Toolkit

Please note: BSI provides all the management system content below on an "AS IS" basis (relevant to this toolkit).

The content is compiled from materials created by BSI and should be used as a reference source only.

BSI does not warrant the fitness for purpose, completeness or accuracy of the provided examples below.

Table of Contents:

All items will be available on a memory card/stick to for delegates

1. Organization's purpose and strategic direction

Purpose

As one of Hong Kong's leading providers for sheet fed and heat set lithographic printing services, our reason for 'being' is a combination of our vision, mission, and values.

What is our vision? To become the most trusted provider for print services within China and Europe.

What is our mission? To expand our operations by consistently meeting customers' expectations, and our legal requirements; which includes the enhancement of customer satisfaction, and protection of our environment, through the effective application of our processes for continual improvement and environmental performance.

What are our values? Sustainable business practices taking into account our, social, economic and environmental impacts, responsible governance and equal opportunity. These are re-enforced through sustainability principles and workforce integrity throughout all business operations. Cooperation and collaboration are expected norms within the organization's management, with recognition provided for all through regular appraisals. We encourage and embrace any values which support the behaviors that employees cherish.

Strategic Direction

To open a new office in Germany and Beijing this year bringing together the technology and expertise in China with the market needs of Europe and beyond. To implement and gain accredited certification to ISO 9001 and ISO 14001 in these new offices, within a year of the offices opening. To employ a motivated workforce that will embrace the organization's values, and complement the cooperation and collaboration needed to achieve the effective application of our processes for continual improvement.

2. Organization's intended outcome(s) of its EMS [relevant to 1.]

From the '1 Scope' of the Standard:

- To provide value for the environment, our organization, and our interested parties
- To enhance our environmental performance
- To fulfill our compliance obligations; and
- To achieve our environmental objectives

Specific to our organization:

- A more sustainable product, with the smallest possible carbon and resource footprint;
    - Financial benefit through the effective application of improvement and operational processes
- Effective control/influence over interested parties, within our product life cycle, thereby improving our overall environmental performance

Additional notes

Vision is:

- The ultimate destination on the journey
- The realization of Purpose
- Never realized but always renewed
- Useless until shared

Example: Our vision is that our every business activity creates measurable regenerative environmental contributions to sustainable development.

Purpose is:

- Why the journey is being undertaken
- The organization's reason for being in existence
- An idea kept in mind as an end of an effort
- Most effective when shared

Example: Our purpose is to make our vision a reality within one generation.

Values are:

- What undertaking the journey supports
- An element regarded as worthy or right, as a belief, standard or moral precept
- Not to confined solely to 'financial value'
- Best when shared

Example: Our values are an ethical approach to Nature held in balance with Utilitarian and Ecological perspectives.

Principles are:

- A compass to use on the journey (to sustainable development)
- That which is inherent in companies and determines their nature
- The way a company does what it does
- Easy to say, harder to follow

Example: Our principles include participation and the precautionary principle

Policy is:

- A collective statement of attitude and expectations for the journey
- Designed to influence future decisions and actions
- A written contract of insurance for stakeholders
- Best when publicized

Example: Therefore our policy is to seek consensus on the environmental aspects of all business decisions affecting interested parties.

3. External issues [relevant to 2.]

The intent here is to provide a high level, conceptual understanding of the important issues that can affect either positively or negatively, the way an organization manages its environmental responsibilities.

Examples

Site Orientation

Sunny Outlook Printers HK Ltd is situated in Aberdeen, a medium sized town of some 60,000 inhabitants, on Hong Kong Island, Hong Kong. The Good Prospect factory is a three floor complex that comprises both the print works and offices of Sunny Outlook, taking up nearly 50,000 sq feet of space in total.

The rest of the site is shared with other office based companies who occupy the remaining floors of the complex which consists of a 16 storey high rise building. (*Issue: Noise, vibration, odour, interested party complaints)*

The entire complex is situated west of the Aberdeen tunnel, just off the main Wong Chuk Hang Road, overlooking Aberdeen Harbour, a major trading port and tourist area. Like most places on the island, its position is tightly constrained by neighboring buildings in a mixed business and residential area. (*Issue: Carbon footprint increase and contribution to traffic congestion and emissions through vehicle fleet, noise, odour, interested party complaints)*

Site Context

The company operates a prescribed process using regulated substances in accordance with a license issued under Regional Regulations. *(Issue: Legal Compliance)*

In addition it is required to comply with a discharge permit from the HK EPD via the Water Pollution Control Ordinance in respect of process wastewater discharges to receiving water bodies. *(Issue: Legal Compliance)*

HK EPD regularly inspects operators, responds to complaints and, after an uncertain enforcement record in the late 90's, has a strong and growing record of successful prosecution. *(Issue: Fines and legal costs)*

Hong Kong Island is generally very hilly and particularly so in the Northern area where the town of Aberdeen sits on a relatively narrow ledge of rock between hillsides and the sea. In common with the rest of the island, the underlying geology of the site comprises volcanic rock and granite. *(Issue; Potential flood zone, raised sea level from Climate Change)*

To the rear of the site, the nearby Aberdeen Country Park acts as home to the Upper and Lower Aberdeen reservoirs (capacity 266 million imperial gallons /1,210,000 m^3). A nature trail runs through the tops of the hills immediately overlooking the site. *(Issue: continuity of process water supply, VOC emissions and effect on biodiversity)*

In addition, to the front of the site, the concrete flyover that is the Wong Chuk Hang Road, feeds the Aberdeen tunnel, the main access point to the area known as 'Happy Valley' a prime residential location with some of the most expensive real estate in the world. (*Issue; odour complaints from influential interested party/interested parties)*

The nearby Aberdeen and Victoria Harbours continue to be the focus of development for the Hong Kong Harbour Area Treatment Scheme (HATS) into which, traditionally, most of Hong

Kong has ejected its sewage and effluent. However, the declining quality of the marine environment prompted an urgent programme lead and funded by the Hong Kong regional administration. *(Issue: Contribution to local water pollution, legal compliance)*

Hong Kong is on the common track of tropical cyclones and can experience very heavy rainstorms at times. The annual average rainfall is about 2400 millimeters, one of the highest among the cities in the Pacific Rim. During particularly heavy rainstorms, flooding in the rural low-lying areas and natural flood-plains in the northern part of the territory and in parts of the older urban areas may occur. The Wong Chuk Hang Road is a formally identified flooding hotspot. *(Issue: Flooding)*

Market Pressures

In recent years, the company has had an increase in requests from customers for environmental information concerning the company's products and activities, particularly in the areas of paper sourcing, energy use and CO_2 emissions from transport. Key customers appear to be implementing procedures to include environmental performance in supplier selection criteria, and Sunny Outlook Printers HK Ltd, has been unable to respond adequately to requests for information. *(Issue: Interested party complaints, evaluation of compliance with customer requirements)*

Guidance documents on environmental responsibilities have been published by relevant local industrial trade associations and the Hong Kong Environmental Protection Department (HK EPD) and the company is beginning to make use of those. *(Issue: Interested party complaints, legal compliance)*

In response to international market pressures and to ensure that the company's interested party expectations were being met, the management of the company authorized the implementation of an Environmental Management System that met the requirements of ISO 14001:2004. The company decided not to acquire third party certification of the system. (*Issue: Loss of interested party confidence, demonstrable corporate responsibility open to question)*

History

The company was formed 40 years ago and has always operated at the Good Prospect Factory. Early production focused on servicing local and regional customers. Original print runs (number of copies printed) were high due to the fact that even relatively small jobs were printed in two or three different language versions, including English, Cantonese and Chinese. *(Issue: Contaminated land from previous operations)*

With increasing demand for short run, lower volume and better quality printing, Sunny Outlook Printers HK Ltd invested heavily in new sheet fed lithographic printing equipment to extend their printing capabilities into the international market for ‘on demand’ and bespoke catalogue printing. *(Issue: Higher resource use from cleaning between high number of low print runs, high potential emissions and hazardous waste from solvent based cleaning materials, larger carbon footprint from international distribution of finished product, greater concern on ROI from earlier technology investment leads to less funding for environmental projects)*

Company expansion followed during the decade following the handover of Hong Kong's administration to the People's Republic of China. The company now holds a number of key accounts with Hong Kong based financial institutions and would like to expand internationally to make best use of their links with China. *(Issue: Legal compliance, not meeting interested party expectations, carbon management,)*

Another example

All the items in the list below can be relevant at international, national, regional or local level

- Ability to control/influence within supply chain - limited
- Culture/perceptions within sector on environmental performance importance – very good
- Culture/perceptions within sector on providing value for the environment - good
- Regulatory – GHG emissions/Reporting - extensive
- General political - stable, economic - excellent, technological - innovative, legal and regulatory – strict adherence
- Competition - fierce
- Natural/environmental – local nature reserve, water in harbor polluted, air quality poor
- Supply chain resilience - weak
- Market sensitivity to habitat loss and biodiversity issues - none
- Overall economic performance in the country - excellent
- Economic plans for future – expansion to Europe and main land China, operating as printing 'middle man' between two powerful trading blocs.
- Market conditions (Customer demographic/market confidence etc.) – wide demography, confidence is fragile, subject to political tensions
- Customer expectations relating to our environmental performance and EMS – accredited certification to ISO 14001 and measurable environmental performance improvements
- Standardization and certification within the industry – Printing standard and trade body standards
- Impacts of climate volatility – extremes of weather affect transport distribution network/main print works
- Changes to local environmental setting (development/designation of Conservation areas/development of flood defenses etc.) – harbor water improvement area, air quality improvements stricter
- Paper/raw material prices – international pressures (high, prices are low), domestic market pressures (limited stock), government taxation regime (becoming greater)
- Regulation within the industry generally (mainly OH&S, but environmental taking a greater stage now)
- Trade associations and lobbying powers (limited)
- Impact on neighbors (limited, other than noise)
- Energy tariffs (fixed and limited)

Example Environmental Conditions

Remember that any environmental condition that can affect or be affected by the organization should also be considered (and then included as an internal or external issue as appropriate). Some examples are:

- Climate – extremes – affect transport operations/exposed main site
- Air quality – poor – affect VOC emissions
- Water quality – Harbour is poor – affects waste water discharges
- Land use – limited – in high rise building sharing floors with other organizations
- Existing contamination – extensive in harbour
- Natural resource availability – limited and becoming harder to source
- Biodiversity – nature reserve nearby – VOC, solid waste and waste waters issues
- Water usage – limited, scarce, cost
- Embedded energy (products) – paper, solvents and inks
- Land contamination – inks and waste solvents
- Noise – neighbours – 24 hour operation – heavy presses and many small deliveries as can't store materials on site

4. Internal issues [relevant to 2.]

Examples

Operations

Sunny Outlook prints, collates and binds publications for a variety of customers. It also arranges transportation of the finished publications either direct to customers' warehouses (due to the lack of bulk storage on their own site), or straight to the client's target audience in China and the rest of Asia through a direct mailing system.
(Issue: Energy use, resource and material use)

