, bookshelves, ceiling lamps, filing cabinets and other heavy objects which may fall over during the quake.
- If you are in the elevator, try to get off immediately at any floor. If trapped, don't panic, push the emergency button and call for help.
- If you are in the lobby, don't rush outside - stay in the building to avoid falling glass. Wait for further instructions.
- If you are outside, stay as far as possible away from all high-rise buildings.

“BREAKING GLASS, FALLING OBJECTS ARE VERY DANGEROUS”


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IN CASE WE HAVE TO EVACUATE FROM THE OFFICE, PLEASE FOLLOW THIS EVACUATION PROCEDURE:

6. Evacuation Procedure

- Evacuation command will be announced through the Public Address system along with activation of the building emergency alarm.
- In any case of Emergency situation, final decision to evacuate or not will be made by Emergency Response Team Leader. If the Emergency Response Team Leader and Deputy Emergency Response Team Leader are neither available nor possible to contact, evacuation decision shall be made by Floor Warden.
- In case evacuation has to be made, leave the building immediately following instructions from the Floor Warden, via the stairway following the EXIT signs, as instructed by the Floor Warden.
- Do not enter the Parking Lot and do not try to take your car out of the building.
- Do not wait for the lifts to come (for a bomb threat, we may use the Lifts if available, however do not wait for lift availability if it means delaying your evacuation).
- The safety of your visitors is your responsibility, so you are instructed to take the visitor with you when evacuating the building.
- Ladies are advised not to wear high-heeled shoes and stocking during evacuation (keep a pair of flat shoes in the office for such emergency).
- Handicapped persons or pregnant women should ask for assistance from the First Aider (please report your health conditions to Floor Warden).
- Gather at designated Muster Point.
- Once you reach the Muster Point, report to Ground Coordinator, then wait for further information.
- Familiarize yourself with the escape route and alternative escape routes from your normal working area.
- If you can not account for someone who you believe was in the building at the time of evacuation, please inform your Floor Warden.

“DO NOT RETURN TO THE BUILDING FOR ANY REASON UNLESS FLOOR WARDEN HAS ANNOUNCED ALL CLEAR”

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7. Roles and Responsibilities

7.1 Emergency Response Team Leader


1. Will be in overall command of the evacuation
2. Coordinate with Equity Tower Building Management through Floor Warden regarding an emergency response; and ensure that Building Management has contacted emergency services
3. Coordinate the Muster Point with Building Management during and after evacuation
4. Proceed to the Muster Point to supervise the personnel Roll Call.

7.2 Deputy Emergency Response Team Leader

1. Will be the first member of the Team to descend the emergency exit stair to ensure that the Evacuation Routes up to Muster Point are safe.
2. Will supervise the Roll Call in the Muster Point.
3. Assists the Emergency Response Team Leader.
4. Acts as Emergency Response Team Leader, if required or during ERT-L absence.

7.3 Floor Warden

1. Will command evacuation from an individual floor (as guided by Building Management or Emergency Response Team Leader).
2. After alerting his floor, instructs employees / visitors to go downstairs.
3. Floor Warden will stand by at the emergency exit door and make a head count of number of people who have exited the floor.
4. Will report to the Emergency Response Team Leader that the floor was cleared after all people have exited.
5. Is responsible for evacuation of all Supreme Energy personnel and visitors on his floor.
6. Ensures that fire extinguishers are available for remedial action.
7. Determines which employees are capable of operating fire extinguishers to attack fire.
8. Supports Emergency Response Team Leader to contact and coordinate with Building Management, and to ensure that Building Management has contacted Emergency Services.
9. Ensures all personnel and visitors have been evacuated safely.
10. Will search for personnel or visitors who may not be aware of the emergency situation (in rest rooms, file rooms and other hidden areas). Submits a missing personnel list to the Ground Coordinator and/or Emergency Response Team Leader.

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7.4 Men First Aider and Women First Aider

1. Give initial treatment to the injured / ill person.
2. Assist disabled, sick personnel and pregnant women during evacuation.
3. List all missing personnel in the area and submit the list to Floor Warden.
4. Assist Floor Warden in smoothing the evacuation and other emergency response.
5. Search for any personnel that may be in rest room, file rooms, and other hidden areas.
6. Arrange an ambulance or car to take the person to nearest hospital if necessary.

7.5 Ground Coordinator

1. Will be the first person from the floor to walk downstairs and coordinate the Muster Point holding the floor flag.
2. Watches, instructs and directs the "evacuated people" to the Muster Point after arriving at the Ground Floor.
3. Ensures and assists overall safety at the Muster Point during the emergency evacuation.
4. Ensures escape routes to Muster Point are free of any obstacles and other tripping hazards.
5. Assists the Floor Warden in smoothing the evacuation and other emergency responses.
6. Conducts the Roll Call in Muster Point.

7.6 Security Superintendent

1. As focal point to be contacted by Security on Duty in case of emergency out of office hours.
2. As Company Representatives to building and local authorities (police, etc.) in case of security matters.

8. Training, Briefing and Drill

To improve capability of Employees in handling any emergency situation, Company shall conduct Emergency Evacuation Procedure Orientation and request Employees to undergo several kinds of trainings.


The trainings may include, but not limited to, Safety Induction Training, Basic First Aid, Cardio Pulmonary Resuscitation (CPR) Training, as well as Fire Prevention and Basic Fire Fighting Training.

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In order to improve awareness and preparedness of employees in any emergency situation, and to apply the know-how they have obtained from the trainings, all employees must participate in emergency evacuation drills.

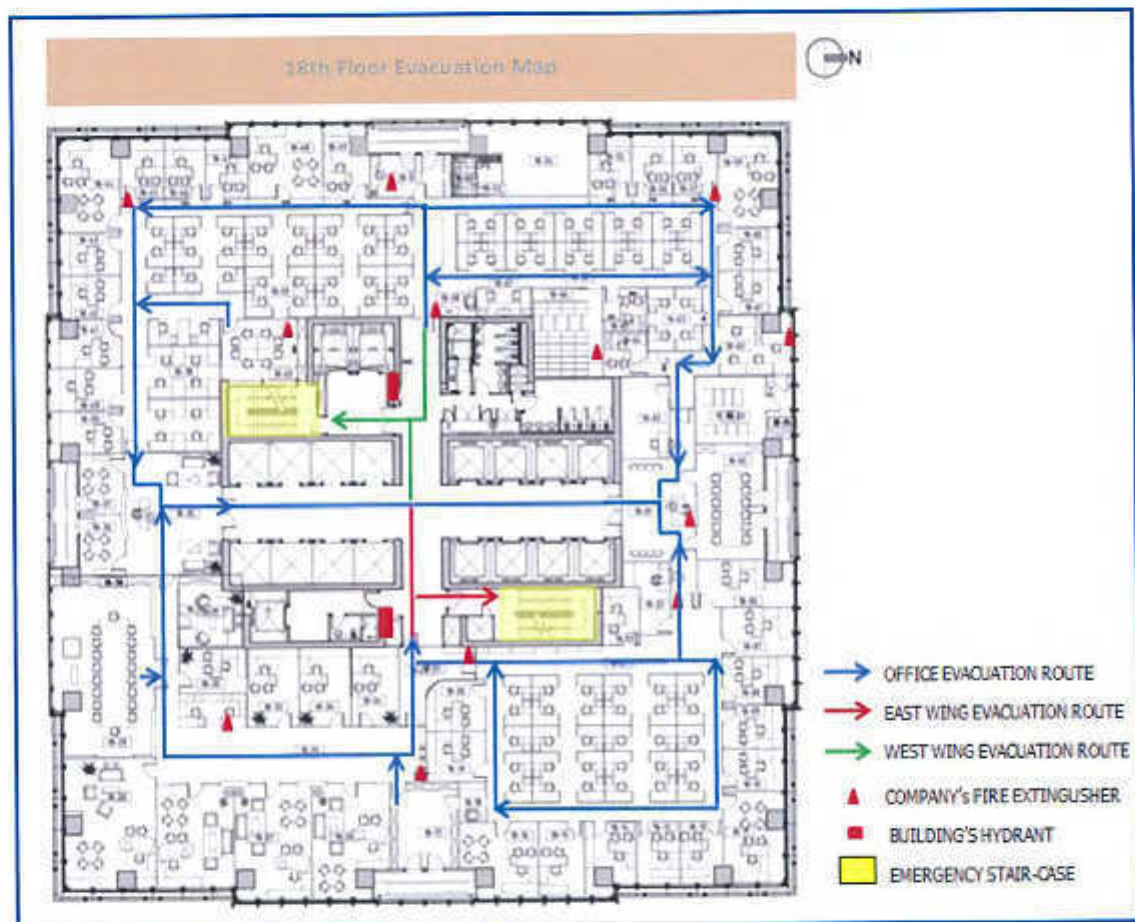
Evacuation Drill carried out either by Company or Building Management.


For the safety of the Company's visitor in case of emergency, each employee who is receiving a visitor shall conduct Emergency Evacuation Briefing or Orientation to the visitor prior to the meeting.

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Appendix A

18th Floor Evacuation Route Map (General)




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Appendix B

Assembly Area Route Map



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Appendix C

Bomb Threat Checklist

BOMB THREAT CHECKLIST

INSTRUCTION: Be calm, do not panic, be courteous, listen intently and do not interrupt the call, keep talking as long as possible.

Date/ tanggal:

Time/ jam:

1. Source of call/phone number/ nomor penelepon:

2. Call received by/ diterima oleh:

3. Message (exact words)/ Pesan (asli) yang diterima:

.....

.....

.....

4. Ask/ tanyakan:

When will it go off? Kapan akan diledakan?:

Where is it? Dimana Bom diletakan?:

What does it look like? Seperti apa bentuknya?

Why are you doing this? Apa alasan Anda?

Who are you? Siapakah Anda?(dari kelompok mana)

Apa yang bisa membuat bomb itu meledak?

5. Caller Identity/ Identitas Penelepon:

Male/ Pria

Adult/ Dewasa

Intoxicated/ Mabuk

Female/ Wanita

Child/ Anak-anak

Age/ Usia:

Accent/ Logat:

Speech Impediment (Susah bicara):

Other (specify)/ Lain-lain (jelaskan):

.....

6. Background noise/ Suara Latar :

Music/ Musik

Children/ Anak-anak

Talk/ Orang bicara

Machine/ Mesin

Aircraft/ Pesawat udara

Typing/ Mesin Tik

Traffic/ Lalu-lintas

Laughter/ Tertawa

Calm/ Tenang

Others/lainnya (jelaskan):

7. Any other information/ Informasi penting lainnya :


.....

Reported by/ dilaporkan oleh :

Acknowledge/ Mengetahui:

.....


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Appendix D

Equipment List of Emergency Evacuation Team Members


Task Title	Equipment	Amount	Holder's Name
ERT Leader	Handy Talky Flashlight Megaphone	1.ea 1.ea	Bagus Permadi
Deputy ERT Leader	Flag code	1.ea	Leksono / Reyga Rivaldi
Floor Warden	Handy Talky	1.ea	Evans Satya / Ketut Murniata / Begawan Manik / Demas Seto
Ground Coordinator	Flag code Handy Talky Megaphone	1.ea 1.ea	Kemal Ramadhan S. / Fadlis Barnaji / Yundith H Hemawan
Men First Aider	First Aid Backpack	1.ea	Faishal Dwi Ismail / Indra Teguh H
Women First Aider	First Aid Backpack	1.ea	Aprilia Hermansyah / Rizka Amalia
Security Guard On Duty	Flashlight Handy Talky	1.ea	Any Security Guard who is on duty when the emergency situation happens

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Appendix E

List of Telephone Number of Jakarta Office Personnel


<u>EAST WING</u>				
No.	Name	Ext. No.	HP No.	Position in ERT
1	Supramu Santosa	2001	0811-130341	
2	Triharyo Indrawan Soesilo	2107	0811-141046	
3	Armita Suryandari Tjokronegoro	2004	0816-897314	
4	Vitrya Aryany	2090	0816-560777	
5	Victor van der Mast	2008	0811-9592395	
6	Yasuki Sato	2060	0811-1807387	
7	Yoshikazu Egawa	2069	0815-11034070	
8	Abadi Purnomo	2108		
9	Prijandaru Effendi	2021	0811-849266	
10	Yulnofrins Napilus	2028	0811-918008	
11	Ismoyo Argo	2022	0811-188027	
12	Erwin Patrisa Floris	2092	0813-83138667	
13	Leila Rima	2027	0813-10024043	
14	Airin Divayanti	2096	0813-11119120	
15	Muhammad Arief Tarunaprawira	2091	0811-858361	
16	Andreas Avelinus Dwi Hartono	2093	0812-13007870	
17	Bima Aryaputra Yudhistiranto	2094	0817-0015875	
18	Muhammad Yunus	2023	0811-2110468	
19	Hery Agus Susanto	2072	0811-971863	
20	John Kristian Sinaga	2111	0811-840837	
21	Leksono	2011	0812-9668128	<i>Deputy ERT Leader</i>
22	Indra Teguh Hattatilan	2013	0816-1343753	<i>Men First Aider</i>
23	Ahmad Reza Zakaria	2017	0818-07377977	

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24	Kemal Ramadhan	2016	0812-9022271	
25	Ketut Murniata	2012	0817-877863	<i>Floor Warden - East Wing</i>
26	Mina Ratnasari	2116	0812-2999474	
27	Otty Sere Mian	2114	0813-88037823	
28	Aprillia Hermansyah	2115	0877-77789084	<i>Women First Aider</i>
29	Terti Aprinine	2116	0812-8091983	
30	Elisabeth Feimianti Wijaya	2117	0818-06600183	
31	Hardinald Aslam	2033	0818-488355	
32	Utati Umarjadi	2006	0811-143021	
33	Ayu Kusuma Wardhani	2030	0812-82091342	
34	Putri Rizqiyah	2032	0856-92401317	
35	Nisriyanto	2003	0812-8136912	
36	Hary Susanto	2127	0811-8501142	
37	Evans Satya Irwandhie	2128	0812-8300188	<i>Floor Warden – East Wing</i>
38	Robby Pradana	2129	0812-83885802	
39	Hapsari Sulistyorini	2007	0813-10424265	
40	Mustika Anglingsari	2095	0878-76381888	
41	Reyga Rivaldi	2014	0811-975663	<i>Deputy ERT Leader</i>

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WEST WING				
No.	Name	Ext. No.	HP No.	Position in ERT
1	Radikal Utama	2002	0811- 195028	
2	Yadi Rusmaryadi Ruswandi	2052	0815-7139880	
3	Agung Udiyono	2053	0815-9105566	
4	Eko Hardiananto	2054	0813-19105985	
5	Win Sukardi	2081	0811-1554565	
6	Hary Wibowo	2084	0811-865944	
7	Novan Erstyawan	2083	0812-17287973	
8	Sally Edwina Prajoga	2088	0818-183060	
9	Christina Sandy M Sahetapy	2184	081385621788	
10	Demas Seto Ardhiwirawan	2183	0817-156599	<i>Floor Warden -West Wing</i>
11	Meidina Dwisavira R.	2085	0856-7071796	
12	Achmad Novianto M Putra	2182	0812-80998660	
13	Jundy Fadhillah	2186	0818-06903444	
14	Faishal Dwi Ismail	2087	0812-81168086	<i>Men First Aider</i>
15	Teddy Wahyudi	2082	0811-8887515	
16	Ismail	2086	0811-1802846	
17	Amanda Meisarah	2185	0878-78272703	
18	Risnia Handayani	2025	0811-1000136	<i>Driver Warden</i>
19	Bagus Permadi	2056	0811-1625212	<i>ERT Leader</i>
20	Marissa Rizkiana	2057	0818-641103	<i>Driver Warden</i>
21	Sella Ayu Ningtyas Faizal	2100	0821-13001000	
22	Julfi Hadi	2041	0811-979221	

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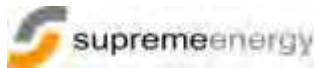
23	Novianto	2045	0812-1083820	
24	Nurkholis Hariyadi	2161	0812-23455001	
25	Rudy Martikno	2164	0899-7128858	
26	Muhammad Tamrin Humaedi	2166	0857-22056841	
27	Robi Irsamukhti	2168	0852-22789007	
28	Jantiur Situmorang	2165	0815-6199384	
29	Alfianto Perdana Putra	2042	0812-19947370	
30	Alexandre Christian David Bacquet	2043	0811-8449264	
31	Jul Rafli	2163	0812-73574747	
32	Herwin Azis	2065	0813-95239493	
33	Alfiady	2047	0856-58258790	
34	Irvan Ramadhan	2044	0821-22251363	
35	Nurul Aulia	2162	0856-2218584	
36	Astari Anggia Putri	2068	0812-87812791	
37	Sonny Santana	2049	0815-6017151	
38	Rizal Abiyudo	2066	0856-43396980	
39	Dayinta Adi Dyaksa	2167	0821-30197931	
40	Ridwan Permana Sidik	2169	0821-20200046	
41	Wildan Mussofan	2063	0813-11192015	
42	Lukman Sutrisno	2046	0813-22339221	
43	Mauliate Agustinus Hamonangan Sihotang	2061	0813-22265686	
44	Bambang Setyo Roesdyoko	2062	0811-104514	
45	Dodi Akhmad Gauzali	2064	0811-8001223	
46	Paul Iskandar Asaari	2149	0811-1662989	

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47	Yundit Harum Hermawan	2048	0813-19809166	
48	Gilang Rifki Arif	2144	0811-237909	
49	Begawan Manik	2147	0856-7739005	<i>Floor Warden – West Wing</i>
50	Hernawa	2143	0815-68483388	
51	Yonna Adriani Achmad	2142	0821-11116596	
52	Rizka Nurilmi Amalia	2145	0817-6708721	<i>Women First Aider</i>
53	Novida Aldita	2148	0811-145761	
54	Paul Austin Taylor	2076	0812-2024200	
55	Yoza Jamal	2177	0811-355467	
56	Ruswanto	2122	0813-68888013	
57	Sunarto	2123	0812-9679633	
58	Suddapalli Anjaneyulu	2121	0813-12348257	
59	Muhamad Tarnizi	2124	0812-9611467	
60	Achmad Gunawan	2073	0812-9922204	
61	Caspar Alphons Franz Ziegler	2172	0811-2209875	
62	Alexander Nainggolan	2079	0813-87333213	
63	Elvera Juniarti Sutarso	2078	0812-8828756	
64	Citra Dwimantika	2075	0878-88180601	
65	Ralph Hoellman	2077	0812-1124371	
66	Fredericus Widaryanto	2080	0812-8984395	
67	Marchella Ariesanty	2125	0815-85858717	
68	Yerdiano Deyward	2197	0853-52996059	
69	Robert Wayne Milligan	2171	0811-1464430	
70	Brian Gordon Schlaadt	2173	0813-2780014	

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71	David Ade Rully Purba	2175	0813-20249981	
72	Fadlis Barnaji	2174	0817-9039032	
73	Sekar Ayuningtyas	2178	0813-18182525	
74	Hany Yusmita	2176	0813-80685504	

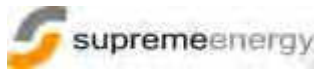
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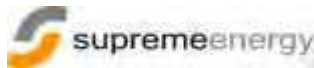
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1. Introduction

1.1 Purpose

This standard provides guideline for management of waste at Supreme Energy's (SE) operations.

1.2 Scope

This standard applies to all Company facilities which include but are not limited to exploration surveys, drilling, completion, work-over activities, production, purchasing and project planning at all Company Facilities.

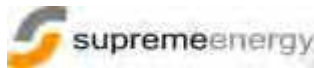
Waste management includes proper handling and segregation, packaging, labeling, collecting and temporary storage, manifesting, transportation, treatment, disposal/recycling, reporting of the waste generated.

Waste Management aspects related to produced water and gaseous emission will be detailed further in Appendix 1 of this standard.

This standard is designed to comply with applicable environmental laws and regulations of Indonesia, and conform to Company's SHE Policy and Manual.

2 Definitions

Bio-hazardous waste	Material that could be infected with blood-borne pathogens or other infectious bodily fluids (e.g., used bandages, needles, sharps, and blood) originated from clinic.
Camp & office waste	Includes household garbage, paper, plastic, cardboard, packaging material, food waste, pallets, empty paint cans, and uncontaminated debris. Note: clinic waste is grouping under the "camp & office including clinic waste", but is handled separately.
Expired medicine	Medicine that has gone past its shelf life for consumption.
Hazardous waste	Solids, semi solids and liquids wastes that due to its characteristics (ignitable, corrosive, reactive or toxic), and its amount that may pose a substantial or potential hazard directly or indirectly to human health and survival of humans and other living creatures, or has the potential to directly or indirectly pollute or destroy the environment and/ or endanger the environment when improperly managed. Also, any unknown waste, and waste listed at the Indonesian hazardous waste regulation and/ or by Supreme Energy requirement would be fall under the category of hazardous waste, until it is proven otherwise or if it is regulated under other regulation. Note: clinic waste is a bio-hazardous waste, radioactive and norm is a radioactive waste and expire explosive is an explosive waste. These wastes are also listed as a hazardous waste at the Indonesian hazardous waste regulation.
Landfill	A site used for disposal facility by dumping/burial the waste, however this definition is not including a land treatment facility, a surface impoundment or an injection well.

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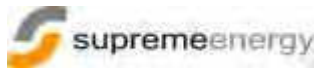
Non hazardous waste	Material that is not dangerous to human beings.
Radioactive waste	Any radioactive substance and/or any material and equipment that has been contaminated by radioactive substances.
Toxicity test	Consist of TCLP or toxicity concentration of leaching procedures for 53 parameters, LD50 or lethal concentration at 50% of the tested animals, as listed in PP 18/ 1999 & PP 85/ 1999, or 96hrs LC50 or lethal concentration at 50% of the tested animal after 96 hours exposure as listed in PERMEN 45/2006 regarding the management of drilling mud in oil & gas and geothermal activities.
Treatment	The reduction of the volume or relative toxicity of generated waste
Waste manifest	The shipping document (paper trail) which accompanies hazardous waste shipments and is originated and signed by the generator.
Waste Characteristic	Relevant hazard and or attribute associated with the wastes
TENORM and NORM (Naturally Occurring Radioactive Material)	Natural occurring radioactive material (NORM) and Technology Enhanced Natural occurring radioactive material (TENORM) is commonly identified when the naturally-occurring radionuclide is present in sufficient quantities or concentrations to require control for purposes of radiological protection of the public or the environment (which may presence in scale products, corrosion products, produced sand, pigging waste and other oil & gas related wastes.
Gaseous Emission	Gaseous release to the environment generated from production and supporting facilities
Produced water	Brine water which is carried over to the upper layer which contains hydrocarbon during oil and gas production activities, including formation water, injected water, drilling water and chemicals used for oil and water separation.
Waste transportation	Process of moving waste from the generator to the collector and/or to the processor, including the place of final disposal using transportation facilities.

3 Applicable Regulations or Guidelines

All facilities and activities that are performing waste management related activities at their facilities shall identify and comply with relevant legal requirement concerning waste management aspects by referring to the applicable statutory requirements/regulations. This process should also cover, but not limited to, application and obtaining permit and or consent from relevant government institution.

Applicable regulations include:

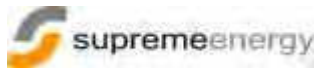
- Act No. 32 of 2009 (was no 23/1997) regarding Environmental Protection and Management.
- Act no 18 year 2008 regarding Domestic Waste Management
- Government Regulation No. 18 of 1999 regarding Hazardous and Toxic Waste Management.
- Government Regulation No. 85 of 1999 regarding Hazardous and Toxic Waste Management.
- Government Regulation No. 27 of 2002 Concerning Radioactive Waste Management.

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- PerMen ESDM no 45/2006 – Regulation of Ministry of Energy and Mineral Resources of Republic Indonesia regarding Drilling Sludge, Sludge Waste, and Drilling Cutting in oil and gas activity.
- Kepmen LH no 19/2010 (was no 04/2007) regarding Standard for Liquid Waste Discharge for Oil & Gas and Geothermal activity
- Kepmen LH no no 112/MENLH/2003 regarding Standard for the Domestic Liquid Waste.
- PerMen LH no 129/2003 regarding Standard for Air Emission for Oil and Gas Activity
- PerMen LH no 13/2007 regarding Requirement and Guidelines for Effluent Management from Oil and Gas Activity and Geothermal by Injection
- Kepmen LH no 128/2003 regarding Standard Procedure and Technical Requirement for Management of Oily Waste and Contaminated Soil through a Biological Method.
- Decree of the Head of BAPEDAL KEP-01/BAPEDAL/09/1995 regarding the Use of Technical Conditions on Storage and Collection of Hazardous Waste.
- Decree of the Head of BAPEDAL KEP-02/BAPEDAL/09/1995 regarding Guidelines to Prepare Hazardous Waste Documents.
- Decree of the Head of BAPEDAL KEP-03/BAPEDAL/09/1995 regarding Technical Requirements for Processing Hazardous Waste.
- Decree of the Head of BAPEDAL KEP-05/BAPEDAL/09/1995 regarding Hazardous Waste Symbols and Labels

4 Roles and Responsibility

- **All VPs and Senior Managers (Operations ; Subsurface, Drilling & Completion; Project; Supply Chain Management; Exploration & Exploitation)**
 - Accountable for ensuring this standard applies to personnel in their respective areas of responsibility.
 - Accountable for ensuring that the requirements of this standard are being met.
- **SHE Senior Manager**
 - Accountable for providing advice and guidance on matters relating to the environmental protection, and maintenance of this standard. He is also accountable for internal liaison with Legal and other related departments/section, and external liaison with related parties to obtain permits and/or certificates where applicable.
- **Managers and Supervisors**
 - All Managers and Supervisors are accountable for the implementation of, and adherence to, the requirements of this standard in their workplace. They will be committed to, and seek the active participation of all employees in achieving this standard's purpose and conduct all activities in accordance with this standard. They are further responsible and accountable for providing the necessary resources to achieve the above requirements.
 - Managers and Supervisors are to ensure that this Waste Management standard is consistently communicated to all employees, contractors and other parties under their respective responsibilities. Managers and Supervisors are to ensure that employees and contractors are adequately trained in the Waste Management standard.
 - Managers are responsible to include Waste Management into job performance expectation of all related employees.

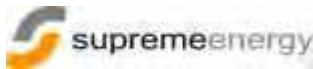
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▪ **Employees**

- All employees are required to actively participate in the implementation of this standard. All employees are responsible and/or accountable for ensuring that their activities are in compliance with the standard.

▪ **Contractors**

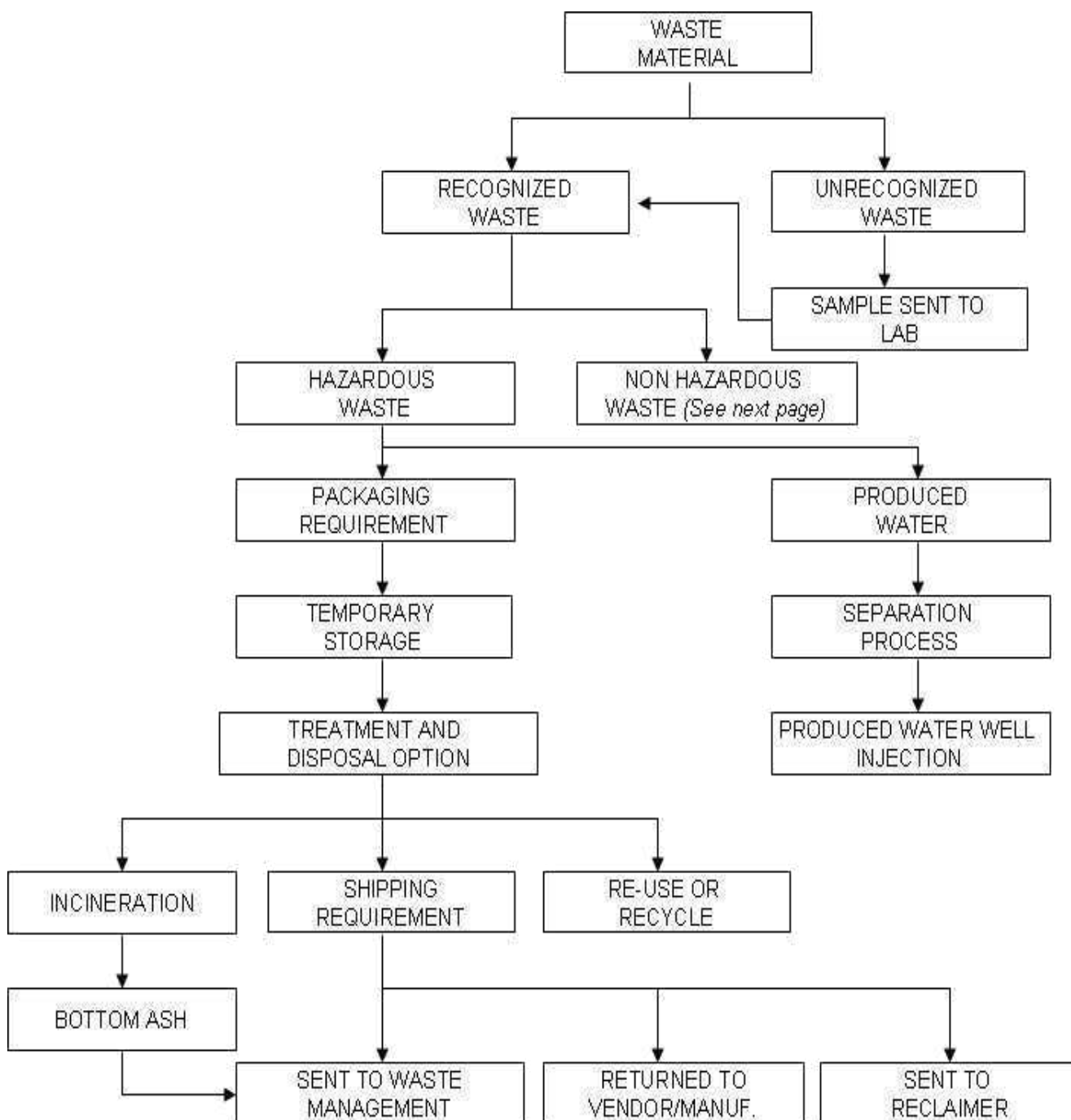
- Contractors are required to provide their services in accordance with requirements set forth in this procedure. Contractor's performance with respect to Waste Management issues will be an important factor in selection, retention, evaluation, and continued utilization of Contractor.
- Contractors responsible for waste generation are required to submit a **Waste Management Plan** prior to conducting any activities. If a contractor's Waste Management plan is not as comprehensive as **Company's Waste Management Plan**, then it has to adopt and implement Company's Waste Management Plan.

