

8 Risk Assessment

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Introduction

8.1.1 This chapter sets out the Defence procedures and guidance for the methodology for the risk assessment of activities and hazards otherwise inherent on or introduced to Defence, and the introduction of control measures to mitigate residual risk so far as is reasonably practicable.

8.1.2 All occupational health and safety risk assessments should be assessed using the methodology set out in this chapter unless directed otherwise in subject specific Defence Safety Authority Regulations or JSP 375, Part 2, Volume 1 Chapters, 9, 10, 11, 12, 25 and 40 (DSEAR, manual handling, management of hazardous substances, display screen equipment, noise and Military Training for Land Systems).

8.1.3 A risk assessment is the quantifying or qualifying of the probability of loss, ill-health or injury, whether resulting from acts, omissions, equipment failures or accident etc. All activities undertaken on the defence estate or undertaken elsewhere by defence personnel should be risk assessed. Risk assessment is not a substitute for making things safe. Where practical the hazard should always be eliminated rather than managed e.g. leaks repaired and liquids cleaned up; not a risk assessment produced and personnel warned of the slip hazard.

8.1.4 A hazard is anything that has the potential to cause harm whereas the risk is the likelihood of an event happening and the severity of the resulting harm. The risk of a hazard being realised is dependent on the activity being undertaken (a live insulated electrical cable should be safe to touch as the hazard is contained - unless the activity requires access to the bare wires where the hazard is then exposed).

8.1.5 Risks should be reduced to a level that is As Low As Reasonably Practicable (ALARP); this does not mean that an activity assessed as low risk needs no further action nor does it mean that an activity assessed as high risk is unacceptable. ALARP means that the greater the risk, the greater the amount of time, money and effort should be applied to reduce the risk.

8.1.6 Reducing a risk to ALARP does not require the cessation of Risk to Life (RtL) activities; e.g. if the use of live ammunition is justified to meet the training imperative and all other practical control measures are enforced then the ALARP principle is satisfied (see JSP815 Leaflet 6).

Roles and Responsibilities

Commanding Officers (COs)/Heads of Establishment (HoEs)

8.2.1 The CO/HoE should ensure that generic unit/establishment /platform wide hazards associated with the use and management of the unit/establishment /platform including common areas as well as the specific activities performed under their authority are identified, and that appropriate risk assessments are carried out by competent persons and significant findings recorded; these must include shared facilities and lodger units. Sufficient resources must be made available to implement and maintain suitable and sufficient control measures to manage the risks to a level that is as low as is reasonably practicable and effectively communicate necessary information to defence personnel and other relevant stakeholders (contractors, industry partners etc).

8.2.2 Procedures need to be in place to pull together information on significant residual risks from individual activities in support of the normal operation of the defence estate, unit or platform. This information should be evaluated to identify the consolidated risk and used to inform the centrally managed mitigation measures (traffic management, emergency procedures, first aid requirements etc); these should then be recorded in an overall "Safety Case" or "Site" risk assessment (see checklist at Annex B).

Managers

8.2.3 It is the responsibility of the manager who has control of the workplace, planning of an activity and/or has control of those undertaking an activity to ensure that all hazards in their areas of responsibility have been identified, risk assessed by a competent person (Risk Assessor) and appropriate control measures identified and implemented. Significant findings should be recorded, risk control measures communicated to defence personnel and other relevant stakeholders (contractors, industry partners etc); monitored for effectiveness and compliance; and regularly reviewed. MOD Form 5010 is the recommended means of recording the risk assessment although its use is not mandated.

8.2.4 The manager is accountable for ensuring that all those who might be exposed to a hazard are made aware of and understand the risk assessment's findings, the required mitigation control measures and the reason for the provision of any necessary training. The results of risk assessments should be communicated in accordance with local procedures to inform the "Safety Case" or "Site" risk assessment process and the centrally managed mitigation measures (traffic management, emergency procedures, first aid requirements etc).