The site is taken up mainly by the Good Prospect Factory, of which the bottom floor is entirely occupied by the primary print production facility (the 4 sheet fed lithographic presses as well as associated paper holding bays, ink stores). There is very little space to spare and stores on site are kept to a minimum, relying on just in time delivery of materials.
(Issue: Energy use, resource and material use, hazardous substances, carbon management)

There is also a bindery area comprising 4 saddle stitch and 4 perfect binder lines where signatures (individual pages of the publications) from the presses are collated together and bound. A small holding bay also exists for finished publications.
(Issue: Energy use, air emissions, resource and material use)

The remainder contains the following operations:
2nd floor; Pre press preparation area (scanners, proofers and plate managers) secondary print area (2 high-speed photocopying machines) Includes a small area for General Stores. There is also a Direct Mail Unit, including stores for packaging, a small area for progress checking.
(Issue: Energy use, resource and material use, hazardous substances)

3rd floor Offices for Production Administration, Sales and Purchasing, Executive functions, Staff Restaurant, and a separate testing laboratory for checking inks and adhesives.
(Issue: Energy use, resource/material use and hazardous substances)

The site employs a total of 62 people, with 5 working mostly off-site as Sales Representatives. Nineteen people work in the administrative section which comprises sales, orders, purchasing and accounts. Operational staff work on a 3 shift, 24-hour day, 5 days a week system. Shift hours are: 6 am – 2 pm, 2 pm – 10 pm, and 10 pm – 6 am.
(Issue: Energy use, resource and material use)

Occasionally work is carried out over the weekends, mainly for maintenance or for direct mail campaigns but sometimes to accommodate extra work for urgent, complex or large orders.
(Issue: Energy use, interested party complaints about noise and vibration)

Management System

The company already operates Quality and Health and Safety Management Systems and where appropriate, environmental controls have been integrated into these existing systems.

The company started developing their Environmental Management System last year. The Facilities Manager was charged with the responsibility of implementing the system by the Board; he has delegated the responsibility on a day to day basis to the new post of Head of Safety, Health Environment and Quality (SHEQ), created six months ago.
(Issue: resources to support system)

The project has involved other managers including both the Operations Manager and the Accounts and Purchasing manager. The Facilities Manager's previous environmental experience relates only to health and safety, and he has only recently had responsibility for environment added to his job specification.
(Issue: resource and training required to maintain competence)

The Head of SHEQ has overall responsibility for maintaining the environmental manual as part of the integrated environment, health and safety and quality system. He wrote the environmental manual and general procedures on environmental management, whilst the Facilities Manager, aided by the Operations Manager was responsible for the more technically based documentation.
(Issue: loss of staff and associated competence)

The site conducted an initial review [12 months prior to audit], and has since developed an environmental policy and environmental manual containing programmes and procedures for managing the site's operations.

Process Issues

Operations at the site include preparation for the presses where customer's artwork is received via electronic transfer of files, though special artwork can sometimes require hardcopy delivery.
(Issue: Energy use, GHG release, resource and material use, hazardous substances, potential for spillage and associated contamination of land or process water and storm water discharges.)

This information is converted into images on cellulose film in the pre-press area. The images are stabilized using fixer and developer before the image is transferred to aluminium plates by high-energy UV rays. Typically this equipment uses 2,500 watts for operation
(Issue: Energy use, resource and material use, hazardous substances and associated waste and water discharges)

Plates are then cleaned in a sink with chemicals and taken to the multi-unit print presses, where printing ink is applied to the paper substrate via the aluminium plates to produce the printed image (signatures).
(Issue: Energy use, resource and material use, hazardous substances and associated waste and water discharges)

The inks can be premixed or are applied as standard colours to different plates to produce the right colour. This is checked against standard specifications.
(*Issue: hazardous substances and associated waste and water discharges)*

The transfer process is carried out using fountain solution, which is produced by dosing mains water with fountain solution chemical to get the desired dilution. Surface coating of publication covers is sometimes requested, and this is applied during the printing process.
(*Issue: resource use [water] hazardous substances and associated waste and water discharges)*

Bindery operations are where the finished elements are collated together and bound either by inserting metal wire staples or glued (perfect bound) together. The finished publications are bound and shrink wrapped onto wooden pallets prior to shipping to the customer.
(*Issue: Packaging, hazardous substances and associated waste and water discharges)*

Feedstocks mainly comprise cellulose films, aluminium plates and paper. Liquid raw materials include printing inks, binding adhesives; heat-seal coatings, cold-seal coatings and solvents.
(Issue: Resource use)

Drummed solvents are dispensed into 25 litre containers for internal transport to process areas. Inks are delivered in half tonne mini-bulk tanks and are off-loaded in the ink storage area, at the rear of the building. The inks are transferred manually to the sheet fed printing presses, but the latest line can be fed from an integral reservoir. Other coating materials are delivered in either 25 or 200 litre drums, directly to the primary Print Shop room.
(*Issue: Packaging, hazardous substances and associated waste and water discharges)*

Inks from bulk storage tanks and smaller containers are blended on-site to produce "finished" printing ink and adhesives, originally premixed in a separate Mixing Room, are now mixed in a small area next to the main presses to make efficient use of the main air emission abatement equipment ducting that was installed [five years prior to audit].

Consumption of inks is estimated at 35 tonnes per month. Emissions from pre-mixing operations are vented directly to atmosphere.
(*Issue: Packaging, air emissions, hazardous substances and associated waste and water discharges)*

Printing and coating is carried out in the Print Shop, which is split into four distinct work areas; sheet fed lithographic presses take up the entire space. Two high-speed photocopying machines sit together on the second floor as a self-contained ‘print on demand’ unit.
(Issue: Energy use, hazardous substances, resource use and associated waste and water discharges)

Printing operations involve the application of materials with relatively high solvent content to the surface of a moving plate or film. Rapid solvent evaporation is achieved by the movement of heated air across the plate and sheet surface, which results in solvent laden air being emitted from the system.
(Issue: Energy use, hazardous substances, air emissions)

All application of printing inks and other wet materials is carried out in the Print Shop area and associated cleaning rooms. Volatiles are either captured by the abatement equipment in the Print Shop area or vented direct to atmosphere by the building's forced ventilation system.
(Issue: water discharges, air emissions)

Total solvent losses to atmosphere from pre-mixing and printing processes were estimated to be about 0.5 tonnes per month prior to a change of ink supplier and product.
(Issue: water discharges, air emissions)

Cleaning of printing equipment is carried out in a self-contained, solvent emissions ducted wash room adjacent to the Print Shop. The plant is solvent based, and uses 1 tonne per year of ethyl acetate and ethanol. An underground sump collects waste residues from the cleaning process and is emptied bi-annually.
(Issue: water discharges, air emissions, contaminated land from underground tank).

In addition, there is an ultrasonic cleaning plant, which uses aqueous caustic solution for roller cleaning and ancillary cleaning. Twenty-five litres of ethyl acetate are used per application, which is thought to be captured by the abatement filtering system, but may also ultimately be lost to atmosphere. Both sets of plant are themselves cleaned periodically with cleaning liquids (solvent and caustic), being fully replaced with fresh chemicals.
(Issue: Energy use, hazardous substances, water discharges and air emissions)

Finished goods are packaged manually in the Finishing Department. Due to the restricted size of the storage area, the site operates its own distribution service and owns ten 7.5 tonne trucks. In addition some delivery is subcontracted to a Chinese based carrier which may move finished goods to a leased warehouse in Foshan, China for further distribution.
(Issue: Energy use, vehicle emissions)

The Testing Laboratory employs a full-time chemist who carries out sample testing of incoming inks. Small quantities of numerous different solvents, inks and other chemicals are used to test different ink formulations, and are stored in a dedicated storage room within the laboratory.
(Issue: Hazardous substances, spillage, waste disposal and water discharge).

Environmental Controls

Hazardous wastes are generated from primary production, laboratory operations and from cleaning processes. Waste inks and solvents are stored in a bulk container for off-site recycling. Solvent-based inks are filtered on-site to produce a solvent waste stream which is recycled and a solid waste stream which is disposed of as hazardous waste.
(Issue: Liquid and solid, hazardous and general waste)

Waste cooling waters from the printing lines are discharged to a foul sewer. The area's drains are to be included in the second phase of the Harbour Area Treatment Scheme (HATS) under them management of the HK EPD. They currently discharge direct to the harbor via a 1 kilometer undersea outfall pipe.
(Issue: water discharges, current level of marine pollution)

Stormwater surface drains are currently blocked in the solvent storage area and the site has constructed an underground sump to collect local rainwater flooding this area. The sump discharges to the storm water system, which in turn discharges directly to the harbor via the area outfall pipe already mentioned.
(Issue; flooding)

Volatile organic compound (VOC) emissions from the pre-mixing operations', printing and (occasionally) binding activities are mostly vented to atmosphere through abatement ducting, fans and filters which have been retrofitted in the print shop area. Fugitive emissions include those from manual transfer of solvents and inks, ink mixing, adhesives from the bindery emissions from the test laboratory and those from the ultrasonic cleaning plant.
(Issue: Air emissions)

Environmental History

The site has received complaints from the public and other local businesses concerning both noise and odours. In the past six months, over eight complaints have been received from four different sources regarding noise, and approximately seven complaints have been made about strong odours from four different sources, two of which also complained about noise problems.
(Issue: Interested party complaints)

The site's planning/land use permission contains limits on environmental noise emissions between the hours of 17.00 and 08.00, of 45 dB (A). The local Food and Environmental Hygiene (environmental health) officer has conducted noise monitoring and has recorded an exceedence of this limit on two out of 14 occasions during the regulated time period. The local governmental administration has therefore requested that the site implements environmental noise reduction measures where practical. Response to this request in ongoing.
(Issue: Legal Compliance)

The site is developing a programme to implement the licence requirements to manage and reduce emissions of VOCs to the atmosphere. This is being monitored carefully by the HK EPD, who are keen to ensure regulatory requirements are met, and that public complaints are reduced.
(Issue: Legal Compliance)

The site had a small spill of toluene to the stormwater drain approximately one month ago, when a drum was knocked over which was not sealed. This was immediately reported to the Harbour authorities.

