



المنطقة الحرة بالحمرية الشارقة
HAMRIYAH FREE ZONE SHARJAH

ENGINEERING, **E**NVIRONMENT **H**EALTH & **S**AFETY

Investors Information Kit

Rev.01/HFZA/EEHS/07-07-2017

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Building, Construction & Development Planning

PERMITS & CERTIFICATES

The Engineering division of the Hamriyah Free Zone Authority is responsible for the controlling the Construction, Development, Erection and Installation of Building Facilities, Plants and Equipment, by means of issuance of the following documents against applicable fees:

1. Building Permit - Building Completion Certificate - Operation Permit.

Building Permit: This permit is issued for six months, before the start of any new construction and modification to any existing facility. This permit is issued against approval of drawings, documents, NOC's as submitted by investor's appointed consultant & contractor holding valid Sharjah Economic License & HFZA valid registration.

2. Building Completion Certificate: Once the Construction is over the Consultant applies for a Building Completion Certificate along with all requirements as set out in the relevant section of Hamriyah Free Zone's Engineering regulation. The Consultant ensures completion of the building, with the basic electrical, telecommunication, mechanical, fire protection installations, and provision for health, safety, and sanitation/welfare.

Upon request from the Consultant the Authority inspects the facilities to issue a Building Completion Certificate if satisfied. In case the inspection is required to be repeated, charges will be extra.

3. Operation Permit: After obtaining a Building Completion Certificate and showing completion of the installation of plant and machinery, storage facility status as ready for operations, the Investor shall apply to the Authority for the issuance of a Operation Permit. The Authority ensures that full compliance with Free Zones Environmental Health & Safety Rules and regulation is made.

Unless an operation permit is obtained against completion of necessary documentation and payment of applicable fees, the facility operation would not be granted.

SERVICES

The investor's appointed consultant shall apply to the following services providing authorities (departments) for respective services connections, both for the Construction site and the Project, including the pre-built units. The application shall be forwarded in co- ordination with and through HFZA's Engineering Department.

Service Type	Department	
Power-Electricity	SEWA	Sharjah Electricity and Water Authority
Water	SEWA	Sharjah Electricity and Water Authority
Telephone services	Etisalat	United Arab Emirates Telecommunication &
Fire Fighting Prevention and control	Civil Defense	Sharjah Civil Defense Authority
Discharge and disposal to marine waters Industrial wastes, Health Inspection for Food stuffs and related items	Sharjah Municipality	HFZA in coordination with Sharjah Municipality
Ports related facilities and services	SPA	Sharjah Ports Authority
Passing over or close to the LPG pipe ways, Installations, facilities and others	SHALCO / AMOCO & others if required	Authority controlling the LPG terminal, Jetty and other facilities

All services related constructions, preparations, connections, installations and network are subject to inspection and testing and approval according to appropriate regulations and standards.

DESIGN PARAMETERS AND STANDARDS OF CONSTRUCTION

- All designs shall be based on current BS Standards or other acceptable international standards. Structural drawing submittals shall always be supported with design calculation sheets.
- The investor is responsible to carryout necessary ground and soil investigation tests, prior to start of any design work.
- The buildings shall possess a structural safety guarantee for at least 20 years from the date of hand-over.
- The minimum requirements for Structural Steel Works, Concrete Works both for the super and sub-structural level, Super and sub- sea level constructions to be in accordance with appropriate and international standard and per the current recommendations of HFZA authority.
- Fence Works: The site is to be fenced along with boundary lines within 60 days of the start of the lease and in accordance with the approved plan. The fence and accessories including the gates, security cabins materials type and design shall also to be of an approved specification.
- Road Access: Adequately illuminated Road access, minimum 6 m wide along with inside boundary lines and to all buildings and other facilities. This will also meet the minimum set back requirement from the boundary lines. The finish level of black top by all means shall not be less than 200 millimeters than the nearest main or approach road top. No direct access to ports main roads is permissible.
- Plot level shall be at a minimum height of 350 millimeters from the approach road's edge. Internal clearance to offices ceilings shall be minimum 2.5 meters, for warehouses and shades minimum 5.0 meters.
- The Built-up Area in any case should not exceed the permissible limit of 60% of the total plot area.
- A Minimum setback of 06 meters for any construction from the boundary fence towards the neighboring plot area to be maintained. The same offset shall be kept free from any storage as well.

- Temporary Construction - Site Plan: Approval shall be obtained for the setting of all buildings, sheds and temporary' structures sanitary and drainage facility, laydown areas, stores, excavation works for the construction of the new development and shall satisfy, in respect of adequate provisions for safety, health hazards. At the completion of construction all these structures to be demolished in an appropriate manner and the site to be returned to the original or up to the acceptance condition to the authority.
- Investor shall obtain necessary approval for installation of any kind of temporary facilities like portacabin, containers (For HFZ permitted activities only) during construction or post construction period by following all EEHS rules & regulations upon settlement of applicable charges.
- The Investor and its appointed consultant/contractor by will be accountable for any damage to the existing services, utilities, facility and structures.
- Design Calculations: Structural drawing submittals shall always be supported with design calculation sheets.
- Industrial Construction: A third party and independent Inspections and testing agency's certification will be required for all industrial constructions, such as: Racks, Pipe ways, Towers, Cooling Towers, Chillers, Conveyors, Tunnels, Shafts, Chimneys, Storage Tanks, Reservoirs, Boilers, Cranes, Lifting Equipment's, pressure Vessels and wherever applicable.
- Roof System: The roof system shall bear adequate out-fall, leakage free and accessible type, the gradient of the roof shall confirm to an appropriate ratio. The gutter, channels and downspouts etc., shall confirm to the industry standard.
- Sanitary Works: The sanitary facility shall be included with hot and cold water services, appropriate portable water points, proper drainage, traps and gullies, well ventilated, standards filtering and manholes and finished. The facility utilization shall confirm to the following parameter: -

Male		Female	
Where no urinals are provided:			
Up to 100 men	1 WC and 1 wash basin for every 10	Up to 100 women	1 WC and 1 wash basin for every 10
100 men Or more	1 WC and 1 wash basin for every 20	100 women upwards	1 WC and basin for every 20
Where urinals are provided:			
Up to 100 men	1 WC for every 25		
	1 Urinal and 1 wash basin for every 10		
100 men Or more	1 WC for every 40		
	1 Urinal, 1 wash basin for every 20		

- Telecommunication: Telephones installations shall be in line with Etisalat rules and regulations.
- Electrical Works: All electrical works shall be in accordance with SEWA rules & regulations, instructions and guidelines.
- Water Works: All water works shall be in conformance to SEWA approved drawings, documents, guidelines and instructions.

- Storm Water Drainage: An appropriate System based on zero accumulation of water shall be considered for all exposed surface, including the Roof Tops, Roads, Pavements, Landscaping areas and other areas.
- HVAC: Ventilation and Air-condition requirement shall be taken in co-ordination at design stage for all facilities, confirming to the public and occupational Health requirements. The system shall introduce an efficient odor abatement provisions.
- Fire Protection, Prevention and Control Facilities: At design stage all provision shall be considered for all the internal and external areas in compliance with the investors to satisfy HFZA EEHS and Sharjah Civil Defense requirements. The system shall have a basic objective to protect the people property and assists from any fire or other hazards.
- Utilities: The following are the different procedures and details of the utilities local departments, which has to be followed by investors.

A. Electricity: The electricity to HFZA is supplied by Sharjah Electricity & Water Authority.

The warehouses have been installed with different electrical power load capacity ranging from 30 kW-150kW. For further power up-gradation shall be considered subject to SEWA approval.

A.1 Requirements for leased plots to build plants/buildings/industries:

Prior to obtain the required Building Permit, leveling & fencing NOCs and drawing approvals are to be obtained from Civil Defense, Etisalat, Gas & SEWA-Water & Electricity. A set of original to be submitted to HFZA-Engineering Department for HFZ review & consideration.

B. Civil Defence Authority: Fire Preventive and controlling measures are required to be approved by Civil Defense Authority, in accordance with the following rules:

B.1 Requirements for leased warehouses, offices or shops.

The warehouses, office or shops has its own pre-built fire alarm and firefighting system approved by Civil Defence Authority. No additional approval required unless the nature of business demands so

For Modification Works: If the investor feels it necessary to have modifications in his premises, prior to obtaining the required building permit from HFZA, they should obtain N.O.C. for the below mentioned drawings from Civil Defense Dept. and submit the same in 1 (one) sets to HFZA:

- Plot Plan Layout.
- Fire/Alarm System Layout.

