

**APPENDIX 2
TO ANNEX E
TO SECTION 13**

JOB HAZARD ANALYSIS PROCESS

1. The JHA process is an excellent starting point to evaluate the actual way a job is performed. This process may identify specific improvements in job methods. It is used to detect and control work hazards, and to improve work practices and procedures resulting in a reduction in human, material and financial losses.
2. The goals of a JHA are to:
 - a. identify hazardous conditions and potential accidents;
 - b. provide information with which effective control measures can be established;
 - c. determine the level of knowledge and skill as well as the physical requirements employees need to perform specific tasks; and
 - d. identify and eliminate unsafe work procedures, techniques, motions, positions and actions.
3. When listing job hazards and their associated risks, their interaction with people, tasks and environment have to be considered.

TYPES OF RISK ASSESSMENTS

4. **Formal or regular assessment:** allows management to step back and examine all aspects of work activity. It may include the following activities:
 - a. consulting with the Base Surgeon, Base Fire Chief, and Base General Safety Officer, who may assist to provide hazard and risk information;
 - b. check records of Workplace OHS Inspection Reports, as these are often useful to reveal risks requiring control; and
 - c. review of existing regulations, codes and practices, guidelines, information booklets, manufacturer's information, consultant reports and complaints may also indicate hazards and risks.
5. **Specific hazard identification:** this is a detailed, in-depth analysis of risks, which requires more attention. It is important to include all areas and tasks in the initial hazard identification. Prioritization of tasks are necessary, particularly those that are deemed to be critical, or have traditionally caused losses, or that have the potential for major losses. Base resources such as personnel Base Surgeon, Base Fire Chief, Base General Safety Officer are available to measure and quantify specific hazards such as noise and lighting levels, air contaminants,

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and control of chemicals.

6. The five basic steps to complete a JHA are:
 - a. selection of the job to be analyzed. A review of the current job description is essential to identify any discrepancies between reality and expectations;
 - b. breaking the job down into successive steps or activities and to observe how these are performed;
 - c. identify the potential hazard and danger of each step. This is the critical step because only an identified problem can be eliminated.
 - d. development of safe work procedures to eliminate hazards and to prevent accidents; and
 - e. revise the job description based on the results of the JHA, if applicable.

Safe Work Procedures

8. Safe work procedures describe what employees have to do to protect the health and safety of themselves and others when performing a specific task.

Content

9. Up-to-date procedures and instructions provided to employees include:
 - a. personal protective equipment (PPE), devices and clothing;
 - b. fire protection procedures;
 - c. emergency evacuation procedures, which may include procedures for bomb threats and chemical spills;
 - d. confined spaces entry procedures;
 - e. electrical safety procedures;
 - f. training on hazardous substances;
 - g. materials handling equipment procedures; and

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h. operation of tools and machinery.

ANALYZING THE DATA

10. Having gathered and organized the data on a workplace, an estimate of the potential for injuries has to be made. Each of the basic hazard categories is reviewed to determine:

- a. nature of the hazard;
- b. degree of risk;
- c. seriousness or severity of potential injuries;
- d. possibility of exposure to several hazards simultaneously; and
- e. consequences of potential

injuries. **ASSESSING RISK**

11. Risk may be thought of in terms of probability and/or severity. The higher the probability and/or severity of an injury, the greater the risk.

RANKING OHS HAZARDS SIGNIFICANCE

12. OHS hazards are ranked by risk. Such ranking takes into consideration the consequence (severity) and the probability. The purpose of ranking risks is to address hazards and their associated risks according to the principle “worst first”. Ranking provides a guide for corrective action, specifying which risk conditions warrant immediate action, which have secondary priority and which can be addressed in the future.

