### What is a Health Risk Assessment?

The Health Risk Assessment process provides a systematic approach to evaluate the potential for individual harm in the workplace and to ensure that appropriate controls are in place to protect against adverse exposure. In practice, the Health Risk Assessment involves identifying health hazards, evaluating the risk to health, and effectively controlling exposure and monitoring the health of individuals involved in the work activities.

A hazard is defined as 'something with the potential to cause harm', and a health hazard is something with the potential to adversely affect an individual’s health. The difference between safety hazards and health hazards is that safety hazards have the potential to cause sudden injury, whereas health hazards have the potential to cause latent occupational illness, varying degrees of disability and death.

### Approach to Health Risk Assessment

This tool is based on the BG Guideline: Health Risk Assessment and the guideline should be used in conjunction with this tool. Below is an example of the HRA overview template. The Health Hazards are fixed; the exposure groups fields are EXAMPLES ONLY. Each asset will need to determine the relevant exposure groups and whether exposure is a result of the normal duties, non-routine or periodic activities of the job (Y) or not expected (N).

It is then necessary to create a tab for each exposure group where the detailed health risk assessment is completed. In this tool the ‘Mech Eng & Technicians’ tab is an EXAMPLE ONLY and cannot be used as part of a ‘copy and paste’ methodology.

The remainder of the tabs within this workbook provide detailed assessments of each exposure group. The process includes:

1) Identification of the hazard;
2) Identification of the potential consequence without controls in place and the associated inherent risk;
3) Details on the current controls;
4) Assessment of the Residual Risk with the current controls in place;
5) Identification of additional controls required to reduce the risk to As Low as Reasonably Practicable (ALARP).

### Example HRA Overview

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<tr>
<th>Health Hazards (All Must be Considered)</th>
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<tbody>
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<td>Noise</td>
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<td>Vibration</td>
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<td>Extremes of Temperature</td>
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<td>Ionising Radiation</td>
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<td>Non ionising radiation</td>
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<td>Dust (e.g. sandstorm)</td>
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<td>Pressure (e.g. altitude, diving)</td>
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<td>Liquids (e.g. production, maintenance, cleaning, machinery)</td>
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<td>Gases (e.g. H2S, benzene, inert)</td>
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<td>Mists/vapours (e.g. mineral oils)</td>
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<td>Fumes (e.g. colophony, vehicle emissions)</td>
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<td>Dusts (e.g. wood, asbestos)</td>
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<td>Computer work</td>
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<td>Visual display monitoring</td>
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<td>Manual handling</td>
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<td>Static/awkward postures</td>
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<td>Food borne infections (e.g. Salmonella, Ecoli, norovirus)</td>
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<td>Water borne infections (e.g. Legionella, Weils)</td>
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<td>Blood borne pathogens (e.g. Hepatitis B, HIV)</td>
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<td>Endemic disease (e.g. malaria, dengue)</td>
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<td>Isolation</td>
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<td>Stress (e.g. demands, control, support, relationships, role &amp; change)</td>
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<td>Fatigue (e.g. reduced quality or quantity of sleep e.g. shiftwork)</td>
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<td>Violence</td>
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### Exposure Group Tab

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<th>Health Risk</th>
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<th>Mechanical Engineer &amp; Technicians</th>
<th>Office and Field</th>
<th>Office Only</th>
<th>Wellsite Supervisors</th>
<th>Construction Supervisors</th>
<th>Contractors</th>
<th>Mechanics Engineer &amp; Technicians</th>
<th>Office Supervisors</th>
<th>Visitors</th>
<th>Suppliers</th>
<th>Other</th>
<th>Members of the public</th>
<th>Non-disabled</th>
<th>Disabled</th>
<th>Hospice/Nursing Home</th>
<th>Elderly residents</th>
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<td>Never occurred in the industry</td>
<td>Occurred in industry before but never in BG</td>
<td>Occurred more than once per year in the industry, but rarely in BG</td>
<td>Occurred more than once a year in industry and in BG</td>
<td>Common in the industry and in BG, occurring several times per year</td>
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<td>Multiple fatalities &gt;5</td>
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<td>Multiple LTI, injury or illness resulting in permanent disability</td>
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<td>Single LTI, injury or illness resulting in temporary disability</td>
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<td>5</td>
<td>Medical treatment or restricted workday case</td>
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**High**
Unacceptable risk: Exposure exceeds OELs. Not adequately controlled. Further risk reduction is urgently required. Focused HRA should be conducted.

**Medium**
Unacceptable risk: There is some degree of control, exposure could exceed the OELs. Further risk mitigation is required and must be implemented. Focused HRA should be conducted.