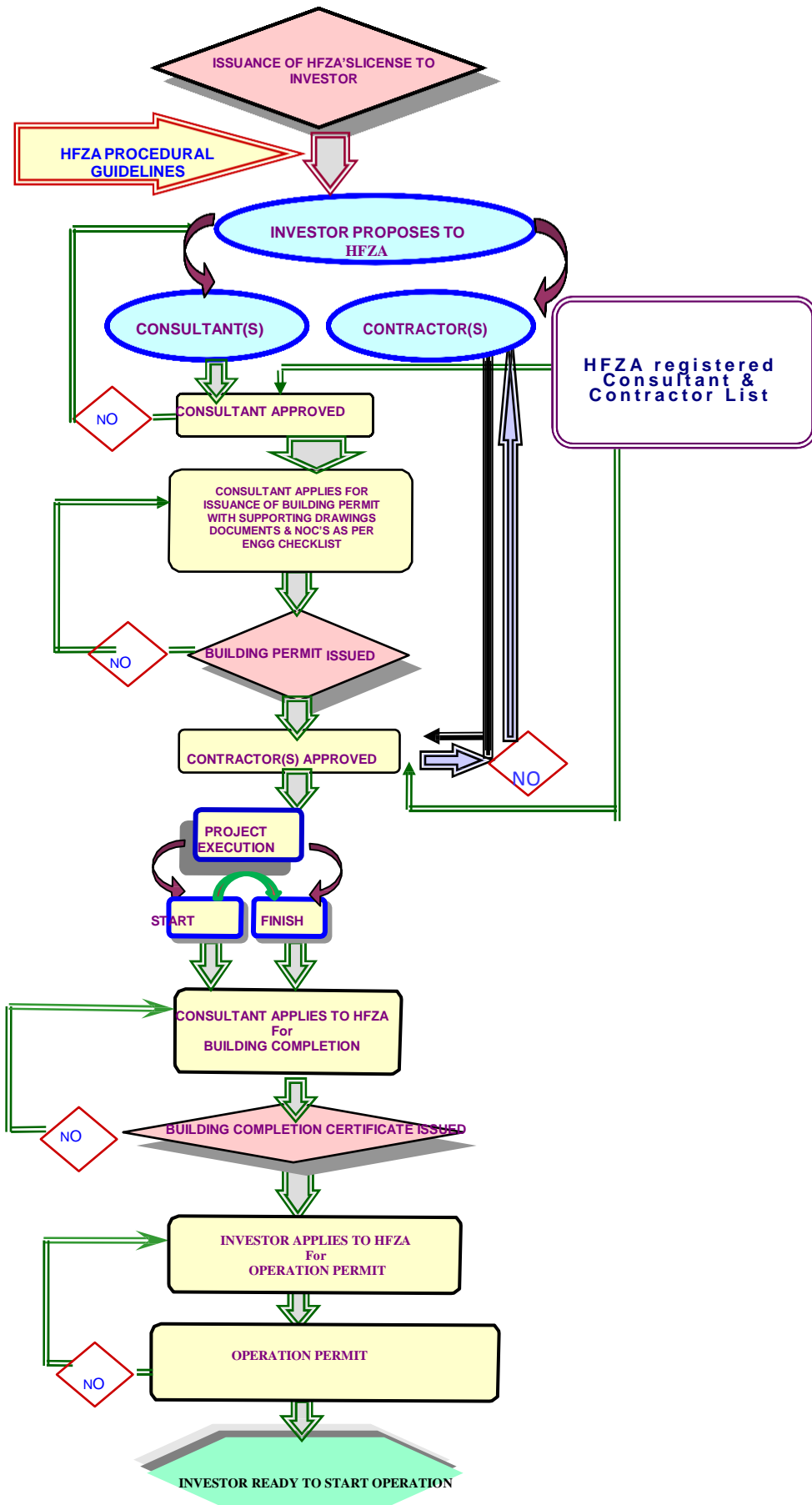
HFZA ENGINEERING DEPARTMENT Applicable Service Charges & Penalties

S.N	SERVICE HEAD	DESCRIPTION/ REMARKS	UNIT	CURRENT CHARGES (AED)
1	Plot Demarcation/Re-demarcation	Up to 20,000 SQM	SQM	800.00
2	Plot Demarcation/Re-demarcation	From 20,000 SQM upto 50,000 SQM	SQM	1,200.00
3	Plot Demarcation/Re-demarcation	Above 50,000 SQM	SQM	2,000.00
4	NOC - Certificate	Leveling & Fencing NOC	Each	50.00
5	NOC - Certificate	Drawing Approval NOC	Each	50.00
6	NOC - Certificate	NOC for Opening File Only	Each	50.00
7	NOC - Certificate	NOC for Permanent Services Connections	Each	50.00
8	NOC - Certificate	NOC for Pipeline routing	Each	50.00
9	Pipeline	Road Cross Cutting and Laying Pipe upto 12" (Each Pipe)	Each	5,000.00
10	Pipeline	Road Cross Cutting Refundable Deposit per Pipe	Each	2,500.00
11	Building Permit	Built up area charges	SQM	2.50
12	Building Permit	Contractor Refundable Deposit	Each	5,000.00
13	Building Permit	Renewal of BP for Six Months	Each	500.00
14	Building Permit	BP amendment Fee	Each	500.00
15	Building Completion Certificate	BCC Issuance Fee	Each	500.00
16	Building Completion Certificate	Renewal of BCC for Six Months	Each	500.00
17	Building Completion Certificate	BCC Re-inspection Fee	Each	500.00
18	Building Completion Certificate	Urgent BCC Re-inspection Fee	Each	1,000.00
19	Operation Permit	Operation Permit (OP) Issuance Fee	Each	500.00
20	Operation Permit	Renewal of OP	Each	500.00
21	Signboard	Investor's Signboard Approval Fee	Each	500.00
22	Signboard	Investor's Signboard Area Charges (AED. 50.00 per SQM)	Each	50.00
23	Drawings	General Affection Plan/Plot Plan (Drawing A4)	Each	100.00
24	Drawings	General Affection Plan/Plot Plan (Drawing A3)	Each	150.00
25	Drawings	General Affection Plan/Plot Plan (Drawing A2)	Each	200.00