Another example

- Age/longevity/performance of our printing presses/supporting equipment
- Culture/perceptions on environmental objective attainment
- Culture/perceptions on environmental performance importance
- Culture/perceptions on providing value for the environment
- Our printing activities, paper products and delivery services
- Strategic direction – new offices, certification, motivated workforce, cooperation, collaboration
- Organizational sites/departmental culture(s) – production trumps environmental controls

- Capabilities – getting beyond sales lead performance, the traditional measure in the printing industry
    - People
    - Knowledge
    - Processes
    - Environment awareness
- Transport costs / service – costs vs carbon management
- General priorities within top management/governance and succession issues – Cultural commitment to traditional values leads to low management churn rate
- Relationship with supply chain (sustainable paper production etc.) – FSC chain of custody certificates relatively new requirement for paper/print industry which is traditionally cost driven*?*
- Potential sustainable material replacement programme (products/packaging) – *comment?*
- Paper, inks, solvents etc. consumption (recycled, reusable, biodegradable) – water based inks compromise quality, recycled paper hard to work with on web machines etc.
- Energy management – energy management always comes after production targets
- Wastage of raw material/waste disposal/developing market for by-products – waste regarded as unavoidable part of the process
- Structure of the organization – Top down, command and control culture; individual initiative not appreciated
- Roles within the organization – rigidly defined, potential loss of innovation
- Return on investment policy (R.O.I) – heavy investment driven by conversion to digital equipment and concomitant constant upgrading reodes funding base
- Product/distribution service quality – has to be better quality for less money despite extra transport costs.
- Capital expenditure – see comments under ROI above
- Solvency – cash flow and prompt payment always an issue for print industry
- Debt and interest – have avoided debt so far but interest rates very tempting, potentially driving further change
- Fair Trade/Ethical Trading – N/A
- Availability of reliable qualified and competent work force – costs in HK very high, puts pressure on salaries to retain competent people
- Stability of work force/HR practices –*stable workforce but 'burn out' due to high pressure environment and HK surroundings still high.*
- Impact of unionization – unions not recognized and HK position with relation to China always open to re-interpretation politically
- Contractual arrangements with customers – price sensitive but now also include ethical and environmental criteria
- Solvency of customers – Volatile: international financial community still sensitive to merger, consolidation and pending prosecutions
- Expansion of customer base – seeking international market places pressure on carbon management
- Cash flow – see comments above
- Overall strength of business to support funding needs – strong base due to lack of borrowing, but ROI policy cannot tolerate much latitude
- Resilience of infrastructure – HK Island an intensely crowded, sensitive and extreme environment, dependent on outside support

- Relationship with investors (including Bank) – see comments below
- Credit rating and availability – possibly little credit history as not used borrowing to fuel growth
- Health and Safety – more relaxed local culture may not be reflected amongst international customers
- Design for Environment – N/A *comment?*

Note: *Internal and external issues are specific to an organization and will determine the risks and opportunities that need to be addressed.*

5. Interested parties [relevant to 2.]

6. Needs/Expectations of interested parties [relevant to 5.]

(*An organization is expected to gain a general (ie, high-level, not detailed) understanding of the expressed needs and expectations of its interested parties that are EMS relevant)*

The interested parties with expectations relevant to the EMS of Sunny Outlook Printers HK Ltd have been determined below with their individual needs and expectations (requirements).

These have been determined through a mixture of contract/tender requirements, disclosed voluntarily, phone contact, electronic surveys, operational meeting and top management focus.

External Parties	Example Needs/Expectations
Regulators	1) Identification of applicable statutory and regulatory requirements for the environmental aspects under our control/influence, understanding of the requirements, application within our EMS, update/maintenance of them, compliance to them, prompt responses to investigations and enquiries
Customers	2) Demonstrable ISO 14001 Conformance/Legal compliance 3) Value for money (esp. for premium 'eco' products) 4) Maintained levels of quality (esp. for 'eco' products) 5) Environmentally sustainable product 6) Socially and environmentally responsible
End Users	7) Product information with regard to end of life recycling/disposal (where appropriate), other relevant environmental information 8) Recyclable packaging
Citizens	9) Legal compliance 10) Absence of pollution incidents 11) Meeting policy commitments 12) Socially and environmentally responsible

External Parties	Example Needs/Expectations
Insurers	13) Prompt reporting incidents/changes in circumstances 14) Demonstrable ISO 14001 conformance 15) Evidence of non-financial (i.e. environmental) risk management
Emergency Services	16) Fire Safety provides for fire water run-off etc. 17) Accurate inventory of hazardous materials 18) Regulatory compliance 19) Regular drills for flooding/spillage/site evacuation
Media	20) Fast, accurate information concerning environmentally related impacts/incidents to the local/national press 21) Openness/transparency to everyone
Distributors	22) Demonstrable ISO 14001 Conformance 23) Continuity of product supply 24) Waste and cost reduction opportunities
Staff Dependents	25) Social/reputational responsible 26) Environmental related Health and safety compliance
Banks	27) Meeting repayment terms 28) Compliance with loan conditions 29) Good risk management 30) Legal compliance 31) Absence of pollution incidents/cleanup costs/public liabilities
Neighbors	32) Absence of noise/odour/vibration incidents
Pressure Groups/NGOs	33) Adherence to best practice and contractual agreements
Etc.	

Internal Parties	Example Needs/Expectations
Staff including drivers, maintenance, administration, printing, bindery, loading etc.	34) Good environmental reputational image 35) Wider focus than just profit 36) Training and support for all 37) Environmentally/occupationally safe working conditions 38) Continuity of employment 39) Opportunities for dialogue/improvement/changes
Contractors/Suppliers	40) Clear statement of environmental requirements in tenders/contracts 41) Consistent approach to contract variations involving environmental practices 42) Adherence to agreements 43) Level playing field for all environmental requirements

Business partners	44) Adherence to agreements 45) Good environmental risk management
Workers' (labour) representative	46) Terms and conditions for workers - environmental related Health and Safety 47) Employee consultation on work related changes
Executive Board	48) Financial benefit, legal compliance/avoidance of fines, reputational gain – corporate social responsibility (CSR), enhanced corporate governance (CG)
Etc.	

7. Which become compliance obligations [relevant to 6.]

All the above will become compliance obligations with the exceptions of:

- External Parties – Media – This will be re-visited once the EMS is operational
- Customers 5, we are striving for this but this will not become a compliance obligation yet
- Distributors 23, we cannot guarantee
- Neighbors 32, we cannot guarantee: absence of noise/odour/vibration incidents but a compliance obligation will be reductions where 'reasonably practical'
- Staff 36 and 38 we cannot guarantee, depends on budget etc.
- Contractors/Suppliers 43, we cannot guarantee at the present

8. Organizational unit(s), function(s), physical boundaries

'Sunny Outlook Printers HK Ltd' operates from its sites in Hong Kong, and soon in Germany and Beijing. No sites are/will be shared with other organizations and each site has a clearly defined boundary/demarcation to their neighbors. At each site the organizational unit(s)/ function(s) comprises of: Office administration (finance, sales, order processing, Support functions, HR, Quality, IT, Environmental, OH&S, general management), Design of customer's artwork. At the Aberdeen, HK Island site only, Development (preparation), Production (Printing signatures), Production (pressrooms), Production (bindery) and final Dispatch of printed materials (Delivery).

9. Activities, products and services of the organization

The design, development, production and delivery of a range of high quality and environmentally sensitive printing solutions. Print work providers for sheet fed and heat set lithographic services and can be prepared on a bespoke basis, or chosen from a range of standardized offerings. Delivery is provided through outsourced transportation services.

10. Authority and ability to exercise control and influence [relevant to 8/9.]

Full authority and ability to control is possible over our main printing sites in Hong Kong, Germany and Beijing, and a strong authority and ability to influence over our outsourced transportation services.

We have a strong authority, and great ability to influence our paper sourcing suppliers' environmental performance and that of our inks procurement suppliers' environmental performance. However, we have little authority and limited ability to influence unused stock policies from our customers.

Our current levels of influence over our customer's choice of environmentally benign raw materials are not high, though we are seeking to increase this through a change in policy in sales contract negotiations

Finally, we have no authority and marginal ability to influence final disposal of our product.

11. Determined scope [considering 3, 4, 7-10.]

The scope of 'Sunny Outlook Printers HK Ltd' Environmental Management System applies to the design, development, production and delivery of a range of high quality and environmentally sensitive printing solutions from its site in Hong Kong, with a planned roll out programme to include our proposed Germany and Beijing offices. Print work providers for sheet fed and heat set lithographic services and can be prepared on a bespoke basis, or chosen from a range of standardized offerings. It covers the management of business activities that support these products and services (including transportation outsourcing), and the influence (where possible) of any significant environmental aspects that occur in its life cycle e.g. procurement, unused stock, and final disposal.

12. Task sheet

Related Questions (Activity 11)	Clause	Task (please note that the tasks requiring maintaining, or retaining of documented information, are not included here – see previous slide notes on documented information)	Duration	Start	Finish	GANTT CHART
1	*4.1*	*Determine purpose*				
		Determine intended outcome(s) of its EMS				
		Determine external and internal issues (Include conditions capable of affecting/affected by the Org…)				
2	*4.2*	*Determine interested parties*				
		Determine their requirements				
		Determine which become compliance obligations				
3	*4.3*	Consider 4.1, 4.2, unit(s), function(s), physical boundaries, activities, products, services, authority/ability				
		Determine and make available documented information scope				
4	*4.4*	*Determine the processes needed*				
		Consider the knowledge of its context when establishing……the EMS				
5	*5.1*	Top management – ensure take accountability for EMS effectiveness				
		Top management - ensure EMS policy and objectives are compatible with strategic direction and context				
		Top management - ensure integration of EMS requirements into organization's business processes				

Related Questions (Activity 11)	Clause	Task (please note that the tasks requiring maintaining, or retaining of documented information, are not included here – see previous slide notes on documented information)	Duration	Start	Finish	GANTT CHART
		Top management - ensure resources available				
		Top management - communicate importance and of conforming				
		Top management - ensure EMS achieves intended outcome(s)				
		Top management - ensure directing and supporting persons				
		Top management - ensure promoting continual improvement				
		Top management – ensure support of other relevant management roles				
6	*5.2*	*Top management – establish, implement and maintain an environmental policy*				
		Top management - ensure policy is appropriate to organization's purpose and context/impacts				
		Top management – ensure policy provides framework for setting environmental objectives				
		Top management - ensure policy includes commitment to protect the environment, including prevention of pollution and others (context specific), and fulfill its compliance obligations				
		Top management – ensure policy includes a commitment to continually improve the EMS…..				
		Top management – ensure policy is maintained *as documented information*				
		Top management – ensure policy is communicated within the organization, including persons doing work under its control				
		Top management – ensure policy is available to interested parties				

Related Questions (Activity 11)	Clause	Task (please note that the tasks requiring maintaining, or retaining of documented information, are not included here – see previous slide notes on documented information)	Duration	Start	Finish	GANTT CHART
7	*5.3*	*Top management - ensure roles, responsibilities and authorities are assigned and communicated*				
		Top management - assign responsibility and authority for ensuring the EMS conforms to the requirements of the standard				
		Top management - assign responsibility and authority for reporting on the performance of the EMS, including environmental performance, *to top management*				
8	6.1.1	Plan and implement a process to meet the requirements in 6.1.1 to 6.1.4				
		Consider the issues in 4.1, requirements in 4.2, and scope (when planning)				
		Determine risks and opportunities related to environmental aspects, compliance obligations, issues and requirements.				
		*Check that process addresses intended outcomes of EMS, undesired effects (*including Env conditions affecting the organization*) and continual improvement*				
9	6.1.2	Identify aspects and impacts (control/influence – life cycle perspective)				
		Take into account changes, developments, new/modified activities, abnormal and emergency conditions……..				
		Determine significant aspects				
		Communicate its significant aspects				
10	6.1.3	Identify/access its compliance obligations				
		Determine how these apply to the organization				
11	6.1.4	Planning action				