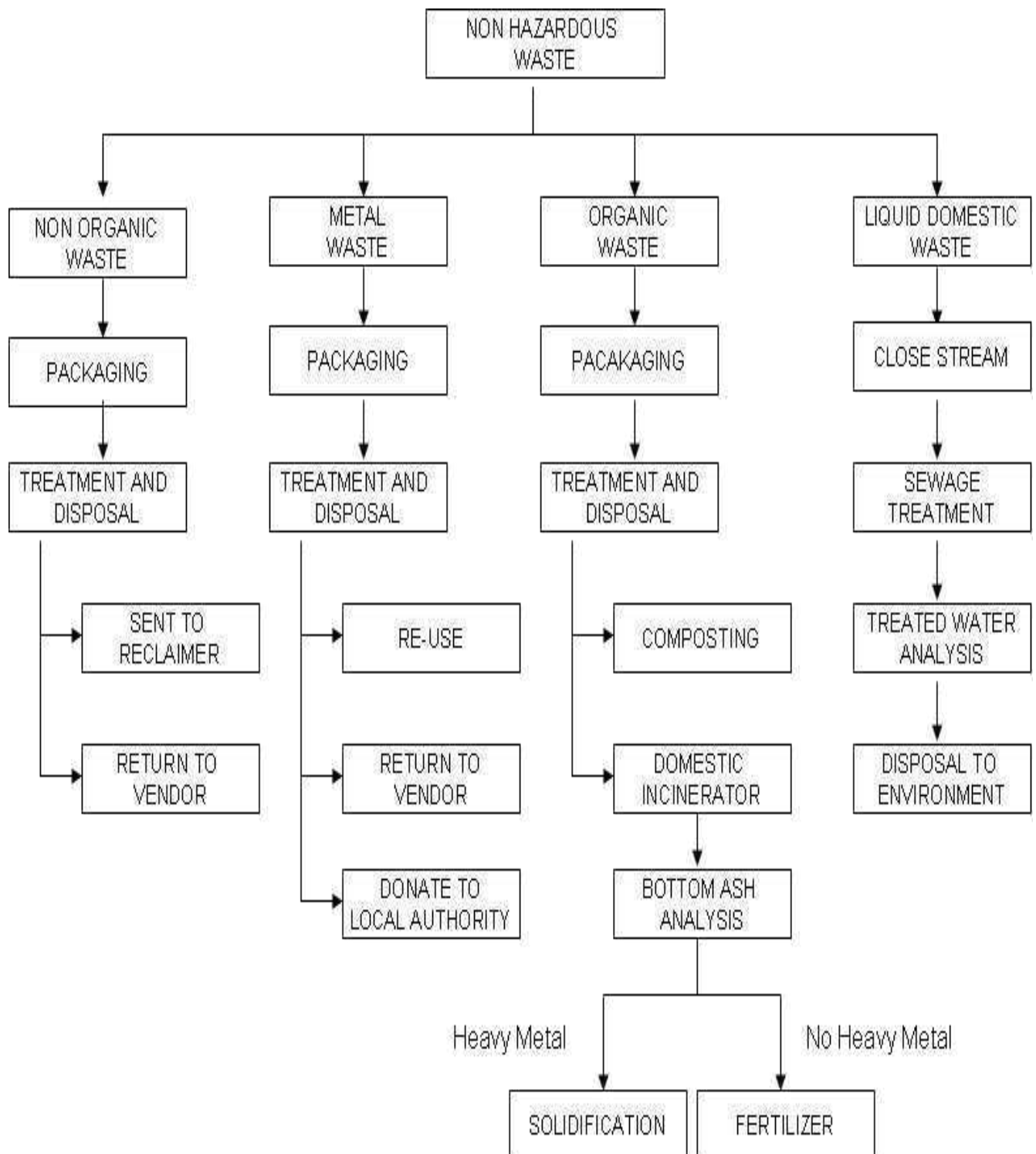
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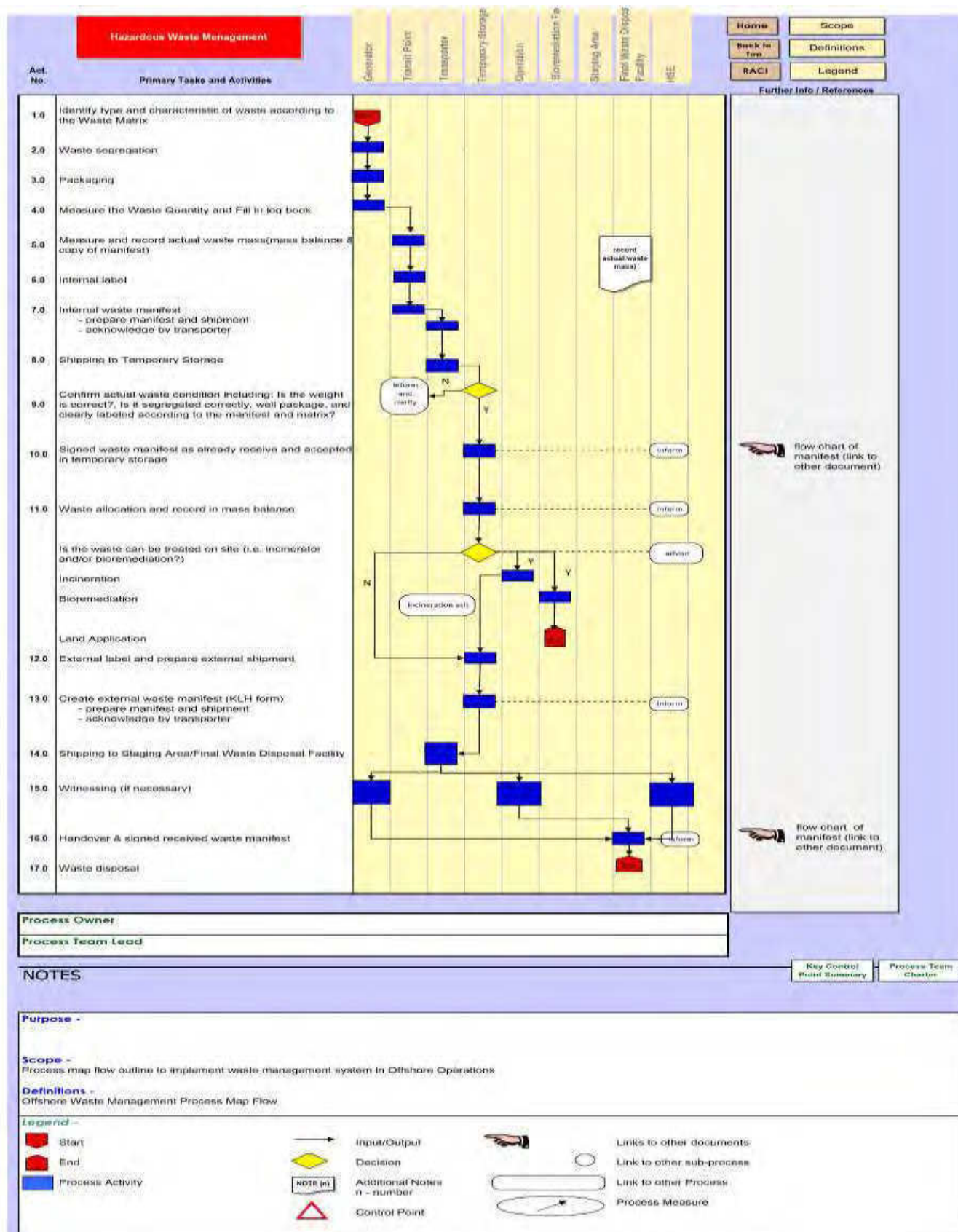
5 Requirements

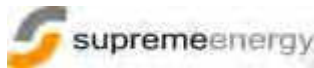
5.1 Simplified Waste Management Process

The below flowcharts describe Company Waste Management Plans :







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5.1 Waste Identification

Waste generated by Company operations shall be identified as inline with applicable regulations and referring to the requirement as stipulated in relevant standards.

Each type of waste is detailed more according to specific identity and characteristic of wastes. The detail information of this waste identification is described in the Appendix 1 of this standard.

5.2 Waste Handling

5.2.1 Segregation, Packaging and Labeling

All wastes generated from any facility within Company facilities must be segregated according to their specific or respective characteristics, as well as considering final treatment and/or disposal of wastes.

Incompatible waste should be stored separately or in a manner that prevents commingling in the event of a spill. This requirement can be met i.e. by providing adequate space between incompatibles or physical separation such as walls or containment curbs. Characteristics of compatibility charts shall be considered in this segregation practice, which is described in Appendix 1B of this standard.

The segregated wastes shall be packaged using materials that:

- are appropriate to the nature of wastes (not reactive with the waste)
- are durable and robust to retain the wastes and remain intact during handling, storage, transportation and disposal, so as to prevent leaks, littering, spills and injuries.

Volume of waste stored in containers should take into consideration an increase in volume, gas formation or an increase in pressure during storage:

- Liquid waste should consider the increase in volume and formation of gas.
- Reactive waste should not have any empty space in the container to prevent accumulation of gas.
- Explosive waste should be stored in a container that can withstand pressure.

The exhibit of recommended packaging practices is detailed in Appendix 2 of this standard.

Label and symbol shall be unique and patched on each package of waste to describe minimum information on:

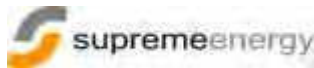
- waste identity and characteristic
- date of generator or date of stored in a waste bin
- source of waste (waste generator identity)
- amount of waste (in kg and liter)

Ensure that label and symbol does not peel off from the container, since date of generation of the waste until the date of transfer for further treatment.

Detail guidelines of labeling are described in the Appendix 3 of this standard.

5.2.2 Measurement

Having put in designated bin/collection unit, the waste shall be measured in weight unit (kg) for solid wastes or volumetric (liter) and weight unit (kg) for liquid wastes. Such requirement would not be applied for any bulk container of wastes (i.e. iso tank, etc.) considering practicability in the field. This

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measurement shall be noted in waste label and also recorded in waste database and/or logbook. The waste generator shall keep the record of this measurement.

Exhibit of recommended waste measurement schemes are described in the Appendix 4.

5.2.3 Collection

All wastes are required to be collected and stored in dedicated container/waste bin according to segregation guideline. The container or waste bin shall:

- the package size, shape and packaging material meet requirement of mechanical lifting standard
- has been approved for use
- be put on a support base to: facilitate loading –unloading process and monitor spill/ leakage.

A label shall be attached into each container to provide information on:

- source of waste (waste generator)
- date of delivery when transferred to temporary storage location.

An exhibit of recommended waste container/bin and support base is described in Appendix 5 of this standard.

5.2.4 Storing at Site

Waste generators would have to store temporarily their waste at transfer point within its facility before transferring them to temporary storage waste facility. During this period, the Waste Generators are held responsible to maintain environmentally approved condition of storage practices and put label and symbol in each container. Once the container is full, Waste Generators shall transfer the waste to temporary storage less than 90 days since the waste was labeled and dropped into waste container/bin. To prevent accumulation of hazardous waste more than the initiated date, all facilities should keep an inventory of waste generated. In this way, the facility can ensure proper tracking of waste storage on site.

This facility in minimum shall consider:

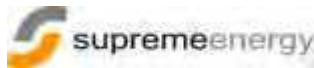
- geological stability (earthquake, landslide, etc)
- natural perils exposure (lightning, weather condition, typhoon, tsunami, etc)
- environmental proximity (distance to nature conservation area, local community / employee residential / activity area)
- measures / requirements to minimize environmental pollution (secondary containment, distance from drainage system)
- applicable legal requirement

These criteria and measures are also referred to Section 5.4.3 of this standard.

5.3 Transferring to Temporary Storage

Waste Generator must ensure following minimum requirements are followed:

- Complete the internal Waste Manifest form before handing over this waste to the transporter. The detail information regarding this Waste Manifest is described in Section 6.2 Waste Manifest section.
- Maintain inventory in their waste mass balance of the incoming and out going waste. Detail waste mass balance sheet described in Section 6.1 Waste Record.

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Waste Transporter shall meet following requirements:

- has relevant permit .
- acknowledges the internal manifest from Waste Generator
- hands over the manifest to the responsible person or his/her designated at temporary storage facility
- ensuring all waste are safely arrived at temporary storage.

5.4 Temporary Storage

5.4.1 Temporary Storage for Non-Hazardous Wastes

- The generator of domestic solid waste shall ensure all domestic solid wastes are properly segregated, handled, stored and disposed of in appropriate manner.
- Metal can/tin waste (except metal scrap), glass, wood/pallets and rubber waste shall be collected in separate location for temporary storage to determine further disposal options.

5.4.2 Requirements for Hazardous Waste Storage Building

The warehouse or building for storage of hazardous waste should:

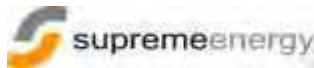
- be designed to be suitable with the type, characteristics and amount of waste
- have sufficient space to store the wastes for anticipating 90 days storage period.
- be designed to protect direct or indirect entry of rainwater.
- be designed without a ceiling and have a ventilation system to prevent the accumulation of gases or vapors at the storage areas.
- have nets or other material that can prevent birds or other small animals from gaining access to the storage area.
- have sufficient lighting to operate and inspect the storage area, including lamps placed one meter above the stack with the "stop contact" placed at the outside of the building.
- be equipped with a lightning conductor.
- have a sign using appropriate symbols posted on the outside of the building in accordance with the type of waste stored.
- have a strong, even, water-tight floor, free of cracks, with a slope of no greater than 1% to flow rainwater away from the storage area towards a catch basin.
- be equipped with drains / gutters and the floor around the building and be constructed with a slope of no greater than 1% to flow rainwater away from the storage area, in the direction of the catch basin

If the building holds more than 1 (one) type of hazardous waste, the storage area should:

- have different compartments, with each compartment storing waste of compatible characteristics.
- be separated by a wall between the compartments to prevent any mixing of the waste at the storage area in case of spillage.
- have a containment ditch with adequate volume to hold the waste being stored between compartments.
- have drainage system capable of draining liquids rapidly into the containment ditch

The warehouse or building should have the following features:

- An alarm system.
- A fire extinguishing system.
- A safety fence.

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- A source of reliable electricity.
- First aid facilities.
- Communication equipment.
- A store room to store the waste handling tools and equipment.
- An emergency exit.

Minimum requirements for bulk liquid waste storage facility should:

- be equipped with emergency response and communications equipment in case of fire.
- be made of construction material that is suitable for the characteristics of the waste stored.
- be flood-free.
- have a floor that is crack-free and even, sloping with a maximum of 1% in the direction of the containment ditch.
- have roof to prevent rainwater.
- be equipped with drains/gutters that lead to a catch basin, which is impermeable with capacity to contain 110% the volume of the largest tank stored.

An illustration of recommended warehouse building, bulk liquid storage and stacking/placement arrangement are described in Appendix 6 of this standard

5.4.3 Requirements for Waste Storage Location

The location of the containers or tanks, the building that stores the containers and the building that contains the tanks should:

- be located outside water catchment area, especially for drinking water.
- be designed to be flood-free.
- be at least 50 metres away from the main facility.
- be in an area specifically built for this purpose or in a designated area within the facility.
- have access to waste storage areas is limited to authorized and trained employees.
- be clearly identified and marked on the facility map or site plan.
- have signage as required under Indonesian regulations.
- specifically for underground waste tanks, (if any) be equipped with secondary containment structures

Above requirements are also applicable for waste storing at site as described in section 5.3.4.

5.5 Transportation of Waste

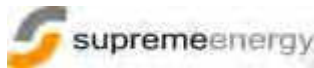
Followings are minimum requirement for waste transportation:

- Prior to shipment, containers must be properly closed and sealed for transport.
- For hazardous waste transportation, the transporter shall have a permit from Departemen Perhubungan (Dinas Perhubungan Laut for ships/sea transportation modes and Dinas Perhubungan Darat for land transportation)
- For hazardous waste transported by air, Company should refer to IATA (Civil Aviation Regulations for applicable requirements.

5.6 Final Treatment or Disposal

Final treatment (including recycling options) and/or disposal of wastes should:

- comply with applicable regulation
- minimize environmental impacts considering the hierarchy of waste minimization efforts (from reduction at source to disposal)

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- limit potential future liability
- be cost effective

Company shall use waste treatment, storage, disposal, and recycling facilities that:

- Have the technical capability to manage the waste in a manner that reduces immediate and future impact to the environment.
- Have all required permits, certifications, approvals, etc. of applicable government authorities.
- Have been secured through the use of formal procurement agreements (return to vendor or manufacturer).
- Have been evaluated by SHE Department for conformance with the above requirements.

Several alternatives of these methods are described in Appendix 7 that identifies list of conventional waste management options in order of preference.

5.7 Training

Personnel who are directly involved with waste handling shall receive Waste Management and Hazardous Material Handling training that will minimize risks when handling waste and to ensure adherence to this Company Waste Management Standard.

Details on Waste Management training requirements are outlined in **SHE Training Standard XXX**.

5.8 Emergency Response

Emergency situation in relation to all waste management practices shall refer to relevant procedures for spill handling and Emergency Response Plan as applied in respective field / asset.

A brief of typical emergency response plan regarding waste management is detailed in Appendix 8 of this standard, while the full set documentation could refer to the relevant Site Specific Procedures.

6 Waste Documentation, Records and Reporting

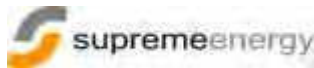
6.1 Waste Matrix

Each field is responsible to develop site specific waste matrix, and being accountable for maintaining a current list of wastes generated, based on:

- Waste description generated
- Waste stream ID
- The prevailing total volume
- Waste characteristics information
- Waste handling (packaging & segregation methods)
- Waste disposal, reuse or recycle options employed by the specific facility can be included in the site specific waste matrix.
- Waste matrix is used as guidance for implementing and controlling of waste management implementation at each site.

Waste matrix list shall be reviewed and revised as necessary, e.g. due to changes in activities or processes.

Appendix 9 – features an example of site specific waste matrix to be used within Company facilities.

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6.2 Waste Manifest

6.2.1 Internal Manifest

- An internal Waste Manifest is required when transferring waste within the COPI location (from point of Waste Generators / collections to temporary storage and or final treatment or disposal within Company facilities).

6.2.2 External Manifest

- An external B3 Waste Manifest is required when shipping hazardous waste from any Company facilities to any destination that is an approved third party disposal facility by *Kementerian Negara Lingkungan Hidup*.

Refers to Appendix 10 regarding further information of this manifest requirement.

6.3 Waste Records

Waste data shall be properly recorded and maintained by Waste Generators at respective facility.

The waste data includes but not limited to hazardous waste temporary storage inventory, total amount of waste being incinerated at B3 and domestic incinerator, non-hazardous wastes record, waste log book, waste manifest documentation and mass balance.

6.4 Reporting

All data and document waste record shall be submitted at least every 6 months to relevant government institutions and regency and shall be maintained and reviewed by SHE Department.

7 Waste Management Audit

7.1 Company Waste Management Audit Program

A systematic audit approach is required so the audit covers all aspects of the materials' life cycle from materials purchasing, through materials utilization, waste minimization efforts, waste handling, storage & transportation, and waste treatment & disposal.

Waste management relevant audit program shall refer to SHE Audit and audit protocols from Governmental Bodies (BPMIGAS/ MIGAS/ *Kementerian Negara Lingkungan Hidup/ Bapedalda*).

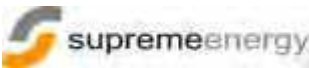
7.1.1 Auditing of Third Party (Contractor) Waste Recycling/ Reclaim and Disposal Facilities

The HSE Department will perform an annual audit of each third-party (contractor) waste recycle/ reclaim/ disposal facility used during the previous 12 months. The purpose of the audit is to assure that the third-party contractor does not present an unacceptable risk to Company in terms of future liability for remediation or other actions, which could arise to the Company. Standards which are used for this audit may include the applicable legal and permit requirements and/or the implementation of the Contractor's owned procedures.

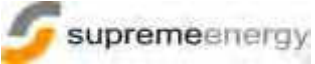
Refer to **SHE Standard no XX SHE Auditing Procedure** for a suggested format for conducting such audits.

8 Waste Management Review

Waste Management review is conducted on at least annual basis to support the efforts of continual improvement in implementation of waste management. Scope of this review will be determined considering the functional units that intend to perform such review.

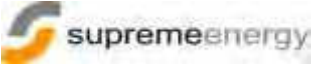
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Recommended of waste management review template / format is shown in the Appendix 11.

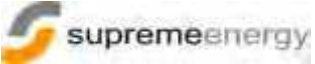
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Appendix 1 - SE Waste Management Plan

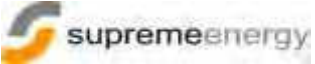
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
PRODUCTION RELATED WASTE						
1.	Explosive-expired	Hazardous due to its potential explosion	<ul style="list-style-type: none"> • use appropriate PPE • certain activities should be conducted only by personnel with special training and qualification on working with explosive (use only approved contractors) • symbol: explosive • - label: explosive, hazardous 	<ul style="list-style-type: none"> - accumulate in a sealed drum and store in the explosive bunker/storage - complete waste manifest 	<ul style="list-style-type: none"> - return to vendor 	<ul style="list-style-type: none"> - explode the unused explosive materials in controlled manner - backfill the ashes as residue from the explosion - or dispose at an approved sanitary landfill - send to approved waste management facility
2.	Drilling mud & cutting	Listed in GOI no. 18 / 1999 & no. 85 / 1999 as a hazardous waste	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection may be required 	<ul style="list-style-type: none"> - store in tanks - use proper tanks 	<ul style="list-style-type: none"> - use of environmental friendly mud - Scrutinize MSDS - reuse mud if possible - minimize use of water - use water based mud if possible - prevent seepage and lost circulation - prevent well kick and blow-out 	<p>To manage the drilling waste, refer to KepMen ESDM no 45/2006 or any other applicable regulation supersede the obsolete guideline</p> <ul style="list-style-type: none"> - backfill the HDPE along with cuttings at the drilling reserve pit, that has compacted clay as a liner or use HDPE as a liner; or use tanks as the alternative - consideration should be given not to allow releasing drilling related wastes with TDS>1000 mg/l and TSS>100 mg/l to ensure no impact to environment

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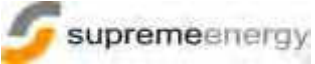
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
3.	Produced water	Non hazardous Regulated by GOI under PerMen LH no 19 / 2010 - regarding Liquid Waste Discharge	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection may be required - may contain flammable or combustible compounds including H₂S and ammonia 	<ul style="list-style-type: none"> - put in a proper container for storage and transportation , or for further treatment - make sure the tank is properly sealed prior to shipment 	<ul style="list-style-type: none"> - use for production purpose - inject produced water for zero discharge 	<ul style="list-style-type: none"> - discharge as per PerMenLH no. 19 / 2010 - inject to designated disposal well - consideration should be given not to allow releasing produced water with TDS>1000 mg/l and TSS>100 mg/l to ensure no impact to environment
4.	Well work-over/ well-service fluids (including brine and well stimulation fluids)	Hazardous if contain solvent, acid, base and oil, which are listed as hazardous waste in GOI no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection may be required - may contain flammable or combustible compounds including H₂S and ammonia 	<ul style="list-style-type: none"> - put in a proper container for storage and transportation for further treatment considered as hazardous waste - make sure the tank is properly sealed prior to shipment 	<ul style="list-style-type: none"> - use more environmental friendly products to perform well work-over/ well services and well stimulation , wherever practicable - if possible, use all of the well work-over/ well services and stimulation fluids by injecting them into the well and produced it back along with well fluids 	<ul style="list-style-type: none"> - manage as per PerMen ESDM no. 045/2006, if it is not a hazardous waste - if in doubt, test for TCLP parameters, and LD50 as per PP 85 / 1999 to ensure that it is not a hazardous waste, i.e. If to be discharged to the environment - send to approved waste management facility if it is considered as hazardous waste - inject to designated disposal well - consideration should be given not to allow releasing work-over/ well-service related wastes with TDS>1000 mg/l and TSS>100 mg/l to ensure no impact to environment

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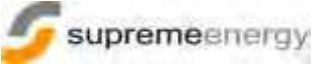
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
5.	Soil contaminated with oil (weathered / dead oil, slop oil, fuel oil, paraffin)	<p>Hazardous if contain oil >1%TPH</p> <p>Hydrocarbon contaminated wastes is listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999</p>	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - may also require respiratory equipment - handle as crude oil - pick up oil promptly to prevent weathering and return to Production stream - consider use of oil absorbent compounds near leak prone areas - symbol: toxic & flammable - label: soil, oil, hazardous 	<ul style="list-style-type: none"> - accumulate in an open top poly propylene or steel drums, or in appropriate bulk containers - soil contaminated may be stored temporarily on site in area with dike with an impermeable liner (HDPE) to prevent contamination of ground water, surface water, air and soil - contain any leakage <p><u>If to be sent to approved waste management facility :</u></p> <ul style="list-style-type: none"> - accumulate in a closed top steel drums, or in an appropriate sealed container for transportation and preparation for disposal - store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct oil recovery process to result in saleable oil (recycle to production stream) - reuse as fuel at permitted cement factory, etc. 	<ul style="list-style-type: none"> - conduct bioremediation to reduce TPH to 1%; and reuse the bioremediated soil for regreening; or backfill on site. Refer to KepMen LH no. 128/ 2003 - burn in a hazardous waste incinerator and sent the ashes to certified waste management facility. - send to approved waste management facility.