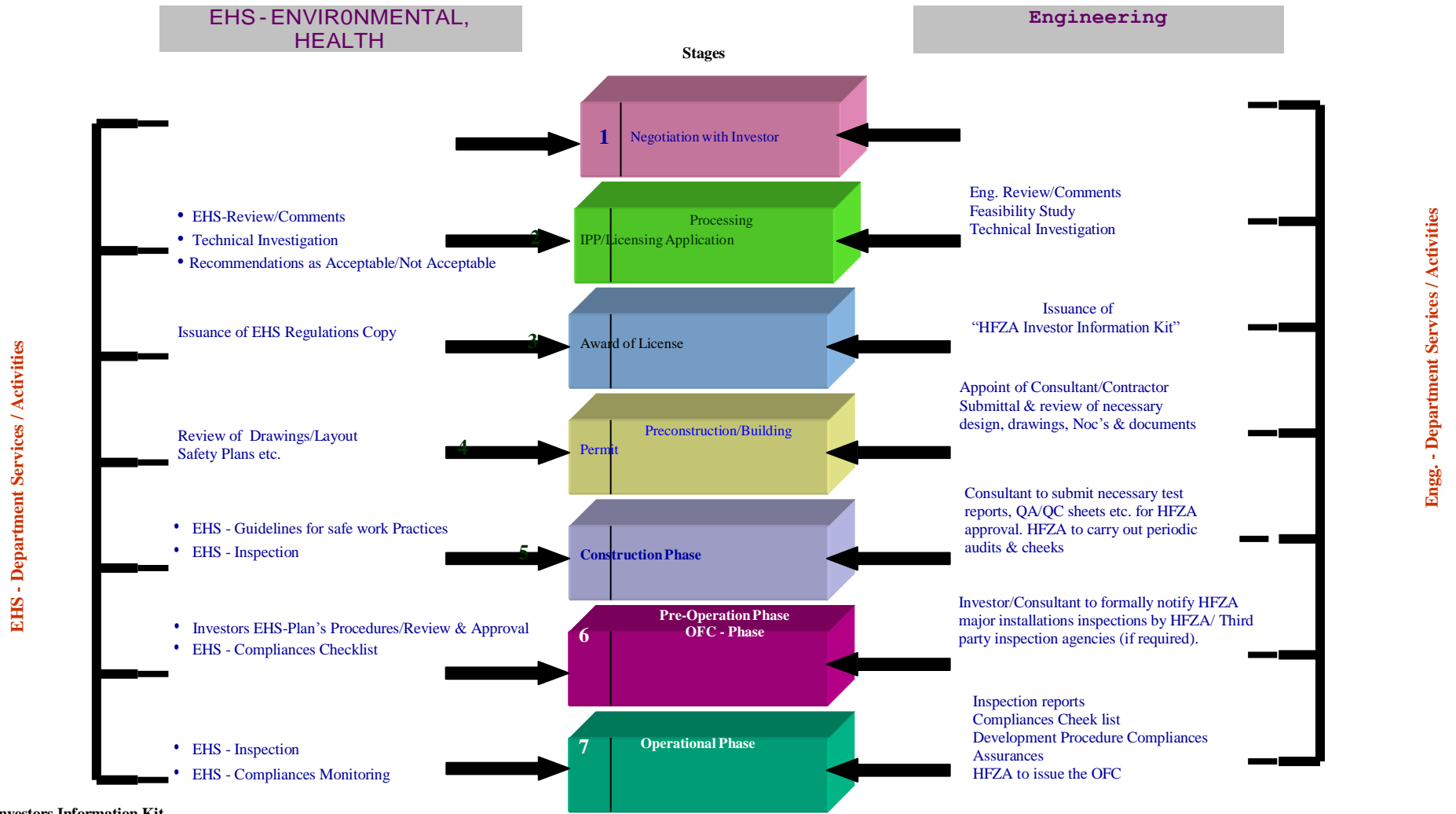
26	Drawings	General Affection Plan/Plot Plan (Drawing A1)	Each	250.00
27	Drawings	General Affection Plan/Plot Plan (Drawing A0)	Each	300.00
28	Drawings	General Affection Plan/Plot Plan (Soft Copy of Plot Drawing-CD)	Each	500.00
29	Drawings	Copy of Service Drawings / All other drawings in CD	Each	500.00
30	Drawings	Copy of Service Drawings / All other drawings in Hard Copy	Each	100.00
31	Temporary Facility/Portacabin	Temporary Portacabin/Container Approval Charges (6 Months Only)	Each	3,000.00
32	Other Charges	Change of Contractor Fee	Each	1,000.00
33	Other Charges	Change of Consultant Fee	Each	1,000.00
34	Other Charges	Warehouse Modification Fee	Each	2,000.00
35	Other Charges	Refundable Deposit for W/H Modification Works	Each	5,000.00
36	Penalty	Construction works not as per the approved HFZA SLP	Each	10,000.00
37	Penalty	Construction without BP	Each	30,000.00
38	Penalty	Operation without OP	Each	20,000.00
39	Penalty	Modification on investor's facilities without obtaining HFZA approval	Each	15,000.00
40	Penalty	Leveling & Fencing without HFZA Approval	Each	5,000.00
41	Penalty	Late Renewal Fee up to 45 days – BP / BCC / OP	Each	500.00
42	Penalty	Late Renewal Fee more than 45 days – BP / BCC / OP	Each	1,000.00
43	Penalty	Late Renewal Fee more than 3 months – BP / BCC / OP	Each	2,000.00
44	Penalty	General Violation		Case to case

Please be advised that the Hamriyah Free Zone reserves the right to revise data and rates when required.

FLOW CHART FOR PROJECT DEVELOPMENT PROCEDURE



ENGG. & EHS DEPARTMENT'S WORK PLAN FOR INVESTORS



Environment, Health & Safety (EHS)

1. HAMRIYAH FREE ZONE'S ENVIRONMENTAL HEALTH & SAFETY AGENDA

Being an Environment friendly zone, it is expected that the Free Zone community including the Authority, Investors, Contractors and Suppliers and all employees will be committed to the following principles:

Compliance to Factors of Eco-efficiency: Critical factors for eco-efficiency in a company's operational practices are:

- Reduction of the material intensity of companies' goods and services.
- Reduction of the energy intensity of companies' goods and services.
- Reduction of dispersion of any toxic materials by companies.
- Enhancement to the material re-cyclability.
- Maximization of the sustainable use of renewable resources.
- Extended durability of companies' products.
- Increased services intensity of companies' goods and services.

Protection of the Biosphere: To minimize and strive to eliminate the release of any pollutant that may cause environmental damage to air, water, or earth or its inhabitants. To safeguard habitats. To minimize contributing to the greenhouse effect, depletion of the ozone layer, acid rain or smog. To minimize the creation of waste, especially hazardous waste, and wherever possible recycle materials. To dispose off all waste through safe and responsible methods. To make every effort to use environmentally safe and sustainable energy sources to meet our needs. To invest in improved energy efficiency and conservation in operations. To maximize the energy efficiency of products we produce and sell.

Risk Reduction: To minimize the environmental health and safety risk to our employees and the communities in which we operate by employing safe technologies and operating procedures and by being constantly prepared for emergencies.

Marketing Safe products and Services: To sell products or services that minimize adverse environmental impacts and that are safe as consumers commonly use them. To inform consumers of the environmental impact of our products or services.

Damage Compensation: To take responsibility for any harm we cause to the environment by making every effort to fully restore the environment and to compensate those persons who are adversely affected.

Disclosure: To disclose to our employees and to the public incidents relating to our operations that cause environmental harm or pose health or safety hazards. To disclose potential environmental, health or safety hazards posed by our operations, and we will not take any action against employees who report any conditions that create a danger to the environment or pose health or safety hazards.

Environment Directors and Managers: To continue to improve management resources to implement the Principles. This includes monitoring and reporting implementation efforts, and sustaining a process to ensure that the Board of Directors and Chief Executive Officer are kept informed of and fully responsible for all environmental matters.

Assessment and Audit: To conduct and make public an annual self-evaluation of our progress to implement these Principles and in complying with applicable laws and regulations throughout our operations. To work towards the timely creation of independent environmental audit procedures which we will complete annually and make available to the public.

2. HEALTH, SAFETY & ENVIRONMENTAL

- Report of Accident: Any serious injury and fatal accident shall be reported in accordance with the procedure given in HFZA's Engineering Environment Health & Safety Regulations. The first immediate verbal report should be made to HFZA Security Control Room at Phone # 5263070 and HFZA Health & Safety Executive on 056-2353116. An operator is available 24-hours and will do the needful to inform the police and concerned management etc.
- Collection of Domestic Wastes: Free Zone Authority has set and implemented in the zone a Domestic Waste Management System.
Necessary facilities and services in this regard are available. Charges in this regard will be as per the applicable tariff.
- Domestic Sewerage: At the moment all the facilities are operating on a septic tank and collection tankers system.
Charges in this regard will be to the reigning applicable tariff.
- Chimneys: The minimum height of any chimney shall not be less than 3m above the ridge of any building to which it is attached or adjacent. Chimney heights shall be assessed on the basis of estimated ground-level concentrations of the residual gases and taking account of local circumstances and recognized air quality standards or criteria. For any major industry/flare stacks chimneys height to be calculated through modelling study. Further stack height shall be decided after discussions and approval from EHS Department.
- Warehouse Internal arrangement: Arrangement in the warehouse shall confirm to international standards, the internal clear passage shall confirm to the requirement of safe maneuvering, in case of fire and emergency quick evacuation and minimum danger to the assets and storage goods. The Stack Piling shall be arranged in appropriate manner, preventing any collapse and by all means minimum 1.5M clearance to be provided from the ceiling. Heavy loose materials should not be kept at heights. Shelves shall confirm to stable and strong structural conditions. Shelves shall preferably consist of non-combustible materials. Adequate clearance shall be provided and coatings. The goods shall be kept with a suitable clearance from the edge of the shelves, wherever applicable.
- Storage:
Documentation: In all documents relating to dangerous goods the correct technical name of the goods shall be used and the correct description given with the U.N. goods classification. The precautions to be taken for different goods classes depending on their hazardous nature, could be keeping the dangerous goods for example:
 - Separate from other goods classes
 - Keeping it cool
 - Keeping in the dark
 - Keeping it dry
 - Keeping it in fireproof place.
 - Keeping it under inert gas
 - Keeping it in ventilation along the floor.
 - Keeping it under inhibitors

Liquefied Gas Storage:

Bulk storage of liquefied gases can be serious safety hazard unless correctly designed, erected and maintained. Safety shall be given prime importance at the design and planning of the facility. Storage for liquefied gases can be:

1. Fully-refrigerated, where the liquid is stored at its bubble point at near-atmospheric pressure; or
2. Full pressure, where the liquid is stored at ambient temperature; or
3. Semi-refrigerated, an intermediate approach where the liquid is stored below ambient temperature but at a vapor pressure above atmospheric.