8.2.5 Managers should ensure that the suitability and effectiveness of risk assessments and associated control measures are maintained. Risk assessments are live documents which should be reviewed and updated as necessary and on a regular basis. If an assessment needs to be amended it is not necessary nor desirable to wait until the review date, it should be reviewed at the earliest opportunity as accidents can easily result

from last minute changes to activities (especially dynamic activities such as military training exercises) where the consequences of change have not been fully considered.

8.2.6 It is recognized that it is not possible to foresee all hazards and that on occasion it may be necessary to conduct a dynamic risk assessment when confronted with an unexpected hazard. A dynamic risk assessment should only be used if a delay in making the assessment would increase the risk of harm. If there is a significant residual risk identified in a dynamic risk assessment a written risk assessment should be completed retrospectively to provide evidence of the risk having been assessed and to record the control measures applied.

Risk Assessors

8.2.7 Where hazards have been identified and there is a potential for harm, the risk should be assessed by a competent person who will have knowledge of the process/activity, and how and in what environment the activity is to be carried out. The risk assessment should be conducted in consultation with the personnel undertaking the activity and the significant findings explained to the manager who owns the risk along with assistance in developing any necessary control measures to mitigate those risks.

8.2.8 Some common activities (that share the same hazards and controls e.g. routine maintenance or cleaning) can be assessed and a generic risk assessment, Standing Orders, Safe Systems of work, etc produced reducing the need for individual assessments. Generic assessments can only be used where the manager considers that the control measures identified and implemented adequately reduce the risk to ALARP and an acceptable level irrespective of cultural, physical or mental differences of those undertaking the activity and the different environments in which the activity is conducted.

All Personnel

8.2.9 Personnel should report any previously unidentified hazards to the relevant manager, cooperate with risk assessors, comply with all control measures required (e.g. safe systems of work) and undertake any appropriate training provided to mitigate risk. Personnel should inform the manager of any defective control measures, or any physical or medical condition that could affect the findings of the risk assessment and their ability to undertake the activity safely so that appropriate corrective action can be taken.

Assessing the Risk

8.3.1 The purpose of a risk assessment is to identify hazards and the level of resources required to reduce the risk to an acceptable level and to inform the risk owner of the degree of risk they are responsible for and may be called to account for.

8.3.2 Most risk assessments should be formally recorded (e.g. on a MOD Form 5010) following the methodology below (and flow diagram – Annex A) and may be specific or generic quantifying or qualifying the likelihood of an event occurring and the potential severity of the outcome. The risk assessment must record the control measures to be implemented to provide:

- safe systems of work or safe systems of training;
- a safe place;

- safe equipment;
- safe practices (robust procedures, use of PPE etc.);
- competent staff (ability, training and experience).

8.3.3 When a risk assessment is required for an activity that may be subject to rapid change (e.g. during operations) and a delay would increase the risk of harm; a dynamic (qualitative) risk assessment should be carried out. A dynamic assessment may also be appropriate to evaluate the suitability of a pre-prepared generic risk assessment based on specific set of circumstances. It is good practice to record dynamic risk assessments retrospectively detailing the information available at that time on which the assessment was based, the significant findings and the control measures employed; this can then be used as the basis of a generic risk assessment on future similar tasks.

8.3.4 The risk assessment should consider all foreseeable hazards arising from all activities and processes present, as well as any hazards relating to the immediate physical workplace (e.g. poor lighting, restricted headroom). Whilst a generic activity or process risk assessment may appear an easier way of doing the assessment it does not enable consideration of the interfaces and cumulative effects where more than one activity or process is taking place at the same time. Therefore the assessment should:

- fully identify and describe the activities or processes;
- identify all reasonably foreseeable hazards;
- identify how people may be harmed;
- consider who is likely to be exposed, how and for how long (including 3rd parties who may be affected due to their proximity);
- identify the potential severity of the harm;
- evaluate the residual risk with all required control measures in place;
- identify and communicate the required control measures;
- consider the findings of other related risk assessments that may impact on the activity; e.g. Fire Safety Risk Assessment, DSEAR Assessment.