Related Questions (Activity 11)	Clause	Task (please note that the tasks requiring maintaining, or retaining of documented information, are not included here – see previous slide notes on documented information)	Duration	Start	Finish	GANTT CHART
		Plan actions to address, significant environmental aspects, compliance obligations, risks and opportunities from 6.1.1				
		Plan integration and implementation of actions within EMS and with business processes				
		Plan to evaluate effectiveness of actions				
		Consider technological options and its financial, operational and business requirements with regard to actions.				
12	6.2.1	*Establish EMS objectives*				
		Monitor, communicate and update EMS objectives				
	6.2.2	*Planning to achieve EMS objectives,* including indicators for monitoring progress…..				
		Consider how the actions can be integrated into the organization's business processes				
13	*7.1*	*Determine and provide resources needed*				
14	*7.2*	*Determine necessary competence*				
		Ensure persons are then competent on basis of…				
		Determine training needs associated with environmental aspects and EMS				
		Take action to acquire required competence				
		Evaluate the effectiveness of the actions taken				
15	*7.3*	*Ensure person(s) who work under control are aware of……*including the significant environmental aspects and impacts				

Related Questions (Activity 11)	Clause	Task (please note that the tasks requiring maintaining, or retaining of documented information, are not included here – see previous slide notes on documented information)	Duration	Start	Finish	GANTT CHART
16	7.4.1	Establish , implement and maintain a process for internal and external communications				
		Determine what it will communicate				
		Determine when it will communicate				
		Determine with whom to communicate				
		Determine how to communicate				
		Take into account compliance obligations, ensure consistency with its EMS and respond to communications				
	7.4.2	Communicate internally, including on changes, and ensure any person (including those doing work under the organization's control) ...can contribute to improvement				
	7.4.3	Communicate externally, relevant to its EMS, as determined by its communications process				
17	*7.5.1*	*Establish document information required by this Standard*				
		Establish document information required for EMS effectiveness				
	7.5.2	*Ensure appropriate identification and description*				
		Ensure appropriate format and media				
		Ensure review and approval for suitability and adequacy				
	7.5.3	*Ensure availability and suitability for use*				
		Ensure adequately protected				

Related Questions (Activity 11)	Clause	Task (please note that the tasks requiring maintaining, or retaining of documented information, are not included here – see previous slide notes on documented information)	Duration	Start	Finish	GANTT CHART
		Control distribution, access, retrieval and use				
		Control storage, preservation and legibility preservation				
		Control changes (version control)				
		Control retention and disposition				
		Identify and control documented information of external origin				
18	*8.1*	*Plan, implement and control processes to meet* EMS *requirements*				
		Implement actions from 6.1 and 6.2				
		Establish criteria for processes				
		Implement control of processes according to criteria				
		Control planned change				
		Review consequences of unintended changes				
		Take action to mitigate adverse effects				
		Control or influence *outsourced processes*				
		Define the type and degree of control or influence to be applied within the EMS				
19		Determine environmental requirements for procurement (Life cycle perspective)				
		Establish controls in the design process….development, transportation, delivery, use, end-of-life treatment, final disposal (Life cycle perspective)				

Related Questions (Activity 11)	Clause	Task (please note that the tasks requiring maintaining, or retaining of documented information, are not included here – see previous slide notes on documented information)	Duration	Start	Finish	GANTT CHART
		Communicate requirements to external providers, including contractors (Life cycle perspective)				
		Consider the need to provide information…..during transportation, delivery, use, end-of-life etc……(Life cycle perspective)				
20	8.2	Establish, implement the processes needed for preparing, and responding to potential emergency situations				
		Review and revise the process(es) and planned response actions				
		Provide relevant information and training related to emergency preparedness and response				
21	9.1.1	*Determine what needs to be monitored and measured*				
		Determine the methods to ensure valid results				
		Determine the criteria for evaluation using appropriate indicators				
		Determine when the monitoring and measurement shall be performed				
		When the results shall be analysed and evaluated				
		Ensure calibrated or verified equipment is used and maintained, as appropriate				
		Evaluate the EMS performance and its effectiveness, and provide input to management review				
		Communicate information both internally and externally, as per communications process/obligations				
22	9.1.2	Plan and implement a process to evaluate fulfillment of compliance obligations				

Related Questions (Activity 11)	Clause	Task (please note that the tasks requiring maintaining, or retaining of documented information, are not included here – see previous slide notes on documented information)	Duration	Start	Finish	GANTT CHART
		Determine frequency, evaluate, take action, maintain knowledge/understanding of its compliance status				
23	*9.2*	*Conduct internal audits at planned intervals*				
		Ensure audit objectives cover conformance of own EMS, the Standard, and its effectiveness				
		Plan... an audit programme(s), including...				
		Ensure audit programme(s) take into consideration...				
		Define audit criteria and scope for each audit				
		Select objective, impartial auditors				
		Ensure results of audits are reported to management				
24	*9.3*	*Top management - review EMS at planned intervals*				
		Include for consideration those requirements stated (note additions to HLS)				
		Include outputs as stated (note additions to HLS)				
25	*10.2*	*React to nonconformities*				
		Take control and correct them				
		Mitigate adverse environmental impacts				
		Deal with the consequences				
		Evaluate need for action to eliminate the causes...				

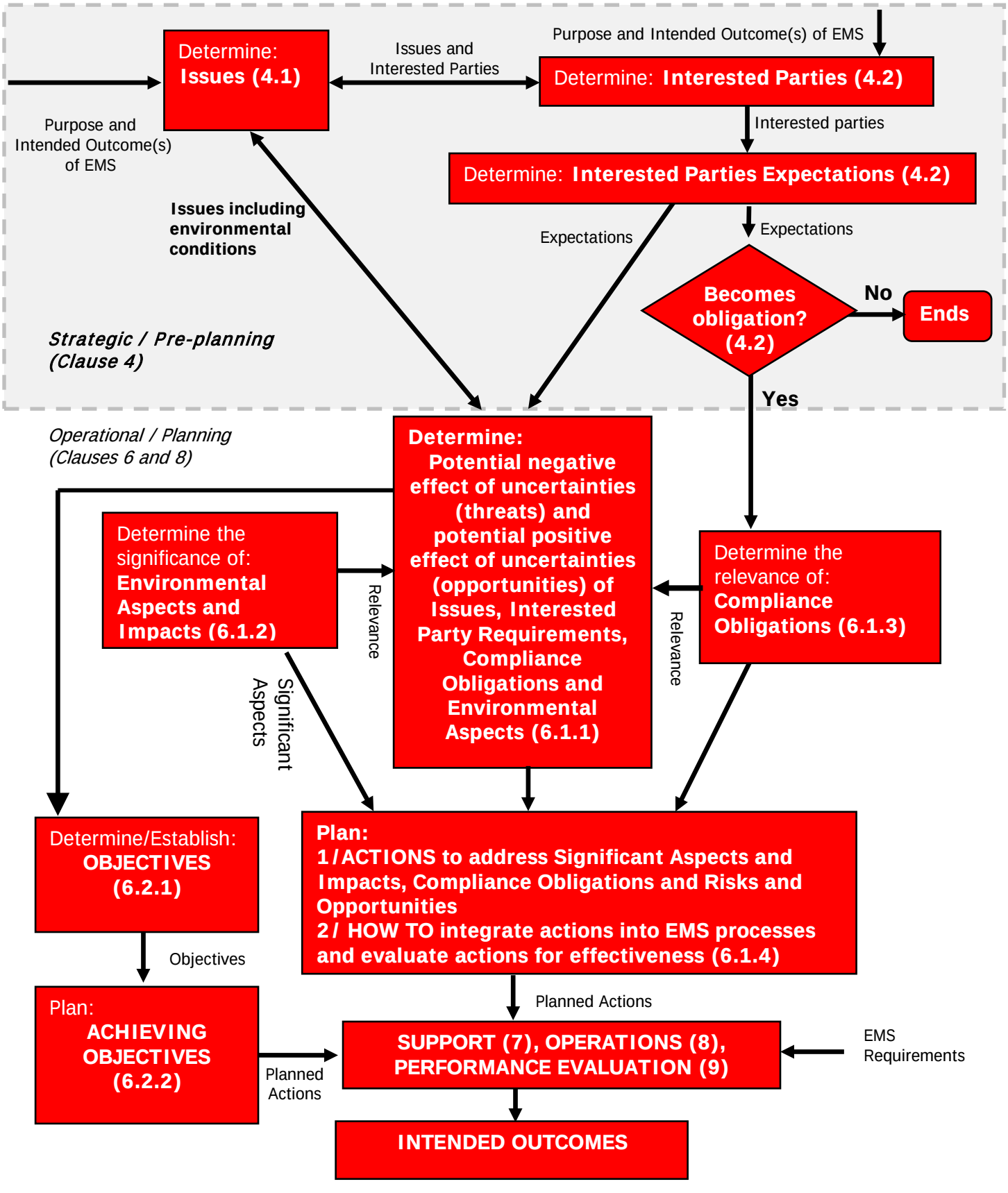
Related Questions (Activity 11)	Clause	Task (please note that the tasks requiring maintaining, or retaining of documented information, are not included here – see previous slide notes on documented information)	Duration	Start	Finish	GANTT CHART
		Determine and *Implement any action needed*				
		Review effectiveness of any corrective action				
		Make changes to the EMS, if necessary				
26	*10.3*	*Continually improve the suitability, adequacy and effectiveness of the EMS*				

13. An example role, responsibility and authority

Roles	Responsibilities	Authorities
Managing Director	Management System(s) owner	All authorities granted
Operations Manager *(EMS Management Representative)*	Maintenance of EMS including: • Issue/Aspect Register • Compliance obligations • Risks and opportunities • Performance Reporting • Conformance with Standard	To update, change, improve any aspect of the EMS
Operations Manager	EMS risk identification and assessment, including: • Undertaking risk assessments • Maintenance of risk treatment action plans	To change risk criteria, significance rating, action plan timelines
Quality Manager (Lead Auditor) Internal Auditors	MS internal audit process: • Planning of audit programme • Undertaking audits and monitoring progress	To change audit programme(s), to recruit new EMS internal auditors
Members of the Environmental Management Improvement Team	Environmental performance improvement: • Setting objectives • Devising plans • Monitoring Plans • Corrective actions	To approve new EMS objectives and plans and corrective action requests
All personnel	Environmental performance improvement	To raise EMS improvement requests directly to management
Health and Safety Manager Members of the incident management team	• Environmental Emergency/ Incident Management • Reporting Incidents • Monitoring and Closing Incidents	To declare an EMS emergency/incident/accident, to report to a Regulator, to authorize necessary actions, to declare an incident etc. is closed

Etc.

14. ISO 14001 Clause 6 Planning Process



15. Aspects, impacts and significance

#	Life Cycle Stage?	Control / influence?	What activity, product, service?	Operating Condition? (N / Ab / Emg)	Aspects? (Inputs and Outputs)	Impacts?	Overall Rating (See 'Criteria' overleaf)	Significant Aspect?
1	Pre-production	Influence	Sourcing/ Purchasing of plastic material	N	Raw material use (Material Specification, supplier evaluation, purchase orders, accounts)	Depletion of natural resource (oil based product)	2x2=4	N
2	Production	Control	Decanting/ Filling of onsite diesel tank	Ab	Oil storage & use (Tanks, Containment, Valves, Contractor delivery and site rules)	1. Potential for surface water/groundwater contamination through spillage 2. Hazardous Waste from disposal of spent absorbent material 3. Loss of natural resource	3x2=6	Y
3	Disposal	Influence	Final product (Printer – cartridges - recycle)	N	Disposal to landfill (Empty printer cartridges)	1. Landfill/waste burden 2. Potential land contamination and/or water pollution	2x2=4	N

YOUR CRITERIA TO BE USED?