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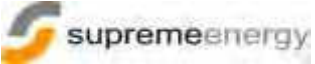
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
6.	Glycol – spent	Hazardous Listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Use chemically resistant gloves, if required - may also require respiratory equipment, and protective clothing - refer to MSDS - symbol: toxic & flammable - label: glycol, hazardous 	<ul style="list-style-type: none"> - accumulate separately in a sealed plastic container or in a closed steel drums - store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary waste generation - return to vendor for the containers and the unused material 	<ul style="list-style-type: none"> - burn in a hazardous waste incinerator if it is allowable by relevant permit and sent the ashes to certified waste management facility - send to approved waste management facility

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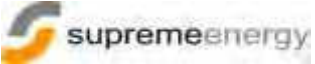
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
7.	Tank bottom, sludge and/ or basic sediment/ produced sand	Hazardous Hydrocarbon contaminated wastes is listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Use chemically resistant gloves, if required - may also require respiratory equipment, and protective clothing - may be poisonous, avoid inhalation by using respirator with proper filtration canisters - may be commingled with other oily wastes -- provided that the wastes are compatible - pick up oil promptly to prevent weathering and stored in an approved containers after dewatering - consider use of oil absorbent compounds near leak prone areas - symbol: toxic & flammable - label: tank bottom, hazardous 	<ul style="list-style-type: none"> - accumulate in an open top poly-propylene or steel drums, or in appropriate bulk containers - tank bottom may be stored temporarily on site in area with dike with an impermeable liner (HDPE) to prevent contamination of ground water, surface water, air and soil - contain any leakage - accumulate in a closed top steel drums, or in an appropriate sealed container for transportation and preparation for disposal - store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct oil recovery process - reuse as fuel at permitted cement factory, etc. - if possible, maintain turbulent flow in tank to reduce tank bottom generation/ prevent sedimentation - if possible, apply heat or add appropriate chemicals to reduce tank bottom generation 	<ul style="list-style-type: none"> - conduct bioremediation to reduce TPH to 1%; and reuse the bioremediated soil for field greening; or backfill on site. Refer to KepMen LH no. 128/ 2003 - burn in a hazardous waste incinerator, as suggested by applicable permit, and sent the ashes to approved waste management facility - send to approved waste management facility

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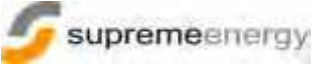
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
8.	Scale and/ or corrosion products and/ or pigging wastes (oily, no Naturally Occurring Radioactive Materials / NORM)	<p>Hazardous if contain oil >1%TPH</p> <p>Hydrocarbon contaminated wastes is listed as hazardous waste in GOI Regulation no. 18/ 1999 & no. 85/ 1999</p> <p>May be hazardous if contain oil more than 1% TPH and/ or contain NORM more than 25 micro-rem/ hour</p>	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection may be required - add water to prevent explosion of pyrite (fes) due to auto ignition when pigging the gas line - the waste (scale and/ or corrosion products) should be examined for the presence of NORM before any work could be performed. Refer to waste no. 9 down below - symbol: toxic, flammable - label: scale products, hazardous; corrosion products, hazardous; pigging wastes, hazardous 	<ul style="list-style-type: none"> - for transporting any scale and/ or corrosion products and/ or pigging wastes refer to waste no. 9 - If applicable, add water to prevent explosion of pyrite (fes) due to auto ignition when pigging gas line 	use corrosion and scale inhibitor to prevent formation of scale and corrosion	<ul style="list-style-type: none"> - conduct bioremediation to reduce TPH to 1%; and reuse the bioremediated soil for field regreening; or backfill on site. Refer to KepMen LH no. 128 / 2003 - burn in a hazardous waste incinerator and sent the ashes to approved waste management facility - conduct special backfill on site as per recommendation from BATAN / BAPETEN (national atomic energy institution), if NORM > 25 micro-rem/ hour - send to approved waste management facility

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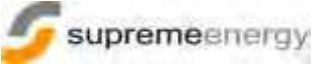
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
9.	TENORM (Technology Enhance Naturally Occurring Radioactive Materials) – including the scale and corrosion products, pigging wastes, etc.	Hazardous - may be hazardous if contain more than 1% TPH and/ or more than 25 micro rems/ hour.	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection may be required - any scale and corrosion products and pigging wastes and other suspicious oily solids waste materials should be examined for its NORM - if NORM (> 25 micro-rems/ hour), special worker protection procedures must be followed. Certain activities involving NORM should be conducted only by personnel with special training on working with NORM (use only approved contractors) - any metals that have been in contact with produced fluids (oil, gas, and/or water) must be examined for NORM before it is taken out of service and properly handled. Precautions must be taken to avoid inhalation, ingestion, or prolonged skin contact with NORM - if the material is reusable, it should be decontaminated at a specially permitted and previously approved NORM decontamination facility - NORM scrap metal should be accumulated separately from other waste. Small and medium size pieces of NORM scrap metal should be placed in a special approved bulk container or in a special epoxy-lined 200-liter drum - symbol: radioactive - label: NORM, hazardous 	<ul style="list-style-type: none"> - prior to shipping any NORM contaminated equipment or tubing, all openings must be completely isolated. Fully closed thread protectors are required for tubing. For irregular openings, duct tape is recommended. If external contamination is present, the entire piece of equipment or tubing must be completely wrapped and taped securely in place. - after being decontaminated: sell to salvage/ scrap dealer (metal re-claimer) or use as pipe support at field - accumulate in drums, and store in a temporary hazardous waste storage - complete waste manifest 	reuse the materials if possible (e.g. for metals contaminated with NORM). But, it should be decontaminated first at a permitted and approved (by BATAN / BAPETEN) NORM decontamination facility	<ul style="list-style-type: none"> - all NORM must be stored at a special backfill site in the field as per recommendation from BATAN / BAPETEN (national atomic energy institution), or - send to approved waste management facility

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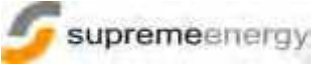
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
10.	Amine - spent	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection and protective clothing may be required - refer to MSDS - symbol: toxic & corrosive - label: amine, hazardous 	<ul style="list-style-type: none"> - as a basic waste, separately stored from acid waste - accumulate separately in a closed, sealed plastic container or drums - store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary hazardous waste generation - return to vendor for the containers and the unused material 	- dispose of at approved waste management facility
11.	Excess / expired production chemicals (demulsifier, scale / corrosion inhibitor, biocide, etc)	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection and protective clothing may be required - refer to MSDS; may contain flammable or combustible compounds - symbol: toxic & corrosive; toxic & flammable - label: original label, hazardous 	<ul style="list-style-type: none"> - drums should be banded together on wooden pallets and closed properly prior to shipment - accumulate in approved open-top or closed-top polypropylene or steel drums (or in appropriate bulk containers, if necessary), and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - utilize the excess/ expired production chemicals as much as possible - return to vendor for the containers and the unused materials 	- dispose of at approved waste management facility

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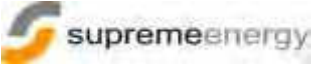
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
12.	Excess cement (well cementing)	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - refer to MSDS - proper packaging must be considered for delivery of the excess cement 	<ul style="list-style-type: none"> - store in dry area, protected from rain - use sealed container to avoid dust release 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary waste generation 	<ul style="list-style-type: none"> - backfill on site
13.	Oily waste water (pit water, floor drain liquid, vacuum truck rinse waste)	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection and protective clothing may be required - refer to MSDS - may contain flammable or combustible compounds including H₂S, and ammonia 	<ul style="list-style-type: none"> - if contains any free oil (or if it fails oil & grease test), it must be properly containerized (approved containers) for transport and disposal. - Ensure the approved containers is properly sealed prior to shipment. Care should be taken when handling these materials to minimize the possibility of spills 	<ul style="list-style-type: none"> - minimize use of rinse water for floor and car washing - minimize use of vacuum truck rinse water 	<ul style="list-style-type: none"> - discharge to a stream, as per PerMenLH no. 19 / 2010, or - inject to designated disposal well with reference to PerMen LH 13/2007 regarding Requirement and Guidelines for Effluent Management from Oil and Gas Activity and Geothermal by Injection - consideration should be given not to allow releasing work-over/ well-service related wastes with TDS>1000 mg/l and TSS>100 mg/l to ensure no impact to environment
Industrial waste						

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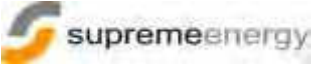
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
14.	Asbestos and ceramic fibre	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection and protective clothing may be required - refer to MSDS - symbol: toxic - label: asbestos; ceramic fibre 	<ul style="list-style-type: none"> - accumulate in approved open-top or closed-top polypropylene or steel drums (or in appropriate bulk containers, if necessary). Store in a sheltered area, avoid rain - drums should be banded together on wooden pallets and closed properly prior to shipment - accumulate in drums, store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - do not use new equipment containing asbestos and ceramic - plan to replace existing equipment containing asbestos and ceramic 	<ul style="list-style-type: none"> - send to approved waste management facility

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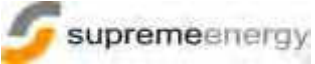
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
15.	Batteries (acid / lead - used) - dry or wet cell	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves - respiratory protection and protective clothing may be required - refer to MSDS - lead acid batteries contain sulphuric acid; extremely corrosive - place in leak-proof containers, metal baskets, place on pallets - if in metal drums, pack to prevent short-circuiting (arching) against the drum - if broken, place in hermetically sealed container with absorbent materials - symbol: toxic & corrosive - label: batteries, acid, hazardous 	<ul style="list-style-type: none"> - off the ground in a shaded, dry, covered area, avoid rain - pack individually in wooden or fibreboard boxes; or if several packed together, then it should be securely cushioned - accumulate in drums, store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - specify vendor pick-up of used lead/ acid batteries (return to vendor for recycle) 	<ul style="list-style-type: none"> - send to approved waste management facility

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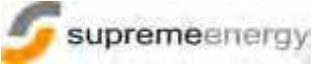
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
16.	Chemical, hazardous – unused / expired	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves - respiratory protection and protective clothing may be required - refer to MSDS - must be packed in good quality container, properly labeled as a hazardous waste - refer to Kepbapedal-05/ 1995 	<ul style="list-style-type: none"> - put the drum on the wooden pallet and it should be banded together properly prior to shipment - use sealed container, use approved land or sea transport company only - refer to kepapedal-01/ 1995 - accumulate in drums, and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct usage control especially for field production chemical testing to prevent unnecessary waste generation - return to vendor - use them all up in a well, if possible, if it is a production chemicals 	<ul style="list-style-type: none"> - send to approved hazardous waste management facility - if in doubt test for TCLP parameters and LD50 and if not hazardous, backfill on site or send to an approved sanitary landfill
17.	Chemical - non hazardous - unused/ expired	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves if required - respiratory protection and protective clothing may be required - refer to MSDS - pack in good quality containers which are clearly labeled - symbol: non hazardous waste - label: original label, non hazardous 	<ul style="list-style-type: none"> - store in dry area, protected from rain, in good sealed container to avoid dust release - no special transportation is required 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary waste generation - return to vendor - use them all up, if possible 	<ul style="list-style-type: none"> - send to an approved sanitary landfill, or - backfill on site

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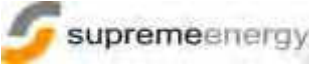
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
18.	Debris, refuse and materials contaminated with chemicals and used lube oil	<p>Hazardous</p> <p>Hazardous if Contaminant is a hazardous materials/ a hazardous waste</p> <p>The chemical contaminant may be listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999</p>	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves if required - respiratory protection and protective clothing may be required - refer to MSDS of the chemical contaminant - provide label depending on the chemical contaminant - symbol: toxic - label: debris, hazardous; refuse, hazardous, lube oil - label: debris, non hazardous ; refuse, non hazardous (if non hazardous) 	<ul style="list-style-type: none"> - store in accordance with the proper measures depending on the chemical contaminant - transport in accordance with the proper measures depending on the chemical contaminant - accumulate in drums, and store in a temporary hazardous waste storage - complete waste manifest - segregate before placing in bin, leak-proof containers - use liner to prevent accumulated waste from sitting directly on ground - protect from rain; close and seal container prior to transport 	<ul style="list-style-type: none"> - prevent contamination 	<p>dispose in accordance with the most hazardous chemical contaminant</p> <p><u>Hazardous:</u></p> <ul style="list-style-type: none"> -- burn in a hazardous waste incinerator as suggested by the applicable permit and sent the ashes to approved waste management facility - send to Approved waste management company <p><u>Non hazardous:</u></p> <ul style="list-style-type: none"> - burn in incinerator and backfill the ashes on site - send to an approved sanitary landfill - if in doubt, assume it as a hazardous waste

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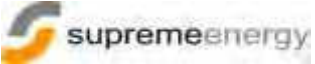
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
19.	Empty drums / cans / containers – of the hazardous waste	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves if required - respiratory protection and protective clothing may be required - refer to MSDS; if previous content is unknown, then treat as a hazardous waste - label with sufficient information to ensure proper use and/ or disposal and to allow selection of MSDS; use weather resistant marking and labelling should be used - symbol: toxic - label: drum, hazardous, etc. - label: empty (for empty drums) 	<ul style="list-style-type: none"> - segregate based on its contents; cover, avoid storage on bare soil (ground) - band together for shipment to avoid accidental falling or spilling - accumulate in drums, store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - return to vendor - where practical and feasible, bulk containers should be used instead of drums for high volume materials - send to re-claimer company for recycling 	<ul style="list-style-type: none"> - crush after triple rinsing or washing and send to approved waste management facility

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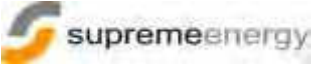
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
20.	Drums / cans / containers - of the non hazardous waste	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection, avoid cuts from rusty drums - refer to MSDS - drums should be free of corrosion, severe dents, and bulging head and should have good seals on bungs; drums should be properly labeled and marked with weather-proof marking - symbol: non hazardous waste - label: original, non hazardous; drum, etc. 	<ul style="list-style-type: none"> - segregate based on contents; cover, avoid storage on bare soil (ground) - band together for shipment 	<ul style="list-style-type: none"> - return to vendor - where practical and feasible, bulk containers should be used instead of drums for high volume materials - send to re-claimer company for recycling - reuse drum to collect for oil spill, etc. 	<ul style="list-style-type: none"> - crush the drums for reducing the size - send to an approved sanitary landfill

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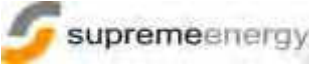
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
21.	Filter – media & cartridge - hazardous waste (oily, lube oil, propane, fuel gas, glycol, dry gas, mercury guard bed, molecular sieve, amine carbon, cartridge filter)	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves if required - respiratory protection and protective clothing may be required - refer to MSDS - may contain hazardous material such as VOC, hydrocarbon and Hg - containers should be properly labeled and sealed prior to shipment - symbol: toxic - label: as per type materials stored inside the drums 	<ul style="list-style-type: none"> - accumulate and store separately, do not mix with other materials - accumulate in drums, and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct material selection and usage control - reduce filter bed and media consumption by using better materials, with longer expected life - state in the contract that vendor will pick up (handle) the used filter bed and media 	Please refer further detail of treatment and disposal plan for this specific waste in Appendix 1.a
22.	Filter – media & cartridge – non hazardous waste (air filters, sand filter & carbon filter for potable water)	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - containers should be labeled and sealed prior to shipment - symbol: non hazardous waste - label: filter media, non hazardous, etc. 	<ul style="list-style-type: none"> - store in dry area, protected from rain - accumulate in original packaging or drums and sealed 	<ul style="list-style-type: none"> - conduct usage control - require vendor to take back the used filter bed and media 	<ul style="list-style-type: none"> - send to recycling company, or - send to an approved sanitary landfill

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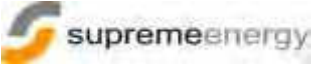
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
23.	Incinerator ash - hazardous waste incinerator	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye, respiratory and skin protection - containers should be properly labeled and sealed prior to shipment - symbol: mix waste - label: ash, hazardous 	<ul style="list-style-type: none"> - accumulate and store separately, do not mix with other materials - accumulate in drums, and store in a temporary hazardous waste storage - complete waste manifest 		<ul style="list-style-type: none"> - send to approved waste management facility
24.	Incinerator ash - non hazardous waste incinerator	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye, respiratory and skin protection - containers should be labeled and sealed prior to shipment - symbol: non hazardous waste - label: ash, non hazardous 	<ul style="list-style-type: none"> - store in dry area, protected from rain - accumulate in drums and sealed 		<ul style="list-style-type: none"> - backfill on site, or - send to an approved sanitary landfill

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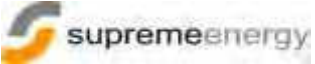
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
25	Liquid Mercury (including elemental mercury)	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves if required - respiratory protection and protective clothing may be required - refer to MSDS - containers should use HDPE bottles/material and put inside HDPE drum/containers - it is recommended to fill up the upper part of HDPE bottle with water as seal - symbol: toxic waste - label: liquid Hg or elemental Hg waste 	<ul style="list-style-type: none"> - accumulate and store separately, do not mix with other materials - complete waste manifest - transfer to temporary storage 		<ul style="list-style-type: none"> - send to an approved waste management facility

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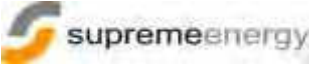
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
26	Laboratory waste (used reagent and remain samples)	<p>Hazardous</p> <p>May be listed as hazardous waste in GOI Regulation no. 18/ 1999 & no. 85/ 1999</p> <p>Few may be non hazardous such as salt (NaCl; CaCl₂; CaCO₃, etc.)</p>	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves - respiratory protection and protective clothing may be required - refer to MSDS - may contain hazardous material such as VOC, hydrocarbon and Hg - segregate used reagent and remain sample based on its characteristics and stored in proper container (refer to MSDS) - containers should be properly labeled and sealed prior to shipment - laboratory solid waste such as glassware, filter paper, etc. Is not expected to be a hazardous waste. The waste should be stored in covered skips, or similar, prior to disposal in an approved sanitary landfill, or recycled - Symbol: toxic & corrosive - label: lab waste, hazardous - label: lab waste, non hazardous (if non hazardous) 	<ul style="list-style-type: none"> - accumulate and store in leak proof container, sealed and covered - accumulate and store separately, do not mix if not compatible with other materials - accumulate in drums and/ or containers and store in a temporary hazardous waste storage - use only approved land and sea transportation with appropriate permit - complete waste manifest 	<ul style="list-style-type: none"> - sent only appropriate amount of samples to laboratory - conduct materials selection and usage control for the laboratory reagent 	<p><u>Hazardous:</u></p> <ul style="list-style-type: none"> - first rinse of the remain sample and used reagent shall also be assumed as a hazardous waste - send to approved waste management facility <p><u>Non hazardous:</u></p> <ul style="list-style-type: none"> - send to an approved sanitary landfill - if in doubt, assume it as a hazardous waste

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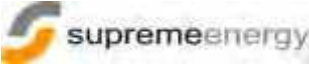
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
27.	Metals, scraps (piping, tanks, wire-line, junk spare-part, scrap casing & tubing connection, metal thread protectors, scrap structural steel)	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Handle rusty metals with care - any metals which have been in contact with produced fluids (oil, gas, and/ or water) and containing scale and corrosion product, must be surveyed for NORM before handling. Any metals which have NORM above 25 micro-rem/ hour is considered as NORM contaminated materials - label: metals, scrap, non hazardous 	<ul style="list-style-type: none"> - small and medium size pieces should be placed in a special baskets - transport small and medium size pieces in baskets; large pieces should be transported intact, taking precautions so that they do not come apart during transport - scrap pipe should be bundled for transport safety 	<ul style="list-style-type: none"> - conduct material selection and usage control - send to salvage or scrap dealer (metal re-claimer), or reuse at field such as for pipe support - donate to local government, ensure that it does not contain NORM above 25 micro-rem/ hours 	<p>Verify for NORM concentration before deciding for disposal this scrap waste at an approved sanitary landfill.</p> <p>Ensure all relevant requirement regarding write-off has been followed/fulfilled.</p>
28.	Oil – used lube oil	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - respiratory protection may be required - refer to MSDS - used lube oil is flammable and toxic - containers should be properly labeled and sealed prior to shipment - symbol: toxic - label: lube oil, hazardous 	<ul style="list-style-type: none"> - store separately from oxidizing material, avoid from heat exposure, store on the pallet and properly banded - accumulate in sealed and leak proof drums and/ or metal containers and store in a temporary hazardous waste storage - use only approved land or sea transportation with appropriate permit - complete waste manifest 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary waste - return to vendor or re-claimer company for recycling - change the oil based on test instead of based on engine running hours 	send to approved waste management facility

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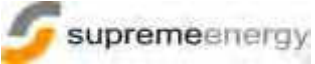
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
29.	Paint – excess	<p>Hazardous</p> <p>Hazardous if it contains lead, chromium, zinc and/ or solvent, etc.</p> <p>The additive use may be listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999</p>	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves - respiratory protection may be required (it could be ignitable and toxic) - refer to MSDS - paint brush is considered non hazardous if to use water based paint. This paint brushes should be properly cleaned and dried first prior to put in a trash bin - paint brush is considered hazardous if to use solvent based and lead based paint, and also if to use to paint tanks, pipelines, other vessel & other oil & gas field related equipment - symbol: toxic & flammable - label: paints, hazardous 	<ul style="list-style-type: none"> - the paint cans should be emptied until no more than 3% by weight of the total capacity remains. If possible use them all up - once dry, the lid should be closed tightly - close and seal drums prior to shipment - accumulate in poly propylene drums, and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - estimate amount of paint required carefully to minimize paint excess - require suppliers to pick up paint surplus - prefer to use water based paint and restrict the use of lead based paint - use all paint 	<ul style="list-style-type: none"> - burn the non hazardous paint brush in a non hazardous waste incinerator and backfill the ashes on site - burn the hazardous paint brush in a hazardous waste incinerator, if allowed by applicable permit, and send the ashes to approved waste management facility - send the non hazardous excess and/ or surplus paint and/ or paint brush to an approved sanitary landfill - send the hazardous excess and/ or surplus paint and/ or paint brush to approved waste management facility
30.	Pallets / wooden boxes / sacks	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye, hand and skin protection 	<ul style="list-style-type: none"> - bind together for shipment to avoid accidental falling 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary wastes 	<ul style="list-style-type: none"> - burn in a non hazardous waste incinerator and backfill the ashes on site - send the pallet to an approved sanitary landfill

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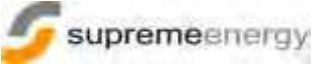
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
31.	Refractory brick or ceramic insulation (of incinerator and boiler)	Hazardous May be hazardous, may contain NORM and may be listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection - must be packed in good quality container and properly labeled - use appropriate PPE, respiratory protection and rubber gloves. If necessary use protective clothing - symbol: mix waste - label: refractory brick, hazardous; ceramic. 	<ul style="list-style-type: none"> - use sealed container and use only approved land and sea transportation with appropriate permit - accumulate in drums, and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary wastes 	<ul style="list-style-type: none"> - send to approved waste management facility - if proved non hazardous send to approved sanitary landfill or backfill on site
32.	Soil contaminated with lube oil/ used lube oil and/ or chemicals/ used chemicals	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves if required - respiratory protection may be required - refer to MSDS of the chemicals contaminated in the soil and prevent direct contact with skin and eyes - symbol: refer to chemical characteristics - label: soil, lube oil, hazardous 	<ul style="list-style-type: none"> - remove free liquids prior to containerization, managed and disposed of accordingly - seal containers prior to shipping - accumulate in drums, and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - take measures to prevent spills. For example, use containment devices in chemical storage areas. - develop procedures to prevent or reduce the contamination of soils, e.g. drip pans or secondary containment around compressors, pumps, gearboxes and chemical drums & storage to reduce spills 	<ul style="list-style-type: none"> - send to approved waste management facility or bioremediation site (refer to KepMen LH no. 128/ 2003).

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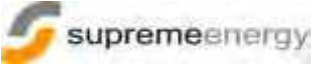
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
33.	Solvent or thinner - chlorinated or non chlorinated	Hazardous waste listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves - respiratory protection and protective clothing is required - refer to MSDS. Read warning labels on containers. Avoid inhalation by using respirator with proper filtration canisters. May be highly flammable. - symbol: toxic & flammable - label: solvent, hazardous 	<ul style="list-style-type: none"> - store separately. Do not mix with other materials. Small containers such as cans or aerosol sprayers should be accumulated separately - store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary waste - return to vendor especially for the empty containers - put into production stream if possible - use water-based solvents or soap cleaners when possible - minimize the amount of solvents being lost during cleaning or maintenance. Use drip pans or other means such as secondary containment to catch any leaking solvent 	<ul style="list-style-type: none"> - send to an approved waste management facility
34.	Tire - used	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE - pack it in a containers with a clear label - symbol: non hazardous waste - label: used tire 	<ul style="list-style-type: none"> - no special requirement but ensure that there is no oil on the used tire 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary waste - return to vendor - send to re-claimer company for recycling - reuse for coral reef 	<ul style="list-style-type: none"> - burn in a non hazardous waste incinerator and backfill the ashes on site - send to an approved sanitary landfill

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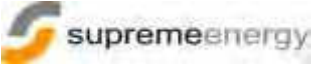
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
Camp & office waste including clinic						
35.	Aerosol cans	Non hazardous Community waste – domestic garbage	<ul style="list-style-type: none"> - use appropriate PPE - do not puncture or burn - pack in a good containers with a clear and appropriate label - this is a domestic garbage waste but due to safety concern of the possibility to explode if puncture, heat or burn, it is recommended to manage it as a hazardous waste - symbol: explosive (pressure) - label: aerosol can, hazardous 	<ul style="list-style-type: none"> - store separately, avoid heat source > 600 c and transport it in a closed, sealed drums - accumulate in an open-top drums, and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - use non-aerosol cans - conduct usage control to prevent unnecessary wastes - return to vendor - send to re-claimer company for recycling 	<ul style="list-style-type: none"> - send to an approved sanitary landfill, or - send to approved waste management facility. <p>Due to safety concern of the possibility to explode if puncture or burn, it is recommended to send it to approved waste management facility</p>
36.	Carton boxes/ card board/ paper	Non hazardous Community waste – domestic garbage	<ul style="list-style-type: none"> - use appropriate PPE - accumulate in special trash bin or box which is used for this carton boxes/ card board/ paper/ domestic garbage 	<ul style="list-style-type: none"> - use special trash bin or box to accumulate and store these materials - containers should be equipped with lids or nets to ensure that waste cannot escape from the container during storage or transport. 	<ul style="list-style-type: none"> - select materials with less packaging if possible - conduct usage control to prevent unnecessary wastes - send to re-claimer company for recycling 	<ul style="list-style-type: none"> - send it to approved sanitary landfill, or - burn in a non hazardous waste incinerator and backfill the ashes on site

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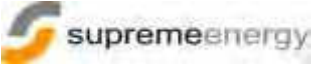
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
37.	Toner (used toner) for copy & fax machine and Cartridge printer	Hazardous may contain solvent and lead from the toner, which are listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE - use gloves - accumulate in original packaging or drums - used cartridge printer may be toxic due to its Pb contents of this toner - symbol: toxic - label: cartridge printer, fax, copier. 	<ul style="list-style-type: none"> - accumulate in drums, and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary waste - return to vendor - send to re-claimer company for recycling 	<ul style="list-style-type: none"> - send to approved waste management facility
38.	Clinic waste-solid waste (e.g. Expired medicine, syringe, etc)	Hazardous Biohazard (infectious) and toxic wastes listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection (biohazard waste, clinical solid waste) - containers should be properly labeled and sealed prior to shipment - symbol: bio hazard - label: clinic solid waste, bio hazardous 	<ul style="list-style-type: none"> - accumulate in a plastic bag that is used exclusively for the clinical solid waste, and than put it in a wooden box, or in an open-top drums, or in a sealed drum and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary wastes 	<ul style="list-style-type: none"> - incinerate in a hazardous waste incinerator and send the ashes to approved waste management facility - send it to an approved medical incinerator

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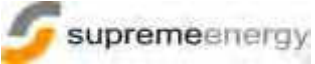
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
39.	Clinic waste – liquid waste (e.g. Blood sample, urine, expired infusion) and also domestic liquid waste from clinic (pantry, sink and toilet)	May be hazardous Biohazard (infectious) wastes if blood sample, urine and expired infusion Domestic liquid waste (if waste from pantry, sink and toilet)	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection (biohazard, infectious clinical liquid waste) - if to put in a container, than the containers should be properly labeled and sealed prior to shipment - symbol: bio hazard - label: clinic liquid waste, bio hazardous 	<ul style="list-style-type: none"> - if necessary, accumulate in a plastic bag that is used exclusively for the clinical liquid waste such as for blood samples - complete waste manifest (i.e. For liquid waste put in a plastic bag such as for blood sample) 	- reduce water consumption to reduce unnecessary waste	<u>Medical Wastes:</u> <ul style="list-style-type: none"> - incinerate in a hazardous waste incinerator and send the ashes to approved waste management facility - send to approved medical incinerator <u>Liquid waste:</u> <ul style="list-style-type: none"> - treat in a separate septic tank or other biological treatment prior to treat along with other domestic liquid waste and discharge to surrounding environment as per PerMen LH 19 / 2010
40.	Domestic liquid waste	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection (biohazard, infectious liquid waste) 		- reduce water consumption to reduce liquid waste generation	<ul style="list-style-type: none"> - treat in a septic tank or other biological treatment and discharge to the surrounding environment or to a stream as per PerMen LH 19 / 2010. <p>Note: sludge generated is a non-hazardous waste that could be disposed of at an approved sanitary landfill</p>

	SUPREME ENERGY SHE STANDARD WASTE MANAGEMENT	Ref.	SE-SHE-STD-4
		Rev.	2Feb'12

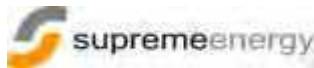
No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
41.	Domestic solid waste (food waste, yard waste, office trash)	Non hazardous	- use appropriate PPE, eye and skin protection (biohazard, infectious solid waste)	<ul style="list-style-type: none"> - use special covered trash bin or box to accumulate and store these materials - containers should be equipped with lids or nets to ensure that waste cannot escape from the container during storage or transport 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary wastes - conduct waste segregation to reduce unnecessary waste: organic, paper, plastic, aluminium, glass, metal - send to re-claimer company for recycling such as for paper, plastic, aluminium, glass and metal - donate for fish and animal food feeding 	<ul style="list-style-type: none"> - composting, especially for organic solids waste and reuse for field and site re-vegetation - burn in a non hazardous waste incinerator and backfill the ashes on site - send to an approved sanitary landfill - Food waste: after grinding, it can be used for animal / fish feeding
42.	Glass (and bottles), including aluminium can	Non hazardous	- use appropriate PPE and consider to use leather gloves and goggles when handling glass	- there is no special requirement is required	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary wastes - conduct waste segregation to reduce unnecessary waste - send to re-claimer company for recycling 	- send to an approved sanitary landfill

	SUPREME ENERGY SHE STANDARD WASTE MANAGEMENT	Ref.	SE-SHE-STD-4
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No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
43.	Pesticide & herbicide (and it cans & container)	Hazardous listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. Wear chemical gloves - respiratory protection and protective clothing is required - refer to MSDS. Read warning labels on containers. Avoid inhalation by using respirator with proper filtration canisters. May be flammable. - symbol: toxic - label: pesticide, hazardous; herbicide, hazardous 	<ul style="list-style-type: none"> - accumulate in a sealed drum and store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - conduct usage control to prevent unnecessary wastes - return to vendor especially for the can - use them all prevent any left over 	<ul style="list-style-type: none"> - send to approved waste management facility <p><u>For the can:</u></p> <ul style="list-style-type: none"> - crush after triple rinsing or washing and send to approved waste management facility
44.	Plastic & styrofoam	Non hazardous	<ul style="list-style-type: none"> - use appropriate PPE, eye protection if burn, it could release carcinogenic substances 	<ul style="list-style-type: none"> - accumulate and store separately from other materials 	<ul style="list-style-type: none"> - use non plastic/ styrofoam materials whenever alternatives exist - use biodegradable plastic/ Styrofoam - send to re-claimer company for recycling 	<ul style="list-style-type: none"> - burn in a hazardous waste incinerator and send the ashes to approved waste management facility, or - send to approved waste management facility

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No & waste Code	Waste name	Waste Category	Handling, symbol & Labelling	Storage & Transport	Waste minimization effort	Treatment & Disposal
45.	Tubular lamp, glass lamp (TL lamp), fluorescent lamp containing Hg	Hazardous Mercury is listed as hazardous waste in GOI Regulation no. 18 / 1999 & no. 85 / 1999	<ul style="list-style-type: none"> - use appropriate PPE, eye and skin protection. May contained mercury (Hg) - Symbol: toxic - label: tubular lamp, hazardous; glass lamp, hazardous 	<ul style="list-style-type: none"> - accumulate in a special containers (wooden boxes or drums) exclusively for tubular lamp - store in a temporary hazardous waste storage - complete waste manifest 	<ul style="list-style-type: none"> - select non mercury or other non-toxic heavy metals content glass lamp if possible 	<ul style="list-style-type: none"> - send to approved waste management facility

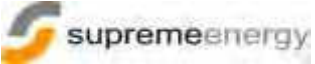
	SUPREME ENERGY SHE STANDARD WASTE MANAGEMENT	Ref.	SE-SHE-STD-4
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Appendix 1B – Segregation of Wastes according to Waste Incompatibility Charts

No.	Reactivity Group	1	2	3	4	5	6	7	8
1	Acids, Mineral, Non-oxidizing	----							
2	Alcohols and Glycols	H	----						
3	Caustics	H		----					
4	Cyanides and Sulfides	GT GF			----				
5	Halogenated Organics	H GT		H GF	H	----			
6	Metals and Metal Compounds, Toxic	S		S			----		
7	Combustible and Flammable Materials, Miscellaneous	H G						----	
8	Oxidizing Agents, Strong	H GT	H F		H E GT	H GT		H F G	----

H	-	Heat generation
F	-	Fire
GT	-	Toxic gas generation
GF	-	Flammable gas generation
E	-	Explosion
G	-	Innocuous and non-flammable gas generation
S	-	Solubilization of toxic substances

Directions for Using this Appendix : To determine potential consequences of mixing two different chemicals, locate the box which represents the intersection of the chemical group in the rows on the left with a chemical identified in the columns across the top. For example, mixing oxidizing agents, strong (8) with acids, mineral non-oxidizing (1) will result in the generation of heat (H) and toxic gases (GT).