13. The responsible managers, in consultation with the WOHSC and base resources, are responsible to identify which risks are significant and rank them using the following guidelines:

- a. all OHS hazards/risks expressly identified by a legislative or regulatory obligation are considered significant;
- b. risk to health and safety of employees in terms of the nature of the safety hazard, the probability of an accident and the consequences if an accident occur;
- c. occurrence of previous accidents (yes/no); and

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- d. severity of previous accidents (high/low).
14. In considering the probability of loss that occurs each time the job is performed, the key question is: "How likely is something to go wrong when this job is performed?"
15. The probability, or likelihood that an accident will occur is determined by analyzing a set of conditions or factors associated with a hazard. They are:
- a. the number of employees exposed;
 - b. the frequency of exposure;
 - c. the duration of exposure;
 - d. the nature and degree of exposure;
 - e. the proximity of employees to the point of danger;
 - f. the adequacy of training;
 - g. the adequacy of supervision; and
 - h. the adequacy of workstation design.
16. Taking the previous factors into account, probability may be determined as follows:

Probability or Likelihood of Hazardous Occurrences

Level	Probability or Frequency	Definition
1	Improbable	So unlikely, assume it will not occur
2	Remote	Unlikely, but may possibly occur
3	Occasional	Likely to occur sometime
4	Probable	Will occur several times
5	Frequent	Likely to occur frequently

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DEVELOPING PROCEDURES

17. Safe work procedures are developed in a systematic manner by answering simple questions about a job such as:

Procedures	OHS Considerations
Park car	<ul style="list-style-type: none">• drive to area clear of traffic• turn on emergency flashers• choose level area• apply parking brake
Remove spare from trunk	<ul style="list-style-type: none">• turn spare into upright position in tire well• using your legs and standing as close as possible, lift spare out of trunk and roll to flat tire
Pry off hubcap	<ul style="list-style-type: none">• use proper wrench
Loosen lug nuts	<ul style="list-style-type: none">• use proper wrench• apply slow and steady pressure

JOB HAZARD ANALYSIS

AIM

1. The aim of Job Hazard Analysis (JHA) is to identify what actual or potential OHS hazards exist in workplaces and to propose preventive measures to employees and contractors to protect their health and safety, as well as clients. JHA and risk assessment is a legislated requirement applicable to every workplace within NPF.

DUTIES OF EMPLOYER

2. It is the duty of managers, with the assistance of supervisors if applicable and appropriate, and the Workplace Occupational Health and Safety Committee (WOHSC) to ensure:

- a. the JHA is conducted in all workplaces, and in all NPF facilities, to identify, to assess and to prioritize an action plan as applicable to the operation.

Note: A DND/CF "Guide to Hazard Analysis" is available from local Base General Safety Office A-GG-040-10/AG-09 from DND website.
http://vcds.mil.ca/dsafeg/pubs/HazAnalyGuide/00Native/Guide_Hazard_Analysis_e.pdf;

- b. control measures are applied to manage OHS hazards by elimination, substitution, engineering controls or administrative controls. See detailed procedures;
- c. copies of completed and revised JHA are submitted to CFPSC HQ Health and Safety Manager;
- d. every employee is made aware of every known or foreseeable health or safety hazard in his or her workplace;
- e. an up-to-date list of OHS hazards is maintained for every workplace. Templates to keep records of OHS deficiencies are attached;
- f. workplaces are regularly assessed to determine the effectiveness of control measures and corrective measures are applied when an OHS hazard is identified;
- g. the results of JHA are integrated within the OHS training for all

employees, customers and contractors. Records of education provided to each employee are kept for a period of two years after the employee ceased to be exposed to a hazard;

- h. new employees, customers and contractors are informed about OHS hazards associated with their jobs and the environment;
- i. OHS regulations, policies and work procedures are implemented and enforced to ensure compliance;
- j. the provision and proper usage of required Personal Protective Equipment (PPE);
- k. the effectiveness of the JHA is evaluated and, if necessary, revised:
 - i. at least every three years,
 - ii. whenever there is a change in conditions in respect of the hazards, and
 - iii. whenever new hazard information in respect of a hazard in the workplace becomes available;
- l. the evaluation of the effectiveness of the prevention program is based on the following documents and information:
 - i. conditions related to the workplace and the activities of the employees,
 - ii. any workplace inspection reports,
 - iii. any hazardous occurrence investigation reports,
 - iv. any safety audits,
 - v. first aid records and any injury statistics,
 - vi. any observations of workplace committees on the effectiveness of the prevention program, and
 - vii. any other relevant information;
- m. when a program evaluation has been conducted as per above subparagraph, to prepare a program evaluation report and to submit a copy with the Annual Employer's Hazardous Occurrence Report.