1/ Assess the likelihood of an incident occurring and assign a rating as shown in the table below:		
Probability	**Likelihood**	**Rating**
High	Almost certain to occur	3 points
Medium	Possible occurrence	2 points
Low	Unlikely to occur	1 point
2/ Assess the severity of incident and assign a rating as shown in the table below:		
Severity	**Extent of Effect**	**Rating**
Serious	Major Incident, Potential press and interested party involvement, Leaves lasting effects, Emergency procedures enacted	3 points
Moderate	No lasting effects, some potential interested party interest, dealt with via operating procedures	2 points
Minor	Potential minimal effects, no interested party interest	1 point

3/ Overall Rating = Likelihood of Occurrence X Severity

The range of possible ratings are shown in the matrix below:

		Likelihood of Incident		
		Low	Medium	High
Severity	Minor	1	2	3
	Moderate	2	4	6
	Serious	3	6	9

AN ASPECT IS SIGNIFICANT WHEN ITS OVERALL RATING IS 6 OR 9.

16. Identify compliance obligations (legal and regulatory)

The list below is provided only to give you an idea of the types of requirements that could apply to an organization based in the UK. Clearly, other countries will have equivalent requirements. All of the below may have implications for an EMS.

1. Pollution Prevention and Control

- Environmental Protection Act 1990 (EPA 90) - Part I
- Environmental Protection (Prescribed Processes and Substances) Regulations 1991
- Environmental Protection (Applications, Appeals and Registers) Regulations 1991
- Environmental Permitting Regulations 2010
- Environment Act 1995 (EA 95) - Part IV
- Water Resources Act 1991 - Part III
- Surface Waters (Dangerous Substances) (Classification) Regulations 1998
- Surface Waters (River Ecosystems) (Classification) Regulations 1994

2. Air Pollution/Climate Change

- Environmental Protection Act 1990 (EPA 90) - Part I
- Environmental Protection (Prescribed Processes and Substances) Regulations 1991
- Ozone Depleting Substances (Qualifications) Regulations 2006
- Fluorinated Gas Regulations 2009
- Clean Air Act 1993 (CAA 93)
- Dark Smoke (Permitted Periods) Regulations 1958
- Greenhouse Gas Emission Trading Regulations 2005
- Environmental Protection Act 1990 - Part III
- Environment Act 1995 (EA 95) - Part IV
- Environmental Protection (Controls on Ozone Depleting substances) Regulations 2002
- Notification of Cooling Towers and Evaporative Condensers regulations 1992

3. Water Pollution

- Water Resources Act 1991 (WRA 91) - Part III
- Water Industry Act 1991 (WIA 91) - Part IV
- Environmental Permitting Regulations 2010
- Trade Effluents (Prescribed Processes and Substances) Regulations 1989
- Environmental Protection Act 1990 - Part I
- Groundwater Regulations 1998
- Anti-Pollution Works Regulations 1999
- Control of Pollution (Oil Storage) Regulations 2001

4. Waste

- Environmental Protection Act 1990 (EPA 90) - Part II
- Controlled Wastage (Registration of Carriers and Seizure of Vehicles) Regulations 1991
- Environmental Protection (Duty of Care) Regulations 1991
- Controlled Waste Regulations 1992
- Environmental Permitting Regulations 2010
- Environment Act 1995 - Part V
- Hazardous Waste (England and Wales) Regulations 2005
- The Producer Responsibility Obligations (Packaging Waste) Regulations 2007
- List of Wastes Regulations 2005
- Waste Electrical and Electronic Equipment Regulations 2006
- Landfill Regulations 2002

5. Statutory Nuisance and Noise

- Environmental Protection Act 1990 (EPA 90) - Part III as amended by the Noise and Statutory Nuisance Act 1993
- Noise and Statutory Nuisance Act 1993
- Control of Pollution Act 1974 (COPA 74) - Part III
- Environmental Noise Regulations 2006

6. Litter

- Environmental Protection Act 1990 - Part IV

7. Contaminated Land

- Environmental Protection Act 1990 - Part II as amended by the Environment Act 1995 (EA 95) - Part II
- Contaminated Land Regulations (England) 2006

8. Planning and Conservation

- Town and Country Planning Act 1990 (TCPA 90) as amended by Planning and Compensation Act 1991
- Planning and Hazardous Substances Regulations 1992
- Town and Country Planning (Environmental Assessment and Permitted Development) Regulations 1995
- Wildlife and Countryside Act 1981
- The Badgers Act 1992

9. Major Incidents

- Planning (Control of Major Accident Hazards) Regulations 1999
- Notification of Cooling Towers and Evaporative Condensers Regulations 1992
- The Control of Major Accident Hazards Regulations 2005 (COMAH)

10. Hazardous Substances

- Environmental Protection Act 1990 - Part VIII
- Control of Asbestos Regulations 2006
- Control of Pollution (Supply and Use of Injurious Substances) Regulations 1986
- Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations (ROHS) 2006
- Dangerous Substances Explosive Atmosphere Regulations 2002
- Registration, Evaluation and Authorisation of Chemicals (REACH)

10a. Relevant Health and Safety Legislation

- Health and Safety at Work etc. Act 1974 (HSWA 74)
- Notification of Installations Handling Hazardous Substances Regulations 1982 -NIHHS
- Dangerous Substances (Notification and Marking of Sites) Regulations 1990
- Control of Substances Hazardous to Health Regulations 2002 - COSHH
- Chemicals (Hazard Information and Packaging) Regulations 2009 (Chip4)

10b. Other Legislation

- Planning (Hazardous Substances) Act 1990
- Planning and Hazardous Substances Regulations 1992
- Food and Environmental Protection Act 1985 (FEPA 85) - Part III
- Control of Pesticide Regulations 1986
- Freedom of Information Act 2000
- Companies Act 2006 and relevant updates
- Fraud Act 2006
- Regulation of Investigatory Powers Act 2000 including Lawful Business Practices
- Financial Services and Markets Act 2000
- Sarbanes Oxley

NB – this is not intended to be a full list of all of the legislation that might be applicable to your organization. It is a list of some of the main UK legislation only.

17. Different types of risk

(How different types of risk could affect your EMS)

The chart below is a prompt for thought during the ISO 14001 Implementation course. It does not pretend to be exhaustive and should not be treated as sufficient in itself to meet any requirements of the standard. It is provided to help illustrate both the wide range of risks and their ability to affect an EMS, even if the risk itself does not have an environmental source.

Strategic Risks		
Risk Type	Details	Example how EMS could be affected
1. Corporate Governance Risk	The risk that insiders (employees) won't act in the best interests of owners (stockholders) and the community	Bad management or under reporting of environmental risks
2. Competitive Risk	The general risk that you'll lose out to the competition	Competitors win more business on the basis of environmental performance
3. Innovation Risk	The risk that the competition will out innovate you	Competitors make better claims on product with regard to environmental performance
4. Intellectual Property Risk)	Risk related to intellectual property (e.g. the risk that intellectual property leaks to competitors)	See above
5. Merger and Acquisition Risk	The risks related to integrating firms	Environmental performance standards eroded
6. Business Risk	The risk that your overall business strategy and plan will be ineffective (e.g. will fail to meet revenue targets)	Revenue shortfall threatens investment related to environmental projects
7. Economic Risk	The risk that the economy will go into recession. In some cases, recessions benefit an organization (inferior goods)	Environmental performance no longer the main selling point of goods/services
8. Technological Change	The risk that technology investments will become obsolete	Environmental performance improvements not viable with 'dead-end' technology
9. Change Management Risk	The risks associated with managing change	New procedures not followed
10. Project Risk	The risk that projects will fail	Environmental project does not improve performance at all
11. Ethics Risk	The risk that your guiding principles and ethics will be breached	Not following EMS policy commitments
12. Reputational Risk	The risk of damage to your corporate image	Pollution incidents lead to reduced trust in your business and destruction of value
13. Sustainability Risk	The risk that you'll fail to meet sustainability objectives and targets	Threat to local economy and/or environment due to underperformance

Financial Risks		
Risk Type	Details	Example how EMS could be affected
14. Profit Risk	The general risk that profits will fall	Under investment in environmentally related capital projects
15. Capital Availability	The risk that you won't be able to fund your business	Affects investment intensive environmental projects
16. Asset Risk	Risks related to asset prices (e.g. property/equipment)	Recoverable costs fall; environmental costs rise (land remediation etc.)
17. Interest Rate Risk	The risk that interest rates will change	Repayments on loans for lower impact equipment, slow roll out programme
18. Currency Risk	The risk of a change in exchange rates	Costs of transport/raw materials/trans-frontier shipment of waste rise
19. Inflation Risk	The risk of price increases in critical inputs (e.g. energy for the transportation industry)	See above
20. Investment Risk	The risk of a change in value of investments (e. g. Equity and Commodity Market Risk)	Investment funds diverted from environmental projects to meet shortfall in forecasts
21. Liquidity Risk	The risk that you won't be able to sell an asset efficiently (e.g. quickly at a fair price)	Shortens period allowed for return on investment (i.e. from 5 years to 3 years) on environmental projects
22. Systemic Risk	The risk that the entire global financial system or the financial system of a country will collapse	Environmental projects not funded beyond legal compliance issues
23. Concentration Risk	The risk of over-lending to a small number of debtors or investing in a narrow selection of assets	Spreading of risk diverts resources and causes slowdown in progress on environmental projects
24. Credit Risk	The risk that a borrower will default on a debt	Loss of investment funds diverts money from environmental initiatives
25. Fraud Risk	The risk of fraud losses	See above
26. Accounting Risk	The risk of accounting errors	Environmental costs/savings not correctly allocated
27. Fiduciary Breach Risk	The risk that your firm will breach its fiduciary duties (e.g. insider trading, breakdown of trustee relations, etc.)	Not for profit or charitable status put at risk/loss of reputation (Also see Governance Risk above)
28. Counter Party Risk	Counter party risk is the risk that other firms will break their contractual obligations to you (e.g. a customer is declared bankrupt and can't pay you)	Under investment in environmentally related projects
29. Tax Risk	The risk that your taxes will increase or an audit will reassess taxes of previous year	Environmentally related taxes rise; environmental data verification questioned across company