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Appendix 2 - Packaging Recommendation

Charateristic	Type Of Packaging																		Remarks								
	Drum										Jerrican						Box						Bag				
	Steel		Aluminium		Fibre	Plastic (HDPE)		Metal		Steel		Aluminium		Plastic (HDPE)		Steel	Alumi nium	Wooden		Fibre	Plastic		Plastic / Woven Plastic				
	1	2	1	2		1	2	1	2	1	2	1	2	1	2			1		2		1	2	1	3	4	
Explosive																											
Flammable liquids	√		√			√		√		√		√		√													
Flammable solids, self-reactive substances	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		
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Note :

- * shall not be used for substance of packaging group I that may become liquid during carriage
- o shall not be used when substance being may become liquid during carriage
- f These packaging shall only be used for packaging group II when carried in a closed vehicle or container

- 1 : Non-Removable Head
- 2 : Removable Head
- 3 : Shift-Proof
- 4 : Water Resistant

4.1.1.1 The packaging shall :

- shall be strong enough to withstand : the shocks and loadings normally encountered during carriage, removal from a pallet or overpack
- shall be constructed and closed so as to prevent any loss of contents when : prepared for transport which might be caused under normal conditions of transport, by vibration, or by changes in temperature, humidity or pressure (resulting from altitude, for example)
- No dangerous residue shall adhere to the outside of packagings

4.1.1.2 Parts of packagings which are in direct contact with dangerous goods :

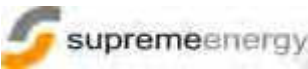
- shall not be affected or significantly weakened by those dangerous goods
- shall not cause a dangerous effect e.g. catalysing a reaction or reacting with the dangerous goods
- Where necessary, they shall be provided with a suitable inner coating or treatment

4.1.1.4 When filling packagings with liquids, sufficient ullage (outage) shall be left to ensure that neither leakage nor permanent distortion of the packaging occurs as a result of an expansion of the liquid caused by temperatures likely to occur during transport.

4.1.1 Liquids may only be filled into inner packagings which have an appropriate resistance to internal pressure that may be developed under normal conditions of carriage. Where pressure may develop in a package by the emission of gas from the contents (as a result of temperature increase or other cause), the packaging may be fitted with a vent, provided that the gas emitted will not cause danger on account of its toxicity, its flammability, the quantity released, etc. A venting device shall be fitted if dangerous overpressure may develop due to normal decomposition of substances. The vent shall be so designed that, when the packaging is in the attitude in which it is intended to be carried, leakages of liquid and the penetration of foreign matter are prevented under normal conditions of carriage.

4.1.3 Packing groups :

- Packing group I: Substances presenting high danger;
- Packing group II: Substances presenting medium danger;
- Packing group III: Substances presenting low danger

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In general, above packaging requirement could be summarized as follows:

Hazardous waste containers should:

- Be free of rust and leaks.
- Be suitable for the characteristics of the hazardous waste stored in the container;
- Be made of plastic (HDPE, PP or PVC) or metal (Teflon, Carbon Steel, Stainless Steel) as long as the materials do not react with the waste type.
- Have a tight cover to prevent any spillage during transfer or off-site transportation.

Each hazardous waste should be placed in a container that will be exclusively used for the purpose of accumulating a specific hazardous waste. Each location should maintain a small supply of containers that can be used for storing solid and hazardous waste.

Storage containers used can vary in volume.

The filled hazardous waste container should:

- Be labeled with the appropriate symbol.
- Always kept closed and only opened when the waste is being taken out or added into the container.

The filled hazardous containers should be inspected at least once a week. Each site will develop an inspection checklist based on the types of waste generated, the various areas for inspection, etc.

If any leak occurs, the content of the containers should be transferred to a more suitable container. The spill should be collected; and kept in a separate container the area cleaned.

The hazardous waste containers can be re-used to store other hazardous waste if the characteristics of the new waste are the same or compatible with the previous waste stored. If it's not compatible, the containers are not recommended to be re-used.

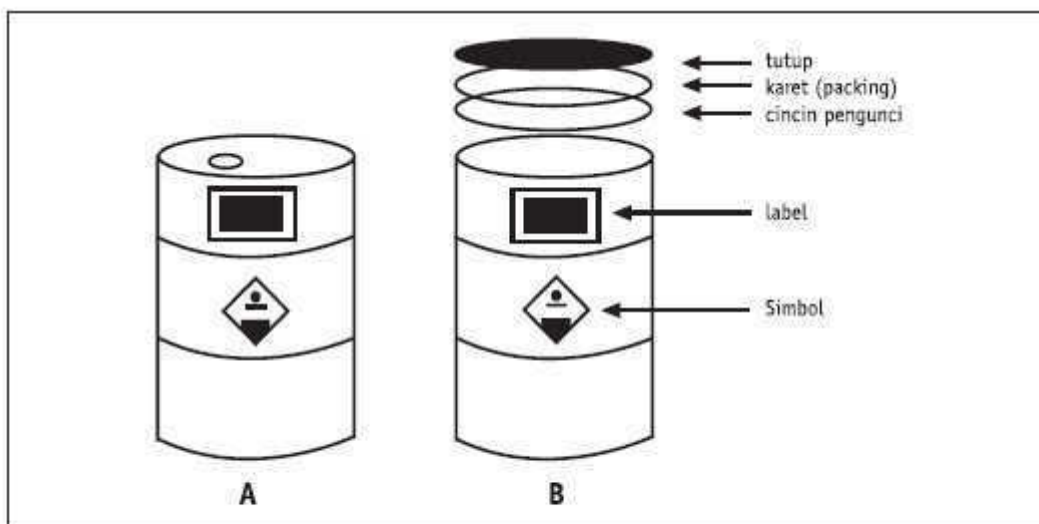
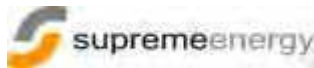


Illustration of waste packaging using drum for: (A) liquid hazardous waste; and (B) sludge or solid hazardous waste

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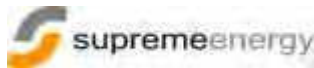
Appendix 3- Guideline for Labeling and Placing Symbols for Hazardous Waste Handling

- All waste containers for storage and transportation should be labeled in conformance to prevailing Indonesian regulations.
- All waste containers should be labeled with the waste hazard warning symbols shown below:

Waste Label

<h1 style="color: red; margin: 0;">PERINGATAN!</h1> <h2 style="margin: 0;">LIMBAH BAHAN BERBAHAYA DAN BERACUN</h2>	
PENGHASIL	:
ALAMAT	:
TEL	:
NAMA LIMBAH	:
KOD LIMBAH	:
JENIS LIMBAH	:
JUMLAH LIMBAH (ton/kg/m ³)	:
SIFAT LIMBAH	:
	<input type="checkbox"/> CAIR <input type="checkbox"/> PADAT
	<input type="checkbox"/> MUDAH TERBAKAR <input type="checkbox"/> BERACUN
	<input type="checkbox"/> MUDAH MELEDAK <input type="checkbox"/> BAHAYA BIOLOGI
	<input type="checkbox"/> PENGOKSIDASI <input type="checkbox"/> KOROSIF
	<input type="checkbox"/> REAKTIF <input type="checkbox"/> RADIOAKTIF
	<input type="checkbox"/> GAS BERTEKANAN <input type="checkbox"/> LAIN-LAIN
TGL PENGEMASAN	:
CATATAN	:
	KONTAINER NO. :
	MANIFEST NO. :
<h2 style="color: red; margin: 0;">TANGANI DENGAN HATI-HATI !</h2> <p style="margin: 0;">LIHAT PROSEDUR PENANGANAN LIMBAH UNTUK DETIL LEBIH JELAS</p>	

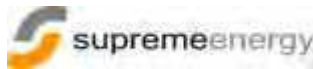
- At the minimum, the following information should be included on the label for hazardous waste:
 - The symbol should be suitable for the characteristics of the waste stored. If the waste has more than one hazard class, the label should reflect the more dominant characteristics that pose the greater degree of hazard. If there is more than one dominant characteristic, the container should be labeled with a mixed characteristic symbol.
 - Each hazardous waste container has a minimum 10 cm x 10 cm symbol of the predominant characteristic of the waste.
 - The label should be made of material that can withstand chemical corrosion and the fastenings are strong on the surface of the container.
 - The labels are fastened on the sides of the container and are not blocked from view by the other containers stored.
 - The fastened symbol should not be detached before the content of the container is removed and cleaned.
 - The label on top of the container should have a minimum 7 cm x 15 cm arrows (2) symbol to indicate the position of its cover.

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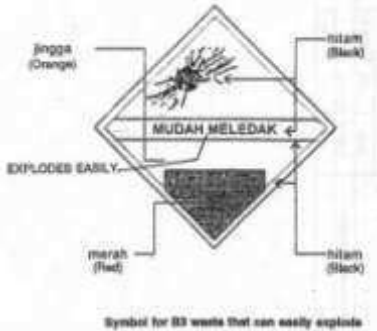









SYMBOL on the Hazardous Waste Building

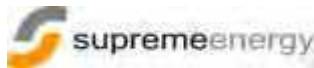
The symbol attached to the hazardous waste building should adhere to the following requirements:

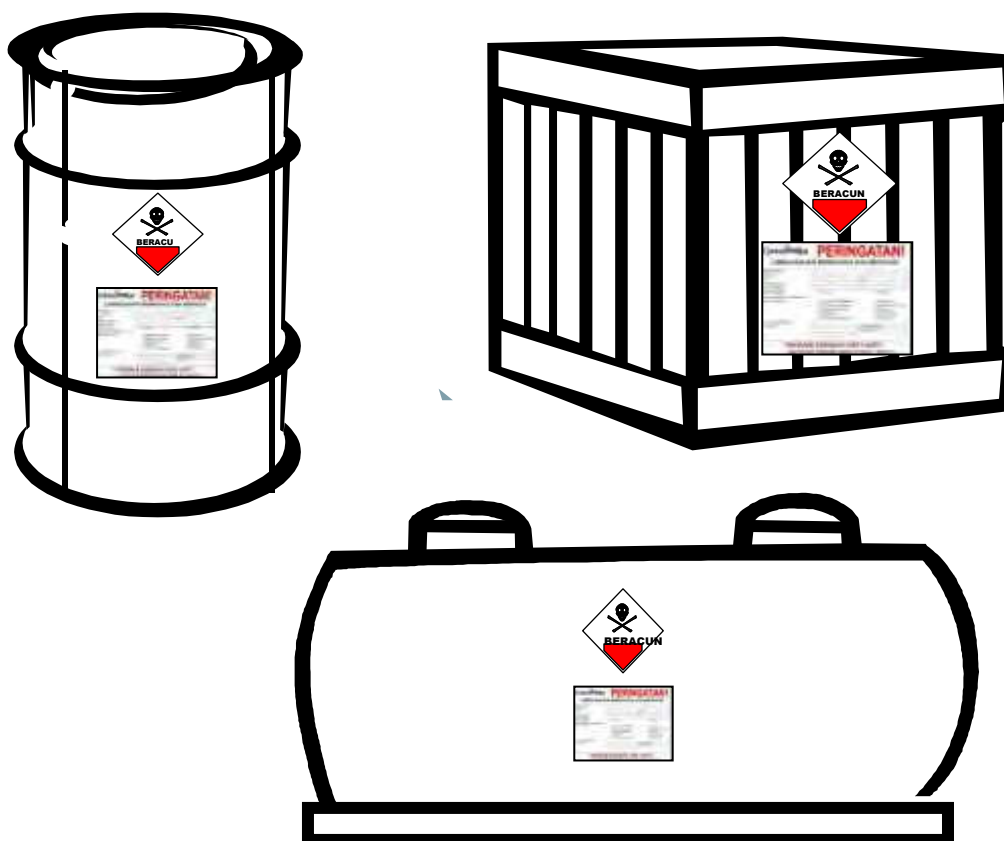
- The symbol should be placed on every door and on the outer wall of the building, and it should not be blocked.
- The type of symbol should be suitable to the characteristic of the stored waste.
- The minimum size of the symbol is 25 cm x 25 cm or bigger and should be visible from a distance of at least 20 meters.
- The label should be made of material that can withstand chemical corrosion or any other material that it comes in contact with.
- As long as the building is being used for hazardous waste storage purposes, the symbol should not be taken out or replaced unless the building is going to be used to store wastes of different characteristics.

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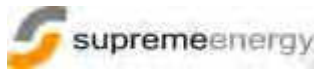
APPENDIX 3A : Waste Hazard Warning Symbols (based on Indonesian Regulation)

		
Symbol B3 Waste that can easily explode	Symbol for reactive B3 Waste	Symbol for poisonous B3 Waste
 		
Symbol for flammable B3 Waste		Symbol for corrosive B3 Waste
		
Symbol for infectious B3 Waste		Label Showing the Position on the Hazardous Waste Covers
		
Symbol for Empty HAZARDOUS Waste Containers		Symbol for a mixture B3 Waste

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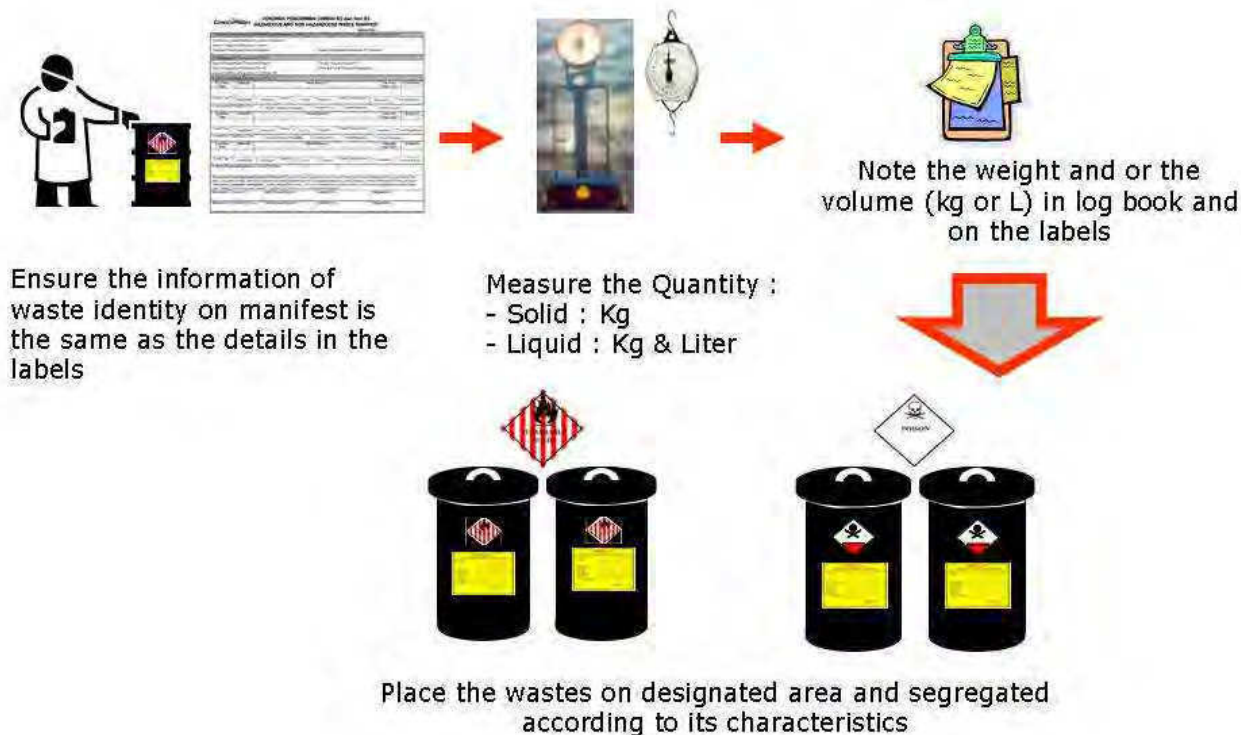


An Illustration on proper placement of symbol and label of hazardous waste

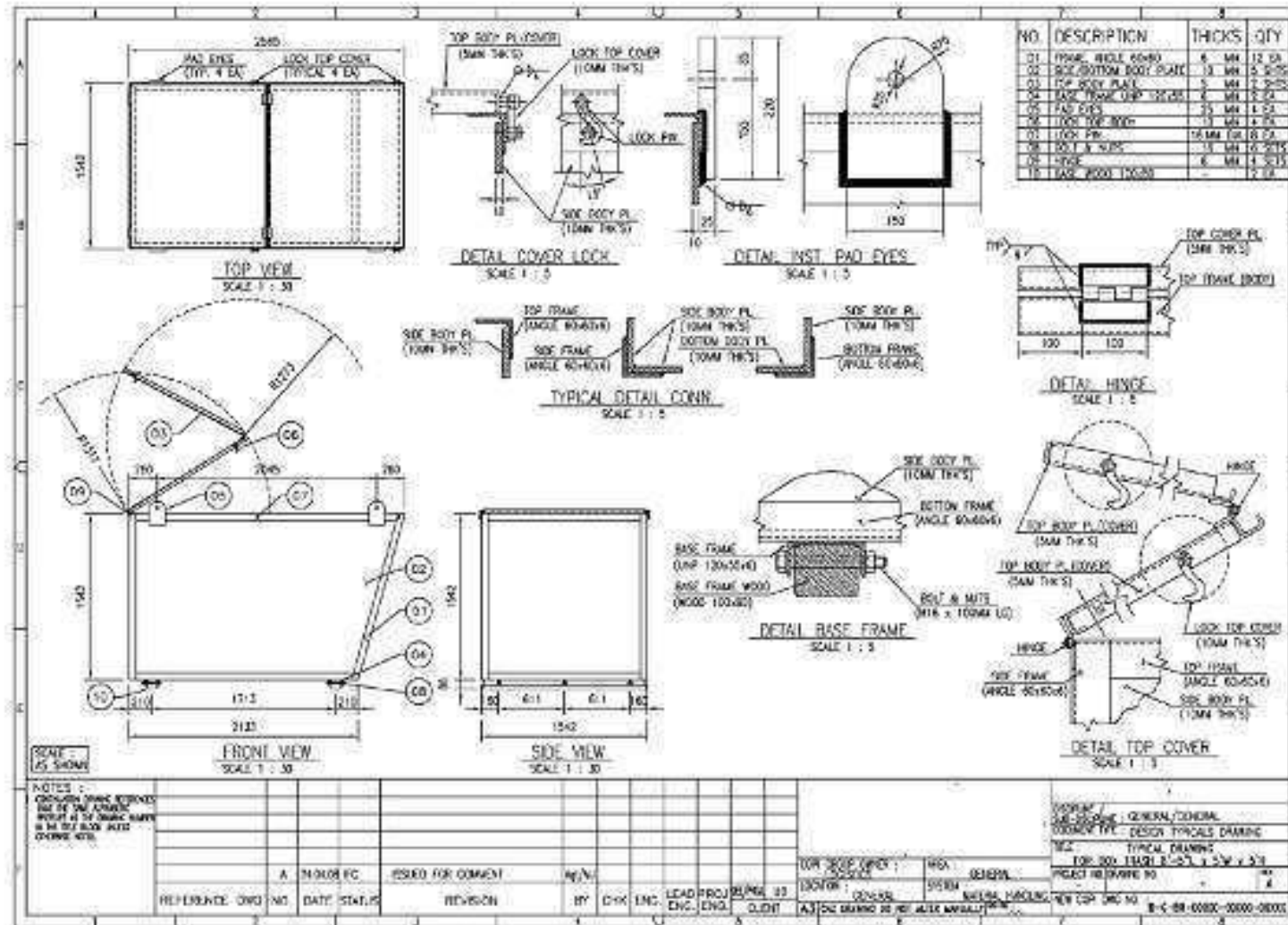
	SUPREME ENERGY SHE STANDARD WASTE MANAGEMENT	Ref.	SE-SHE-STD-4
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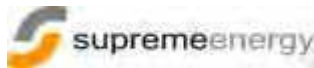
Appendix 4 - Scheme of Measurement Practices

Measurement of Waste Quantity



Appendix 5 – Recommended waste container or waste bin

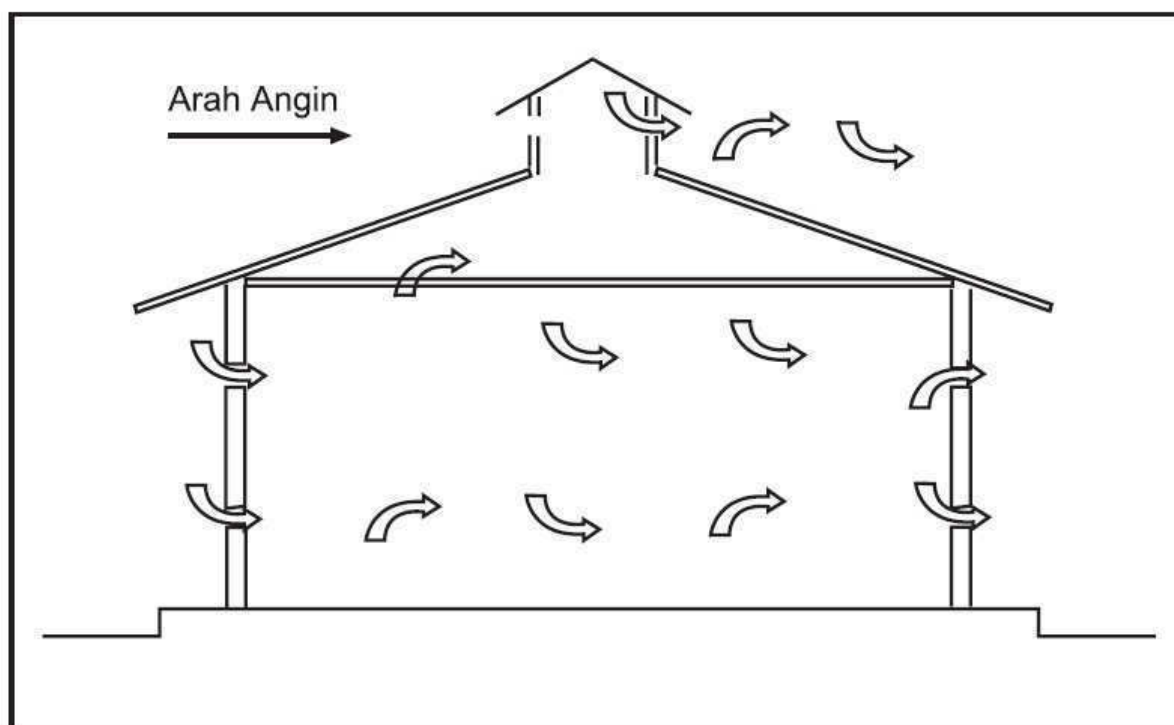


	SUPREME ENERGY SHE STANDARD WASTE MANAGEMENT	Ref.	SE-SHE-STD-4
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Appendix XX - Storage Methods for Hazardous Waste

The requirements stated below are defined for the “Temporary Hazardous (B3) Waste Storage” facilities in the field/ offshore support base locations.

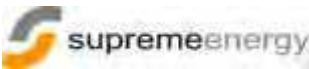
Note: The term “Temporary B3 Waste Storage” is not specifically defined in the regulations, but it is inferred from the regulatory context to mean interim storage either outside of the generator’s facility or in any part of the facility other than the formal, longer-term storage facilities (shall be no more than 90 days storage and will require KEMENTERIAN NEGARA LINGKUNGAN HIDUP approval for another 90 days extension with a valid reason/ justification) [Refer to Decree of the Head of BAPEDAL KEP-01/BAPEDAL/09/1995].

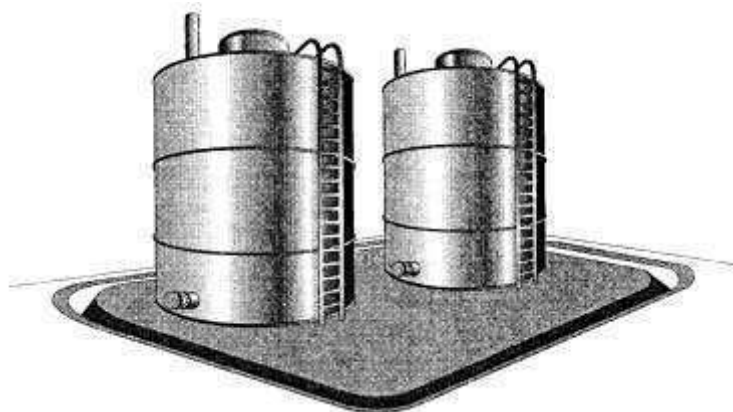


Picture 1 : Ventilation System Inside the HAZARDOUS Waste Temporary Storage Building

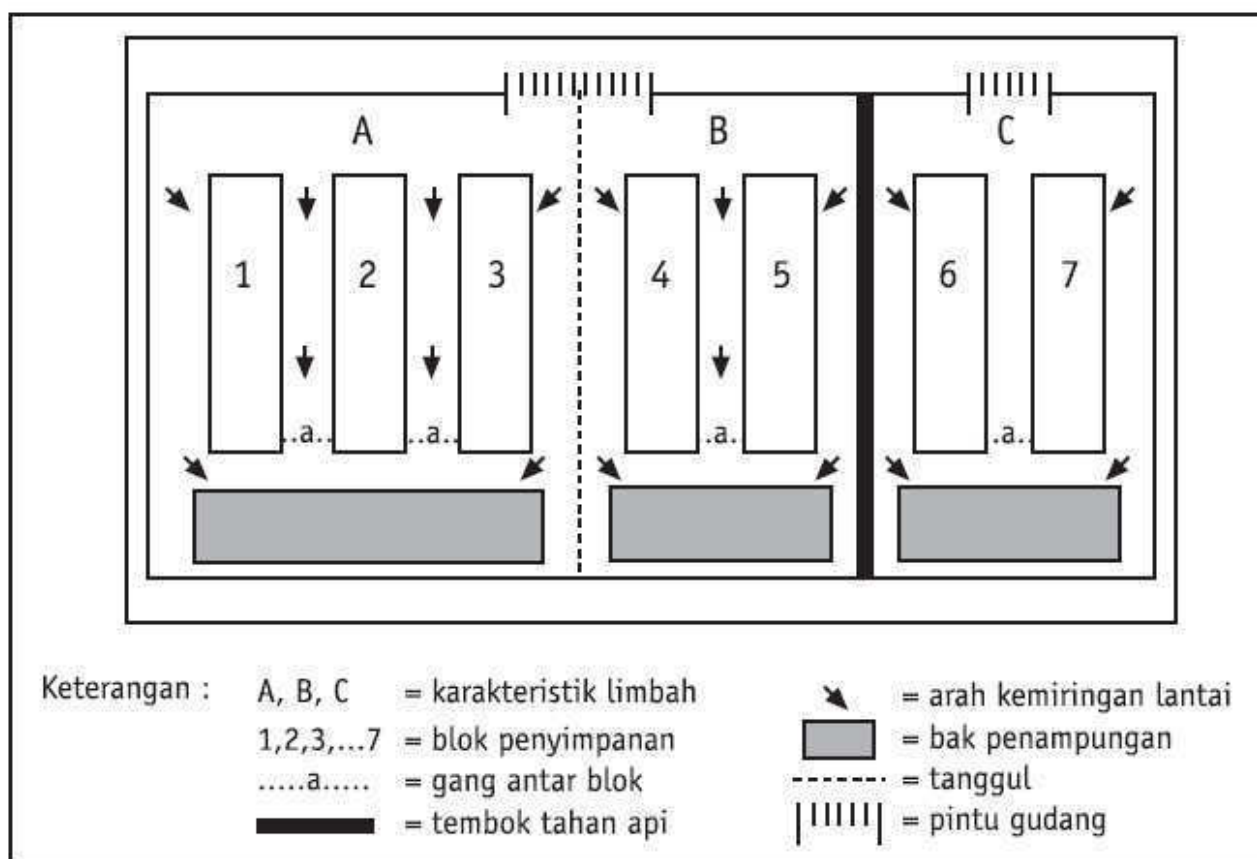
Storage of hazardous waste tanks should be maintained in the following manner:

- The tanks must have secondary containment with drains/ gutters leading to a containment ditch (Picture 2).
- The containment ditch should be water-tight, and is able to hold 110% capacity of the maximum tank volume.
- The tanks should be arranged in a manner that if a tank fails, it will remain within the containment area and will not give any effect to the other tanks around it.
- The tanks used for must be protected from direct sunlight and infiltration of rainfall.