**Low**
Acceptable risk: Risk is controlled, i.e. exposure is below the OELs but must be monitored for change.

**Inconclusive**
Inconclusive risk: Insufficient information available to make a conclusion. A focused HRA should be conducted.
Pre-requisites
The following pre-requisites are the good practices that any Site/Department would have in place before and during the HRA process, which are essential to monitor the hazards and protect health:

Core
- Training and competence e.g. First aid
- Monitoring and enforcing the use of PPE
- Medical emergency response plan
- Routine medicals e.g. drivers, catering, ERT, fit for travel
- Routine inspections e.g. catering, water, pests, housekeeping
- Audit protocols – internal
- Health promotion – toolbox talks
- Occupational illness and sickness absence reporting

Specific
- Physical
  - Internal environmental controls e.g. light, heating, ventilation, humidity, glare
- Chemical
  - Stock control – Limit/ Safety Data Sheets/Adequate storage
- Biological
  - HACCP
  - Legionella control
- Ergonomic
  - DSE – standard ergonomic office equipment
  - Manual handling – lifting aids, storage at appropriate heights
- Psychosocial
  - Mental health and wellbeing

* Based on HRA Risk Matrix (March 2001)  S = Severity  L = Likelihood  Risk = Severity X Likelihood
<table>
<thead>
<tr>
<th>Hazard</th>
<th>Potential Consequence</th>
<th>Current Risk</th>
<th>Inherent Risk</th>
<th>Current Controls</th>
<th>Further Actions Information should be transferred to the Health Risk Control</th>
<th>Action Owner</th>
<th>Target Date</th>
<th>Status/Date</th>
<th>HRA Surveillance Requirements (Details transferred to the HRCP)</th>
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**Hierarchy of Controls**

1. Elimination – remove the hazard entirely;
2. Substitution – replace the original substance or process with one less hazardous;
3. Technical or Engineering control
   - Containment and isolation – the hazard, though present is contained to reduce exposure e.g. e.g. contained sampling equipment
   - Local exhaust ventilation e.g. fume cupboard
4. Administrative/Management control
   - Modification – changing work patterns, reduce duration and frequency of exposure by job rotation
   - Working procedures and job instructions
   - Signage
5. Personal protective equipment (PPE)
are the good practices that any Asset/Department would have in place before and during the activity, which are essential to monitor the hazards and protect health:

- Competence e.g. First aid
- Enforcing the use of PPE
- Emergency response plan
- In e.g. drivers, ERT, fit for travel
- Safe e.g. catering, water, pests, housekeeping
- Internal
- Toolbox talks
- Sick and sickness absence reporting

- Environmental controls e.g. light, heating, ventilation, humidity, glare
- Mitigation – Limit/Safety Data Sheets/Adequate storage
- Authorisation process – fitness for travel
- Standard ergonomic office equipment
- Handling – lifting aids, storage at appropriate heights
- BG contract working hours per week
# Health Risk Assessment Overview

## Health Hazards (ALL MUST BE CONSIDERED)

- Noise
- Vibration (whole body &/or hand arm)
- Extreme Temperatures
- Lighting (e.g. glare, inadequate)
- Ionising Radiation
- Non-ionising Radiation
- Dusts (e.g. Sandstorms)
- Pressure (e.g. Altitude)
- Liquids
- Gases
- Vapours (e.g. hydrocarbons)
- Fumes (e.g. welding)
- Asbestos or other fibres
- Dusts/particulates
- Mists (e.g. oil, acid)
- Display screen equipment
- Manual handling
- Ergonomics e.g. static/awkward postures
- Food Borne Infections
- Water Borne Infections
- Blood borne pathogens
- Endemic diseases
- Isolation
- Stress
- Fatigue (sleepiness)
- Violence

## Similar Exposure Group

- Employee production operator
- Employee maintenance engineer
- Employee laboratory technican
- Employee cleaner
- Contractors shut down - vessel cleaners

## Hazard Types Legend

- **Visitors**
- **Physical**
- **Chemical**
- **Higher risk groups**
- **Ergonomic**
- **Psychosocial**
- **Biological**

## Learning Legacy Document
# Health Risk Assessment Tool April 2016.xlsx

## E.G. Mech Eng

<table>
<thead>
<tr>
<th>Location</th>
<th>Exposure Group</th>
<th>Activity/Task</th>
<th>Assessment Conducted By</th>
<th>Notes</th>
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## PHYSICAL

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<th>Risk</th>
<th>Control</th>
<th>Description</th>
<th>Notes</th>
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## CHEMICAL

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## BIOLOGIC

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<th>Description</th>
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</tbody>
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---

### Pre-requisites

- Training and competence e.g. DSE, Manual handling, Pressure & Stress, First Aid
- Medical emergency response plan
- Routine medicals e.g. drivers, catering, ERT, Fit for travel
- Routine environmental e.g. cleaning, water, pests, housekeeping
- Audit protocols – internal
- Audit processes – external audits