Marketing and Sales Risks		
Risk Type	Details	Example how EMS could be affected
30. Revenue Shortfall Risk	The general risk that revenue will fall short	Under investment in environmentally related projects
31. Demand Risk	Lower than expected demand for your products	Storage/transportation costs and impacts rise
32. Market Competition Risk	The risk that competitive forces will reduce revenue (e.g. price erosion)	Projects with extended return on investment (RoI) periods not considered
33. Sales Forecast Risk	The risk that sales forecasts will be inaccurate	Performance indicators on EMS will require review for appropriateness
34. New Product Development Risk	The risk that new products will fail on the market	General lack of investment to support EMS/lack of staff morale
35. Customer Relationship Risk	The risk of damaged relationships with customers	Affects all sales-based forward planning including capital expenditure related to environmental projects
36. Brand Value Risk	The risk of a decline in brand value	Environmental aspects of brand affected
37. Publicity Risk	The risk of bad publicity	Pollution incident; EMS not found effective by regulator/public/media
38. Large Account Risk	The risk of losing a large customer	Affects all sales-based forward planning including capital expenditure related to environmental projects
39. Location Risk	The risk of choosing a bad location (e.g. a retail location)	Excessive transport costs, raised vehicle emissions, problematic logistics

Operational Risks		
Risk Type	Details	Example how EMS could be affected
40. Infrastructure Risk	Risks related to infrastructure (e.g. electricity outage)	Loss of materials/product. Additional costs of repair/disposal
41. Maintenance Risk	Risk of maintenance failure (e.g. human error in maintenance)	Loss of materials/product. Additional costs of repair/energy/disposal
42. Product Failure Risk	The risk that your product or services will fail	Associated costs with potential cleanup/remediation/disposal
43. Product Liability Risk	The risk that you will incur legal liability related to your products and services	Diverted funds reduce investment available for environmental projects
44. Operational Quality Risk	The general risk of operational failures (e.g. website failure)	Costs if EMS affected
45. Production Shortfall Risk	You fail to meet production targets	Achievement of environmental objectives affected
46. Logistics Risk	The risk of logistics failure	Additional costs/environmental impacts affecting targets
47. Procurement Risk	Risks related to procuring goods and services	Contractor causes pollution incident on your/customer's site

Information Technology		
Risk Type	Details	Example how EMS could be affected
48. Architectural Risk	The risk that your architecture will fail to meet business objectives	EMS related software does not function (data monitoring etc.)
49. Data Quality Risk	The risk of poor quality data	Performance targets not verifiable
50. Technology Quality Risk	The risk of software and hardware quality problems (e.g. failures, usability issues)	IT based EMS not used correctly/ by sufficient numbers of staff
51. Platform Risk	The risk of choosing a technology platform that's not fit for purpose	EMS cannot generate sufficient objective evidence
52. Information Security Risk	The risk of information security incidents	Confidential/sensitive environmental data put in the public domain

HR Risks		
Risk Type	Details	Example how EMS could be affected
53. Workplace Safety Risk	The risk that accidents or poor environment impacts the health of employees	Hazardous substances not managed appropriately/COSHH management ineffective
54. Employer Reputation Risk	The risk that a bad reputation as an employer makes recruitment of top talent difficult	Threatens competency levels of key positions in EMS/operations
55. Employer Liability Risk	The risk of being sued for employment related practices or incidents	Fines, legal costs, loss of reputation. Only applicable to EMS if practice/incident in question relates to environment
56. Employment Law Compliance Risk	The risk of non-compliance with employment related laws and regulations	Fines, legal costs, loss of reputation. Only applicable to EMS if practice/incident in question relates to environment
57. Talent Management Risk	The risk of losing top talent	Threatens competency levels of key positions in EMS/operations

Compliance and Legal Risks		
Risk Type	Details	Example how EMS could be affected
58. Compliance Risk	The risk that you will fail to comply with laws and regulations	Fines, legal costs, loss of reputation. Only applicable to EMS if practice/incident in question relates to environment
59. Mandatory Reporting Risk	The risk that you will fail to meet regulatory filing requirements.	Mandatory non-financial risk reporting not fulfilled. Legal noncompliance penalties
60. Liability Risk	The risk of lawsuits	Fines, legal costs, loss of reputation. Only applicable to EMS if liability in question relates to environment

Catastrophic Risk		
Risk Type	Details	Example how EMS could be affected
61. Force Majeure	Acts of nature, war and terrorism	Clean-up/repair/business continuity costs
62. Political Risk	Risk associated with political change	Change in environmental regulatory framework/taxes/costs

18. Environmental Management System policy

Environmental Policy

As one of the busiest printer's in Hong Kong, and with new facilities planned for Germany and Beijing, Sunny Outlook recognizes the environmental impacts of its activities and aims to minimize these in initiatives which are closely aligned to the ISO14001 Environmental Management System.

The Sunny Outlook company is committed to the protection of the environment, not just from our direct activities on site but through our use of sustainable natural resources, the carbon management of product related transport and preventing pollution through reducing and eliminating sources of pollution. It is committed to continual improvement of its Environmental Management System to enhance environmental performance, and conforming with its compliance obligations. The company will review all its activities and operations in order to identify/evaluate environmental aspects and impacts, and subsequently undertake actions to address them. The Company seeks to influence all parties in the life cycle of its products and services, and create an environmentally friendly ethos amongst its staff, contractors and suppliers.

The company has prioritized seven significant areas of focus:

- Energy
- Waste Management
- Transportation (outsourcing)
- Emissions and Discharges
- Water use

The company's Environmental Policy is fully supported by its Senior Management Team. Sunny Outlook appreciates that staff and stakeholder education, engagement and acceptance of the policy are inherent to its success, and to meeting the agreed objectives. All staff and subcontractors share this responsibility and are supported by key staff that promote best practice, improvement and monitor performance. This will provide an ongoing focus, create a sense of ownership and a constantly relevant strategy to improve our environmental performance across the five areas outlined.

The Head of SHEQ interacts with all areas of the company and is responsible for monitoring compliance with this policy. Performance against objectives will be reported to senior management at least once a year. This policy will be reviewed annually and made available to all interested parties through the company's corporate 'Social Responsibility and Sustainability' web page.

Executive Director

Charles Lee

Charles K Lee. **(EM001 Issue 2)**

Another example

Founded in 1947, as a limited company, XXX provides consistently high quality, safety critical components to the medical equipment, automotive and aerospace industries. Based on our single site in Bristol in the UK, our expertise extends from manufacture through to design consultancy, maintenance and sub assembly servicing.

We understand the need to control environmental risks associated with our work and to that end we have adopted an ISO 14001 Environmental Management System (EMS) as a tool to implement a formal system for managing those risks.

In particular, we undertake programmes associated with:

- Energy and raw material use
- Carbon and water footprinting
- Transport (lessening vehicle related air emissions) and
- Waste minimization

In that spirit, XXX commits to:

- Continually improve its EMS in order to enhance its environmental performance,
- Protecting the environment and preventing pollution (specific to its context), and
- Conform with its compliance obligations

XXX are also committed to meeting all environmental requirements from our customers and the provision of the necessary resources to achieve this. At the same time, we encourage further environmental improvements by engaging with our employees.

As you'd expect, XXX will continually review this policy and its environmental performance to ensure it improves over time.

With that in mind, objectives relating to environmental performance will be set annually and reviewed quarterly by the Environmental Management Team.

This policy is available to all our customers and relevant interested parties and our employees are made aware of our commitment and the contents of this policy.

This XXX Board of Directors is responsible for reviewing this policy in-line with the organization's document management policy.

Signed

Managing Director
December 20XX

Environmental Policy – D2 – Issue 2

19. Environmental objective and plan

Environmental objective ENV1/WASTE (Sep 1st 20xx)**:**

To reduce incident rate of onsite waste cross contamination to zero. To be fully implemented by end of Dec XX.

Environmental plan:

(What will be done)

- **Facilities Managers:** To identify and create a waste site plan of all bins, skips or other waste receptacles for their respective sites (HK, Germany and Beijing). (Before 15th September)
- **Shift Managers:** For each site, to identify what waste (type) is to be disposed of in each waste bins, skip or other waste receptacle, and identify these on the above waste site plan. (Before Sep end)
- **Environmental Manager:** For each site, to assess/modify/agree/approve locations and waste types with Facilities and Shift Managers. (Before 15th Oct)
- **Facilities and Purchasing Managers:** For each site, to clearly label each bin, skip or other waste receptacle identified on the plan. (Before Oct end)
- **Environmental Manager/Shift Managers:** To create a training/awareness program covering: types of waste/correct disposal or recycling routes/consequences of incorrect disposal or recycling/ legal requirements in waste disposal. (Before Oct end)
- **Shift Managers:** To carry out new regime of waste collection area inspections (documented) at start and end of shift. (From 3rd November)
- **Facilities Managers:** To carry out inspection of each bin prior to consolidation and removal by contractor and maintain documented records. (From 3rd November)
- **Environmental Manager:** To collate records, investigate issues/incidents relating to cross contamination and issue quarterly report on progress towards and maintenance of zero incidents. (From 3rd November)

1. Required environmental waste performance:	Zero incidents of waste cross contamination
2. Who works under your control that could affect the required environmental performance:	All personnel across all sites
3. Competence necessary (Knowledge) to achieve environmental waste performance:	
a. What knowledge is necessary here?	Knowledge of correct waste placement, knowledge of waste types, knowledge of disposal protocols and precautionary principle.
b. How is this knowledge going to be maintained within the organization?	Subject specific training delivered face to face, with e-learning modules to refresh and maintain knowledge.

c. How will it be made available? Education? Training? Experience?	Onsite training, toolbox talks, newsletter, notice boards.
d. Will there be any changing environmental needs/trends?	Potential for new recycling schemes, changes in legislation relating to disposal/ recycling.
e. Is any additional knowledge required for (d.)? How is this to be acquired/accessed?	Environment Manager will identify and relate to Facilities and Shift Managers as appropriate. If no change is recorded, waste disposal arrangements will be reviewed quarterly.
4. Competence necessary (Skill) to achieve environmental performance:	Reading (signs: this is especially important on multi-lingual sites).
5. Competence effectiveness evaluation: a. How is the 'ability to apply knowledge and skills' to be assessed?	Absence of cross contamination incidents.

(How actions will be integrated into business processes)
Awareness/training/skill sessions to be included as part of the induction program for new starters and contractors working on site. Waste labeling and waste site plans to be included in each sites facility management processes.

(What resources will be required)
- Environmental Managers x3
- Facilities Managers x3
- Purchasing Managers x3
- Shift Managers x9
- Human Resources

(Who will be responsible) Operations Director.

(When it will be completed) Over the next four months (Sep-Dec 20xx).

(How the results will be evaluated)
An internal audit will be conducted 1 month after implementation.

Routine weekly site inspections (which includes waste bins, etc.).

(Indicators)

Numbers/trends of waste cross-contamination nonconformances found during audits and routine shift based site inspections (compare previous months to Dec/Jan figures and onwards).

20. a Knowledge and competency gap analysis

Job Title: **Checkout bindery and dispatch staff**	Employee Name: **Tsang White**
Department: **Bindery**	
Functional Relationships with: **Printing and transportation**	

Use this document to help identify current requirements, and to assist in formulating an appropriate development programme for the coming year to address any knowledge/skill gaps identified. You can enter 3 development objectives on the Performance Appraisal.