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Picture 2 : Tanks to store large volumes of hazardous waste

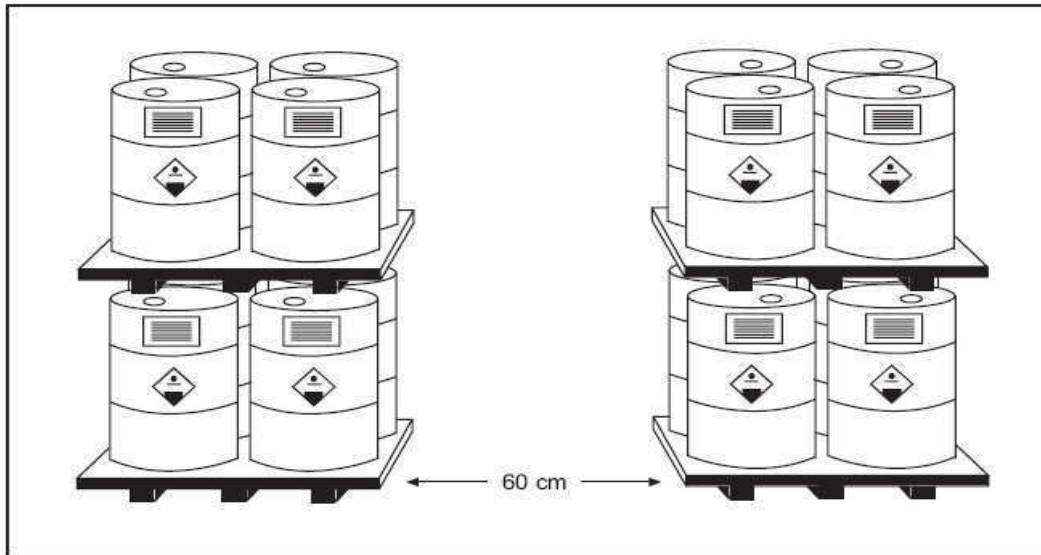


Picture 3 : Segregated Compartments for the Different Waste Types.

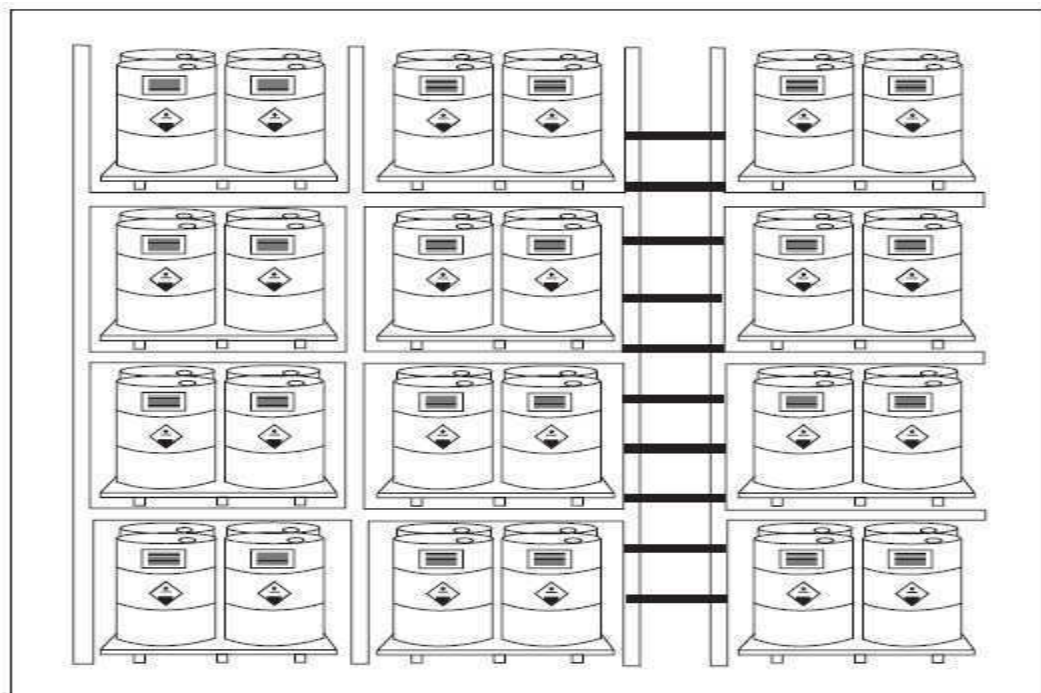
Storage of hazardous waste containers should be maintained in the following manner:

- Containers (i.e. metal drums) are stored in block systems. Each block consists of 2 x 2 drums (Picture 4), and is kept in a manner that will ease inspection of the drums.
- The minimum width between the blocks should be 60 cm for human passage and suitable for the movement of transportation vehicles; e.g., fork-lifts.
- Storage methods should take into consideration the stability of the stacked drums. If the containers are metal drums (200 liters), they should be stacked on pallets in groups of four, no more than three levels high. If the drums are stacked more than three levels high, they should be stacked on racks/shelving units, with a ladder providing access to the drums (Picture 5).

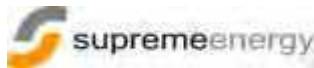
- The distance between the highest stacked drum and the roof and the distance between the most outer drum and the wall of the storage room should be not less than one meter.
- Incompatible waste containers should be stored separately, not in one block and not in the same storage section. They should also be stored in a manner that prevents the mixing of incompatible waste in the containment area in case of a spillage.



Picture 4: Storage Methods of Drums on the Pallets with a Minimum Distance between the Blocks



Picture 5: Storage of Hazardous Waste Drums Using Racks or Shelving Units

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Appendix 7- Final Treatment or Disposal of Waste

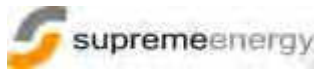
Selection of final waste treatment and or disposal alternatives is key element of an organization's environmental management system. Efficient management of wastes can reduce operating costs and potential liabilities. Selection of final treatment or disposal methods should consider:

- hierarchy of waste minimization efforts (from reduction at source to disposal)
- Apply the 3R concepts of: Reduce, Reuse, Recycle.
- When options of recycling, reuse or reduction are not available, practical or technically feasible, operating unit locations shall consider final treatment and disposal methods which permanently alter, neutralize, de-toxicity or destroy waste so as to minimize the impact to human health and the environment and limit potential future liability.
- Use 3rd party waste management facility which has been considered to be qualified
- In the absence of qualified 3rd party waste treatment, storage, disposal and recycling facilities (due to consideration of area location and transportation requirements), each location shall:
 - consider installation of on-site waste treatment or recycling processes (except for the Hazardous Waste Landfills) that conform to with applicable requirements
 - implement long term storage on-site until such time that qualified vendors have become available.
- potential liability issues (covering the aspects of applicable regulation; environmental sensitive areas; health and safety hazards/risks)
- technologically proven to be environmentally friendly
- costs effective

Site operational units may select alternate equivalent waste management technologies consistent with the hierarchy of waste management and using best engineering judgment and with recommendation from Field HSE Advisor or Environmental Advisor.

The depositing of waste in an on-site landfill shall be prohibited unless the site has fulfilled requirements listed under Government Regulation No. 18/ 1999 concerning Hazardous and Toxic Waste Management, Article 36 to 39.

The use of underground injection wells for hazardous waste would be considered not recommended. Consult HSE Dept. for more details.

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Waste that is generated shall be managed: in accordance with the hierarchy of waste management options and using best engineering judgment.

Re-use

Waste that can be used for other than their original purpose/ usage/ form, such as:

- Used / Junk Tubing for the Pipe Support of the Other Pipeline
- Spilled oil / Tank Bottom for the Field Road Asphalt
- Used Tires for a Coral Reef growing (Artificial Reef)

Recycling or Recovery

Recycling is an effort to use the waste for the same purpose/ usage/ form again (and again). Treatment applied will be able to do this conversion of waste into the exactly the same usable materials and/ or extraction of energy from the materials and/ or from the waste. Examples include the following process of recycling:

- Used Battery as a new Battery
- Scrap Metals as a new Steel
- Drilling Water Based Mud used at Other Wells
- Produced Water Injected for Enhanced Oil Recovery and return as a new Produced Water
- Plastics as a new Plastic
- Broken Glass as a new Glass

Return to Vendor or Manufacture

- Unused Chemical, Bulk Container (Drum), Used Batteries, etc. should be able to be returned to the Vendor or Manufacturer for a reason, such as: Impurities, Surplus, Waste, etc. This may required a special arrangement with the vendor/ manufacturer and most likely have to be spelled-out in the contract/ re-purchase agreement.

Donate to Local Authority/ Community/ NGO

Specific waste such as for a certain non hazardous waste can be donated to the local authority/ community/ NGO after preparing a Write Off Procedure (WOP) and receiving approval from BPMigas. Examples include:

- Junk Pipes, Beams, Steel Scrap.
- Used Tires.
- Junk Wellheads;
- All for a Coral Reef growing (as an Artificial Reefs).

Send to a Junk Dealer (Waste Re-claimer)

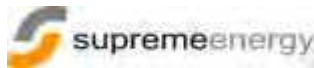
- Scrap such as: Steel Scrap, Junk Drums, Plastic Scrap, Aluminum cans, etc., can be sent to junk dealer (waste re-claimer) for recycling.

Treatment

- This includes the treatment, destruction, detoxification and/or neutralization of residues through processes such as:
 - o biological methods: composting, tank based degradation
 - o thermal methods: incineration, thermal desorption or use of waste as fuel in combustion processes and thermal destruction. Note: Energy Recovery from incineration process may be preferable treatment in some cases
 - o chemical methods: neutralization, stabilization
 - o physical methods: filtration, centrifugation

Responsible Disposal

In general, non-hazardous solid waste shall be incinerated using the domestic waste incinerator. The combustible hazardous wastes may be incinerated in hazardous waste incinerator as long as the incinerator permit includes this waste category.

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For remote areas where non-hazardous solid waste incineration is not possible, a controlled landfill disposal may be implemented, which requires a site assessment to ensure that this alternative does not pose significant risks to the environment. This landfill shall be covered and monitored in daily basis

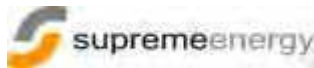
Disposal of wastes on land or in water should consider implementing methods that are appropriate for a given situation. These disposal methods include alternative for underground injection.

The potential ecological sensitivity of the location of operations is the key to the selection of an appropriate management practice for a specific waste. This may require information on geology, hydrology, hydro-geology, climate conditions and biological habitats.

Note:

Waste Hand-Over Agreement

Waste that will be: donated to a local authority; disposed of at a proper facility; sent to junk dealer; returned to vendor; or otherwise transferred to a third party, must be accompanied by a properly executed waste hand-over agreement signed by Company and third parties or the receiver. The purpose of this document is to provide a record of the agreed transaction and to ensure correct transfer of all future liabilities pertaining to the transferred waste.

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Appendix 8- An illustration of Emergency Response Preparedness in relation to waste management incident

One person should be designated as responsible person for handling emergencies situation, including coordination of action, reporting to Incident Commanders and regulators, and liaising with emergency response team. A deputy should be appointed to act in case of absence.

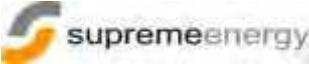
In establishment of Emergency Response, spillage of hazardous waste is probably the most common type of emergency involving infectious or other hazardous material or waste. Implementation of Emergency Response procedure shall cover below minimum requirements:

- The waste management plan is respected;
- Contaminated areas are clean and, if necessary disinfected/isolated;
- Exposure of workers is limited as much as possible during the clearing up operation;
- The impact on patients, medical and other personnel, and the environment is as limited as possible.

Following actions would be considered as steps in managing any emergency situation related to hazardous waste incident/spillage:

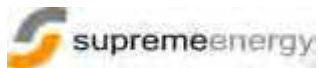
- The witness inform to emergency call
- Evacuate the contaminated area
- Inform or notify Incident Commander
- Compile all information of spills including MSDS
- Evacuate all the people not involved in cleaning up if the spillage involves a particularly hazardous substance.
- Provide first aid and medical care to injured persons
- Assess all information determine action to be taken
- Instruct appropriate party to investigate.
- Determine if spill is a threat to the facility and personnel, take action and wash over the side if necessary.
- Request additional resources as required from Company IMT.
- Isolate sources of leak & initiate clean up
- Notify relevant personnel when incident over
- Maintain a detail log of the events.

More detail emergency procedures, shall be further developed by each respective area considering site specific requirement and needs, but should be still within the framework of complying with and conforming to applicable standards/procedures.

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Appendix 9 - Site Specific Waste Matrix (Sample)

 WASTE MATRIX							
Waste Name / Operation	Waste Type	B-3/Non B-3	Total Vol/Wt	Waste Description	Waste Stream ID	Waste Segregation	Disposal and Reuse/Recycle Options
Production Facility Waste							
Used Lube Oil	Liquid	B-3	Unknown	May be a characteristic hazardous waste due to heavy metals or flammability	LB-001	HZ-02	Collect and put into Belanak facilities and processed with crude (check its compatibility first)
Waste Paint or Paint Solvent	Liquid	B-3	Unknown	Due to ignitability	LW-002	HZ-02	Small quantities of paint solvents maybe amenable to putting into slop oil system
Waste Paint or Paint Solvent Cans/Pails	Solid	B-3	Unknown	Due to ignitability	SW-002	HZ-01, separate waste plastic bags	Allow waste paint containers to dry and handle as hazardous waste
Spent Dry Batteries	Solid	B-3	Unknown	Hazardous waste due to acid and heavy metal	SP-005	HZ-01, separate waste plastic bags	Bring to onshore facility and scraped or incinerated
Acid Wet Batteries	Liquid, Solid	B-3	Unknown	Hazardous waste due to acid and heavy metal	SP-006	HZ-01, separate cardboard	Bring to onshore facility and scraped or incinerated
Used Fluorescent Lamp	Solid	B-3	Unknown	Hazardous waste due to heavy metal	SP-007	HZ-01, separate container	Bring to onshore facility and scraped or incinerated
Drilling							
Drilling Mud	Liquid	B-3	Unknown	Waste based system with few additive, potential to contain heavy metals, high pH, hydrocarbon and inorganic salts	SP-001	N/A	Repumped it to downhole or dump to overboard
Cuttings	Solid	B-3	Unknown	Drilled solids	SP-002	N/A	Same as for drilling mud Reinject to downhole or collect and treat in onshore facility
Waste Completion Fluids	Liquid	B-3	Unknown	Contain hydrocarbon, inorganic salts, polymer residues, etc.	SP-003	N/A	Reinjected to Belanak facility, check its compatibility first
Waste Work Over Fluids	Liquid	B-3	Unknown	Same as completion fluids with slightly more oil	SP-004	N/A	Reinjected to Belanak facility, check its compatibility first

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Appendix 10 - Waste Manifest Forms

Internal Waste Manifest Forms:

- The Manifest Form consists of 5 copies and shall be filled out accordingly by the Waste Generator (Company), waste transporters and the temporary storage facility.
- Waste Generators at the respective work areas (i.e. representatives from the generators/collection point) shall complete Internal Manifest Forms (which will then need to be filled out by the transporters and representative from temporary storage facilities).
- XXX Department is responsible for compiling B3 waste manifest generated by operations as they are responsible for delivering the B3 waste to approved third party collector or disposal facilities.
- Representatives of temporary storage shall return the completed manifest as immediately as possible from the date when the waste was shipped to the collector. A copy of the Internal Waste Manifest Form is shown in Appendix 10A.
- HSE Department will use this internal manifest as a base for calculation of waste mass balance.
- For non hazardous waste, the internal waste manifest is also used for controlling the waste disposal process.

External Waste Manifest Forms

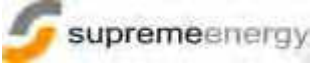
- An external hazardous waste manifest (known as KNLH Waste Manifest) is required when shipping or transporting hazardous waste from any Company location to any destination that is an approved third party collector or disposal facility by KEMENTERIAN NEGARA LINGKUNGAN HIDUP.
- The external hazardous waste manifest form consists of 7 copies and shall be filled out accordingly by the Waste Generator (Company), waste transporter and the collector or waste disposal facility.
- The hazardous waste disposal facility or collector shall return the completed manifest (Manifest no 7 – purple color) within 120 days from the date when the waste was shipped or transported to the collector or waste disposal facility.
- Waste Generators, in this case is the exit point from the respective work areas (location of temporary storage) shall complete external Manifest Forms (filled out by all third parties-generators, transporters and disposal facilities). Once every six (6) months, the Manifest Forms shall be submitted to KEMENTERIAN NEGARA LINGKUNGAN HIDUP or the District BAPEDALDA.

In general, the manifest consist of three sections that have to be filled out in following order:

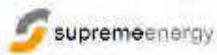
- Section I : filled by the generator
- Section II : filled by the transporter
- Section III : filled by the waste management facility

Distribution method for each document and responsibility for acknowledgement/signing are described below

Colour of Copy	Page No	Signature by	To be kept by
White	Original	Generator	Generator
Yellow	2	Transporter	Local BAPEDALDA sent by Generator
Green	3	Transporter	Generator
Pink	4	Generator	WM Facility sent by Transporter
Blue	5	WM Facility	Relevant institution sent by the WM facility
Cream	6	WM Facility	Local Authority, sent by the WM Facility
Purple	7	WM Facility	Generator after completed and sent by the WM Facility

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Appendix 10A - Internal Waste Manifest Forms

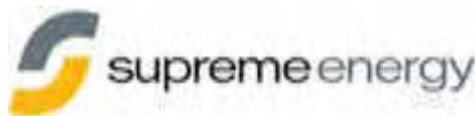


DOKUMEN PENGIRIMAN LIMBAH B3 dan Non B3 HAZARDOUS AND NON HAZARDOUS WASTE MANIFEST

Serial No:

1. BAGIAN YANG HARUS DILENGKAPI OLEH PENGHASIL LIMBAH (THIS SECTION MUST BE COMPLETED BY WASTE GENERATOR)				
Nama dan Lokasi/Name and Location Generator:				
Nomor Telepon/Telephone Number:				
Tanggal Pengiriman/ Date of Shipment: Tujuan Pengiriman/Destination Of Shipment:				
Pernyataan lokasi/departemen penghasil limbah B3: Dengan ini saya nyatakan bahwa limbah B3 yang dikirim sesuai dengan perincian pada daftar isian buku yang disebut diatas, serta dikemas label dan dalam keadaan baik untuk angkutan di jalan raya, sesuai dengan peraturan Pemerintah RI atau Peraturan Internasional. Generator certification: I hereby declare the contents of this consignment are accurately above by the proper shipping description and have been labeling and are in proper condition by highway according to GOI or International regulation				
Nama/Name (Generator)	Tanda Tangan/Signature	Jabatan/Title	Tanggal/Date	
Nama/Name (Approved by Supv.)	Tanda Tangan/Signature	Jabatan/Title	Tanggal/Date	
2. DATA PENGHASIL LIMBAH / WASTE DATA				
First Drop Data	Waste ID	Waste Name 01	Quantity (Kg / Liter)	Container
Waste Type: <input type="checkbox"/> Padat/Solid <input type="checkbox"/> Cair/Liquid Labeling <input type="checkbox"/> Ya/Yes <input type="checkbox"/> Tidak/No Waste Characteristic: <input type="checkbox"/> Hazardous <input type="checkbox"/> Non Hazardous				
Characteristic Hazardous Class <input type="checkbox"/> Mudah Terbakar /Flammable <input type="checkbox"/> Beracun/Toxic <input type="checkbox"/> Reaktif/Reactive <input type="checkbox"/> Korosif/Corrosive				
First Drop Data	Waste ID	Waste Name 02	Quantity (Kg / Liter)	Container
Waste Type: <input type="checkbox"/> Padat/Solid <input type="checkbox"/> Cair/Liquid Labeling <input type="checkbox"/> Ya/Yes <input type="checkbox"/> Tidak/No Waste Characteristic: <input type="checkbox"/> Hazardous <input type="checkbox"/> Non Hazardous				
Characteristic Hazardous Class <input type="checkbox"/> Mudah Terbakar /Flammable <input type="checkbox"/> Beracun/Toxic <input type="checkbox"/> Reaktif/Reactive <input type="checkbox"/> Korosif/Corrosive				
First Drop Data	Waste ID	Waste Name 03	Quantity (Kg / Liter)	Container
Waste Type: <input type="checkbox"/> Padat/Solid <input type="checkbox"/> Cair/Liquid Labeling <input type="checkbox"/> Ya/Yes <input type="checkbox"/> Tidak/No Waste Characteristic: <input type="checkbox"/> Hazardous <input type="checkbox"/> Non Hazardous				
Instruksi Penanganan Khusus/ Special Instruction:				
3. Pengangkut/ Transportation Data				
Nama Pengangkut/Transporter Name: Tanda Tangan/Signature:				
Izin Pengangkutan/ Shipping Permit: Jenis alat angkut/Type of transporter:				
Nomor Identitas alat angkut/ Id. Vehicle No:				
4. BAGIAN YANG HARUS DILENGKAPI OLEH PENGUMPUL SEMENTARA LIMBAH B3. THIS SECTION MUST BE COMPLETED BY THE TEMPORARY COLLECTOR				
4.a. Nama Lokasi pengumpul sementara limbah B3. Name Location Temporary Collector:		Nomor telepon. E-mail:		
4.b. Nama/Name (Received by)	Tanda Tangan/Signature	Jabatan/Title	Tanggal/Date	
4.c. Nama/Name (Approved by Supv.)	Tanda Tangan/Signature	Jabatan/Title	Tanggal/Date	
Pernyataan pengumpul sementara limbah B3: Dengan ini saya menyatakan bahwa saya telah menerima kiriman limbah B3 dengan jenis dan jumlah seperti tersebut diatas dan bahwa limbah tersebut akan ditempatkan sesuai dengan peraturan Pemerintah RI atau peraturan internasional. Collector certification: I hereby declare that have received the type and quantity of waste as described above by the generator and that it will keep according to GOI or international regulation				
5. Pengangkut/ Transportation Data				
Nama Pengangkut/Transporter Name: Tanda Tangan/Signature:				
Izin Pengangkutan/ Shipping Permit: Jenis alat angkut/Type of transporter:				
Nomor Identitas alat angkut/ Id. Vehicle No:				
6. BAGIAN YANG HARUS DILENGKAPI OLEH PENGUMPUL AKHIR LIMBAH B3. THIS SECTION MUST BE COMPLETED BY FINAL COLLECTOR				
6.a. Nama Lokasi pengumpul akhir limbah B3. Name Location End Collector:		Nomor telepon. E-mail:		
6.b. Nama/Name (Received by)	Tanda Tangan/Signature	Jabatan/Title	Tanggal/Date	
6.c. Nama/Name (Approved by Supv.)	Tanda Tangan/Signature	Jabatan/Title	Tanggal/Date	
6.d. Catatan pengolahan/pembuangan/pemantapan limbah B3/ Note of treatment/disposal/utilization of hazardous waste : Tanggal/Date : Tujuan/Place : Volume/Jumlah/Quantity : No Manifest : Waste Name 01 : Waste Name 02 : Waste Name 03 :				
Pernyataan pengumpul sementara limbah B3: Dengan ini saya menyatakan bahwa saya telah menerima kiriman limbah B3 dengan jenis dan jumlah seperti tersebut diatas dan bahwa limbah tersebut akan ditempatkan sesuai dengan peraturan Pemerintah RI atau peraturan internasional. Collector certification: I hereby declare that have received				

Copy 1: Pengumpul Akhir Limbah/ Final Collector, Copy 2: Pengumpul Sementara Limbah/ Temporary Collector, Copy 3: Pengangkut Limbah/ Transporter
Copy 4: Penghasil Limbah/Waste Generator Collector, Copy 5: Pengangkut Limbah / Transporter



Chapter 2: Section 6 : Travel / Journey Management

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9 Travel / Journey Management

9.1 Land Transport

1. Facts

- 10,000 crashes each year are caused by fatigue drivers
 - 18 hours awake causes blood alcohol content equal to 0.08% (disinhibition / poorer risk assessment ; poorer motoric response, instinctual, emotional, cognitive and perceptual aspects)
 - <6 hours sleep triples the risk
 - Driving at night triples the risks than driving during day time (NSC) due to limitation of vision and possible fatigue.
- 55% of drowsy driving crashes are caused by drivers less than 25 years old

2. Background

- Driving is one of the greatest risks most likely faced by any Company employee and their Contractors. To minimize the risk, the following journey management standards shall be implemented for Vehicle Operations with a specific business purpose in all Company facilities, including Contractors within their own area for supporting Company activities.

3. Purpose

To carefully manage all phases of the transportation process to eliminate hazards and unnecessary exposure, reduce the residual risk through the proper selection and preparation of people, equipment and routes, in order to ultimately eliminate driving fatalities and injuries to all Company employees, families, Contractors and third parties and minimize damage to equipment.

4. Application

Vehicles and motorcycle at all Company facilities used for Company business. It includes all Company and Contractors owned and rented vehicle that operates to support Company activities.

5. Responsibilities

- Line Management

Line management at all levels shall demonstrate active, visible leadership and personal participation in all aspects of journey management by:

- Ensuring that drivers under their control have the relevant Company approved driving license before allowing them to drive Company vehicles and to ensure that drivers who drive on Company business meet all requirements.
- Promoting safe driving awareness and Company initiatives to minimize night driving and the total number of kilometers driven.
- Always searching for safer means of transportation other than driving.
- Ensuring that all Company transport / approved transporter are equipped with adequate safety equipment.
- Ensuring that the Company transport / approved transporter is maintained in accordance to the manufacturer's specification

- Providing adequate resources to help drivers conform to the requirements of this Standard, including driver training and a safe transport. With an ever-changing business, particular attention must be given to the hazards of driving in unfamiliar locations.
- Developing Site Specific Procedure, if applicable, to ensure that particular local driving hazards (terrain, weather conditions, driving culture etc.) and ensure that they are addressed through specific training courses.
- Driver
Any personnel that drives a Company transport is responsible for:
 - Drive safely and comply with applicable laws and regulation.
 - Have a Company approved license prior to driving a Company transport.
 - Comply with this Travel / Journey Management Procedure.
 - Ensure all passengers comply with applicable Company regulation on the Company transport, e.g. wearing a seat belt.
 - Actively participating in pre-trip briefings, if applicable.
 - Comply with the pre-trip plans and all other procedures detailed in this procedure.

6. Travel / Journey Management Requirements

a. Management review of Trip Necessity

Managers at every level shall question the need for all journeys, always searching for a way to eliminate the journey or find an alternative means of achieving the trip objective, i.e. use existing shuttle vehicle schedule. Dispatcher shall encourage all departments to coordinate in arranging a business trip.

Where driving is unavoidable, alternatives such as combining trips and using approved Transportation Contractors shall always be explored.

b. Trip Planning and Execution

All trip to / from operating area should have trip planning with clearly defined route and timing. Once it is determined that the trip risk is increased and unavoidable, Line Manager and Dispatcher shall ensure that:

- A formal pre-trip briefing, if applicable, is held involving everyone involved in the journey
- Potential driving hazards, especially dangerous intersections, are identified in advance, taking into consideration the terrain, weather, known dangerous routes, speed limits, holidays (especially those which involve fasting), etc.
- Appropriate Company transport are assigned to the journey taking into account the hazards identified
- **Only Company approved drivers** with valid certification are assigned for the type of Company transport to be used
- Drivers and passengers are fully briefed on the journey: route, hazards, planned stops, etc.
- Company transport is inspected using an appropriate checklist before the journey begins.
- It may be necessary to take advise from Security Section to get information on the security condition of the route

c. Speed Limit

All Company/Contractor/Sub-contractor drivers shall comply with the approved Company speed limits set in the specific operating area/ location as well as public road and may have to be lowered during adverse weather conditions. These limits will have been set following a local hazard identification assessment (see SHEMS Section 6.16 Traffic Regulation).

On Company's operating area, these speed limits will be clearly posted at all locations

Drivers shall always be aware of the speed, road condition and weather condition. *A certain location may be used as mark of the speed by the driver and passenger(s).*

d. Night Driving

Night driving is a journey that all or some part of it is conducted at night.

All night trips at sites to outside Company location shall be approved by the line manager and local top manager before they begin. Wherever night driving required, a site-specific night driving requirement shall be established based on the risk assessment.