Use of ods - ozone depleting substances

UAE is a signatory of Montreal Protocol for Ozone depletion substances; HFZ is committed to complement the Govts. Efforts/Instructions for controlling the "OSD's" include ozone depleting substances, including CFCs, HCFCs, HBFCs and Halons. HFZ encourages the use of environmental friendly alternatives and substitutes for ODS, such as HFCs, HCs and PFCs etc. in all the applied sectors including:

- | | |
|--|------------------------|
| a) Refrigeration and Air Conditioning. | e) Solvents |
| b) Aerosols | f) Fire Extinguishers. |
| c) Sterilants. | g) adhesives |
| d) Fumigants. | h) Coatings/Inks. |

3. INDUSTRIAL WASTE

Liquid: All liquid waste should be pre-treated at investor's facilities. The treatment must be done in accordance with the standard of Free Zone's Environmental Regulations. The investor will co-ordinate with the Free Zone Authority and other concerned authorities to seek approval to discharge the treated effluent to receiving medium, such as Municipalities Treatment Plant in Sharjah City, Land or Sea etc. Charges in accordance with the reigning tariff Structure.

Solid: Industrial solid waste conforming to nonhazardous class can be disposed of to Sharjah Municipality's yards in Sharjah, in accordance with the Municipality's criteria and applicable charges.

Hazardous Waste: The investor will be required to make special arrangements with the concerned authorities in this regard. Presently HFZA approved contractors are made available within the Free Zone for both the liquid and solid hazardous wastes.

Wastes Management: Management of all kind of waste to be in accordance with Free Zones applicable rules and regulations.

Hazardous Chemicals Handling: Chemical will be required to follow OSH\ guide # 3111 for "Hazard Communication Guideline for Compliance". This guideline is a part of Free Zones EHS-Regulation.

4. VIOLATIONS

Any violation related either to immediate or potential and of a Minor Case of Danger to Environment, Health & Safety, may be concluded by EHS Department on-the-spot verbal or off site written notification and instructions, which may be of the following categories: "Warning Notice", "Correction/Remedial Action Notice" and "Prohibition and Case of Operations Notice".

Materials Handling and Storing: Investor and its employees shall follow "OSHA MATERIAL HANDLING & STORING" guideline # 2236, which is a part of Free Zones EHS Rules and Regulations. This guideline covers, Potential Hares, Methods of Prevention, Moving, Handling Storing Materials, Use of equipment, Ergonomic Safety and Health Principles.

Material Safety Data Sheets: For investor dealing in Materials and Chemicals, are required to submit a materials Data Sheet for all the materials including Raw Materials, Additives, Admixtures and End Products. A guideline to prepare "MSDS" is provided in HFZ's EHS- Regulations.

No any kind of labour accommodation and illegal cooking activity is permitted in temporary or permanent facilities as per HFZA rules & regulations.

Job Site Safety: Safety at the job site is required for all active Construction, Development and maintenance projects. A guideline in this regard is provided in the Free Zones, EHS-Regulations.

Ground Seepage Control: The facilities installation should be made seepage proof by providing controlling measure including sealed layer of membranes.

Provision of Sanitary Facilities: Toilets: Toilet rooms should be well lit, ventilated to external air and should have self-closing and tight-fitting doors. European type water closet apartments should always be provided with supply of toilet paper and Asiatic type water closet apartments should be fitted with water tap at approximately 1 foot from floor level on the user's left hand side. All toilet rooms and fixtures should be kept in good repair and in a sanitary condition.

The use of common toilets in case both sexes are employed is strictly prohibited.

Male		Female	
Where no urinals are provided:			
Up to 100 men	1 WC and 1 wash basin for every 10	Up to 100 women	1 WC, 1 wash basin for every 10
100 men or more	1 WC and 1 wash basin for every 20	100 women upwards	1 WC and basin for every 20
Where urinals are provided:			
Up to 100 men	1 WC for every 25		
	1 Urinal and 1 wash basin for every 10		
100 men or more	1 WC for every 40		
	1 Urinal, 1 wash basin for every 20		

HFZA EHS Department Applicable Service Charges & Penalties

S.N	Services	Charges	Unit	Documents Required	Remarks
		(AED)		(if any)	
1	Initial amount charged in Lease Profile for Plot-based companies	10,000	1	1. Project Profile 2. Environment Aspect Study	Being collected for Lease Profile as EH & S service fee
2	Environmental Impact Assessment/Risk Assessment report review charge	7,500	1	1. Environmental Consultant Appointment Letter 2. Submission of EIA/RA Scope of Work (SoW) 3. EPD SoW approval	AED 7,500/- being the service charges for EIA/RA report review. No additional charges to be levied for this service
3	NOC to Sand Transfer	100	Per trip	Request Letter with No. of trips required/transferred	Already in practice formal approval may be granted
4	NOC to Ministry of Health (MoH)	500	1	Request Letter along with the License	3 to 7: already in practice. Formal approval may be granted.
5	NOC to Ministry of Environment & Water (MoEW)	500	1		
6	NOC to Sharjah Municipality – Food Control Section (FCS)	500	1		
7	NOC to Sharjah Municipality – Environmental Protection Section (EPS)	500	1		
8	NOC to Bee'ah	500	1		
9	NOC to Dubai Municipality	500	1		
10	NOC to Sharjah Ports & Customs	500	1		
11	Ambient Air Quality Monitoring (PM10, PM2.5, TSP, SO ₂ , NO/NO ₂ , NO _x , TVOC, CO.	3,000	Each Location		
12	Noise Monitoring	750	Each Location	Charges approved by Top Management	Already in practice with approval
13	NOC for Hydrotesting	500	Per Tank/Pipeline	1. Request Letter 2. HFZA registration copy of contractor 3. Hydro testing schedule 4. HFZA registered 3 rd Party Laboratory appointment	
14	NOC for disposal of hydrotested water	500	Per disposal	1. Request Letter 2. HFZA registration copy of contractor 3. Water Test Report 4. RT Dosage Report 5. Route Map	

15	N1OC for Dewatering	500	1	1. Request Letter 2. HFZA registration copy of contractor 3. Water Test Report 4. Disposal Mechanism 5. Routing	Currently these services are free of any charges. Approval is requested for the proposed charges.
16	NOC for Wet Commissioning	500	1	1. Request Letter 2. Wet Commissioning Procedure 3. Risk Assessment 4. Emergency Plan 5. Checklist	
17	Permit To Work for Radiography Testing	500/3 days 750/5 days 1,500/mo.	Per cycle	1. Request Letter 2. HFZA registration copy of contractor 3. RT Dosage Information 4. RT Safety Officer Details 5. Risk Assessment 6. Route Map (for Pipelines) 7. RT Schedule	
18	Trial Operations Inspections & Permit Charges	1,500	1	1. Request Letter 2. Trial Run Procedure 3. Risk Assessment 4. Emergency Plan 5. Checklist	Currently these services are free of charges. Approval is requested for the proposed charges
19	Vehicle Accident & NOC related Charges	Repair Charge + 250 per NOC	1	1. Accident Report 2. Emirates ID 3. License Copy 4. Quotation for rectifying the damages	Approval is requested for the proposed charges
20	EHS Violations – Minor	1,000	1	Based on verification of complaints or upon routine inspections	Approval is requested for the proposed charges
		xx	xx		As per Director's approval on a case to case basis.

Please be advised that the Hamriyah Free Zone reserves the right to revise data and rates when required.

HFZA EHS Department Functions

S.No	Activity / Services	List of Documents required from investor
1)	i. New Projects / Licence ii. Additional / Change in Activities / Licensee	i. Project Proposal ii. Preliminary Environmental Documents (as per checklist)
2)	Setting Layout Plan	i. Appointment of HFZA approved Environmental Consultant
3)	Building Permit	i. Appointment of HFZA approved FF/FA Contractor
4)	Building Completion Certificate	i. Original Inspection Certificate from Civil Defence
5)	Operation Permit	i. Environmental Impact Assessment (EIA) & Risk Assessment (RA) ii. Assembly & Evacuation Plan iii. EHS Method of Statement
6)	Operation Permit Renewal	i. Environmental Audit (EA) ii. EHS Method of Statement (if operation is changed) iii. Copy of valid Annual Maintenance Contract (AMC) for existing FF/FA System iv. copy of valid Defence Certificate
7)	Environmental Clearance	i. Appointment of HFZA approved Environmental Consultant ii. Scope of work for Environmental Impact Assessment (EIA) & Risk Assessment (RA) Study iii. Environmental Impact Assessment (EIA) & Risk Assessment (RA) Report
8)	Environmental Audit	i. Appointment of HFZA approved Environmental Consultant ii. Scope of work for Environmental Audit (EA) Environmental Impact Assessment (EA) Report
9)	No Objection Certificate for Chemical Import/Export and Store	i. Investor Request Letter ii. Material Safety Data Sheet iii. Precursor and chemical trade (if applicable) iv. Bill of Lading/Truck way bill v. Invoice vi. Country of Origin vii. Packing List viii. AMC for firefighting ix. Third Party certificate of Storage Tanks x. License Copy

EHS Guidelines For Safe Work Practices

Factors to be considered in setting up industries and transferring technologies to tropical and sub-tropical regions

1. The effect of heat on the skin.
2. The acceptability of PPE/C and the protection provided by it.
3. The effect of high temperatures on the rate of absorption of toxic substances through the intact skin.
4. The effect of high levels of sunlight.
5. Heat stress problems in non-acclimatized persons, particularly when they have to wear PPE/C.
6. The effect of climate on the stability of chemical substances.
7. The effect of climate on equipment operation and maintenance.
8. The effect of climate on sampling and monitoring equipment and results.
9. The combined effect of the increased respiratory rate, the absorption of chemicals and altered level of normal bodily functions resulting from work at high temperatures.
10. Parasitic, bacterial, viral and other biological conditions.
11. The physiological characteristics of workers in tropical regions.
12. The effect of climate on occupational exposure limits developed and established in temperate climates.
13. Special precautions to protect HS monitoring and analytical instruments and to ensure their proper operation and accuracy.