8.3.5 Involvement of defence personnel and/or TU safety representatives etc. will provide useful information about how the work activity is carried out, this will make assessment of the risk more thorough and effective. Advice and guidance may also be available from the unit/establishment safety advisor.

8.3.6 When conducting a risk assessment there are five principal steps to be followed:

Step 1 - Identify the hazard - The first step is to look for hazards. Consider the location that the activity or process is carried out and check for potential dangers. Concentrate on anything with the potential to cause serious harm to defence personnel, contractors and visitors etc. Also ask for input from defence personnel involved in or affected by the activity or the subject matter. Accident and ill-health records are a good way of revealing why and how accidents have occurred in the past. Manufacturer's instructions and datasheets contain information that should also be considered. Take into account any hazards with the potential to cause long term (chronic) ill-health to defence personnel e.g. noise, vibration.

Step 2 - Decide who might be harmed and how - Decide who and how many might be at risk; is it just those undertaking the activity or may it also affect adjacent workers, visitors, members of the public etc. Legislation requires special consideration be given to vulnerable groups such as young workers, expectant mothers, disabled personnel, or anyone else who is not familiar with the location or the activity and may therefore be at increased risk. How may people be harmed; is it through physical contact with plant or equipment, inhalation of fumes or dust, environmental conditions (sunburn/rain), or extremes of temperature (heatstroke/frostbite) etc.

Step 3 - Evaluate the risks and identify suitable and sufficient control measures - If the hazard cannot be eliminated, assess the residual risk with the existing control measures in place (this can be done using the likelihood x severity matrix in MOD Form 5010) and determine if the existing control measures are adequate or if additional action is required to reduce the risk further. The implementation of additional control measures will be dependent on the residual risk and the cost (in terms of money, time and operational effect of not conducting the activity) of further risk reduction. A cost benefit analysis is one tool that can contribute to the justification that all reasonably practicable risk reduction has been implemented. Further questions regarding control measures include:

- can the activity/process be reorganised to eliminate or reduce the risks?
- can access to the hazard be eliminated or reduced by isolating it or by engineering controls e.g. barriers, guards?
- is a written safe system of work, safe system of training, or additional training, supervision and welfare facilities required (e.g. washing facilities and checking for removal of contaminants)?
- is Personal Protective Equipment (PPE) required? The use of PPE is a last resort and should not be preferred to other forms of risk elimination or reduction.

The level of acceptable risk is dependent on circumstances; the perceived risks of working in an office environment are different to those of working in a military front line hostile environment. The risk assessment should be sanctioned by the person with the appropriate authority and responsibility to decide when the level of risk is ALARP and tolerable, a well constructed risk assessment will aid in this decision.

Step 4 - Record and implement findings - The risk assessment should be recorded using the methodology of MOD Form 5010 (this form may be modified to meet local requirements by adding fields but not removing any or changing the methodology); be clear and concise with the minimum use of acronyms and control measures clearly summarised. The findings of risk assessments must be brought to the attention of those at risk of harm and appropriate training and instruction given on the implementation of the control measures.

NOTE: Temporary controls may be necessary until full implementation of the identified additional control measures is achieved.

Step 5 - Review the assessment and update if necessary - All risk assessments should be regularly reviewed at a frequency proportional to the risk (e.g. high risk – 6 monthly; medium risk – annually; low risk – every 2 or 3 years) or more frequently:

- where required by local instructions/procedures;
- if the safe execution of the activity relies on stringent supervision and/or adherence to a safe system of work;
- if there is reason to doubt the effectiveness of the assessment;
- following an accident or near miss;
- following significant changes to the task, process, procedure, equipment, personnel or management;
- following the introduction of more vulnerable personnel;
- if a “Generic” assessment then prior to use.

NOTE: There is no MOD requirement to re-do a risk assessment just because the MOD form 5010 has been updated, however it is strongly recommended to ensure the most recent format is used when risk assessments are reviewed.