- It is strongly recommended that the safe stop point should be reached at no later than 10pm to avoid the risks of "driving when normally asleep".
- Driver should have at least one companion to travel during night trip
- Additional check shall be conducted to ensure that the vehicle may be use safely for night trip and driver is fit for the travel :
 - Head lights
 - Signal lamps
 - Brake condition
 - Tire condition, including spare tire readiness
 - Car emergency equipment (warning triangle, jack, tire kit, tool kit, flash light, fire extinguisher, first aid kit, etc)
 - Towing hook and sling (if necessary)
- Additional information on road security shall be available from *Security Section*.

e. Medical requirements

All persons employed as drivers and persons regularly driving vehicles for Company business must be medically assessed to ensure that they have functional capacity to operate a vehicle safely.

f. Driver's Fitness and Alertness

Drivers must not operate vehicles unless appropriately rested and alert. In particular:

- Driver shall have adequate rest time prior to drive. A process shall be in place to check prior to each journey whether the driver is fit to drive.
- Maximum duty hours for driver should be defined by site line management based on applicable regulations and standards.
- Drivers must advise management when they have a disability or condition that could prevent them from driving safely.
- Drivers shall have the right to refuse to drive when they feel that they are not fully rested or alert.
- Drivers shall be informed on how to identify driver fatigue and alertness, and means of dealing with them.

- A safe location may be determined by Company for convenient stop especially for long hour journey / travel
- g. Driver Training
All Company drivers shall be trained in compliance with relevant Company manual / procedures, including Defensive Driving Course.
- h. Contractor / Sub-contractor Driver Training
100% compliance to section of the Company's Contractor Safety, Health and Environment Management System (CSMS) and Project's SHE plan shall be attained.
- i. Vehicle Accident / Incident Reporting
All on-the-job incident / accident shall be immediately reported to the Superior / Company and shall be not later than the end of the Shift for shift work or when time permits not later than 1 x 24 hours for any other jobs (see SHEMS Section 11.5 Incident Notification and 11.4.5 Spills).
- j. Substance Abuse
Drivers shall not operate a vehicle while under the influence of alcohol, drugs, narcotics or medication that could impair the driver's ability to safely operate the vehicle.

Driving a Company transport while under the influence of alcohol or any drugs or narcotics, is strictly prohibited and subject to disciplinary action which may include termination of employment.

Post accident test of alcohol or any drugs or narcotics, if applicable, should be carried out to the driver after vehicle accident occurred.

- k. Mobile Phone and Two-Way Communication Device
Driver is prohibited to use mobile phone and/or two-way communication devices in the following condition:
 - Operating a Company vehicle on public roadways.
 - Operating a personal vehicle on Company Business.
 - Operating a motor vehicle on Company Property, unless allowable areas and circumstances are designated by applicable work site rules and instructions (such as areas restricted from public access inside an operating facility or controlled area).

The driver should safely park the vehicle before using mobile phone and two-way communication devices.

The exception to this is for the use of two-way communication devices as part of convoy management if there is no front seat passenger available to assist, i.e. when escorting a heavy equipment vehicle or onshore drilling rig, or for use during emergency situation. Two-way communication uses in this circumstance should be kept to the minimum as necessary to communicate and control the hazards and risks of the journey being undertaken.

- l. Maintenance of Company Transport
All Company transport and approved Contractor vehicles used for Company business shall be maintained and serviced on a regular basis. Necessary repairs shall be performed immediately in accordance with the manufacture's manual.

m. Audit / Inspection

Audit shall be implemented to assess compliance to this Journey Management Procedure. Inspection is conducted regularly using at minimum the pre-trip check-list and other inspection defined by the site specific journey management procedure.

n. Reassignment and Temporary Assignment

- The highest Company authority at site shall ensure that every work location has a specific plan addressing new arrivals (permanent transfers, temporary transfer and visitors).

This plan shall be adhered to before the new person is allowed to drive a Company Transport. As a minimum, the plan shall include an orientation briefing on local driving risks and verification of the person's current driving training compliance.

- A good example of this could be Jakarta based engineering or exploration staff visiting the field operations without attending Defensive Driving Training.
- The plan shall address the particular case of persons transferred from a country where they were driving on the opposite side of the road.

o. Regulatory requirements

Company driver must observe the following government laws and regulations concerning driving:

- a. Have a valid driving license to operate the vehicle (SIM) (see SHEMS Section 6.17 Driving Certificate).
- b. Have appropriate health record.
- c. Have appropriate and valid car license (STNK) for the vehicle.

p. Metrics

To help track the total number of accidents and to provide for continuous improvement, Company have established a driving safety metric. Company Management may want to use additional metrics, such as cumulative safe driving distance, to encourage safe performance.

- a. Each department shall be responsible for monitoring the performance of its drivers.
- b. Line Management shall report the following statistics to SHE Department:
 - The total number of on-the-job vehicle accidents
 - The total distance driven (in miles) for the business
- c. Company shall track the percentage of driver training that has been completed for each category of driver.
- d. Company shall track the percentage of driving audits completed.

SHE Department shall use the following formula to track its vehicle accident rates:

$$\text{Vehicle accident rate} = \frac{\text{Number of accidents} \times 1,000,000 \text{ km}}{\text{Total km driven}}$$

q. Vehicle (see SHEMS Section 6.18 Vehicle Regulation)

q.1 General Safety Considerations

- Vehicles shall be used for their designated function. Vehicles shall not be loaded beyond the manufacturer's specified capacities.

- Any Company vehicle which has an obvious mechanical problem affecting the safe operation of the vehicle shall not be driven.
- Transportation of hazardous materials must be done in accordance with applicable laws and regulations.
- Luggage must be secured to prevent loose articles from flying into the passenger area.
- The driver of each vehicle shall walk around his vehicle to promote awareness of hazards such as objects, people or other vehicles prior to driving. During the walk-around driver shall observe the condition of the vehicle (tires, broken lights, etc.), and shall ensure windows, lights, and mirrors are clean to promote maximum visibility while driving.
- Regular vehicle checklist shall be developed and maintained for each area.
- Where possible, vehicles shall be reverse-parked.
- No smoking is allowed while onboard vehicle.

q.2 Seatbelt

- The wearing of seat belts is mandatory and a condition of employment. Any persons in non-compliance with this rule are liable to disciplinary action which could lead to dismissal.
- Seat belts must also be worn in all cars that are operated by all persons and used on Company business. The number of passengers shall be equal to number of seatbelts.
- All Contractors and Sub-contractors drivers and passengers must comply with the wearing of the seat belt rule.

q.3 Hand brake

- Hand brake must be set whenever the vehicle is parked.
- Additional stopper shall be used if the vehicle's tire is being changed.

q.4 Tire

- Tires of the same construction (e.g., radial or steel-belted and size) shall be used on all wheels.
- Tires shall be checked daily and inspected in accordance with the manufacture manual.
- Car tires shall be replaced when tread depth decreases to minimum indicator level.

q.5 Headrest

Headrest shall be used for front passenger and shall be adjusted to the proper height.

q.6 Door - Lock

Car doors shall be locked at all times.

q.7 Vehicle selection

The following procedures must be applied when choosing vehicles for Company business:

- Vehicles with convertible, removable, or no tops must not be used.
- Vehicle to be used on mud terrain must be four wheel drives (4WD).
- Vehicle shall be equipped with Anti-lock Braking System (ABS).
- The following equipment should be installed and securely fixed, where appropriate, on light duty vehicle. As a minimum, vehicles shall be equipped with the following:
 - Head rests
 - A basic radio type to receive any alerts e.g. Economic, Social and Political, road conditions
 - Air conditioner
 - Solar film coating (maximum 60% darkness)

- First Aid Kit
 - Fire Extinguishers of minimum 2 kg ABC class
 - Towing hooks/sling (nylon tow ropes must not be used)
 - Safety belts for the driver and passengers.
 - Tool kits to change the tire
 - Suitable spare wheel and tire
 - Disable vehicle marker (e.g. warning triangle)
 - Flash light.
- Vehicle is recommended to be equipped with dual airbags or at minimum driver's airbag.
 - Vehicle is recommended to be equipped with Global Positioning System (GPS).

Where a risk assessment demonstrates that the risk of rollover due to terrain, a vehicle type or work condition is higher than normal, a properly engineered rollover protection device must be installed (internally or externally).

6.2 Air Transport

GENERAL

- Employees shall take scheduled flight to travel for Company business.
- Any non-scheduled flight or use of air transport with propeller (rotary) shall be assessed for their hazards and risks by SHE group.
- DOMESTIC
 - All employees is strongly recommended to travel by Garuda Airways (the state owned airline company). However other reputable domestic providers such as Sriwijaya Air, Lion Air, Mandala and Air Asia might be used if there is no Garuda Airways flight services the route. The use of any other airline shall be assessed by the Company.
- INTERNATIONAL
 - Reputable providers shall be used to travel for Company business.
 - The approved airline company will be decided by the Company upon sufficient risk assessment.

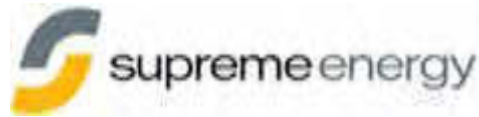
6.3 Water Transport

GENERAL

- Employees shall take scheduled water transportation to travel for Company business.
- Any non-scheduled water transportation or special boat shall be assessed for their hazards and risks by SHE department.

Attachment-1 LAND TRAVEL NOTICE FOR SPECIAL TRAVEL ARRANGEMENT

LAND TRAVEL NOTICE : SPECIAL TRAVEL ARRANGEMENT (to be filled in by the Employee or Contractor who plans to conduct the journey)				
1.	Name of Employee/Contractor:			
2.	Cellular Phone Number:			
3.	Email Address:			
4.	Place of Destination: Approximate Distance (km): Travel duration (hours) : Estimated Time Departure : Estimated Time Arrival at Arrival :		Address: Phone Contact # at Destination :	
5.	Purpose of Travel:			
6.	TRAVEL CHECK LIST			
	Can the task be completed by facsimile, telephone or email?			[Yes/No]
	Can the task be rescheduled / combined with another one to be made a safer time?			[Yes/No]
	Can the task be done by another person available at the Place of Destination?			[Yes/No]
	What is the main route? (Please mention names of cities/villages you will pass to reach the destination):			
	What is the alternative route? Please mention another route in case the main route is not possible for you to pass:			
	Do you know physical and Security condition of the routes?			[Yes/No/Not Sure]
	What is the type of the vehicle (4WD/4 x 4, MPV, Microbus, SUV, Truck, Trailer, etc.)?			
	Is the vehicle in the good or roadworthy condition (lightings, engine, brakes and clutch work properly and tires are in good condition, etc.)?			[Yes/No/Not Sure]
	Does the vehicle have sufficient fuel and lubricant?			[Yes/No/Not Sure]
	Is the vehicle equipped with necessary safety equipment and materials (seat belt, fire extinguisher, first aid kit, etc.)			[Yes/No/Not Sure]
	Is the driver in a good physical condition (not sick, tired/fatigue, sleepy, etc.) and will be still in good condition after arrival?			[Yes/No/Not Sure]
	Has the Driver had sufficient resting time?			[Yes/No/Not Sure]
	Does the Driver have appropriate driving license (A, B1, B2)?			[Yes/No/Not Sure]
	Know the location of Police Offices, Hospitals and Fuel Stations along the route?			[Yes/No/Not Sure]
	Is it a Convoy Journey?			[Yes/No]
	Consisting of how many vehicles? Vehicle(s)
	What are the types of vehicles?.....		
	Is an escort required?.....			[Yes/No]
7.	Drivers:	No.	Name	Mobile Phone #
	(may be described in an Additional attachment, if space not sufficient)			
8.	Passengers:	No.	Name	Mobile Phone #
	(may be described in an Additional attachment, if space is not sufficient)			
9.	Load/Cargo:		Name	Quantity/Weight
	(may be described in an Additional attachment, if space is not sufficient)			
10.	Important Notes from Employee or Contractor (to be filled in by Dispatcher) :			
11.	Control Information (to Be Filled in by Driver) :			
	Has Employee or Contractor arrived safely at Place of Destination? [Yes/No]			
	If 'Yes', at when/what time? : If <u>not</u> , please put <u>NOTES</u> here for future record or further follow up:			
	[E.g. if an incident (accident and near miss) had occurred or been found during the journey]			
	This Notice is submitted by : Name (of Employee or Contractor): On (day/date): At (time): Signature :		This Notice is received by Dispatcher : Name: On (day/date): At (time): Signature:	



Chapter 2: Section 7 : Project Execution Planning - Safety Health Environmental

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7. PROJECT EXECUTION PLANNING : SAFETY HEALTH ENVIRONMENTAL

7.1 Safety, Health & Environmental Policy

2. SAFETY, HEALTH AND ENVIRONMENTAL (SHE) POLICY

2.1. Policy Intent

The Company is determined to implement the highest standards of Safety, Health and Environmental (SHE) execution to ensure that all areas of operation are environmentally proactive and safe places for our stakeholders. SHE is a line function with full accountability throughout the entire corporate structure.

2.2. Policy

It is the policy of the Company to provide a safe and healthy work environment. The Company is committed to proactively protecting human health and the environment. The Company shares this commitment with its employees, our customers, other companies, and the communities we work with. Our policy is to continuously improve our safety and health performance by routinely reviewing our practices, policies and procedures to identify opportunities for reducing accidents and enhancing compliance. Our policy is founded on the following basic principles:

- We will comply fully with applicable safety and health laws and regulations;
- We will review our operations and assess the potential for safety and health risks and will develop and implement plans to manage these risks prudently;
- We will regularly review our safety and health performance to identify opportunities to enhance our performance;

The Company Safety and Health Policies are designed to ensure that specific requirements, performance-based standards, and the intent of regulations are specifically identified in order to minimize interpretive errors. The Company is committed to efficiently reduce the potential impacts of our business on safety, health and environment (SHE) by managing hazards, preventing injury, reducing waste, emissions and discharges and by using energy efficiently. We will eliminate injury by observing hazards, reporting and rectifying all unsafe actions and any condition which could lead to an incident.

Each employee is responsible for complying with company policies, guidance and procedures to ensure that work is performed in a safe and healthful manner. Responsibilities for SHE performance shall be visible throughout the organization with clear management accountability. Full implementation of SHE Management Policies throughout the entire life of the project is essential to our business. Every employee, affiliate, consultant, contractor and subcontractor of the Company shall unconditionally support and rigorously apply the Supreme SHE goals, objectives and all statutory requirements.

Our business, operational and implementation plans and personal objectives shall including quantifiable measurable SHE targets are that will be established annually, reviewed regularly and adjusted as needed to improve the effectiveness of the program. Every employee is accountable for implementation of this policy. If you have any doubt or questions, don't hesitate to seek guidance from your immediate supervisor.

Safety is everyone's responsibility. We are all responsible for both our own safety and that of our co-workers. This objective is fundamental to our business. All employees of

Company and Contractors have the same responsibility to comply with safety precautions during performing their work for Company. We are all responsible to work correctly and safely.

In carrying out the policy intent, the Company will:

- ensure that systems are developed and established to identify and control hazards within the work place and to monitor SHE performance.
- ensure that all employees to understand that Safe Operations is "good business", and has an equal importance with any other business matter.
- motivate and encourage all employees, suppliers (vendors and contractors) and other stakeholders to maintain high standards of SHE consciousness.
- communicate openly with employees, suppliers and all stakeholders to continually improve the SHE standards.
- meet all legal obligations wherever we operate and always strive to exceed requirements.
- adopt best practices and apply standards that protect the Safety and Health of the employees and prevent harm to the Environment.
- follow written procedures for high risk or unusual situations.
- involve the right people in decisions that affect SHE procedures and equipment
- ensure that every employee understands that have the duty to prevent SHE losses and provide a safe and healthy place of work.

Jakarta, May 2011



Supramu Santosa
President & CEO

7.2 Introduction

The requirements described in this Section are designed as minimum requirements. If it is deemed necessary, Supreme Energy's Safety, Health and Environmental Manual and Contractor Safety Management System (CSMS) shall be referred to cover any specific needs related to the work.

7.3 Contractor Responsibility

All Contractors working on Supreme Energy (SE) premises are required to ensure that their employees comply fully with all SE SHE regulations, policies and procedures.

Contractors are responsible for providing Personal Protective Equipment (PPE) for their employees and their Sub-Contractors while they are working on SE premises. PPE is clothing, equipment or substances designated to be worn by someone to protect them from risks of injury or illness.

Contractors shall ensure that its employees and its Sub-Contractor's employees are trained and competent to perform the work in a safe, healthy and environmentally responsible manner.

Contractors shall ensure that all Contractor furnished machineries, tools and equipment are maintained properly, in a safe operating condition, are inspected regularly, and have been re-checked and accepted by an authorized SE Representative.

Contractors shall take all necessary SHE measures in relation to the work to be provided and shall conduct itself and its work-force in such a way as to comply at all times with the provisions of the national and/or international SHE regulations pertinent to work.

Contractors shall take such reasonable steps to provide a safe and healthy working environment for its personnel, Company's personnel and related third parties in the performance of this work.

7.4 SAFETY and HEALTH

7.4.1 Safety Procedures and Safety Plan

The Corporate wide SHE procedures (published as SE SHE Manual) and SHE Plan (published in SE CSMS Manual Chapter 5 and Appendix III.2) shall be complied by all employees, Contractors, sub-contractors and visitors. A Safety Officer will be appointed by SE to coordinate with Safety Officers to be appointed by each Contractor and to oversee compliance with safe working practices.

The procedures include all required general safety procedures for normal construction site as well as for those which are unique to a geothermal site, plus provisions for medical and first aid treatment, site evacuation and notification of incidents, including the following:

- Safety clothing – headgear and footwear
- Welding and cutting safety – goggles / face masks, gloves, exclusion barriers, fire sentries and fire fighting equipment, radiography

- Lifting – general dangers of heavy lifts overhead, testing of slings and other equipment, control of cranes
- Excavations – maximum depth, requirements for shoring sides of excavations, roping-off excavations
- Electrical hazards – high voltages, wandering / extension leads to be protected, portable equipment, earth fault isolators to be used, overhead transmission lines
- Gas hazards – dangers in enclosed areas, excavations, pits and holes, H₂S and CO₂ gases, portable monitor equipment
- Steam and hot water hazards – water and steam within the steamfield systems, natural thermal features
- Drilling and other sumps – to be fenced off, safety life lines to be fitted, safety harness to be available
- First aiders to be nominated, first aid equipment to be supplied and signed
- Ambulance, medical support
- Reporting of accidents, accident register

Particular attention must be given to the presence of a local population who conduct farming in the area and whose homes are within the project area. Care must be taken to ensure that no injury can eventuate to people and livestock.

7.4.2 Safety in Design

All designers, whether SE or Contractor, are to pay particular attention during their design to the safety of operators, maintainers and members of the general public who may be in the area.

7.4.3 Safety in Construction

All Contractors are required to produce a safety plan and detailed safety procedures to ensure that the work will be conducted with due regard to the SHE aspects.

Copies of the source documents shall be provided to SE if the procedures are referenced only. This plan shall comply with the SE Corporate SHE Policy and is to be submitted for review and approval by a SE SHE representative.

7.4.4 Safety Briefing

All Contractors are to hold weekly safety meetings for all employees on the site. These safety meetings are to include particular reference to geothermal hazards:

- steam and other hot, pressurized fluids
- geothermal gas (H₂S and CO₂)
- fumarole areas

The meetings shall also include reference to normal hazards to personnel, assets and the environment encountered during construction, including:

- electrical hazards
- use of portable power tools
- overhead power lines

- welding and cutting hazards
- ladders and scaffolds
- working at height
- general working hazards
- use of lifting equipment, cranes, etc
- excavations
- fire prevention
- disturbance to environmental and community
- health hazards
- security

7.4.5 Tool Box Meeting

Tool box meetings shall be held before the start of each job to coordinate the tasks to be done. All involved personnel shall participate in these meetings.

7.4.6 Site Safety Checklist

Each Contractor's Site Manager is to regularly prepare and sign a Site Safety Checklist and submit to the Engineer's Representative at each weekly site meeting or when the SE SHE Representative requires it.

The SE CSMS Manual Appendix V.I SHE Inspection Checklist should be used as the basis for this Checklist, although this may be modified as agreed with the SE SHE Representative and the Engineer's Representative to suit the particular contract.

7.4.7 Alcoholic Liquor or Drugs

The project base camp and project areas are deemed to be "dry". No alcohol or illegal drugs are to be brought onto or consumed on the project premises. Any worker found under the influence of alcohol or illegal drugs at work will be summarily dismissed.

7.4.8 Arms and Ammunition

Arms or ammunition are not permitted at any time on the site or on any of the project facilities, except for use by authorized and trained security guards personnel or members of the Indonesia police and army forces.

Arms in possession of security guard personnel are to have a corresponding license issued by the Indonesian police force. It is the responsibility of the security guard company to ensure that this requirement is observed.

7.4.9 Protective Equipment and Clothing

The wearing of appropriate safety equipment is mandatory on the site. As a minimum, this will include safety headgear and appropriate footwear (non-slip safety shoes or boots or equivalent robust footwear are to worn at all times on sites except inside an office space).

7.4.10 Fire Protection

Precautions are to be taken against fire, both within the actual construction environment and also within the rural areas in which the Project is located.

Appropriate portable fire fighting equipment is to be available at all sites involving “hot work”, such as welding or cutting.

All materials shall be stored and handled with due regard to their fire characteristics. Material shall be stored in such a way as to minimize the spread for fire internally and to permit convenient access for fire fighting. Storage shall not obstruct means of exit.

Smoking is not to take place during any operations involving the transfer of hydrocarbon fluids and fuels. Cigarette butts are in all cases to be properly disposed of after being carefully extinguished. Smoking is not permitted on or adjacent to any drilling rigs or inside an office space.

Heat and/or smoke detecting devices and fire alarms are to be installed in certain location as appropriate (including buildings and warehouses) and are to be kept in good condition and tested from time to time an authorized party. In other areas where no permanent detection and alarm systems are installed, emergency telephone numbers such as fire fighting department, shall be conspicuously posted.

7.4.11 Flammable and Combustible Liquids

Special care must be undertaken to handle flammable or combustible liquids. Storage areas and containers shall be conspicuously labelled “Flammable” and the related safety signs such as “no smoking” shall be posted at surrounding area.

Storage areas shall be kept free of weeds, debris and other combustible material not necessary for the storage.

Storage of flammable and combustibel liquids shall have containment bund and/or drip pan.

7.4.12 Gas Hazards

Geothermal project involve a particular risk from build up of geothermal non-condensable gas e.g. primarily CO₂, with a significant proportion of H₂S. Both of these gases are heavier than air and can build up in holes and excavation. CO₂ does not support life and causes death by suffocation. Its action can be insidious and an individual may not realize that he or she is in danger until too late. H₂S is poisonous and in higher concentrations it is not detectable by smell.

Well cellars and deep excavations are not to be entered without first checking for the presence of gas and oxygen content. Forced ventilation may be required to make safe entry to the hole concerned.

Personal and portable H₂S monitors (and oxygen monitor, as appropriate) are to be available on the Project and are to be available whenever undertaking any well operations or discharging geothermal fluids or steam.

7.4.13 Fluid Discharges

Geothermal fluid is hot, under pressure and very dangerous. Care is always to be exercised when discharging geothermal fluids (two-phase, steam and/or brine). In particular the discharge route is to be clearly defined and checked clear of personnel and livestock. Sentries are to be posted to ensure that personnel stay clear. Also, as some discharges are very noisy, adequate warning must be given to workers and residents in the general vicinity.

7.4.14 Electrical Hazards

The power supply onto the site is at 13.8 kV. This will be transformed down to 220-240 V for construction purposes. These are dangerous voltages and care is to be taken to ensure that all equipment being used is correctly grounded in accordance with manufacturer's instructions. Equipment in use on site is to be inspected regularly for worn leads or other damage which could result in electric shock and labelled to show the date of last inspection.

All extension leads are to be supported above ground to avoid risks of vehicles running over them, heavy or sharp weights being placed on them or their immersion in water, or are to be suitably protected with timber either side to avoid direct weight on top of them.

Care is to be taken with mobile cranes, etc that no contact is made with any overhead lines. Operators are to be warned of the presence of any overhead lines and must have a sentry / signal man available to watch for inadvertent approach to such lines.

Overloading an electrical fitting shall be avoided.

7.4.15 Welding and Cutting

Suitable fire protection equipment is to be available whenever cutting and welding operations are taking place. This includes operations in the field where there is a risk of starting grass or bush fires. Care is also to be taken that personnel are not standing in a position where they might be burned by falling slag or sparks or be exposed to direct arc glare. Welding area shall be sufficiently barricaded to prevent unauthorized entry.

Before starting welding or cutting:

- Operators must be properly trained and supervised.
- An assistant is to be provided to every operator. The assistant is to be instructed to watch for, recognize and resolve fire hazards.
- Secure all gas cylinders so they do not tip or fall.
- Avoid wet or damp area which can cause a serious electrical shock.
- Cutting and welding shall be permitted only in areas are or have been made fire safe.
- Personal protective equipment is mandatory:
 - Appropriate eye protection is required, including but not limited to, welding mask and goggles with side shields.
 - Welding gloves and apron.
- Ensure all equipment used is maintained in a safe condition.
- Never strike an arc in the presence of other people whose eyes are not shielded.
- Gas cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck, or permitted to strike each other violently.

- Fuel gas hose and oxygen hose shall be easily distinguishable from each other. A single hose having more than one gas passage shall not be used.
- Torches shall be lit by friction lighters and not by matches or from hot work
- Cylinders shall be kept in an upright position and securely tied at their body to a rigid stand. Use of cylinder cage is preferred.
- Cylinders shall be kept far enough away from the actual welding or cutting operation so that spark, hot slag, or flame will not reach them. When this is impractical, fire resistant shield shall be provided.
- Cylinders, including empty cylinders, shall be marked for its content.

7.4.16 Radiography

When radiography of welds is being undertaken, suitable warning notices are to be placed to establish an exclusion zone around the working area. Sentries are to be used to control vehicle traffic passing the working area.

Radiography personnel and equipment shall have a valid license from BATAN.

Radiography equipment shall be stored in a safe manner when not in use.

7.4.17 Scaffolding

Scaffolds shall be erected properly to avoid fall hazards. Scaffold must be rigid and sufficient to carry out its own weight plus four times the maximum intended load without settling or displacement, and shall be accessed by ladder or similar.

All openings at the platform shall be guarded. Scaffolds must be equipped with guardrails, midrails and toeboards. Scaffold board overhangs shall be minimised.

A minimum 0.6 m wide working area / surface shall be installed for working platform.

7.4.18 Working at Height

Safety harness shall be worn when working in areas of more than 1.5 meters above the working surface, or as prescribed by applicable work rules or regulations.

7.4.19 Blasting

Blasting activities shall only be carried out with the express permission of the Site Construction Manager. All project personnel shall be advised prior to the start of blasting and the blasting area should be cleared at the start of work. Perimeter sentries are to be posted around the work area, equipped with radios to ensure coordination of the operation, and they shall be required to visually confirm that no persons are within the safety radius established by the blasting officer.

Explosives are not permitted to be stored near or within working areas or in the base camp area; Explosives must be storage in approved buildings / containers situated at least 200 m from any work area or other facilities. The area proposed for temporary storage of explosives is at the open yard area, where a security guard is placed to maintain security.

7.4.20 Excavation

Excavation presents several types of hazard which need to be addressed:

- Gas hazard – within the project area there is a risk of geothermal gas being emitted from the soil. This gas is mostly carbon dioxide (CO₂) with some hydrogen sulphide (H₂S). These gases are heavier than air and will tend to collect in excavated pits. Portable oxygen content and gas detection equipment must be used to test the air in excavations before allowing anyone to enter a hole or an excavation. Continuous forced ventilation with blowers may be necessary to make a safe entry. Additionally, a sentry must always be present at the surface, equipped with safety lines, to monitor and assist any worker who may be overcome by gas.
- Soil collapse leading to burying or crushing of workers. The soils shall be classified for the class of soil involved and suitable protection plan shall be established by the person responsible for excavation activities. Sloping / shoring / battering / benching requirements are to be determined to prevent collapse and entrapment.
 - The bottom edge of spoiled ground shall not be stored less than 0.6 m from the trench / excavation.
 - If digging is using excavators / heavy equipment / dump truck, precautions shall be made for safe access and parking of the equipment to prevent collapse / disturbance / vibration to the excavation.
- Risk of falling into the excavation. All excavations are to be cordoned off with temporary posts and safety tape warning of the danger. In any locations where workers are required to cross any excavation more than 0.5 m deep, a suitable walkway with guardrails is to be provided.
- Flooding. Work inside an excavation area shall be reassessed after weather change such as heavy rain. Flood water shall not be allowed.
- Damage to other facilities and structures. Before commence any excavation work, all underground and overhead facilities and adjacent structures shall be identified to prevent injury to personnel, damage / collapse of structures, and business interruption

All excavations deeper than 1.5 m must be previously checked by a competent civil engineer to assess the hazards and determine requirements for safe excavation. Excavation working permit shall be made available.

7.4.21 Confined Space Entry

The entire workplace shall be evaluated to determine which areas are confined spaces. Areas determined to be confined spaces shall have warning signs posted at all points of possible entry. (A sign reading “DANGER - CONFINED SPACE - DO NOT ENTER” or similar language would satisfy this requirement).

Entry into a confined space shall require a specific permit prepared by a Contractor’s competent person and is then to be reviewed by the SE Engineer’s Representative and Safety Officer prior to submission for approval by the SE Engineer.