DUTIES OF EMPLOYEES, CUSTOMERS AND CONTRACTORS

3. It is the duty of all employees, customers and contractors to maintain healthy and safe workplaces and to do so, they must:
 - a. co-operate throughout the JHA in the workplace;
 - b. report OHS hazards or potential problems to their manager or supervisor;
 - c. participate and contribute to the OHS inspection program;
 - d. apply OHS regulations, policies and work procedures;
 - e. wear and maintain PPE as indicated;
 - f. assist managers and supervisors in developing informal OHS inspection checklists specific to the workplace. It is recommended to keep the results to demonstrate due diligence; and
 - g. conduct informal visual OHS inspections of workplaces not used on a daily or weekly basis, upon entry.

DUTIES OF WORKPLACE OCCUPATIONAL HEALTH AND SAFETY COMMITTEE (WOHSC)

4. The WOHSC is responsible to:
 - a. prepare a list of OHS hazards related to activities covered by its mandate with the assistance of the managers and base resources (Base Surgeon, Base General Safety Officer, Base Fire Chief);
 - b. review periodically the job hazards and provide a risk assessment list to the responsible manager; and
 - c. in conjunction with the responsible manager, use the list to develop programs to improve safety.

JOB HAZARDS ANALYSIS (JHA) CONTROL MEASURES

1. The following is a recommended hierarchy of control measures for managing JHA:

- a. **Elimination:** whenever possible, remove the OHS hazard completely through elimination. For example, when a task is automated and performed by a machine, the hazards associated with manually performing this task are eliminated;
- b. **Substitution:**
 - i. where the OHS hazard cannot be eliminated, consider alternatives to the substances, processes, machines and equipment currently being used. For example, instead of using a chemical solvent for cleaning use water and a detergent to eliminate inhalation of fumes;
 - ii. could any of these be replaced with a less hazardous substitute? Always realize, of course, that although a substitute may be considered “safer”, that does not necessarily mean it is completely safe or hazard-free; and
 - iii. substitution reduces the risk of injury or illness to an acceptable level;
- c. **Engineering Controls:**
 - i. involve the design of the workplace and its related processes,
 - ii. these controls include such factors as ventilation, isolation, containment and process control, and
 - iii. local exhaust ventilation employed during skate sharpening operations can be considered an example of an engineering control. Other good examples would be the enclosing of noisy machinery, or the isolation of a worker from excessive noise by providing a noise-insulated work booth;
- d. **Administrative Controls:**
 - i. where the hazard cannot be eliminated and where substitution and engineering controls do not adequately manage the hazard, administrative controls are frequently introduced to lessen the risk,

- ii. these measures may include changing work procedures, developing and implementing new policies, and as a temporary or last resource, requiring personal protective equipment (PPE) to be used,
- iii. when it is determined that administrative controls (i.e. PPE) must be used to control a hazard, the documentation must be specific and include the selection criteria, instructions for proper use, care and maintenance, and employee training,
- iv. a typical example of an administrative control is the provision that suitable hearing protection be properly worn in areas where noise cannot be reduced to acceptable levels through elimination, substitution or by engineering controls,
- v. depending on the nature of the activity or task, it is not always possible or practical to eliminate all OHS hazards. Nevertheless, all potential OHS hazards must be identified and the risks controlled by the use of appropriate procedures or devices. Additionally, some tasks may have specific hazards that are beyond the scope or experience of local management. Examples include, workplace design, specialty chemicals, and radioactive. In these cases managers must seek appropriate expertise to assist with the assessment and development of OHS hazard controls.