Retention of Records

8.4.1 Risk assessments and associated documents should be retained for a minimum of 3 years and in accordance with JSP 375, Part 2, Volume 1, Chapter 39 - Retention of Records.

Related Documents

8.5.1 The following documents should be consulted in conjunction with this chapter:

JSP 375, Part 2, Volume 1

- Chapter 02 - Office & General Workplace Safety;
- Chapter 18 - Lone Working;
- Chapter 19 - Young Persons;
- Chapter 20 - Expectant Mothers;
- Chapter 39 - Retention of Records;
- Chapter 40 - Military Training for Land Systems.

JSP 375 Part 2, Volume 3

- High Risk Activities on the Defence Infrastructure

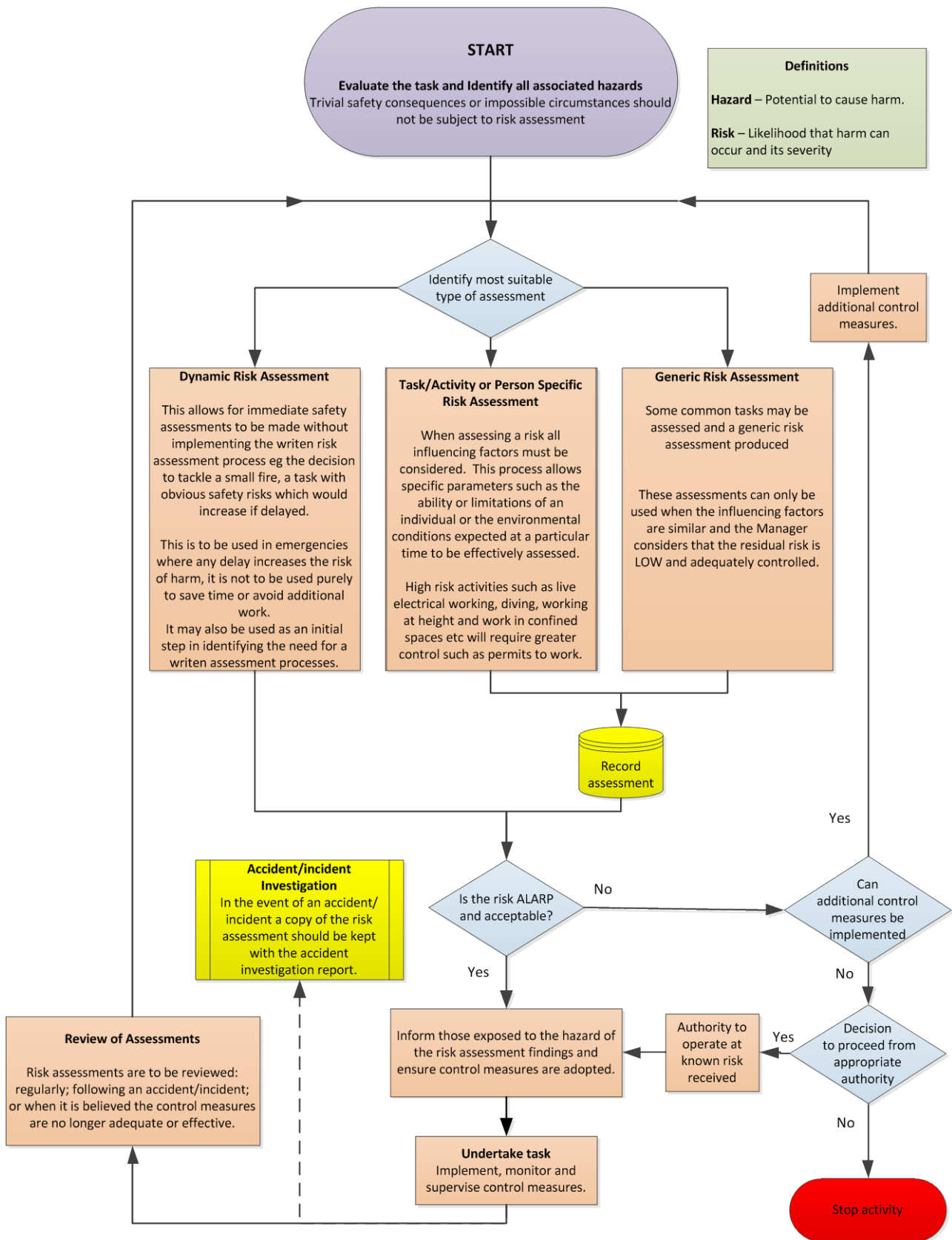
Other MOD Guidance

JSP815

- Leaflet 06 - Demonstrating that Risk is ALARP

Legislation and Guidance

- [Legislation.Gov.uk - Management of Health and Safety at Work Regulations](#)
- [Legislation.Gov.uk - Merchant Shipping and Fishing Vessels \(Health & Safety at Work\) Regulations](#)
- [HSE - INDG163 - 5 Steps to Risk Assessment](#)
- [HSE- The Health and Safety Toolbox: How to Control Risks at Work](#)
- [HSE – Health and Safety Made Simple – The Basics For Business](#)
- [HSE – Risk Management Website](#)
- [HSE – Controlling Risks in the Workplace Website](#)



Site Risk Assessment Checklist

SITE HAZARD	DETAILED ASPECTS/STANDARD CONTROLS (Non-Exhaustive list)
1 Site Security	<ul style="list-style-type: none"> a. Perimeter fences, gates sound & maintained, known hazards fenced b. Access to hazards within the wire prohibited from Married Quarters /crèches etc. c. Site regularly patrolled especially hazard areas - water courses etc. (are patrols "lone workers"?) d. Security cameras, lights and alarms installed and operational e. Unused buildings locked, windows shuttered etc. f. key control (issue & mustering) in operation with centrally managed 24 hour accessibility g. H&S performance considered in selection of private guards h. Control of guard dogs i. Signs & Notices posted