7.4.22 Heavy Lifting

All operations involving the lifting of loads in excess of 10 tonnes are to be carried out in accordance with a pre-approved lifting procedure. Lifting procedures are to be prepared by the Contractor’s

engineer directly responsible for carrying out of the work and are then to be reviewed by the SE Engineer's Representative and Safety Officer prior to submission for approval by the SE Engineer.

All lifting equipment (i.e. mobile crane, overhead crane, etc.) and lifting gears shall regularly be inspected and certified by an authorized party.

The Safe Working Load (SWL) shall be indicated on lifting equipment.

Only certified operators are permitted to operate such lifting equipment.

7.4.23 Hydrotesting

Wherever possible, pressure testing shall be carried out in a permanent dedicated area. Concrete walls with inspection windows shall shelter such area.

When it is not possible to do this way, pressure testing shall be supported by a Job Safety Analysis and controlled under the Permit To Work procedure. As a minimum barriers and warning signs shall be erected at a safe distance around the concerned area.

In any case warning tags shall be used to identify lines under test.

Pneumatic tests and very high-pressure hydro-testing (above 5.000 psig or 350 bar) shall be only conducted in sheltered area.

7.4.24 Drilling

Drilling and related activities shall be carried out in accordance with American Petroleum Institute, Recommended Practices for Occupational Safety for Oil and Gas Well Drilling and Servicing Operations, API RP 54, which should be referred to in conjunction with this Plan. Where applicable, compliance with the National and Local standards, codes or regulations will be mandatory and take precedence over the requirements of the API Recommended Practices.

7.5 Work Permits

Work which requires isolation of energi (fluids, electrical power, mechanical, heat, etc) is to be undertaken only when a Work Permit has been issued by the appropriate authorities. This form is to be prepared by the Contractor in consultation with the SE Engineer's Representative, who is then to organise the requisite isolations and, when safe to do so, issue the permit to the Contractor, who is to sign receipt of the permit. On completion of the work, the Contractor is to certify that the isolations can be removed, when the Engineer's Representative is to arrange for their removal and the cancel the permit.

All valves, isolating switches or fuses and other isolating devices which are involved in an isolation for a Work Permit are to be locked and tagged in accordance with the Lock Out Tag Out (LOTO) procedure.

Prior to undertaking excavations, the Contractor is to request an Excavation Permit from the appropriate authority. The Engineer's Representative is to check for the presence of underground services or other hazards, such as the potential for interference with the safe passage of personnel or

vehicles or the possibility of a gas hazard, and advise the Contractor of any precautions to be observed. The Engineer's Representative shall also advise the Contractor of any requirements for an Owner's Representative to be present when opening the excavation or to give approval for backfilling.

A confined space entry permit shall be made and approved by appropriate authorities before entering any confined space.

7.6 Lock Out Tag Out Procedure

Lock Out Tag Out (LOTO) is a procedure used to identify items (such as valves, switches etc) that are not to be operated because their operation could result in damage to plant or injury to personnel. Operation in this context includes the opening or shutting of valves, operating switches, inserting blank / blind, removing fuses, etc i.e ensuring that all hazardous energy sources are positively isolated.

LOTO procedure needs to be controlled carefully to ensure the safety of people working on the project while avoiding unnecessary operational restrictions.

7.7 Housekeeping

Aisles, walkways, corridors and passageways shall be clearly marked and kept free from obstructions.

Contractor shall allocate adequate time and resources to maintain an acceptable level of housekeeping and cleanliness in all working areas.

Particular attention shall be paid to housekeeping and cleanliness at height to prevent falls of materials on persons working below. Wherever possible safety nets shall be used.

All Contractors and personnel are to observe a "clean site" policy. There is to be no uncontrolled disposal of garbage, litter or waste materials. Contractors are to ensure that their employees place such materials in designated places and containers for collection and appropriate disposal.

7.8 Fire

All Offices and Administration building shall be equipped with a proper fire protection system that may include heat / fire / smoke alarms and fire extinguisher systems. Safe briefing area shall be determined.

7.9 Vehicles

Vehicles and drivers using project roads and within the project site and base camp are to follow normal Government road code requirements, including the wearing of safety belts. Note that there is a site-wide speed limit of 40 kph, and 60 kph at public / access road. Speed is further restricted in selected area as indicated by signs. Furthermore, care is to be taken always to drive within the prevailing conditions.

Particular care is to be taken when driving on un-metalled roads which may be slippery when wet. On narrow roads, priority is to be given to vehicles coming downhill. Care is also to be exercised when passing work places where a worker may accidentally step into the path of an oncoming vehicle, where obstructions may be found in the roadway or near to excavations.

Drivers should be aware that on roads within the project area and the public / access road, particular care should be taken, especially at night, for livestock, motorcycles, and pedestrians using the same roads.

7.10 Accidents

All accidents and health and safety related incidents SHALL be reported to the SE Safety Officer (through the Engineer's Representative in the case of Contractors and their Sub-Contractors) as soon as possible, no later than 12 hours after the event by phone or radio (first advice) and in a hard copy.

All the Contractors shall provide monthly accident statistics to the SE Engineer and Safety Officer within the first five (5) calendar days after the end of the month, including total man hours worked in the month, total number of accidents and total lost work time (man-hours).

The SE Safety Officer is responsible for maintaining accurate and up-to-date records and statistics of accidents and other health and safety incidents. These will be included in the Project Manager's monthly report.

7.11 Hazard Communication

Contractor shall provide the employees with effective information (e.g. posters, displays, letters, programs, etc) and training on workplace hazards and hazardous materials / chemicals.

Hazard communication program shall also ensure that all employees working with chemicals know the hazards of those substances and use the proper protective equipment. Material Safety Data Sheet (MSDS) shall be available at sites.

7.12 Emergency Preparedness

Contractor and its sub-Contractor shall have emergency preparedness and Emergency Response Plans and Procedures ("ERP") that are available at all times throughout the duration of the Contract.

Contractor shall assist SE to create the "Bridging Document" to indicate and clarify the agreed communication and coordination links between Contractor and SE emergency response plans.

7.13 ENVIRONMENTAL

7.13.1 Environmental Impact Assessment

An environmental impact assessment has been undertaken as part of the permitting process for the Project.

7.13.2 Ongoing Environmental Monitoring & Compliance

A Safety, Health and Environmental (SHE) Manager has been appointed to oversee compliance with the requirements of the Environmental Impact Assessment and the Environmental Permits.

Contractor shall comply with all laws, rules and regulations of governmental agencies having jurisdiction, which now exist or may be promulgated during the term of the Contract, relating to the control and prevention of damage to the environment

7.13.3 Waste Management

Site cleanliness is important for both safety and environmental reasons. All Contractors are to maintain clean work areas and to correctly dispose of rubbish and waste material on a daily basis.

The site waste management system consists of the classification, collection, transport, recycling or disposal of waste materials produced during construction and plant operation activities and domestic waste.

7.13.3.1 Waste Classification

This is the identification of the nature of the waste and sorting into appropriate groups, depending on the eventual disposal requirement. Groups include:

- Paper
- Plastic
- Organic material
- Metal
- Oil and oil contaminated material
- Specifically identified hazardous materials (drill sludge, drill cutting, hazardous chemicals and its containers, etc)
- Other inorganic (soil, rock, concrete, etc)

Suitable containers are to be provided around the work site to enable waste material to be easily classified and properly disposed of. In the case of hazardous waste, the SHE Manager is to be advised of the presence of this and will make separate arrangements for collection and disposal.

7.13.4 Spoil Disposal

Spoil is only to be disposed in designated areas. The SE Civil Engineer will designate any spoil disposal areas required.

7.14 Notification

Contractor shall notify SE Engineer Representative and SHE Representative immediately with respect to any pollution, loss, damage, claim or demand (or occurrence which may give rise to same) resulting from the work performed under the Contract. Contractor shall report to Company any incidents of non-compliance with legislative and regulatory environmental requirements that occur during the performance of the work.

7.15 Vegetation

Vegetation is important in stabilizing soil surfaces. Vegetation is NOT to be stripped from the ground unless absolutely necessary, in which case the SHE Manager is to be advised so that he can determine

any re-vegetation requirements. Trees in particular are not to be disturbed without the permission of the Project Manager and the SHE Manager.

SE will establish a re-vegetation plan, primarily aimed at planting trees to support sustainable environment.

7.16 HEALTH

7.16.1 Medical Fitness

In hard environmental conditions or when local medical assistance is weak or remote from the working site, Contractor shall take appropriate measures to ensure that their employees are “fit to work”.

7.16.2 Working Rhythm

Contractor shall grant a reasonable rest time to its personnel on daily, weekly and yearly basis.

7.16.3 Occupational Noise Exposure

When workers are required to work in areas where the sound level exceeds the long term permissible noise exposure level of 85 dB(A), hearing protection equipment (ear plugs or ear defenders) must be provided and worn.

Noise level signs shall be posted at appropriate equipment, locations and for certain activities that produce excessive noise.

7.16.4 Ergonomic

In order to avoid musculo-skeletal inflammatory diseases attention shall be paid to tasks with repetitive movement or uneasy long time posture and corrective measures shall be taken.

7.16.5 Lighting

Adequate lighting shall be provided to all working areas.

Portable lighting equipment shall be fitted with an approved plug.

Only authorized personnel shall undertake repairs to lighting equipment.

7.16.6 Toilet Facilities

Toilets facilities shall be provided on working site in sufficient number and shall be regularly cleaned and maintained.

There shall be no discharge of human waste direct to the environment. Septic tank shall be the minimum requirement. Care shall be taken so as not to pollute the water supply used by others such as ground water.

7.16.7 Drinkable Water

Drinkable water shall be provided in several locations and in sufficient quantity on construction and installation sites.

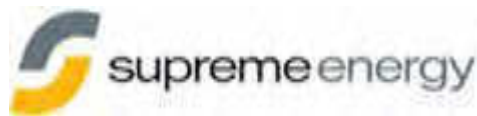
Quality of supplied water shall be regularly tested by competent persons.

7.16.8 Accommodation and Catering

Accommodation provided to personnel shall be of a good standard and equipped with safety features.

Catering service shall be of a good level and adapted to customs of people working on the construction or installation site. Catering personnel shall be certified and shall undergo regular medical examination and regular sanitary inspection.

Kitchen, freezers, refrigerators and restaurant shall be regularly inspected by competent persons. For freezers and refrigerators a special attention shall be paid to the control of temperature.



Chapter 2 Section 8 : Guidance for Contractor SHE Management Plan

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8. Guidance for Contractor SHE Management Plan

8.1 Introduction

There are compelling economic reasons for reducing work-related incidents / accidents and ill-health, as well as ethical and regulatory reasons for doing so. A proactive SHE management promotes business efficiency and ultimately, profits.

Indonesia has a comprehensive legal framework for SHE, requiring organizations to manage their operations safely without damaging the environment and exposing the workers to risks of injury and to prevent hazards that may result in occupational diseases and health-related problems. SHE education and training programmes ensure effective implementation and seek to improve the overall SHE performance in organizations.

SUPREME ENERGY (the Company) believe that all successful organizations actively manage SHE as an integral aspect of their business. We also believe that organizations which integrate SHE into the heart of their businesses are also creating a distinct advantage as employers of choice are equally successful in public relations and impact marketing to consumer / the public.

As a responsible corporate citizen, SUPREME ENERGY as well as it's Contractor will follow Government of Republic Indonesia Regulation and SUPREME ENERGY Regulation or any SHE requirement in order to implement an effective SHE Management System in any activities within SUPREME ENERGY area.

8.2 Purpose

To implement the SHE Management System in a project, therefore to get the best quality for Health and Safety and to prevent accident to human, property and the environment.

8.3 References

- Law of The Republic of Indonesia Number 1 of 1970 regarding Safety in The Work Place (UU No.1 Tahun 1970 Tentang Keselamatan Kerja).
- Decree of Minister of Mines and Energy No. 555.K/26/M.PE/1995 regarding Safety and Health for Mining
- SUPREME ENERGY SHE Manual
- SUPREME ENERGY SHE Procedure
- Requirements of The Contract
- International Standards, Guidelines and Industrial Practices as Set Forth in The Specifications.
- Special Project Standards (AMDAL, ANDAL, UKL and UPL)

Indonesian environment legislations applicable to the Project are as follows:

- Republic Act No. 23/1997 regarding the Environmental Management
- Government Regulation No.14/1992 regarding Traffic and Road Transportation
- Government Regulation No.41/1999 regarding Control of Air Pollution Control.
- Government Regulation No. 74/2001 regarding Hazardous Material Management.
- Government Regulation No.82/2001 regarding the Management of Water Quality and Water Pollution Control.
- Government Regulation No. 18/1995 and 85/1999 regarding Toxic and Hazardous Waste Management.
- Minister of Mines and Energy Regulation No. 103.K/088/M.PE/1994 regarding Supervision of Implementation of Environmental Management Plan & Environmental Monitoring Plan (RKL-RPL).
- Minister of Environment Decree No. KEP-42/MENLH/10/1996 regarding the Standards of Liquid Wastes of Oil and Gas and Geothermal Activities.
- Minister of Environment Decree No.13/MENLH/3/1995 regarding the Standard of Emission from Fixed Sources.
- Minister of Environment Decree No.35/MENLH/10/1993 regarding the Standard of Gas Emission of Vehicle Exhaust.
- Minister of Environment Decree No. 48/MENLH/11/1996 regarding the Standard of Noise Level.
- Minister of Environment Decree No. 111 of 2003 regarding the Permit Guideline for the Waste Water Discharge to the Environment.
- Minister of Environment Decree No. 115 of 2003 regarding Determination of Guideline for Water Quality Status.
- Local Governor's Regulation regarding the Water Quality Standards and its Usage in Province.

8.4 Organization

The organization structure that includes Company's SHE organization, SHE organization in site and SHE committee organization are as follows :

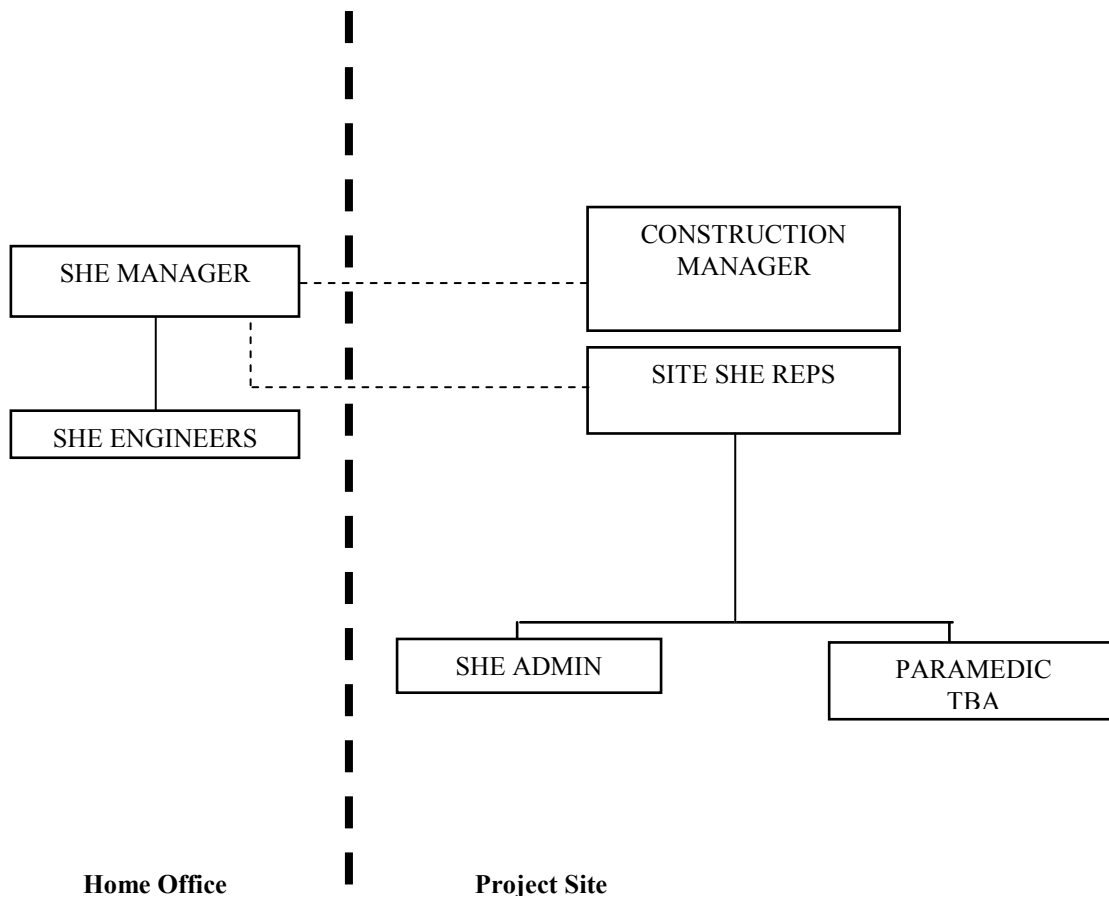
8.4.1 Company's Organization Structure

SUPREME ENERGY will assign a representative to each work. The representative shall, among others :

- a. Have the highest authority for the whole work activities
- b. Responsible to manage the work safely

8.4.2 Company Site Organization Structure

A typical Company organization structure at site is as follows :



Note:

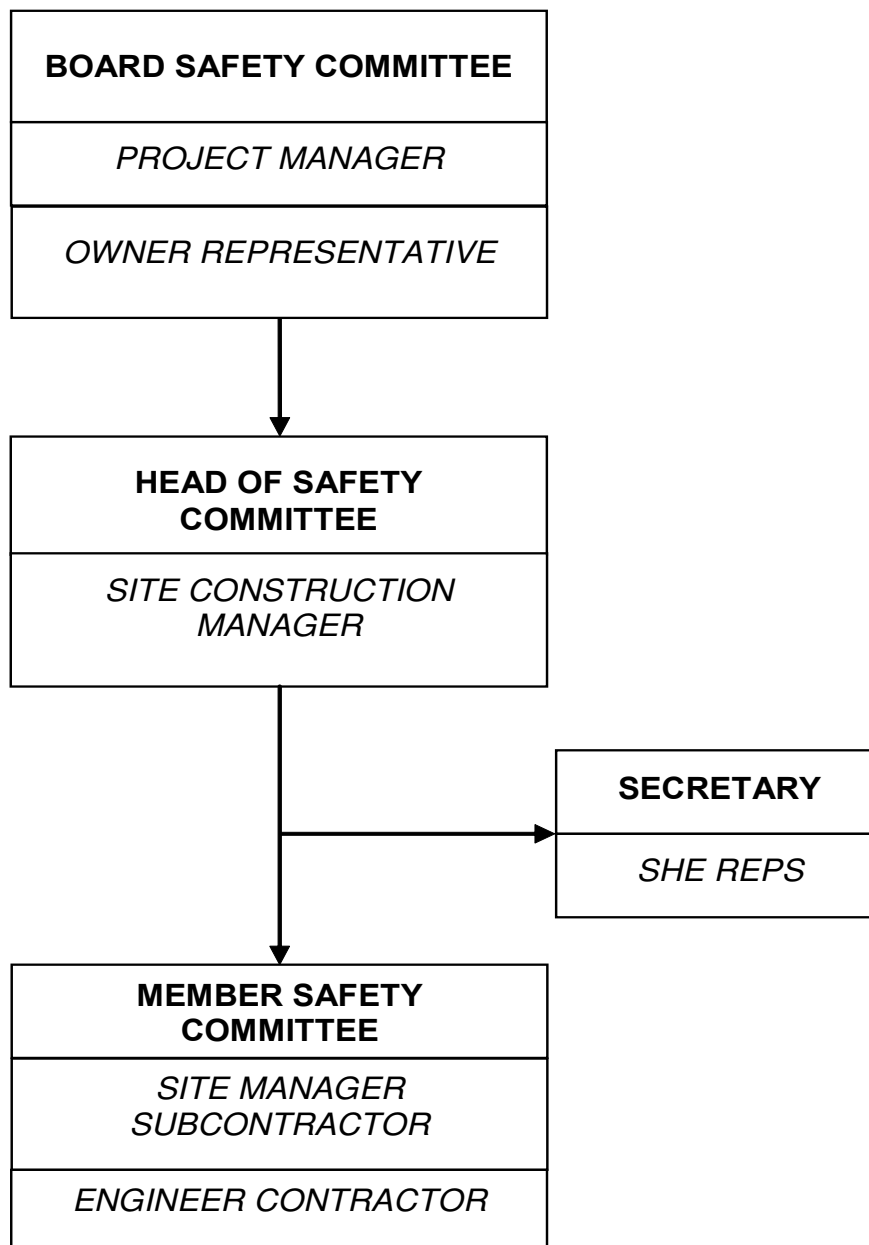
----- Coordination Line
 ————— Structural Line

The project site organization structure is depicted above. The typical key positions are Site Construction Manager, Field Administration Manager, Site SHE Representative, Security Supervisor, Field Relations, and Field SCM.

8.4.3 SHE Committee

Each major activity shall have a SHE Committee that consists of the Managers and SHE Representative from Company, Contractors and Subcontractors.

SHE COMMITTEE ORGANIZATION



8.5 Responsibility of Key Personnel

8.5.1 Project Manager / Drilling Manager

- Enforce and implement SHE Procedures (WP) and Work Instructions (WI) to ensure SHE control and compliance related to activities at SUPREME ENERGY sites.
- Ensure compliance to legal and other requirements.
- To ensure development of SHE Procedures and Work Instruction.

- d. Identify significant aspects and impacts (hazards and risks) and ensure the implementation of appropriate control measures.
- a. To provide all necessary equipment, personal protective equipment (PPE) and proper attire to they're workers including Sub-Contractor's workers.
- b. To provide adequate SHE training to their workers required to perform the work safely.
- e. To report all accidents / incidents immediately direct to SHE Organization / SHE Committee / Representative.
- f. Monitor SHE performance and routinely report to the COMPANY.

8.5.2 Site Construction Manager / Site Support Manager / Drilling Supervisor

- a. To assist the Project Manager in all levels / areas of implementing the SHE Management System at site.
- b. Site Construction Manager is the top leadership / chairman of the site safety committee.
- c. Bear responsibility of maintaining the safety of all personnel in the workplace.
- d. Has authority to stop any operation or activity that constitutes a hazard to personnel or could result in loss of equipment or facility and environment.
- e. To investigate and report all incidents / accidents to SUPREME ENERGY representative.
- f. Carry out the approved SHE program for the work / project.
- g. Authorized to take necessary action against SHE violation by other Contractor's or Subcontractor's personnel.
- h. To be a good role model of SHE to the subordinates.
- i. To comply with related Agreement.

8.5.3 Contractor Management / Supervisor

- a. To ensure workplace are safe for conducting the work.
- b. To prepare JSA and consult with SHE Department in task / job responsibility.
- c. To ensure that all persons reporting to them are trained in Work Instructions (WI) and ensure compliance to SHE Procedures (WP) / Work Instructions (WI) which are related to their activities.
- d. To report all unsafe acts and unsafe conditions to their superior immediately.
- e. To report all accidents / incidents in their area and related areas to their immediate superior.

- f. To ensure all personal protective equipments (PPE) are worn.
- g. To maintain good housekeeping and physical arrangements.
- h. To attend all SHE trainings and meetings when requested.
- i. To participate in SHE Inspections / Audits

8.5.4 Other Contractor Employees

- a. To comply with related Procedures (WP) / Work Instructions (WI) that is related to their activities.
- b. To assist in any accidents / incidents investigation in their area.
- c. To maintain good housekeeping and physical arrangements.
- d. To ensure all tools and equipment are suitable for the work being performed and free from defects.
- e. To attend all SHE training and meeting requested by the Contractor Management.
- f. To use all required personal protective equipment (PPE).

8.5.5 Site SHE Representative

- a. Assist Project and Drilling Management in providing risk assessment related to SHE aspects.
- b. Overall management of the SHE training.
- c. Train Project and Drilling Key Personnel in applying SHE system
- d. Ensure workplace are safe for conducting the work.
- e. Conduct routine SHE Inspection and Audit to ensure that all SHE activities at site are implemented.
- f. To identify local legal and other requirements.
- g. To establish related Procedures (WP) and other related documents on SHE.
- h. Ensuring all SHE procedures are available at the work site.
- i. Administration of SHE documentation & maintaining statistic on SHE matters for the project / activity (man power, man hours, first aid case, medical treatment case, lost time injury, fatality, vehicle accident, SHE inspection, safety talk, work permit record, etc).
- j. To coordinate and investigate all incident / accidents which has happened in the workplace.
- k. To conduct training and education programme for Site SHE Committee members.

- I. To administer Site SHE Committee and become secretary of the Site SHE Committee.

8.5.6 SHE Committee Chairman (Site Construction Manager / Drilling Supervisor)

- a. To chair Site SHE Committee Meeting.
- b. To select Site SHE Committee members.
- c. To plan overall schedule of SHE Management Programme(s) to achieve the planned Objectives and Targets.
- d. To plan the budget and seek for approval if necessary for implementation and improvement activities.
- e. To coordinate team members participation and identify improvement through brainstorming.
- f. To implement and monitor progress of SHE Objectives and Targets.
- g. To take necessary corrective and preventive action to achieve SHE Objectives and Targets.
- h. To ensure the availability of related Work Instructions (WI), conduct training and education for related personnel.
- i. To ensure compliance to legal and other requirements.
- j. To present SHE Objectives and Targets during Site SHE Committee Meeting, and Management Review Meeting.
- k. To communicate Safety Committee decision to all workforce.
- l. To communicate audit findings to all party concerned and submit the audit report for Management Review.

8.5.7 Site SHE Committee Member

- a. To promote cooperation amongst all levels of management.
- b. To conduct workplace inspection.
- c. To prepare, review and update SHE Management Programme(s), activities and related documents.
- d. To keep under review the measures taken to ensure implementation of SHE in the company.
- e. To study the trends of accidents / incidents data.
- f. To review the effectiveness of SHE management system and programme(s).
- g. To investigate any accidents / incidents at the worksite.

- h. To ensure all recommendations / corrective actions are fully implemented.
- i. To attend any meeting and training related to SHE issues.
- j. To prepare schedule action plan of SHE program.
- k. To conduct internal SHE audits.

8.6. Documentation and Data Control

Contractor shall establish and maintain all information related to SHE Management System in paper or electronic form.

All SHE issues will be documented and the records maintained at the job site. All documentation and records should be :

- Legible
- Identifiable and retrievable..
- Stored and maintained to avoid loss or damage for a certain period.

Documentation and records will include:

- Environmental and Injury incident and investigation report.
- Loss prevention records.
- Equipment inspection records.
- Non-conformance and corrective actions.
- Training records.
- Induction records.

The following statistical records will be maintained and recorded and will be documented in the written minutes from the weekly review meetings:

- Total Man Power
- Total Man Hour
- SHE activities (inspection / audit, induction, safety talk, etc)
- Incident / accident case (first aid, medical treatment, loss time, fatality, vehicle, environment, etc)

The Contractor's Chief SHE will maintain statistical data in the statistic board SHE summary. A copy of this statistical data will be submitted to SUPREME ENERGY and Contractor home office on a monthly basis.

4 SAMPLE OF PROJECT SAFETY HEALTH AND ENVIRONMENT MANAGEMENT PROGRAM

No	SHE Activity Plan / Expectation	Procedure / Appendix Reference	Tools	What's to be done?	How do we check?	Frequency	Primary Responsibility
V.1 Communicate CONTRACTOR SHE Policy and procedures to all employees, sub-contractors, client and other stakeholders as appropriate to ensure they aware of their obligations with respect to CONTRACTOR'S operation.							
1	Conduct orientation / induction for employees, subcontractors and visitors to the site		Project Induction Guideline	Induction to all EMPLOYEES, including subcontractor staff and visitor	Personal induction record is maintained.	New hire employees, transferred employees and visitor	Site Construction Manager, Field Administration Manager and Site SHE Representative
			Project Staff Induction Record				Contractor Management
							Contractor's Chief SHE
2	Conduct regular meetings with Company, subcontractors and employees to discuss SHE issues		Daily Tool Box Meeting	A SHE discussion for each group on worker readiness, work plan for that day and possible JSA.	Record of Daily Tool Box Meeting for attendance and topics.	Every starting of shift work	Supervisor
					Site top management have to attend this daily tool box meeting		
			Weekly Construction Meeting	Construction progress coordination and discussion meeting, include SHE issues	Minutes of meeting record with SHE as the first agenda	Weekly	Site Construction Manager
			Safety Committee Meeting	Discuss SHE issues and Project progress	Minutes of Meeting of record and attendance record	Monthly	Site Construction Manager
3	Conduct periodic basic safety training to communicate safety to all employees of contractor and subcontractor to communicate our safety expectation		Basic Safety Training	All project personal	Basic Safety attendance record	Minimum 1 time a year.	Project Manager, Site Construction Manager. Contractor's Management and Contractor's Chief SHE
4	Ensure employees receive safety training appropriate to their task and responsibility		Internal Training Course	Training Nomination Form must be filled out prior to any training taking place	Form to signed off by Project Manager prior to training taking place	Every time proposing to attend a course	Site Construction Manager and SHE Representative
			Training Attendance Sheet	Records have to be kept of all persons attending training	Training attendance sheet completed	At every training course	Contractor Management and Chief SHE

The revision and distribution of this SHE Procedures is strictly controlled and copies shall only be made upon the authority of SUPREME ENERGY

No	SHE Activity Plan / Expectation	Procedure / Appendix Reference	Tools	What's to be done?	How do we check?	Frequency	Primary Responsibility
			Training Register	Records have to be kept of all persons attending training	Training attendance sheet completed	At every training course	Project SHE Officer or SHE Supervisor
5	Establish SHE promotional material to improve the employee awareness		Safety Notice Board	Display all policies, Safety minute of meeting, review result of inspection, incidents, audits and others	Safety notice boards are placed in each work areas and displaying	Monthly	Project SHE Officer or SHE Supervisor
			Safety Performance boards	Display project performance review against its objective and target	Safety performance board placed in infront of REK office and displaying project performance review result	Update Weekly	Project SHE Officer or SHE Supervisor
			Safety Alerts	A Safety Alert shall be produced for high actual or potential incidents	Safety Alerts produced and displayed	Each occurrence	Project Manager, Construction Manager, Project Chief SHE or SHE Superintendent or SHE Manager
				Follow up all relevant corrective action of incoming safety alerts from other projects	Follow up action incorporated into the Project SHE Plan	As Job condition require	Project Manager, Constructon Manager, Project Chief SHE or SHE Superintendent or SHE Manager
			Cautionary and Warning Sign	Develop and display relevant cautionary and warning sign (list of warning sign like tape barricade, etc)	Cautionary and warning signs developed and displayed on the hazardous work places	Once when it's determined	General Superintendent
V.2 Comply with all applicable SHE laws, regulations, and statutory obligations.							