Reference

1. International Labour Office, Safety, health and working conditions in the transfer of technology to developing countries
- An ILO code of practice, Geneva, (1988).

Ergonomic and anthropometric factors to be considered in setting up industries and transferring technologies

1. The energy requirements for heavier work and the need for machines to prevent undue fatigue.
2. The efficient and economy of physical work, especially lifting.
3. The appropriate design for seated and standing work taking posture and body movements into account.
4. Instrument dials and displays to suit the worker, taking cultural factors into account.
5. Face and head shapes and dimensions to ensure proper fit of PPE,
6. Aspects of body size, reach, grasp and muscular strength of machine operators to ensure that machine and plant, dials, control levers and panels suit the workers who will use them.
7. Environmental conditions such as temperature, air movement, humidity, noise, vibration, lighting, air contaminants and radiation to ensure that these do not stress workers unduly or damages their health.
8. Reduction in the length of the working day when the technology transfers results in environmental conditions which have an adverse cumulative effect.
9. The provision of adequate relief personnel to allow rest periods in cases where continuous work is required.
10. The provision of rest booths or rooms protected from adverse conditions of the working environmental, when warranted.
11. The provision of emergency showers, special washing facilities and other facilities as required.
12. The prohibition of any payment scheme providing incentives for unsafe operation of a transferred technology.

Reference

International Labour Office, Safety, health and working conditions in the transfer of technology to developing countries
-An ILO code of practice, Geneva, (1988)

Table F.1 Classification and characteristic properties of dangerous substances

Classification	Characteristic properties
Explosive	A substance which may explode under the effect of flame or which is more sensitive to shocks or friction than dinitrotoluene.
Oxidising	A substance which gives rise to highly exothermic reaction when in contact with other substances, particularly flammable substances.
Extremely flammable	A liquid having a flash-point of less than 0oC and a boiling of less than or equal to 35oC.
Highly flammable	A substance <ol style="list-style-type: none"> 1. May become hot and finally catch fire in contact with air at ambient temperature without any application of energy. 2. Is a solid and any readily catch fire after brief contact with a source of ignition and which continues to burn or to be consumed after removal of the source of ignition. 3. Is gaseous and flammable in air at normal pressure. 4. In contact with water or damp air, evolves highly flammable gases in dangerous quantities; or 5. Is a liquid having a flash-point below 21oC
Very toxic	A substance which if it is inhaled or ingested or if it penetrates the skin may involve extremely serious acute or chronic health risk
Toxic	A substance which if it is inhaled or ingested or if it penetrates the skin may involve serious acute or chronic health risks and even death.
Harmful	A substance which if it is inhaled or ingested or if it penetrates the skin may involve limited health risks.
Corrosive	A substance which may on contact with living tissues destroy them.
Irritant	A non-corrosive substance which, through immediate, prolonged or repeated contact with the skin or mucous membrane, can cause inflammation.

Table F.2 Criteria for the classification of substances as very toxic, toxic or harmful			
Category	Median lethal does (LD50)		Median lethal concentration (LC50) absorbed by
	Absorbed orally In rat (mg/kg)	Absorbed percutaneously in rat or rabbit (mg/kg)	Inhalation in rat (mg/litre) (4 hours)
Very toxic	< 25	< 50	< 0.5
Toxic	> 25 to 200	> 50 to 400	> 0.5 to 2
Harmful	> 200 to 2000	> 400 to 2000	>2 to 20

Workplace Housekeeping - Checklist for Construction Sites

What is an example of a workplace housekeeping checklist for construction sites?

DO

- Gather up and remove debris to keep the work site orderly.
- Plan for the adequate disposal of scrap, waste and surplus materials.
- Keep the work area and all equipment tidy. Designate areas for waste materials and provide containers.
- Keep stairways, passageways and gangways free of material, supplies and obstructions.
- Secure loose or light material that is stored on roofs or on open floors.
- Remove or bend over nails protruding from lumber.

DO NOT

- Do not permit rubbish to fall freely from any level of the project. Use chutes or other approved devices to materials.
- Do not throw tools or other materials.
- Do not raise or lower any tool or equipment by its own cable or supply hose.

Flammable/Explosive Materials

- Store flammable or explosive materials such as gasoline, oil and cleaning agents apart from other materials.
- Keep flammable and explosive materials in proper containers with contents clearly marked.
- Store full barrels in an upright position.
- Keep gasoline and oil barrels on a barrels rack.
- Store empty barrels separately.
- Post sign prohibiting smoking, open flames and other ignition sources in areas where flammable and explosive materials are stored.
- Store and chain all compressed gas cylinders in an upright position.
- Mark empty cylinders with the letters "mt", and store them separately from full or partially full cylinders.
- Ventilate all storage areas properly.
- Ensure that all electric fixtures and switches are explosion-proof where flammable materials are stored.
- Use grounding straps equipped with clamps on containers to prevent static electricity buildup.

Noise Exposure Limits for Extended Work Shifts

Are there guidelines for noise exposure on shifts longer than 8 hours?

Most standards and guidelines concerning noise exposure are based on an 8-hour work shift and also provide levels for shorter working days. In real life conditions, longer working days are common. When calculating exposure limits for an extended work shift such as a 12-hour shift, one must take into account information on health effects related to noise exposure and those related to a 12-hour shift work. The final answer has to come from a study of actual work places that might have experimented or adapted such work practices.

A change from an 8-hour shift to a 12-hour shift must consider the following issues:

- Eight-hour time-weighted noise exposure level in dB(A)
- Problems related to use of hearing protectors for such a prolonged work shift
- Combined effect of stress factors related to a 12-hour shift and noise

EHS - Forms and Procedures

How do I calculate the exposure limit?

1. Equal Energy Rule

Table 1 TWA Method	
Duration of Work shift (h)	Noise Exposure Limit (dB(A)) - TWA
8	90.0
9	89.5
10	89.0
11	88.6
12	88.2
13	87.9
14	87.6

The noise exposure limit for a 12-hour shift, based on the equal rule, is 88.2 dB (A). In other words, if the noise level is kept below 88 dB (A) then, according to equal energy concept, the maximum permissible limit is not exceeded.

1. An alternative method

An alternative method, called the Brief and Scala method, is sometimes used to calculate TLV (Threshold Limit Values) for chemicals but it can also be used to calculate modified noise exposure limit for extended work shifts. This method is more conservative than the TWA method described above. It takes into account the decreased hours of recovery. The exposure limits for extended shifts, based on this method, are listed in Table 2.

Table 2 Noise Level extended shift according of Brief and Scala Method	
Noise of Work shift (h)	Noise Exposure Limit (dB (A))
8	90.0
9	89.2
10	88.5
11	87.7
12	87.0
13	86.3
14	85.5

With this method, the limit for a 12-hour work shift is 87 dB (A), which is lower than that allowed by the TWA method.

EHS - Forms and Procedures

Which method do I use?

The authority responsible for noise regulation recommends the acceptable method for calculating the noise limit for an extended work shift. For example, in Ontario, noise exposure limits are provided by the Ministry of Labour. You should contact the agency responsible for health and safety regulations applicable to your workplace and inquire about the recommended procedures for calculating exposure limits for extended work shifts.

What is some additional information about noise and extended work shifts?