2 Emergencies	<ul style="list-style-type: none"> a. Emergency procedures devised and tested b. Assembly points and shelters identified c. Emergency exits indicated and emergency lighting operable d. Signs & Notices posted e. procedures for rapid access to locked rooms (e.g. release of master keys)
3 Fire	<ul style="list-style-type: none"> a. Fire patrols/fire wardens established b. Liaison with local brigade established - contact telephone numbers available to Duty Staff c. Alarms, sprinklers etc. maintained d. Secure storage of flammable materials e. Extinguishers available and maintained f. "Housekeeping" maintained to prevent flammable/combustible materials accumulating g. Emergency water supply tanks provided h. Signs & Notices posted
4 Explosives	<ul style="list-style-type: none"> a. The site licensed b. Policies for disposal/removal established c. Records of type/quantities of explosives used d. Records available of Explosives Inspections/Audits e. Signs and Notices posted
5 Chemicals, Fuels & Oils	<ul style="list-style-type: none"> a. The site licensed b. List of substances held, stored or used c. DSEAR, COSHH and Risk Assessments available and up-to-date d. Any chemically contaminated areas identified e. Chemicals segregated where appropriate f. Signs and Notices posted
6 Biological	<ul style="list-style-type: none"> a. Activities involving biological agents carried out on site and organisms involved identified b. Contaminated areas identified c. Organic waste disposal areas on site identified and controlled d. COSHH Assessments available and arrangements in place to maintain and review assessments e. Standing water treated/drained f. Cooling towers, showers etc. treated for Legionella g. Signs & Notices posted
7 Asbestos	<ul style="list-style-type: none"> a. Asbestos register maintained b. Information available to Contractors & Maintenance workers c. Signs & Notices posted
8 Radiation	<ul style="list-style-type: none"> a. Activities carried out on site involving the use/production of radioactive material b. Registers & records maintained c. Disposals recorded d. Radioactive contaminated areas identified e. Exclusion zones/control of access f. Signs & notices posted