REQUIRED KNOWLEDGE/ SKILLS (Cross reference with 'Determination Form XX')	Score 0-3: Where 3 is exceeding requirements; 2 is meeting; 1 is nearly meeting; and 0 is not				**Actions?**
	3	**2**	**1**	**0**	
Solvent handling and storage		X			None
Spill procedures/spill kit usage			X		ENV Manager – by June XX end
Operation of VOC abatement equipment	X				Employee to mentor in this area
Ability to set up binding machines		X			None
Ability to spot potential problems with binding machinery				X	Assigned to Print Engineer – by Aug end training to be complete
Etc.					

Definitions of required knowledge/skills are held within 'Determination Form XX'.

See environmental performance indicators (ENVPI) for assessment of effectiveness

Prepared By: Line Manager Agreed By: Tsang White

Signature: Line Manager Date: 5th June 20xx

This form should be returned to HR, with the completed Annual Performance Appraisal (when applicable).

20. Determination of knowledge and competence

1 Organization:	Large web offset printers
2 Process location:	Print works
3 Process:	'Bindery'
4 Required environmental performance:	• Compliance with regulations with regard to VOC emissions from adhesive (when used) and absence of fugitive emissions from adhesive reservoir decanting. • Mistakes (limited to less than 1% wastage of printed matter per binding run) no more than 1/shift. • Polymer stretch wrap (LLDPE) 90 gauge 1 sided cling usage to be no more than 2kg per 1000 kg of palletized product.
5 Who works under your control that could affect the required environmental performance:	All checkout bindery and dispatch staff, including temporary workers and agency staff when required.
6 Competence necessary (Knowledge) to achieve environmental performance:	
b. What knowledge is necessary here?	Solvent handling and storage (including COSHH sheets), spill procedures/spill kit usage, operation of VOC abatement equipment, operation of high speed binders, protocols for starting, minimization of take up time, maintenance and operation of binding machines. Loading pallets, use of film cassette wrapping, process for securing pallets/loads, logging cassette changes.
c. How is this knowledge maintained within the organization?	All protocols and activities above are maintained in documented information either by the Quality Manager or Environmental Manager (as appropriate) with Human Resource (HR) assistance.
d. How is it made available? • Education? • Training? • Experience?	All handling, storage, dispatch and COSHH related information is available through the organization's intranet, which is available to all persons (to the extent necessary) working for it. Also contained in hard copy format work instructions at each bindery workstation (version and distribution controlled). **Education** – requires a mathematics school certificate, **Training/mentoring** – two shifts on the job, with a two hours one to one with supervisor. **Experience –** three months operation of binding machine (one month in the case of pallet wrap tools) and meeting performance requirement above. See HR documents for each staff member.

e. Are there any changing work needs/trends?	Yes, wastage levels are due to become more stringent over time to avoid loss of printed material.
f. Is any additional knowledge required for (d.)? How is this to be acquired/accessed?	Yes, how to set up the binding machines and lessen the run up time, plus additional troubleshooting skills. Print Systems staff are to train and write instructions to be included in the documented information above. See 'Objective PR34'.
7 Competence necessary (Skill) to achieve quality performance:	Ability to set up binding machines/wrap cassette tools quickly under pressure, manually and accurately, good ability to spot potential problems when machines do not maintain performance during run, manual dexterity for pallet wrap finishing.
8 Competence effectiveness evaluation: How is the 'ability to apply knowledge and skills' to be assessed?	Through environmental performance indicators: EP61, EP42a, and EP12b.

21. Communication process

Page 1 of 3	EMS	Communication process: 'ECOMP'
Prepared by: Environmental Manager	**Issue: 1**	**Approved by:** Managing Director

Communication Process

1.0 *PURPOSE*

1.1 The purpose of this process is to outline how the organization manages communication with regard to information on its Environmental Management System (EMS).

2.0 *SCOPE*

2.1 The scope of this process covers:

- Communications to and from external parties
- Internal communication to any person doing work under its control
- Communication from any person doing work under its control

3.0 *REFERENCES*

3.1 There are no specific references that apply to this process other than those related to the Standard.

4.0 *RESPONSIBILITIES and AUTHORITIES*

4.1 It is the responsibility of the top management team, and the operational managers to ensure that internal and external communications are operated effectively and efficiently (in conjunction with HR). The environmental manager is responsible and has the authority to update this process. Operational managers have the authority to communicate, in-line with this process, internally and externally.

Page 2 of 3	EMS – Issue: 1	Communication process: 'ECOMP'

5.0 *PROCESS*

5.1 External Communications - **INPUTS**

- All external communications to the organization that relates to environmental matters will be sent to the Environmental Management Forum (EMF) and/or the Environmental Manager for review and dissemination as appropriate. This includes:
  - New, amendments or pending changes to legislation
  - Changes to regulation; compliance obligations
  - Proposed changes to customer contracts, operations (processes and substances), site arrangements that affect environmental requirements
  - Proposed changes to supplier or contractor contracts, terms and conditions, work programme that affect environmental requirements
  - Information from insurance brokers/insurers
  - Guidance from specialist group

5.2 External Communications - **ACTIVITIES**

The EMF and/or Environmental Manager will determine company policy in communicating information externally and:

- To whom it responds
- How it will respond
- When a response is to be made
- Whether the response is consistent with the available information and that the information itself is reliable
- Whether legal or consultancy advice should be taken
- Reporting to the management review meeting about information received and actions taken

5.3 External Communications - **OUTPUTS**

All dealings with external interested parties will be consistent with the organization's compliance obligations (including the register of interested parties) and the internal policies and actions developed in accordance with 4.2 of the standard. Information must be considered reliable.

5.4 Internal Communications - **INPUTS**

- HR and Operational managers are responsible for:
  - Providing possible EMS information to be considered that has been approved by MD and/or EMF that relates to the EMS
- Environmental Manager is responsible for ensuring:
  - That lessons learnt from nonconformities and incidents and subsequent investigations are considered for communications
  - Outputs from the EMF and the management review meetings are considered for communications, including EMS changes
- HR are responsible for collating all communications from any person doing work under its control. An email address specifically for this is available: 'xxx.xxxx@xxx.com'
- When to communicate…

5.5 Internal Communications – **ACTIVITIES**

Relevant information for internal communications needs to be decided upon (based on the inputs). Operational managers are responsible and have the authority. Decisions on inputs received from any person doing work under its control needs to be considered. Relevant Operational managers are responsible for this. How to…, with whom to communicate…

5.6 Internal Communications - **OUTPUTS**

- Information is disseminated and provided in a form and manner that is comprehensible to those persons receiving it, and is appropriate to the level and function within the organization
- Information flows up, down and across the various parts of the organization
- HR are responsible for communicating the information and ensuring it is reliable
- This communication process will be continually reviewed with a view to ensure effective implementation and maintenance of the EMS, and also the continual improvement in performance. The EMF review will consider the output from communication activities

6.0 ***DOCUMENTED INFORMATION*** 'XXX…' information is kept and maintained.

7.0 ***REVISION*** This process has not been revised to date.

22. Documented information control

Title: Creating, updating and control of documented information (DI) (Page 1 of 3)	**No: EP6, Version: 4**

PURPOSE	To ensure documented information (DI) is created, updated and maintained in a controlled manner.

SCOPE	This information applies to all DI within the Environmental Management System. Specifically, it will include the: identification; description; format; review and approval; availability; suitability; protection (confidentiality, improper use, integrity); distribution; access; retrieval; use; storage; preservation; legibility preservation; changes; retention and disposal. This will also apply to DI of external origin, determined by the organization to be necessary in meeting its environmental performance requirements.

Responsibilities	Environmental Manager to implement and assess the continuing suitability, adequacy and effectiveness of this information.
	Country Operations Managers, Department Heads and Production Managers, to implement this information.
	All the workforce must create local DI according to this information. It is everyone's responsibility to ensure the latest DI is in your possession.

Authorities	Environmental Manager to change this information when determined necessary, and report to the Managing Director when noncompliance is determined serious enough to affect environmental performance, including its compliance obligations.
	Country Operations Managers, Department Heads and Production Managers to review and approve their DI.
	All the workforce can create and amend DI for approval to the above.

ACTIVITIES TO BE PERFORMED

Identification and description:	All DI must be identified with a clear unambiguous unique title, a unique number (provided by the Environmental Manager), and a Version number (1 being the initial release). Each page will have a page number and the above recorded on it.

Format:	All DI must be in New Times Roman (12), except for Headers (Cambria 14). See below for: **'**Standard format of documented information providing instruction'**.**

Review and approval:	Only Country Operations Managers, Department Heads and Production Managers are authorized to review and approve documented information (including the Environmental Manager). Please only use DI: 'CHNGDOC0' for this.

Availability:	All DI must be available on the organization's intranet page. Please send any updates/new DI, with appropriate DI showing approval (see Changes below) to the Environmental Manager for upload into intranet.
Suitability:	Consideration should always be given to the intended audience of the DI. Please phrase words, sentences very clearly and to the point. Use simple words where possible, bearing in mind other Countries may have to read your DI.
Protection (confidentiality, improper use, integrity):	IT will back up all DI on the intranet daily, according to process: 'GHFS'. Any DI printed locally must be protected by the user to prevent confidentiality breaches (Process: 'ITSEC'), improper use and to maintain its integrity. Please refer to your line manager if unsure on what this entails.
Distribution:	No DI will be distributed to anyone, other than the Environmental Manager. All DI is available on the organization's intranet. Any revisions to DI will be communicated to all by email, and shown on the intranet. It is your responsibility to ensure the latest DI is in your possession.
Access:	All DI is accessed through the organization's intranet, which should be the first screen when entering the internet.
Retrieval:	All DI can be downloaded through the organizations intranet, except certain DI's marked accordingly. Please refer to the Environmental Manager for these DI's.
Use:	All DI's must be used only for the indicated scope contained in the DI. If the DI's scope is not a match for your intended use, please refer to your line manager or the Environmental Manager. Superseded DI must be marked accordingly (if retained in your possession).
Storage and preservation (including legibility):	All master DI's are stored and preserved on the organization's intranet, according to process: 'GHFS'. Any DI's printed off, or stored locally on the user's computer, must be stored securely and safely. It is the user's responsibility to carry this out. Please refer to information: 'USERINFO' for guidance here.
Changes:	All DI changes must be recorded in DI 'CHNGDOC01'. Please see the fields required to be completed in this DI. This DI, and the amended DI must be sent to the Environmental Manager before upload onto the intranet. This DI will be retained/indexed by the Environmental Manager for ready retrieval and use when needed.

Retention and disposal:	The Environmental manager will maintain a master copy of all EMS DI through the use of the organization's intranet. This will including maintaining a master copy of all superseded DI for a period of 3 years beyond the date of the superseding revisions. All DI's will have a retention period defined in DI: 'CHNGDOC01'. Secure disposal (See External Providers Disposal Process: EPSEC) of all DI's will follow after this period has elapsed, and a sign off from the relevant manager (recorded also in 'CHNGDOC01').

Documented information necessary:	The above activity instructions will contain reference to the relevant documented information needed.

Standard format of documented information providing instruction:	• Purpose; • Scope (applicability); • Responsibilities; • Activities to be performed; • Documented information necessary (where applicable); and • Annex (if applicable).