- The consequence of an extended work shift on hearing loss is not known. The 90 dB (A) limit was determined for an 8- hour shift and the effect of the same noise dose spread over a 12-hour shift remains to be evaluated. This would include studying the effects of shortened recovery times between shifts.
 - If hearing protectors are to be used, the feasibility of their proper and efficient use during an extended shift may need some thought. It is a well-known fact that there is a wide variation in the effectiveness of different protectors. Problems related to comfort must be considered as well.
 - The stress related to a 12-hour shift has been studied by a number of researchers. There have been mixed feelings about the acceptability of the 12-hour shift in general.
-

Inspection Checklists - Sample Checklist for Manufacturing Facilities

What is an example of an inspection checklist for a manufacturing facility?

The examples outlined below do not list all the possible items for manufacturing facilities. The best checklist for your workplace is one that has been developed for your specific needs. Whatever the format of the checklist, provide space for the inspectors' signatures and the date.

INSPECTORS:



Date
(0) Satisfactory
(X) Requires Action

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	Location	Condition	Comments
<p>TRAINING</p> <p>Is training provided for each person newly assigned to a job?</p> <p>Does initial training include a thorough review of hazards and accidents associated with the job?</p> <p>Is adequate instruction in the use of personal protective equipment provided?</p> <p>Is training for the use of emergency equipment provided?</p> <p>Are workers knowledgeable in the "Right to Refuse" procedures?</p> <p>ENVIRONMENT</p> <p>Are resources available to deal with very hot or very cold conditions (drinking water, lined gloves, insulated boots)?</p> <p>Is the rain gear that is provided comfortable, and light enough so as not to constitute a hazard?</p> <p>Are work surfaces and grip surfaces safe when wet?</p> <p>Do workers know the symptoms of heat cramps, heatstroke?</p> <p>WORK PROCESS</p> <p>Are repetitive motion tasks properly paced and kept to a minimum?</p> <p>Do joint committee members have access to material safety data sheets?</p> <p>Are workers informed (by hazard signs and tags)?</p> <p>Have all trucks, forklifts and other equipment been</p>			

EHS - Forms and Procedures

Are fire extinguishers chosen for the type of fire most likely in that area?

Are there enough extinguishers present to do the job?

Are extinguishers location conspicuously marked?

Are extinguishers properly mounted and easily accessible?

Are all extinguishers fully charged and operable?

Are special purpose extinguishers clearly marked?

MEANS OF EXIT

Are there enough exits to allow prompt escape?

Do employees have easy access to exits?

Are exits unlocked to allow egress?

Are exits clearly marked?

Are exits and exit routes equipped with emergency lighting?

WAREHOUSE AND SHIPPING

Are dock platforms, bumpers, stairs and steps in good condition?

Are light fixtures in good condition?

Are all work areas clean and free of debris?

Are stored materials properly stacked and spaced?

Are tools kept in their proper place?

Are there metal containers for oily rags and for rubbish?

Are floors free of oil spillage or leakage?

Is absorbent available for immediate clean-up of spills and leaks?

Are all Class I products stored in Class I approved building or outside the warehouse?

LOADING/UNLOADING RACKS

EHS - Forms and Procedures

<p>Are connections tight and sound?</p> <p>Is the general condition of wiring and junction boxes, etc. in good condition (visual inspection)?</p> <p>LIGHTING</p> <p>Is the level of light adequate for safe and comfortable performance of work?</p> <p>Does lighting produce glare on work surfaces, VDT screen and keyboards?</p> <p>Is emergency lighting adequate and regularly tested?</p> <p>MACHINE GUARDS</p> <p>Are all dangerous machine parts adequately guarded?</p> <p>Do machine guards meet standards?</p> <p>Are lockout procedures followed when performing maintenance with guards removed?</p> <p>ELECTRICAL</p> <p>Is the Canadian Electrical Code adhered to in operation, use repair and maintenance?</p> <p>Are all machines properly grounded?</p> <p>Are portable hand tools grounded or double insulated?</p> <p>Are junction boxes closed?</p> <p>Are extension cords out of the aisles where they can be abused by heavy traffic?</p> <p>Are extension cords being used as permanent wiring?</p> <p>TOOLS AND MACHINERY</p> <p>Are manufactures manuals kept for all tools and machinery?</p> <p>Do power tools conform to standards?</p> <p>Are tools properly designed for use employees?</p>			
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EHS - Forms and Procedures

<p>PERSONAL PROTECTIVE EQUIPMENT</p> <p>Is required equipment provided, maintained and used?</p> <p>Does equipment meet requirements? Is it reliable?</p> <p>Is personal protection utilized only when it is not reasonably practicable to eliminate or control the hazardous substance or process?</p> <p>Are warning signs prominently displayed in all hazard areas?</p> <p>MATERIALS HANDLING AND STORAGE</p> <p>Is there safe clearance for all equipment through aisles and doors?</p> <p>Is stored material stable and secure?</p> <p>Are storage areas free from tipping hazards?</p> <p>Are only trained operators allowed to operate forklifts? Is charging of electric batteries performed only in designated areas?</p> <p>Are dock boards (bridge plates) used when loading or unloading from dock to truck or dock to rail car?</p> <p>Are necessary warning devices and signs in use for railway sidings?</p> <p>Are specifications posted for maximum loads which are approved for shelving, floors and roofs?</p> <p>Are racks and platforms loaded only within the limits of their capacity?</p> <p>Are chain hoists, ropes and slings adequate for the loads and marked accordingly?</p> <p>Are slings inspected daily before use?</p> <p>Are all new, repaired, or reconditioned alloy steel chain slings proof-tested before use?</p> <p>Are pallets and skids the correct type and inspected?</p> <p>Do personnel use proper lifting techniques?</p> <p>Is the size and condition of containers hazardous to workers?</p>			
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PERSONAL PROTECTIVE EQUIPMENT GUIDE

	P. P.	APPROVED CLOTHING/COVERALLS	HARD HAT	APPROVED FOOTWEAR/BOOTS	APPROVED GENERAL PURPOSE GLOVES	DUST MASK	RESPIRATOR CARTRIDGE TYPE	EAR PLUGS	EAR DEFENDER	GOGGLE MULTIPURPOSE	FACESHIELD	SAFETY HARNESS & LINE	CHEMICAL RESISTANT SUIT	CHEMICAL RESISTANT GAUNTLETS	RUBBER BOOTS	AIR FLOW HOOD / APRON / GLOVES	SAFETY SPECTACLES	WELDING HELMET JERKIN / GLOVES	DOSE / SURVEY METER READING	FILM BADGES	DISPOSABLE COVERALLS, GLOVE SHOE COVERS &
		WORK ACTIVITY																			
ACID HANDLING	X	X	X							X	X		X	X	X						
BATTERY MAINTENANCE	X	X	X							X	X			X	X						
CAUSTIC SODA HANDLING	X	X	X							X	X		X	X	X						
CEMENT HANDLING	X	X	X	X	X					X											
CHEMICAL HANDLING	X	X	X				X			X	X		X	X	X						
CHIPPING	X	X	X	X	X																
DEGRASSING	X	X	X							X	X		X	X							
DRILLING	X	X	X			X		X									X				
DUST ATMOSPHERES	X	X	X			X	X			X											
ELECTRICAL	X	X	X																		
GRINDING	X	X	X	X	X			X		X	X										
GRIT BLASTING	X		X													X					
HIGH WIND CONDITION	X	X	X			X		X		X							X				
HEIGHT ABOVE 2 METERS	X	X	X									X									
JACKHAMMERING	X	X	X	X	X			X	X	X	X										
OIL SPLLS	X	X	X										X	X	X						
PAINTING (SPRAY)	X	X	X				X			X											
RADIOGRAPHY	X	X	X																X	X	
WORKING IN HIGH NOISE LEVEL	X	X	X					X	X												
WET WEATHER CONDITIONS	X	X	X										X		X						
WELDING	X		X															X			
LABORATORY	X		X														X				
ENTRY TO LAB./WORKSHOP	X		X														X				
WORK IN VICINITY OF WELDING	X	X	X														X				
SENDING MACHINE OPERATIONS	X	X	X			X	X	X		X											
ASBESTOS HANDLING	X	X	X																		X
MACHINE TOOLS	X	X	X							X											

NOTES : This chart shows PPE that should be considered it does not mean that the identified PPE is always necessary nor sufficient.

TASKS OF A MORE HAZARDOUS NATURE E. G. 1. CONFINED SPACE ENTRY 2. TANK CLEANING 3. H2S & ACID CONTAMINATION 4. WORK OVER

WATER WILL REQUIRE SPECIFIC P.P.E.