No	SHE Activity Plan / Expectation	Procedure / Appendix Reference	Tools	What's to be done?	How do we check?	Frequency	Primary Responsibility
1	Ensure that we are fully informed of all applicable health and safety laws, regulations, statutory obligations and Company Safety requirement and comply with those laws and regulation		Legal Gap Analysis	Review all relevant legal aspects project such as: relevant statutory requirements, contractual requirements and Company SHE requirements	Legal Gap Analysis is developed and reviewed. Project procedures or working instruction may be developed to fill the gap	At start of project and as a result of any amendments to legislations and client requirements	Project Manager, Construction Manager, Project Chief SHE or SHE Manager
2	Keep abreast of any changes in laws, regulation		Government decrees, articles and amendments	Review all changes of those government reference	The changes are identified with a specific mark in the Legal Gap Analysis	Whenever required	Construction Manager
V.3 Ensure that health and safety management and practices are incorporated into all aspects of Contractor operations							
1	We will analyze all areas of our activity and identify the risk rank		JSA & Risk Assessment	Identify all common hazards and risks, which are associated with each project activity	Conceptual Risk Assessment is developed	At start of project / every starting of job	Project Supervisor
2	Where those procedures are not applicable or suitable develop, implement and maintain specific workplace procedures to ensure operations are conducted in such a manner that eliminates the risk of injury, illness or damage.		Job Safety Analysis	JSA must be completed for new jobs and high-risk jobs.	Completed JSA	Prior to start of the jobs	Project Supervisor
			JSA Review	Ensure all JSA's are suited to jobs carried out	JSA Review report	During the job in progress	SHE Supervisor
			Workplace Hazard Inspection	Carry out workplace hazard inspection for each project work area	Checklist of workplace hazard inspection is completed, followed up and closed out	As per schedule	Project Supervisor and Chief SHE or SHE Superintendent
V.4 Seek to achieve the personal commitment of all employees, sub-contractors and suppliers to SHE workplace practices.							
1	Instigate a workforce safety performance		Project Safety Incentive Scheme	Safety Incentive criteria is established and communicated	Safety Performance is monitored and reviewed by committee	Monthly	Construction Manager

No	SHE Activity Plan / Expectation	Procedure / Appendix Reference	Tools	What's to be done?	How do we check?	Frequency	Primary Responsibility
	incentive scheme			Award available for Zero Lost Time Injury	Budget for Bonuses are allocated	Every 1.000.000 man-hours with out lost time injury	Construction Manager
2	Involve the workforce in the implementation of the safety program through the formation of a worksite Safety Committee		Project Safety Committee	Regular meetings, which attended all member of project safety committee.	Minutes of meetings is produced and communicated.	Monthly	Project Manager and Construction Manager
				Regular inspection, which are to carried out by all member of project safety committee.	A checklist for this inspection is developed and completed	Monthly	Chief SHE or SHE Superintendent
3	Provide Leadership on all issues of safety management		Workplace Hazard Inspection	All signatories carried out a workplace hazard inspection for their own area of responsibility	A checklist of this inspection is completed, followed up and closed out by relevant signatories, 85 % close out action	Monthly	Construction Manager, Project General Superintendent, Project Supervisor
			Project Safety Committee	All signatories take a part in Project Safety Committee, if appointed as a member of it	Signatories attended on meeting and recorded. Take a part on inspection	Monthly	Construction Manager
			Tool Box Meeting	All signatories involved in this meeting on their own area of responsibility	Signatories attended on meeting and recorded.	Daily	All Signatories. Project Supervisor and SHE Supervisor / Inspector.
			Safety Talks	All signatories involved in this meeting.	Signatories attended meeting and record	Monthly	All Signatories. Project S/V and SHE S/V or Inspector.
			Weekly Construction Meeting	All signatories involved in this meeting , with "safety" as the first agenda of meeting.	Signatories attended on meeting and recorded.	Weekly	Construction Manager
			Internal Safety Audit	All signatories carry out Internal Safety Audit (including sub-contractors)	Internal Safety Audit record	Monthly	Construction Manager, Project General Superintendent, and Chief/Superintendent or SHE Manager.
V.5 Provide SHE risk management systems and procedures that are relevant to the nature and scale of work undertaken							
1	Ensuring that operations are carried		Standard Instruction	Developing specific standard instruction or review existing or template standard instruction to be suited to the works	Standard Instruction is developed, communicated and maintained	All works shall covered by standard instruction	Project General Superintendent, Project Supervisor, and SHE Supervisor

No	SHE Activity Plan / Expectation	Procedure / Appendix Reference	Tools	What's to be done?	How do we check?	Frequency	Primary Responsibility
	out according to standard Company's approved procedures		Work Permit	A restriction and limitation to personnel in carrying out the works known as a high risk	Excavation Permit, Working at Height Permit, Radiography Permit, Hot Work Permit, Entry Into Confined Space Permit, Electrical Work Permit, Crane Permit, Cold Work Permit	As required	Project General Superintendent, Project Supervisor, and SHE Supervisor
			Job Safety Analysis (JSA)	JSA must be completed for new jobs, risk jobs, or jobs that are not covered by SOP or Standard Instruction prior to commencement of the jobs	Completed JSA (Job Safety Analysis)	Prior to commencement of the jobs	Project Supervisor
			JSA Review	Ensure all the jobs are carry out in accordance to JSA	JSA Review report, Updated JSA revision number	During the job in progress	SHE Supervisor
			Pre-start inspection	Inspection of all equipment and tools must be carried out before mobilize to site	Checklist completed	Before mobilize to site	SHE and Project Supervisor
2	Risks to health, safety and environment will be dealt with by elimination, or removal, substitution, design, redesign, or separation, administrative and personal protection		Pre-start inspection	Inspection of all equipment must be carried out	Checklist completed	Before mobilize to site	Operators, Project supervisor
			Preventive Maintenance Inspection	All plant and equipment are scheduled for maintenance	Checklist completed	As per Schedule	Project GSI and Mechanical Supervisor
			Workplace Hazard Inspection	Carry out workplace hazard inspection regularly	A checklist of this inspection is completed and closed out	weekly	Project Supervisor and SHE Supervisor
3	Provide risk identification and management in the work areas		Job Safety Analysis	JSA must be completed for new jobs, risk jobs, or jobs that are not covered by SOP or Standard Instruction.	Completed JSA	Prior to commencement of the jobs	Project Supervisor
			JSA Review	Ensure all the jobs are carry out suited to JSA	JSA Review report, Updated JSA revision number	During the job in progress	SHE Supervisor
			Hazard Reporting	Supervisory staff to enforce the reporting of hazards that may arise before, during and after the works	Hazard report is produced. Hazard register is maintained. Corrective Action is recorded	Every Day	Project Supervisor, SHE Inspector
4	Ensuring that operations are carried out according to applicable environmental standards		Standard Instruction	Developing environment standard instruction or review existing or template environment standard instruction to be suited to the works	Standard Instruction is developed, communicated and maintained	All works shall covered by standard instruction	Project General Superintendent, Project Supervisor, and SHE Supervisor.
V.6 Set measurable targets and seek to continually improve our SHE performance							

No	SHE Activity Plan / Expectation	Procedure / Appendix Reference	Tools	What's to be done?	How do we check?	Frequency	Primary Responsibility
1	Set the Safety Performance targets for the project		Project Safety Performance Target	To do better than the corporate target: LTIFR <0,7 and LTISR <0,7, with Fatality=0, Property Damages < 0, First Aid < 10	Safety Statistic Performance	Monthly	Construction Manager
				Corporate SHE Audit compliance rate minimum 90	Target is reviewed and communicated	As per schedule	Construction Manager
				Audit internal project minimum 1 sub-contractor per month	Target is reviewed and communicated	Monthly	Construction Manager
V.7 Periodically review and revise our SHE Policy and procedure to maintain CONTRACTOR relevance							
1	Conduct assessment and review of key personal SHE in implementing SHE Management System		Assessment SHE Management System Checklist	Formal review of the implementation SHE Management System and performance Project Manager or Chief SHE	Action plan from the review	Every 2 months or as required	Corporate SHE Manager and GM QC-SHE
2	The Plan will be audited regularly		Corporate SHE Audit	Corporate SHE audit shall be conducted on a regular basis	Corporate Audit Report	As per schedule	Construction Manager
			Internal Safety Audit	Every workplace shall be audited against the SHE plan by internal audit	Internal site SHE audit	Monthly	General Superintendent and Project Chief SHE or SHE Manager
VI.8 Prepared for emergencies and response quickly, effectively and with care to incidents resulting from CONTRACTOR operation							
1	Undertake and establish Emergency Preparedness		Emergency Response Plan	Develop emergency response plan and maintain its preparedness and equipment	Plan are regularly reviewed. The preparedness emergency equipment is checked regularly	Every Six-Month	Construction Manager, Project Chief SHE or SHE Superintendent
			Emergency Response Training	Ensure all personnel involved in Emergency Response Team have been trained in ERP	ERP induction will be given to Contractor representative and shall be trickled down to all Contractor employees by Contractor.SHE representative	Before project start	Company and Contractor SHE Representative
			Emergency Rehearsal	Practice the Plan by simulating an emergency situation	A written emergency rehearsal report	Quarterly	Project Manager, Construction Manager and Project Chief SHE or SHE Superintendent
			Site Medical Services and Ambulance	First Aid Facilities to be manned per day (Working Hours) by trained medic / paramedic	Medical Kit is maintained and completed	Every Week	Paramedic / Medical Officer

No	SHE Activity Plan / Expectation	Procedure / Appendix Reference	Tools	What's to be done?	How do we check?	Frequency	Primary Responsibility
			First Aid Training	Minimum of 10% of workforce and or ERP Team	Review Training Record	As per schedule	Construction Manager, Chief SHE or SHE Superintendent
			Rehabilitation Plan	Ensure that rehab plan is developed and agreed to by employee	Completed Rehab Plan	Every Rehabilitation Case	Construction Manager, Project Chief SHE or SHE Superintendent
V.9 Health : Prepared for Exercise Program							
1	Conduct Exercise Program		Gym or Exercise	All signatories involved in this Gym or Exercise	Signatories attended this Gym or Exercise	Weekly	Construction Manager, Project Chief SHE or SHE Superintendent
V.10 Rules and Regulation At Site							
1	Require not to smoke at office site and working area ; prohibit use drug and alcohol and carry weapon		Safety Notice Board and Project Induction	Contractor staff, Subcontractor staff and visitor	Result of Monitoring	Monthly	Construction Manager, Project Chief SHE or SHE Superintendent
V.11 Selection of Subcontractor							
1	Conduct selection our sub-contractor		SHE Questioner (CSMS)	All sub-contractor	Result of questioner High Risk Category > 50, 35 – 50 : Low Risk Category	Validity every 2 years	Project Manager, Project Procurement Manager and Project Manager SHE
V.12 Accident Investigation and Reporting							
1	Conduct Accident Investigation		Accident Investigation Form	All Major Accident and Minor Accident (First Aid)	Completed Accident Investigation Form	As per Event	Chief SHE or SHE Superintendent, Construction Manager
2	Regular report Accident		Accident Reporting Form	All Major Accident and Car Accident	Completed Accident Reporting Form	1 x 24 Hours	Chief SHE or SHE Superintendent
V.13 Safety Awareness Program							
1	In encourage Safety Behavior Awareness, will request to all employee to report all unsafe act and unsafe condition		Unsafe Act and Unsafe Condition Form	All unsafe act and unsafe condition	Completed Unsafe Act and Unsafe condition Form	Every Day	All employees

No	SHE Activity Plan / Expectation	Procedure / Appendix Reference	Tools	What's to be done?	How do we check?	Frequency	Primary Responsibility
2	In monitoring implementation SHE Management System at project site. Request project team to provide SHE Report	None	SHE Report Form	Implementation of SHE Management System, Man-Hours, Man-power, Total Accident for all employees of Contractor and Subcontractor	Completed SHE Report Form	Monthly	Chief SHE or SHE Superintendent
V.14 Health Program							
1	Conduct General Medical Check-up for all new employee of Contracor	Project Spec	General Medical Check-up Form	All employee of Contractor who is assigned to the Project	Result of General Medical Check-up	As require	Project Manager and Construction Manager
2	Conduct Pest Control/ Industrial Hygiene Control	Project Spec	Record of implementation the insect and pest nuisance	Contractor and Sub contractor Camp facilities and Work Area	Check the record	Every 3 month or more often depend on Government Authority requirement.	Paramedic
3	Conduct Canteen Inspection	Project Spec	Canteen Inspection Form	Canteen Facilities	The food hygiene and nutrition	Every 3 month or more often depend on Government Authority requirement.	Paramedic

V.15 PROJECT ENVIRONMENTAL OPERATION PROGRAM

No	Environmental Activity Plan	Procedure / Appendix Reference	What's to be done?	How do we check?	Frequency	Primary Responsibility
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No	Environmental Activity Plan	Procedure / Appendix Reference	What's to be done?	How do we check?	Frequency	Primary Responsibility
1	Waste Management Control	UKL / UPL ; EIA Document and RKL / RPL of AMDAL	Control the schedule waste management (Hazardous Chemical Material) and provide MSDS at site.	- Master List and inventory of scheduled waste, - Storage of schedule waste, - Company for handling waste schedule must registered by Government.	As required	Construction Manager.
						Project Chief SHE or SHE Superintendent
						General Superintendent
			Control the non-schedule waste through organic and non-organic waste	Weekly monitoring form completed	Weekly	Project Chief SHE or SHE Superintendent
						General Superintendent
2	Liquid Spill Control	UKL / UPL ; EIA Document and RKL / RPL of AMDAL	Provide oil container and oil traps by the site drainage	Monitoring form completed	Monthly	Construction Manager , Project Chief SHE or SHE Superintendent
3	Social Impact Management	Client requirement ; UKL / UPL ; EIA Document , and RKL/ RPL of	Conduct Community Development	Activity Report	as required	Construction Manager , Project Chief SHE or SHE Superintendent, and Project COMDEV Coordinator
		Client requirement ; UKL / UPL ; EIA Document , and RKL/ RPL of AMDAL	Conduct conflict management and response management	Conflict Report	as required	Construction Manager, Project Chief SHE or SHE Superintendent, and Project COMDEV Coordinator
4	Environmental Control and Monitoring	UKL / UPL ; EIA Document and RKL / RPL of AMDAL	Conduct Protection of all the environmental requirement (noise, dust, air pollution, erosion and land slide, liquid waste, water pollution and so on)	Monitoring form complete	as required	Construction Manager, Project Chief SHE or SHE Superintendent
5	Communicate Contractor Environmental Policy & Procedure	4210-GP-13-02, 4210-GP-13-05. APPENDIX EE	All project Contractor staff, subcontractor staff and visitor	Induction record, Record daily tool box meeting, minute of meeting and attendance all SHE Meetings	As required	Construction Manager, Project Chief SHE or SHE Superintendent
6	Establish Environmental promotional material to improve the employee awareness	None	Display in SHE notice board, in SHE performance board, produced environmental alerts and produced warning sign	Display all promotional material in best area	Refer to H&S Management Plan	Project SHE Supervisor
7	Analyze all areas of our activity and identify the risk rank		Identify all common hazards and risks, which are associated with each project activity use JSEA and Risk Assessment	Conceptual Risk Assessment is developed	At start of project / every starting of job	Project Supervisor
8	Instigate a workforce SHE performance incentive scheme		Incentive criteria is established and communicated	Performance is monitored and reviewed by committee	Monthly	Construction Manager

No	Environmental Activity Plan	Procedure / Appendix Reference	What's to be done?	How do we check?	Frequency	Primary Responsibility
9	Ensuring that operations are carried out according to environmental standard		Developing environmental standard instruction or review existing or template environmental standard instruction to be suited to the work	Standard instruction is developed, communicated and maintained	All works shall covered by standard instruction	Project General Superintendent, Project Supervisor and SHE Supervisor
10	Undertake and establish emergency preparedness		Develop emergency response plan and maintain its preparedness and equipment	Plans are regularly reviewed. The preparedness emergency equipment is checked regularly	Once a year for Fire Drill and Twice a year for Emergency Response Drill	Construction Manager, Project Chief SHE or SHE Superintendent
11	Conduct accident investigation and reporting		All major and minor accident	Complete accident and investigation form	As per event for investigation and 1 x 24 hours for accident reporting	Project Chief SHE or SHE Superintendent, and Construction Manager
12	Rules & Regulation at site: No smoking, use drug and alcohol and carry weapon		All project Contractor staff, Subcontractor staff and visitor	Result of monitoring	Monthly	Project Chief SHE or SHE Superintendent, and Construction Manager
13	Encourage behavior awareness		All unsafe act and unsafe condition	Complete unsafe act and unsafe condition form	Every Day	All employees
14	Audit the plan regularly		Corporate SHE audit will conduct regularly and monthly audit for internal project site	SHE Audit report	As per schedule for corporate audit and monthly for internal audit	Construction Manager, General Superintendent, Project Chief SHE or SHE Superintendent, and SHE Manager

5 PROJECT'S SHE ACTIVITY PLAN

No	ELEMENT	PROGRAM /ACTIVITY	PIC	SCHEDULE																					REMARKS
				DAILY						WEEKLY				MONTHLY											
				Mon	Tue	Wed	Thurs	Fri	Sun	1st	2nd	3th	4th	1	2	3	4	5	6	7	8	9	10	11	
1	LEADERSHIP	Provide SHE Committee	Construction Manager	When starting project																					
		Monthly SHE Committee meeting	Construction Manager											√	√	√	√	√	√	√	√	√	√	√	every month
		Weekly SHE internal meeting with all SHE Spv and Inspector	Chief SHE / SHE Superintendent							√	√	√	√												on Monday, every week
		Provide emergency response organisation (fire and rescue)	Construction Manager	When starting project																					
2	TRAINING	Basic Safety Training	Mgr / Chief SHE											√											(state when)
		Basic First Aid	Paramedic												√										(state when)
		Regular Safety Training at Project Site:																							
		Behavior Base Safety (BBS)	Mgr / Chief SHE										√											(state when)	
		Defensive Driving	Mgr / Chief SHE																			√		(state when)	
		Scaffolding	Mgr / Chief SHE												√									(state when)	
		Rigging and Lifting	Mgr / Chief SHE															√						(state when)	
		Job Safety Analysis	Mgr / Chief SHE														√					√		(state when)	

No	ELEMENT	PROGRAM /ACTIVITY	PIC	SCHEDULE																				REMARKS		
				DAILY						WEEKLY				MONTHLY												
				Mon	Tue	Wed	Thurs	Fri	Sun	1st	2nd	3th	4th	1	2	3	4	5	6	7	8	9	10		11	12
		Electrical Safety	Mgr / Chief SHE																√						(state when)	
		Fire Emergency Evacuation	Mgr / Chief SHE														√								(state when)	
		Gas Detector	Mgr / Chief SHE															√	√						(state when)	
		Basic First Aid	Mgr SHE														√								Before Assigned to Project (state when)	
3	MANAGEMENT OF SUB-CONT	Standard Instruction socialization	Chief SHE							√	√	√	√													
		Key Performance Indicator Assessment	Chief SHE											√	√	√	√	√	√	√	√	√	√	√	every month (state what date)	
		Conduct daily regular inspection	SHE Spv	√	√	√	√	√	√																	
		Area inspection	Chief SHE / SHE Superintendent							√	√	√	√												every week (state day)	
4	SHE IN CONSTRUCTION ; COMMISSIONING ; DRILLING	Provide JSA, Risk Analysis, Quality Plan, Rigging Plan, Construction Method and Provide Drawing Activity Area for all activities	Spv/SI	Based on project site activities																						

No	ELEMENT	PROGRAM /ACTIVITY	PIC	SCHEDULE																				REMARKS		
				DAILY						WEEKLY				MONTHLY												
				Mon	Tue	Wed	Thurs	Fri	Sun	1st	2nd	3th	4th	1	2	3	4	5	6	7	8	9	10		11	12
		Establish work permit for SHE operation control	Chief SHE	Based on project site activities																						
		Domestic waste and chemical material management	Chief SHE											√	√	√	√	√	√	√	√	√	√	√	3th week, every month	
		Environmental Monitoring & Control	Mgr / Chief SHE	Based on UKL / UPL ; EIA (AMDAL) requirements																						
		Pest Control / Industrial Hygiene Control	Paramedic											√			√			√		√			Every Three Month	
		Canteen Inspection	Paramedic											√			√			√		√			Every Three Month	
		Fume and Dust Monitoring	Mgr / Chief SHE														√					√			Two Times a year	
		Daily Hazard Assessment	SHE SI / SHE Supv	√	√	√	√	√	√																	Daily reporting
5	INSPECTION	Daily work area inspection	SHE Spv	√	√	√	√	√	√																	Daily reporting
		Weekly plan inspection	Chief SHE							√	√	√	√													every week (state what day)
		Fire extinguisher inspection	SHE Spv											√	√	√	√	√	√	√	√	√	√	√	√	every month (state what date)

No	ELEMENT	PROGRAM /ACTIVITY	PIC	SCHEDULE																				REMARKS	
				DAILY						WEEKLY				MONTHLY											
				Mon	Tue	Wed	Thurs	Fri	Sun	1st	2nd	3th	4th	1	2	3	4	5	6	7	8	9	10		11
		PPE inspection	SHE Spv											√	√	√	√	√	√	√	√	√	√	√	General safety talk 3rd week
		Equipment inspection before delivery to project site	Mgr / Chief / Superintendent SHE	Based on project site needs																					
		Heavy equipment inspection at project site	SHE Spv											√			√			√			√		Every Three Month
		Cable and Sling inspection	SHE Spv																						Every xx months (state when and what color)
		Machinery Inspection	SHE Spv												√		√		√		√		√		Every Two Month
		Hose for Pressure Bottle Inspection	SHE Spv							√	√	√	√												Every Week
		Hand Tool Inspection	SHE Spv												√		√		√		√		√		Every Two Month
6	COMMUNICATION	Safety induction and training (Basic Safety Training) for new employee and visitor	Mgr / Chief SHE	Based on project site needs																					

No	ELEMENT	PROGRAM /ACTIVITY	PIC	SCHEDULE																				REMARKS		
				DAILY						WEEKLY				MONTHLY												
				Mon	Tue	Wed	Thurs	Fri	Sun	1st	2nd	3th	4th	1	2	3	4	5	6	7	8	9	10		11	12
		Daily Tool Box Meeting	Spv or Foreman	√	√	√	√	√	√																	Before starting the jobs
		Weekly general safety talk	Chief SHE / SHE Superintendent							√	√	√	√													Before starting the jobs
		SHE Committee meeting	Project Manager											√	√	√	√	√	√	√	√	√	√	√	√	2nd week every month
		Safety promotion by banner, safety sign board & bulletin	Chief SHE / SHE Superintendent											√	√	√	√	√	√	√	√	√	√	√	√	1st week, every month
		Safety statistic board	SHE Spv								√	√	√	√												1st week, everyweek
		SHE Observation card (pelaporan UA & UC) program	SHE Spv & SHE Superintendent	√	√	√	√	√	√																	Summarized every week
7	EMERGENCY RESPONSE	Provide fire and emergency rescue team	Mgr / Chief SHE	When starting project																						
		Conduct Emergency Response drill	Construction Manager																					√	State frequency (at least once a year or once during the project)	

No	ELEMENT	PROGRAM /ACTIVITY	PIC	SCHEDULE																				REMARKS		
				DAILY						WEEKLY				MONTHLY												
				Mon	Tue	Wed	Thurs	Fri	Sun	1st	2nd	3th	4th	1	2	3	4	5	6	7	8	9	10		11	12
		Conduct fire drill	Construction Manager																			√			Conducted twice a year	
8	INVESTIGATION AND ACC. REPORT	Conduct Accident investigation for minor and major injury	Mgr / Chief SHE																						If Accident Happen	
		Report minor and major injury (1x24 jam)	Chief SHE / SHE Superintendent																						If Accident Happen	
9	DOCUMENTATION	Provide weekly SHE activities report	SHE Spv & SHE Superintendent							√	√	√	√												The end of the week	
		Provide monthly safety report	Mgr SHE											√	√	√	√	√	√	√	√	√	√	√		
		Review SHE Documenta-tion System	Mgr SHE											√	√	√	√	√	√	√	√	√	√	√	the end of the month	
10	AUDIT AND EVALUATION	SHE Monthly evaluation to sub-contractor	Mgr / Chief SHE											√	√	√	√	√	√	√	√	√	√	√	first of the month	

No	ELEMENT	PROGRAM /ACTIVITY	PIC	SCHEDULE																				REMARKS		
				DAILY						WEEKLY				MONTHLY												
				Mon	Tue	Wed	Thurs	Fri	Sun	1st	2nd	3th	4th	1	2	3	4	5	6	7	8	9	10		11	12
11	REWARD AND PUNISHMENT	Award to all employees for 1.000.000 million hour without Lost Time Injury	Construction Manager	Base on Man-Hours Project																						
		Award to the sub-contractor that show good performance in Monthly Evaluation	Construction Manager												√	√	√	√	√	√	√	√	√		√	last week of the month
		Monthly award to employee that show safety behaviour / reporting UA/UC	Construction Manager											√	√	√	√	√	√	√	√	√	√	√	last week of the month	
		Punishment to Sub-contractor and employee who give bad SHE performance	Chief SHE											√	√	√	√	√	√	√	√	√	√	√		

ATTACHMENT 1

CONTRACTOR OBLIGATIONS IN OCCUPATIONAL HEALTH AND SAFETY

Contractor shall be committed to conduct its operation in a manner that protects the safety of its employees, customers, contractors and the public.

Contractor shall strive to prevent accident, injuries, and occupational illness through the active participation of every employee.

Contractor shall be committed to continuous efforts to identify and eliminate or manage safety risks associated with its activities.

Therefore the Contractor shall :

- Comply with the relevant SHE legislation, regulation and any other associated requirement.
- Stress to all employees, Sub-contractors and other working on Company's behalf, their responsibility and accountability for safe performance on the job.
- Provide adequate instruction, training, and supervision of work.
- Set SHE objective and targets to achieve superior performance through the utilization of a continuous improvement process.
- Ensure that systems are developed and implemented to identify, assess, monitor, periodically review and control impacts related to Company business activities.
- Implement mechanisms to communicate with and obtain input from Company, employees, and Sub-contractors within the SHE Management System.
- Provide or arrange for medical services necessary for the treatment of employee occupational illness or injuries and for handling of medical emergencies.

Contractor shall recognize that the achievement of an effective Occupational Health and Safety Program demands the active and positive on going involvement of personnel at all levels.

ATTACHMENT 2
CONTRACTOR OBLIGATIONS IN ENVIRONMENTAL PROTECTION

Contractor shall conform to Company requirements ; UKL / UPL ; Environmental Impact Assessment Document , and RKL/ RPL of AMDAL. Contractor shall also meet the Government environmental regulations applicable to the work to be performed.

To realize this goal, Contractor will:

- Assess the environmental sensitivity of potential operating sites and the impact of our operations on the local and regional environments.
- Limit waste generation, discharge and emission by handling the risk of spills, leaks and accidental discharges.
- Maintain emergency preparedness plans and response capabilities.
- Demonstrate commitment through environment excellence.
- Be responsive to public attitudes and concerns.
- Commit appropriate means and resources to meet stated goals and standards to comply with applicable laws and regulations.
- Ensure that inspections, audits, reviews and follow-up actions are planned and carried out.
- Encourage concern and respect for the environment and emphasize every employee's responsibility for environmental performance to ensure appropriate operating practices.

ATTACHMENT 3
ALCOHOL, DRUG AND CARRY WEAPON POLICY

Contractor shall be committed to provide a safe, healthy, and productive workplace.

Company worksite where Contractor perform its job shall be free of alcohol, drugs, and weapon and banned substances. The misuse of legitimate drugs, alcohol and carry weapon or the use or possession of banned or controlled drugs on Company premises, is strictly prohibited.

Any employee taking prescribed drugs shall notify the Contractor's physician or medic to verify if he can work whilst under the influence of such medication.

Company reserves the right to conduct searches or perform tests to determine the presence of alcohol or drugs or carry weapon. Contractor employees who refuse to submit to alcohol and/or drug testing may be subject to disciplinary action which may lead to termination of employment.