RANKING OHS HAZARDS BY RISK

2. Once the OHS hazards have been identified or anticipated, they must be ranked to identify which are the most in need of developing controls. Priority should be to work on the highest ranked hazard first.
3. Hazard ranking is done by the consequence of the incident, which could arise, from the OHS hazard and the probability that an incident could occur, based on the degree of exposure to the hazardous condition. In ranking the OHS hazards, attention must be given to control methods, which are already in place to eliminate or mitigate the hazard.
4. Such control methods include substitution, engineering controls and administrative controls.
5. In ranking the consequence of the OHS hazard, all incidents and injuries must be examined, not just those that have already occurred. Anticipate the worst possible outcome given the work being done and the presence of the OHS

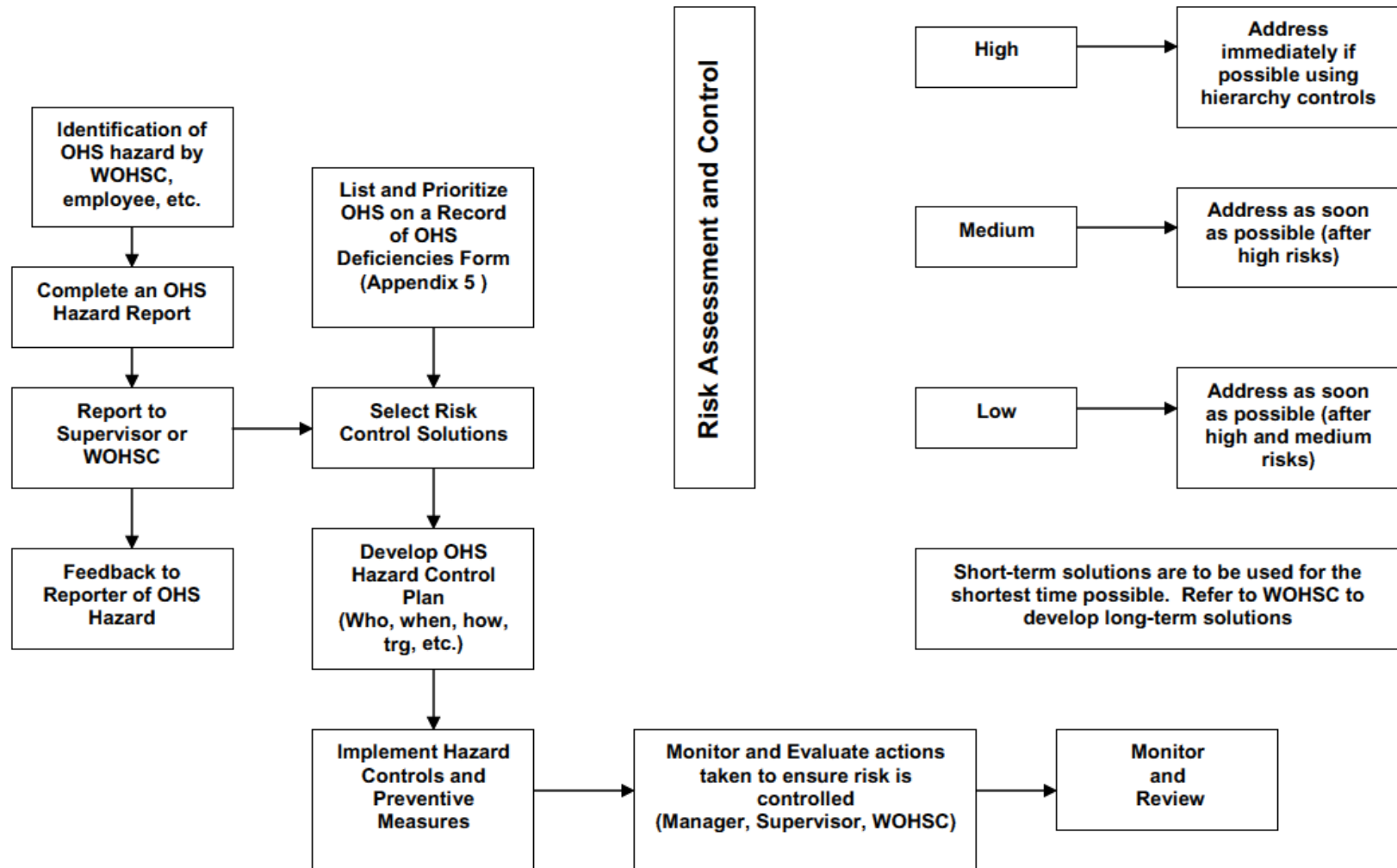
hazard. It must be realized that every trivial incident or injury might have been much more serious.