PERMIT TO WORK

1. AREA/TANK/VESSEL/EQUIPMENT/PIPELINE						
EXACT LOCATION:						
2. WORK TO BE DONE	COMPANY:			No of Men:		
	Man in Charge:					
	Attendant for Line Breaking is:					
3. SAFETY PRECAUTIONS:	Time					
a) Gas Tests (when applicable)	Flammable					
	Vaporous					
	(Results and initials in boxes)	Toxic Gases				
b) Protective Equipment to be worn	Oxygen					
	(ring items which apply)					

1. Safety Helmet	2. Safety Spectacles	3. Chemical Goggles	4. Face Shield	5. Updraft Helmet	6. Air Hood	7. Self- contained C.A.B.A.	8. Compressed Air-line B.A.	9. Dust Mask	10. Ear Muffs
11. Gloves P.V.C. General Special	12. Rubber Boots (Steel Toecaps)	13. Protective Footwear	14. Protective Suit	15. PVC Suit	16. Neoprene Suit	17. Disposable Suit	18. Plant Overalls Rubber Overboots Rubber Gloves	19. Safety harness	

c) Other Precautions

STAFF OF ISOLATION

Although the job may be isolated and pressurized, small residual quantities of hazardous chemicals may still be present so wear protective clothing suitable for the risk.

No. of Lines	Depressurized and Drained	Positive Isolation	Tagged Off	Valve only	Initials as applicable	Not Isolated	N/A
					Steam		
					Gas/Vapor		
					Liquid		
					Solids		
					Air		
					Nitrogen		

d) All Motive Power has been isolated and any

Logic Control interrupted (LOCK/TAG/TRIP)

Yes	NO	N/A
-----	----	-----

Signed: Approved Signature

e) I have placed my work

Signed: Person undertaking

f) Electrical fuses have been withdrawn, all circuits dead

Signed: Electrician

g) Electrical circuits are live for "Troubleshooting" only

Signed: Electrician/Inst.

4. I certify that a Safety Planning Certificate is not required because the work does not involve projects, Plant Changes, Confined spaces, Hot work in Zone 1 or 2, Open flame, Critical line breaking, Asbestos, Excavations, Mobile Cranes, Roof work or heights > 5m, H.V. Electricity.

Signed: Permit Signature

5. a) CONFINED SPACE ENTRY (Cancelled if Site Alert (pips) sounds)

In accordance with Regulation 7 of the Chemical Works Regulations, 1992, and Section 30 of the Factories Act, 1961, I have inspected the above confined space, it has been tested, is fully isolated, has been safely prepared according to the precautions above and Safety Planning

Certificate No.: and is, therefore, safe to enter from to

On
Approved Signature

Signed:

Name of competent Attendant outside vessel:
.

b) HOT WORK (Zone 1 or 2 or Open

c) OTHER HAZARDOUS WORK (See Safety Planning Certificate)
I have inspected the above job which has been safely prepared according to the precautions outlined above and on Safety Planning
Certificate No.: therefore work may start from To on
Signed: Approved Signature

7. APPROVAL OF PERMIT TO WORK

I am satisfied that this permit is properly authorized and that safe access is provided and that no work is taking place above or below this job. Work may proceed from to on Date Signed:
. Permit Signature

8. ACCEPTANCE OF PERMIT TO WORK

I have read and understood the above precautions and agree that for our/my protection we/I will observe them. I confirm that all our/my Power Tools and Equipment have been registered and inspected as required by Dow Standards and that we/I understand the Site and Area Emergency Plans
Signature:

9. COMPLETION OF PERMIT TO WORK

I certify that this job is complete/incomplete (ring appropriate word), that all guards have been replaced and secured in position, that all Tools and Equipment have been removed and the Job Site has been left clean and tidy.
Signature Time Date
.

RENEWAL OF PERMIT TO WORK (CONSECUTIVE SHIFTS ONLY)

10. Approved until Time/Date Permit Signature
.
Approved until Time/Date Permit Signature
.

NOTE: When a job is finished this Permit must be signed off in Section 9 and returned, Should the job not be completed by the time specified this Permit must be renewed. This Permit is cancelled if Area (warble) sounds.

(A PERMIT TO WORK IS REQUIRED BEFORE WORK STARTS) CERTIFICATE No:

KING'S LYNIN

1. FOR WORK INVOLVING:	Projects	Confined Spaces	Open Flame	Asbestos	Mobile Crane	H.V. Electricity	Other:
	Plant Change	Hot work in Zone 1 or 2	Critical Line Breaking	Excavations	Roof work and Heights > 5m		

2. CERTIFICATE APPLIED FOR BY:

Area/Tank/Equipment/Pipeline:

Exact Location:

Department/Contractor:

WORK TO BE DONE:

TOOLS TO BE USED:

Welding	Gas	Mobile Crane	Mobile Pump		Compressor	M/Vehicle	Cold Tools only
Cutting Equipment	Arc	Excavator	Temporary Lights	110V	Electric Power Tools	Other	
				24V			

3. USE A MOBILE CRANE: I have inspected this job and it may proceed subject to the following precautions:

N/A

Signed: _____ Approved Crane Supervisor: _____ Date: _____

4. EXCAVATIONS: I have inspected this job and it may proceed subject to the following precautions:

N/A

Signed: _____ Approved Construction Signature: _____ Date: _____

Signed: _____ Approved Electrical Signature: _____ Date: _____

5. ROOFWORK - WORKING AT HEIGHTS AND ASBESTOS: I have inspected this job and it may proceed subject to the following precautions:

N/A

Signed: _____ Approved Construction Signature: _____ Date: _____

6. H.V. ELECTRICITY: I have inspected this job and it may proceed subject to the following precautions:

N/A

It will be switched by - - - - -
 Signed: _____ Approved H.V. Electrical Signature: _____ Date: _____

7. I confirm that the Area/Tank/Vessel/Equipment/Pipeline, as described above, will be safe for the proposed work provided the precautions listed above, together with those ringed on the check list opposite, are taken.

Additional precautions: (if none, write none)

A permit to-work must be obtained from: _____ before work starts. This Safety Planning Certificate is _____

Valid from _____ hours on _____ to _____ hours on _____

Section 6© on the permit to Work may be signed by
 - - - - -

Signed _____ Approved Safety Planning Certificate Signature _____ Time: _____ Date: _____

8. HOT WORK IN ZONE 1 OR ZONE 2 AREAS OR H.V. ELECTRICAL WORK OR ANY PLANT CHANGE:

N/A

I confirm that the above work may take place provided all the stated conditions are satisfied

Signed: _____ Authorized Signature _____ Time: _____ Date: _____

9. RENEWAL: Subject to the provisions and precautions stated above and opposite this certificate is future valid.

Renewed from _____	hours on _____	to _____	hours on _____	signature (approved SPC): _____
Renewed from _____	hours on _____	to _____	hours on _____	signature (approved SPC): _____
Renewed from _____	hours on _____	to _____	hours on _____	signature (approved SPC): _____

NOTE: (a) \ separate signature is required for Section 8. (b) This Certificate is not valid until all necessary signatures have been obtained.

SAFETY PLANNING CERTIFICATE CHECK LIST (ALL REQUIRED PRECAUTIONS TO BE RINGED)

SIGN GENERAL PRECAUTIONS

1. All power tools and equipment (including steps and ladders) must be registered with valid label affixed.
2. All power tools must be 110 volts maximum.
3. Ensure that power supply cables to transformers and welding sets above 110 volts are less than six feet long.
4. Suitable steps or ladders to be used.
5. Scaffolding to be erected and inspected by competent persons and notice fixed before use (mobile or fixed).
6. Provide life-line.
7. Use inertia fall arrest or (e.g. Sala Block)
8. Cordon off work area, above and below.
9. Notify adjacent plants/areas.
10. Check that all holes, excavations, work areas where covers or drains are removed are barricaded off and warning notices affixed. At night any such hazards must be adequately lit.
11. Isolate all power driven equipment before work starts LOCK, T\G and TRY.
12. Check showers and eye bath units before work starts.
13. Instigate safe procedures for materials containing asbestos to comply with King's Lynn Site Standard No. 20 Asbestos.
- 014.
- 015.