23. Emergency preparedness and response process (Template)

Page 1 of 2	Emergency preparedness and response process	EMSP 05
Prepared by: Environmental Manager	**Issue: 2**	**Approved by:** Managing Director

Process

1.1 *PURPOSE*

1.2 The purpose of this process framework is to delineate how the organization will respond to potential environmental emergency situations and potential accidents.

2.1 *SCOPE*

2.2 The scope of this process framework covers:

- Environmental emergency situations at Site: xx, which includes:.....(See EMS06)
- Environmental accidents at Site: xx, which includes:.....(See EMS07)

3.1 *REFERENCES*

3.2 There are no specific references that apply to this process framework other than those related to the Standard and any compliance obligations referred to in .....

3.3 Environmental emergency situation is defined as .....

3.4 Environmental accident is defined as.....

4.0 *RESPONSIBILITIES*

4.1 It is the responsibility of the Managing Director to ensure that this process framework is established and implemented at Site: xx. The Environment and Operations Managers are responsible for training, awareness and reporting with regard to conformity with this process (and improvements needed) to the Managing Director.

Page 2 of 2	Emergency preparedness and response process	EMSP 05 - Issue: 2

5.0 ***Preparing for***

5.1 How…(EMS08 – cross refers to ISO 14001 clause 8.2 a)

6.0 ***Responding***

6.1 How…(EMS08/9 – cross refers to ISO 14001 clause 8.2 b and c)

7.0 ***Action to reduce consequences***

7.1 How…(EMS09 – cross refers to ISO 14001 clause 8.2 a and c)

8.0 ***Action to prevent occurrence***

8.1 How…(EMS09 – cross refers to ISO 14001 clause 8.2 f)

9.0 ***Periodic test***

9.1 How…(EMS10 – cross refers to ISO 14001 clause 8.2 d)

10.0 ***Periodic review/revise***

10.1 How…(EMS11– cross refers to ISO 14001 clause 8.2 e)

11.0 ***Interested parties***

11.1 How…(EMS12– cross refers to ISO 14001 clause 8.2 f)

12.0 ***Documented information***

12.1 Includes this process framework document, determined by the organization as being necessary to have confidence that the process(es) is (are) carried out as planned, and includes the detailed documented information (processes) below.

- Potential environmental emergency situations (EMS06)
- Potential environmental accidents (EMS07)
- Prepare for/Actual emergencies/accidents (EMS08)
- Actions to respond/reduce/prevent occurrences (EMS09)
- Periodic tests (EMS10)
- Periodic reviews/revisions (EMS11)
- Interested parties (EMS12)

All processes will include their related inputs, activities, outputs, and interrelationships.

24. Documented information as evidence of the implementation of the audit programme and the audit results

Audit Programme 20xx - ESR13 (Issue 3) **(Page 1 of 5)**

Process / activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	SEP	Oct	Nov	Dec
Process – Planning 6.1 'DETRISK'				0					1			
Support processes - 'COMMS' and 'RESOURCE'	1						0					
Evaluation of Compliance (9.1.2), Process – 'EVALCOMP'					1							
Procedure – Emergency preparedness and response 'EMRPR'		0						1				
Process – Waste management 'WSTMNGT'						1						
Process – Determine risks 'DETRSK'			1						2			
Process – Project Management 'PROJMAN'				0								
Procedure – Energy MNGMNT 'ENGMNT'					2							
Process – Waste water management 'WSTMNTL'	0						1					
Process – Monitoring and Measurement 'MONMEAS'		1						2				
Corrective and Preventive Action						2						
Process – Air emissions (Permit) 'PRMT6'	1						0					
Etc...												

Numbers in completed boxes indicate number of nonconformities found		Planned Audit – based on: ENV importance, changes to the organization, previous audits
		Audit complete – action(s) outstanding
		Audit complete – action(s) complete and effective

Internal Audit Report (ESR 22 – Issue 4) **Page 1 of 1**

AUDIT OBJECTIVE:	To assess conformance (implementation) with own requirements for our EMS (Criteria below), requirements of ISO 14001 (as applicable), and assess its effectiveness.
AUDIT SCOPE:	Waste Disposal, Site '123', Audit Criteria: Waste management 'WSTMNGT', ISO 14001 clauses (as relevant), Report Date: June 20xx, Auditor: Ginalyn Bristol
AUDITEES:	Goods IN/OUT Supervisor, x1 Dispatch staff, x2 Production staff
	Audit Report:
1. Audit Plan?	*See EAF 26 Dated 06th June 20xx*
2. Criteria fulfilled?	*Yes, adequate Samples taken, see below and my own notes on EAF 22 same date, for the objective evidence*
3. Audit objective achieved?	*Yes, implementation and effectiveness assessed*
4. Any areas not covered?	*No, all areas within scope sampled*
5. Unresolved/ diverging opinions?	*None, all in agreement*
6. Obstacles encountered?	*No obstacles were encountered during the assessment*
7. Conclusions?	*Apart from one minor nonconformity, all samples taken conformed to the criteria and the process as a whole was assessed to be effective. There were numerous positives encountered during the audit and two areas where possible opportunities for improvement should be considered. Thanks are given to the auditees co-operation and time during the day.*
8. Good practices?	*Etc.*
9. Opportunities for improvement?	*Etc.*
10. Nonconformance's identified?	*Etc.*
11. Agreed follow-up plans/ timescales?	*Etc.*
12. Distribution list:	*Etc.*
13. Correction/CA action taken?	*Etc.*
14. Assessment of implementation and effectiveness?	*Etc.*
15. Reviewed and signed (actions) off as complete:	*Etc.*

25. Documented information as evidence of the results of management reviews

MANAGEMENT REVIEW AGENDA	
EM1 – Issue 1 (Pg. 1 of 1)	**(Date – Month/Year)**

ATTENDEES AND APOLOGIES:

-

INPUT:

Will include the below agenda items: (Not all are required to be discussed at every management review)

1. Status of actions from previous management reviews
2. Changes of external and internal issues, needs and expectations of interested parties including compliance obligations, significant environmental aspects, risks and opportunities
3. Extent to which objectives have been met
4. Environmental performance, including trends for:
    a. Nonconformities and corrective action
    b. Monitoring and measurement results
    c. Fulfilment of compliance obligations
    d. Audit results
5. Adequacy of resources
6. Communications (external interested parties) including complaints
7. Opportunities for continual improvement

ANY OTHER BUSINESS:

OUTPUT:

Can include decisions and actions relating to:

- Conclusions (suitability, adequacy, effectiveness of EMS)
- Continual improvement opportunities
- Need for changes to the EMS
- Need for changes to resource needs
- Objectives not been met
- Opportunities for integration with other business processes
- Implications for the strategic direction

26. Documented information as evidence of the nature of the nonconformities and any subsequent actions taken and the results of any corrective action

1. ORIGINATOR: *Marg Nebril* **DATE:** *2 Sep 20xx*

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2. DEPARTMENT/PROJECT/ LOCATION:

Drum Store/'DRMSTR' /Philippines/Alaminos

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3. NONCONFORMITY OR ACTION REQUEST:

Actual/Potential Problem **identified (completed by originator)**

Solvent drum found in drum store tipped over and the lid appeared to have been loosened by the fall. Solvent had leaked into the stormwater drain. The drum is now half empty. No-one was around the store at the time of the discovery, but the drum was close to a high traffic area for trolley usage.

---

4. Action to control and correct it:

Correction identified

- Solvent drum picked up and bunded drain. I used a nearby spill kit to absorb the remaining spill. I then disposed of the material in the hazardous waste container and reported the incident to the Operations Manager.

---

5. Deal with the consequences:

Operations Manager reported the spill to the Regulator 2pm, 2/9th.

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6. Evaluate/implement action to eliminate cause(s):

Reviewed by Operations Manager and Environment Manager. The drum was close to a high traffic area for trolley usage. Drum Store repositioned in a different part of the factory where trolley service is absent. Re-assessed awareness of trolley operators on spill procedures and reporting guidelines. Found to be lacking – re-trained accordingly. Informed Regulator who appeared to be content with actions.

7. Review the effectiveness of corrective action taken:

Reviewed by Environment Manager and Regulator. Conformity to the requirements were verified, and found to be effective.

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8. Changes to EMS:

Environment Manager has changed awareness process 'DRMSPL' to include the concerns above.

Authority/decision - SIGNED: Chris Sheldon – Ops Manager (Philippines/Alaminos)	**DATED:** 26th October 20xx
SIGNED: Environment Manager final sign off: 'Andy Harris'	**DATED:** 27th October 20xx

9. INCLUSION IN AUDIT PROGRAMME YES/NO

27. Gantt-chart

ISO 14001: 2015 Project Planner Overview V1		
	Company:	Bsi (EMS)
	Project:	Andy Harris Global Charts
	Project Lead:	Michael Huntington
	Today's Date:	20/9/2016 (Tuesday)

	Clause	Task	Project Start	End	Work Days	Days Elapsed: (From/to) Project Start
Plan	4	**Context Of The Organisation**				
	4.1	Organisation & Context	Mon 15/8/16	Wed 19/10/16	65	36
	4.2	Interested Parties	Mon 15/8/16	Wed 26/10/16	72	36
	4.3	Scope	Mon 8/8/16	Sun 23/10/16	76	43
	4.4	QMS Process	Mon 22/8/16	Sun 30/10/16	76	29
	5	**Leadership**				
	5.1	Leadeship & Commitment	Mon 22/8/16	Wed 19/10/16	58	29
	5.2	Policy	Mon 8/8/16	Wed 19/10/16	72	43
	5.3	Org roles & Responsbilities	Mon 22/8/16	Sun 23/10/16	62	29
	6	**Planning**				
	6.1	Actions to Address Risk & Opportunities(6.1.1 - 6.1.4)	Mon 8/8/16	Fri 23/9/16	46	43
	6.2	Objectives & Plan to Achieve Them (6.2.1 - 6.2.2)	Wed 10/8/16	Fri 16/9/16	37	41
	7	**Support**				
	7.1	Resources	Mon 15/8/16	Fri 16/9/16	32	36
	7.2	Competence	Mon 15/8/16	Fri 16/9/16	32	36
	7.3	Awareness	Thu 18/8/16	Fri 16/9/16	29	33
	7.4	Communication	Thu 18/8/16	Fri 16/9/16	29	33
	7.5	Documented Information	Mon 8/8/16	Fri 16/9/16	39	43
Do	8	**Operations & Control**				
	8.1	Operations Planning & Control	Mon 8/8/16	Sun 23/10/16	76	43
	8.2	Emergency Planning	Mon 8/8/16	Sun 23/10/16	76	43
Check	9	**Performance Evaluation**				
	9.1	Monitor, Measurment, Analysis, Evaluation	Mon 22/8/16	Sat 23/10/06	32933	29
	9.2	Internal Audit	Mon 15/8/16	Sun 23/10/16	69	36
	9.3	Management Review	Mon 22/8/16	Sun 23/10/16	62	29
Act	10	**Improvements**				
	10.1	General	Mon 22/8/16	Sun 23/10/16	62	29
	10.2	Nonconformance & Corrective Actions	Tue 23/8/16	Sun 23/10/16	61	28
	10.3	Continual Improvements	Tue 23/8/16	Sun 23/10/16	61	28