6. The potential consequence of an incident or injury resulting from the OHS hazard may be rated as:

- a. **Very High** - may cause death or loss of function;
- b. **High** - may cause severe injury, severe occupational illness or major property damage;
- c. **Moderate** - may cause non-serious injury or minor occupational illness resulting in lost workday(s) or minor property damage;
- d. **Low** - probably would result in only minor injury and would not affect employee health or cause property damage; and
- e. **Very Low** - violation of a standard or criteria.

7. In rating the probability that the OHS hazard will result in an incident or injury, one must look at the number of workers who are exposed to the OHS hazard, the amount of time that they are exposed and the various control measures that are in place.

JOB HAZARD ANALYSIS PROCESS



OCCUPATIONAL HEALTH AND SAFETY HAZARD ASSESSMENT

Hazards	Asphyxiation, drowning	Assault, act of violence, touching	Biological (human, animal, insect, plant)	Chemical Products WHMIS	Electrical Energy	Ergonomics	Handling of objects weighing more than 10 kg	Vehicle Accident	Noise	Radiation Energy	Fall, jump, slide	Thermal (hypothermia, solar, burn)	Person Working Alone
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Conditions observed :

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Not applicable	Acceptable	Follow-up required	Hazard

PSP – ARENA													
Attendant	Follow-up required	Follow-up required	Follow-up required	Follow-up required	Follow-up required	Acceptable	Follow-up required	Acceptable	Follow-up required	Not applicable	Acceptable	Acceptable	Acceptable
Stores Person	Not applicable	Not applicable	Follow-up required	Follow-up required	Acceptable	Acceptable	Follow-up required	Not applicable	Acceptable	Not applicable	Acceptable	Acceptable	Acceptable
PSP – OFFICERS' MESS													
Bartender	Not applicable	Acceptable	Acceptable	Follow-up required	Acceptable	Hazard	Hazard	Not applicable	Acceptable	Not applicable	Acceptable	Not applicable	Acceptable
PSP – BASE NEWSPAPER													
Paper Boy	Not applicable	Not applicable	Follow-up required	Not applicable	Not applicable	Not applicable	Follow-up required	Not applicable	Not applicable	Not applicable	Follow-up required	Not applicable	Follow-up required
PSP – GOLF COURSE													
Mechanic	Follow-up required	Not applicable	Not applicable	Acceptable	Acceptable	Not applicable	Follow-up required	Acceptable	Follow-up required	Not applicable	Acceptable	Acceptable	Hazard
Golf Course Superintendent	Not applicable	Not applicable	Acceptable	Follow-up required	Not applicable	Not applicable	Follow-up required	Acceptable	Acceptable	Not applicable	Acceptable	Acceptable	Hazard

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Bartender													
CANEX – BARBER SHOP													
Barber													
CANEX – GROCERY STORE													
Department Head													
Shift Supervisor													
Grocery Supervisor													
Head Cashier													
Clerk Cashier													
Grocery Clerk													
Bag Clerk													
Maintenance Worker													

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CANEX – EXPRESSMART													
Manager													
Supervisor													
Head Cashier													
Clerk Cashier													
HEALTH PROMOTION													
Health Promotion Director													
Health Promotion Manager													
Health Promotion Administrative Assistant													

OCCUPATIONAL HEALTH AND SAFETY HAZARD ASSESSMENT

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SISIP FINANCIAL SERVICES													
Financial Planner													
Financial Counsellor													
Insurance Representative													
RECREATION CENTRE													
Instructor													
Lifeguard													
Stores Person													
Front Desk Clerk													
Office Clerk													