9 Pathways & Roads, Access & Egress	<ul style="list-style-type: none"> a. Condition of roads, paths, gangways, stairs, bridges, etc. maintained b. Emergency access routes clear of obstructions, operable and maintained c. Trip hazards & protruding object hazards removed d. Access to high places restricted/controlled e. Speed limits posted f. Street lighting g. Condition of doors, gates etc. monitored and maintained h. Hedges and ditches maintained i. Essential paths and roads included in ice and snow clearance plans j. Speed reduction measures, traffic lights, controlled access onto main roads where appropriate k. Signs and Notices posted
10 Vehicles, Plant & Equipment	<ul style="list-style-type: none"> a. Ownership identified and all plant included in Risk Assessments b. Access to vehicles, plant & equipment restricted/made safe - especially for children c. Measures to reduce plant noise where appropriate d. Inspection & maintenance programme in place
11 Condition of Buildings & Estate	<ul style="list-style-type: none"> a. Inspection & maintenance programme in place b. Maintenance work monitored c. Vacated/derelict buildings secured against access, services drained/isolated d. Dangerous/hazardous trees or shrubs (fire/falling) e. Signs & Notices posted
12 Site House-keeping	<ul style="list-style-type: none"> a. Site clearance policy b. Approved waste removal Contractors employed c. Ground maintenance programme d. Shelves, racking and stacked/stored items maintained safely e. Signs & Notices posted
13 Confined Spaces	<ul style="list-style-type: none"> a. Register of confined spaces maintained b. Unauthorised entry prevented by security and permit to work c. Policy formulated for removal/opening up d. Inspection/maintenance programme instituted with permit to work control e. Signs & Notices posted
14 Electrical	<ul style="list-style-type: none"> a. Position of below ground supply cables recorded b. Overhead supply cable runs maintained/protected c. Inspection/maintenance programme in place d. Lightning conductors maintained e. Signs & Notices posted
15 Water	<ul style="list-style-type: none"> a. Underground pipe runs recorded b. Inspection/maintenance procedures in place c. Access to deep storage tanks strictly controlled d. Signs & Notices posted
16 Gas	<ul style="list-style-type: none"> a. Effective shut off method whereabouts known and available b. Underground pipe runs recorded c. Inspection/maintenance procedures in place d. Liaison with Gas Authority maintained e. Signs & Notices posted
17 Pressurised Gas	<ul style="list-style-type: none"> a. Quantities held & location of pressurised gas holdings recorded b. Storage methods secure and adequate c. Inspection/maintenance programme in place d. Policy for removal formulated e. Signs & Notices posted
18 Storage Tanks	<ul style="list-style-type: none"> a. Position of, substances and quantity held recorded b. Policy for emptying/removal/making inert c. Inspection/maintenance programme in place d. Condition of containment bunds monitored e. Signs & Notices posted

19 Falls & Falling Objects	<ul style="list-style-type: none"> a. Access to roofs, towers etc. strictly controlled b. Inspection/maintenance programme for stairs, towers, masts etc c. Inspection pits filled, fenced, or securely covered d. Drain covers secure e. Crawler board areas of roofs identified f. Stability of towers/masts assured g. Storm drains Risk Assessments completed and any necessary action taken h. Signs & Notices posted
20 Contractors & Visitors	<ul style="list-style-type: none"> a. Control/record of Contractors/Visitors coming on to site exercised at point of entry b. Out of hours deliveries/collections c. Contractors/Visitors informed of emergency procedures d. Risk Assessments completed for Contractors' work involving significant hazards e. Permit to Work and written Safe Systems of Work for Contractors strictly applied f. Contractors' compounds are included in Site Safety Tour programme g. Exchange information with contractors(including, where appropriate, risk assessments) h. Signs & Notices posted
21 Emissions & Processes	<ul style="list-style-type: none"> a. Hazardous/polluting Emissions identified: <ul style="list-style-type: none"> i. Air ii. Land iii. Water b. Emission control policy established and in operation c. Process waste identified and controlled d. Records of all transactions concerning waste e. Monitoring of emissions/waste