PROTECTIVE CLOTHING

100. Protection required:

410.	1. Chemical Goggles	2. Face Shield	3. Update Helmet	4. \ir Hood
	5. Self contained C.\.B.\.	6. Compresse d \ir-line B.\.	7. Dust Mask	8. Ear Muffs
	9. Gloves PVC Gen. Spec.	10. Rbber Boots (Steel Toecaps)	11. Protective Footwear	12. PVC Suit
	13. Neoprene Suit	14. Disposable Sit	15. Plant Overalls Rubber Overboots Rubber Gloves	16. Sfety Hrnes s

SIGN HOT WORK ...continued

- Check welding cables are in good condition and where they must cross pipelines a suitable insulating bridging must be used to prevent possible contact. Weld return routing via installed equipment is prohibited.
411. Site gas cylinders so as to be clear of sparks andslag.
 412. Check detachable cylinder key in situ.
 413. Check compressed gas cylinders are used in metal wheeled trolley (not frees standing or fixed to a structure)
 414. Test all compressed gas connections using soap solution before work starts.
 415. Check that oxygen and fuel gases have flash-back arrestors fitted between regulators and supply hose and that non-return valves are fitted between torch and supply hoses.
 416. Check that all hoses are in good condition and located away from traffic. They should not present a tripping hazard to personnel.
 417. Erect screens to safeguard personnel from U.V. radiation.
 418. Site diesel driven D.C. generating sets in open air to prevent fumes accumulating in work area.
 419. Check that smoke detectors are isolated.

ENTRY INTO CONFINED SPACES

500. All pipelines must be isolated, either by removing spool pieces and blanking off live ends or by inserting spade in lines.
501. isolate agitator by removal of fuses, followed by LOCK TAG and TRY.
502. Trained attendant to stand by outside vessel (must be named on Permit to Work).
503. Use mini-winch with life-line and full hoister type-safety harness...

<p>ATMOSPHERE TESTING</p> <p>200. Test for flammable vapours (explosimeter) BEFORE WORK STARTS/REPEAT EVERY ...HOURS/ MONITOR CONTINUOUSLY.</p> <p>201. Test for oxygen BEFORE WORK STARTS/ REPEAT EVERY . . . HOURS/MONITOR CONTINUOUSLY</p> <p>202. Test for toxic gas BEFORE WORK STARTS/ REPEAT EVERY.....HOURS/MONITOR CONTINUOUSLY.</p> <p>LINE BREAKING</p> <p>300. Positively identify by tagging, taping or painting.</p> <p>301. Before cutting into a pipeline a "test" hole should be drilled in the pipe.</p> <p>302 Process operator to "stand by" (protected to same standard as craftsman).</p> <p>303 Check pipeline suspension.</p> <p>304 Drain and isolate line, lock off pump(s).</p> <p>305 Provide scaffolding - fitter should work at waist height.</p> <p>306 Blank off open ends of pipelines.</p> <p>307 Flush area with water after job to ensure no spillage left.</p> <p>308 Decontaminate tools, protective clothing and boots, gloves, face and eye protection (keep goggles on until last and then remove in safe area wearing clean or disposable gloves)</p>	<p>504. Check vessel is cool enough to enter (<35°C).</p> <p>505. Use air mover or fan (must be grounded)</p> <p>506. Use 24 volt lamp</p> <p>507. Check adequacy of means of vessel entry/exit</p> <p>508. Provide portable alarm for attendant.</p> <p>509. Provide two sets of breathing apparatus outside vessel.</p> <p>510. Compressed gas cylinders must be kept out of confined spaces.</p> <p>MOBILE CRANES</p> <p>600. Simple lift - banksman to be named on Work Permit (3c).</p> <p>601. Qualified Dow representative in control - Name - - - - - - - -</p> <p>602. Critical lift 0 check list completed - Construction Supervisor or Owner's Representative (mech.) in control.</p> <p>EXCAVATIONS</p> <p>700. Over 1.2 metres deep - Construction Department in control</p> <p>701. Hand dig only</p> <p>702. Sides of excavation made secure.</p> <p>703. Test ground water for contamination</p>
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Odor Total Control

<p>HOTWORK</p> <p>400. Guard against falling sparks and slag.</p> <p>401. Keep work area and below wet with running water.</p> <p>402. Instigate fire watch.</p> <p>403. Check area 30 minutes after cessation of work.</p> <p>404. Check work area every minutes.</p> <p>405. Run out fire hose.</p> <p>406. Provide fire extinguisher, Type.</p> <p>407. Clear all combustible materials from work area.</p> <p>408. Remove all full and empty drums from area.</p> <p>409. Use only approved welding set, see safety Standard No. 17</p>	<p><u>ROOF WORK & HEIGHTS GREATER THAN 5 METRES WHERE THERE IS NO PERMANENT ACCESS</u></p> <p>800. Crawling boards must be used.</p> <p>801. Working method and safety devices to be approved and recorded by Construction Signatory. 802. Provide working platform with handrail and toe boards.</p>
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Noise: The allowable noise level for General Industries (Land based) is 7.5 dba with a tolerance of 10 dba and for Pre Built units warehouses/shades 50 dba maximum.

2. Ground Seepage Control:

The facilities and installation should be made seepage proof by providing controlling measures including sealed layer of membranes.

3. Solid Waste

There will be no available facility for both the Hazardous and non-Hazardous Industrial and Domestic Solid Waste disposal.

The investor in his own capacity will be required to make arrangement with Sharjah and other Municipalities. Import Export and Trading of Hazard Waste is also restricted in HFZ.

4. Chimneys:

Chimney heights shall be determined by the Authority after discussions with the management and shall take in to account all the relevant information on throughput, type of material, quality of emission, type and rate of fuel usage, local circumstances, etc.

The minimum height of any chimney shall not be less than 3m above the ridge of any building to which it is attached or adjacent.

Chimney heights shall be assessed on the basis of estimated ground-level concentrations of the residual gases and taking account of local circumstances and recognized air quality standards or criteria.

Spillage:

There shall be suitable means for dealing with spillages, as agreed with the Authority.

5. Provision of Sanity Facilities:

Toilets: Toilet rooms should be well lit, ventilated to the external air and should have self-closing and tight-fitting doors. European type water closet apartments should always be provided with supply of toilet paper and Asiatic type water closet apartments should be fitted with water tap at approximately 1 foot from floor level on the user's left hand side. All toilet rooms and fixtures should be kept in good repair and in a sanitary condition.

The use of common toilets in case both sexes are employed is strictly prohibited.

Male		Female	
Where no urinals are provided:			
Up to 100 men	1 WC and 1 wash basin for every 10	Up to 100 women	1 WC and 1 wash basin for every 10
100 men upwards	1 WC and 1 wash basin for every 20	100 women upwards	1 WC and basin for every 20
Where urinals are provided:			
Up to 100 men	1 WC for every 25		
	1 Urinal and 1 wash basin for every 10		
100 men upwards	1 WC for every 40		
	1 Urinal, 1 wash basin for every 20		

6. Port Health:

All food products entering the UAE must comply to the standards laid down by the Federal and Local Government

and regular importers of known-product brands can clear goods direct at their premises. Certain countries and products require special attention due to circumstances prevalent in country of origin. Health Section assures the importer that all efforts are made to ensure food products released to the general public for consumption are safe. Details listed on the labels are also checked to determine the contents of certain products as well as Halal Certificates for meat slaughtered under Islamic conditions.

7. Warehouse internal arrangement

Arrangement shall conform to Int'l warehouse standards, the internal clear passage shall conform to the requirement of safe maneuvering, in case of fire and emergency quick evacuation and minimum danger to the assets and storage goods. The Stack Piling shall be arranged in appropriate manner, preventing any collapse and by all means minimum 1.5 M. clearance to be provided from the ceiling. Heavy loose materials should not be kept at heights. Shelves shall conform to stable and strong structural conditions. Shelves shall preferably consist of NON-combustible Materials \adequate clearance shall be provided and coatings. The goods shall be kept with a suitable clearance from the edge of the shelves, wherever applicable.

8. Storage:

Documentation:

In all documents relating to dangerous goods the correct technical name of the goods shall be used and the correct description given in accordance with the U.N. goods classification.

9. Storage of Chemical and Dangerous Goods :

A variety of statutory regulations exist for the storage of chemicals and dangerous goods. It may however be advisable to restrict the accessibility of certain chemicals and dangerous goods to those whose job it is specially to handle them, particularly if careless can have serious consequences.

The precautions to be taken for different dangerous goods classes depending on their hazardous nature, could be keeping the dangerous goods for example:

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|-------------------------------------|---|
| * Separate from other goods classes | * Keeping it in fireproof place |
| * Keeping it cool | * Keeping it under inert gas |
| * Keeping in the dark | * Keeping it in ventilation along the floor |
| * Keeping it dry | * Keeping it under inhibitors |

10. Liquefied gas Storage

Bulk storage of liquefied gases can be a serious safety hazard unless correctly designed, erected and maintained. Safety shall be given prime importance at the design and planning of the facility. Storage for liquefied gases can be:

- a) Fully-refrigerated, where the liquid is stored at its bubble point at near-atmospheric pressure; or
- b) Full pressure, where the liquid is stored at ambient temperature; or
- c) Semi-refrigerated, an intermediate approach where the liquid is stored below ambient temperature but at a vapor pressure above atmospheric.