### General

- Occupational/health/safety assurance reporting

### Specific

- Medical
  - Internal environmental controls e.g. light, heating, ventilation, humidity, glare
  - Chemical
    - Mech control – Cond/Material safety Sheet/Storage
    - Biological
      - MCOCP
      - Pre-travel authorization process – Fitness for travel
  - Ergonomic
    - DSE – self assessment
    - Manual handling – lifting, reach, storage, etc.
  - Psychosocial
    - Stress risk assessment

---

### Additional Controls to Reduce Risk to ALARP

- Within 6 months
- Within 3 months
- Within 6 months

### Specific Risks

- Medical
  - Internal environmental controls e.g. light, heating, ventilation, humidity, glare
  - Chemical
    - Mech control – Cond/Material safety Sheet/Storage
    - Biological
      - MCOCP
      - Pre-travel authorization process – Fitness for travel
  - Ergonomic
    - DSE – self assessment
    - Manual handling – lifting, reach, storage, etc.
  - Psychosocial
    - Stress risk assessment

---

### Training and Competence

- DSE
  - Training and competence e.g. DSE, Manual handling, Pressure & Stress, First Aid
- Medical emergency response plan
- Routine medicals e.g. drivers, catering, ERT, Fit for travel
- Routine environmental e.g. cleaning, water, pests, housekeeping
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- Audit processes – external audits

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### Health Risk Assessment Tool April 2016.xlsx

- Based on HRA Risk Matrix (March 2021) 5 = Severity 1 = Likelihood Risk = Severity x Likelihood

---

**Pre-requisites**

- Training and competence e.g. DSE, Manual handling, Pressure & Stress, First Aid
- Medical emergency response plan
- Routine medicals e.g. drivers, catering, ERT, Fit for travel
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---

**Specific Risks**

- Medical
  - Internal environmental controls e.g. light, heating, ventilation, humidity, glare
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      - MCOCP
      - Pre-travel authorization process – Fitness for travel
  - Ergonomic
    - DSE – self assessment
    - Manual handling – lifting, reach, storage, etc.
  - Psychosocial
    - Stress risk assessment
### Current Risk Assessment

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Potential Consequence</th>
<th>I</th>
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</thead>
<tbody>
<tr>
<td>Food borne infections</td>
<td>Food borne illness including vomiting &amp; diarrhoea</td>
<td>1</td>
</tr>
<tr>
<td>Water borne infections</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Blood borne pathogens</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Noise</td>
<td>Health Surveillance Requirements</td>
<td>1</td>
</tr>
<tr>
<td>Dust</td>
<td>Further Actions (Information should be transferred to the Health Risk Control Plan)</td>
<td>3</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Pre-requisites</td>
<td>2</td>
</tr>
<tr>
<td>Violence</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

#### Food borne infections

- **Inherent Risk**
  - Hazard: Food borne infections
  - Potential Consequence: Food borne illness including vomiting & diarrhoea
  - Severity (S): 1
  - Likelihood (L): 4
  - Risk: $1 \times 4 = 4$

- **Inherent Risk Action**
  - Current Controls: Supplier fulfills HACCP principles
  - Target Date: Within a month
  - Status: Open

- **Additional Controls to Reduce Risk to ALARP**
  - Target Date: Within 3 months
  - Status: Open

#### Water borne infections

- **Inherent Risk**
  - Hazard: Water borne infections
  - Potential Consequence: Mechanical engineers and technicians work in the area of the condensing cooling tower
  - Severity (S): 4
  - Likelihood (L): 3
  - Risk: $4 \times 3 = 12$

- **Inherent Risk Action**
  - Current Controls: Currently no controls in place
  - Target Date: Within a month
  - Status: Open

- **Additional Controls to Reduce Risk to ALARP**
  - Target Date: Monthly
  - Status: Ongoing

#### Fatigue

- **Inherent Risk**
  - Hazard: Fatigue
  - Potential Consequence: Mechanical engineers and technicians have to work shifts. Pattern is 12 hours, 2 days, 2 nights, 4 nights off
  - Severity (S): 2
  - Likelihood (L): 4
  - Risk: $2 \times 4 = 8$

- **Inherent Risk Action**
  - Current Controls: Currently no controls in place
  - Target Date: Within 3 months
  - Status: Open

- **Additional Controls to Reduce Risk to ALARP**
  - Target Date: Within 3 months
  - Status: Open

### Pre-requisites

The following are pre-requisites that any Asset/Department would have in place before and during the HRA process, which are essential to monitor the hazards and protect health:

1. **Food borne infections**
   - Lunch delivered from external catering supplier on daily basis
   - Health Surveillance Requirements (Detail transferred to the HRCP)
   - Further Actions (Information should be transferred to the Health Risk Control Plan)
2. **Water borne infections**
   - Audit of catering supplier on 6 monthly basis
   - Health Surveillance Requirements (Detail transferred to the HRCP)
3. **Fatigue**
   - Education of personnel into the risks of lack of sleep (sufficient quantity and quality) and advise how best to manage shift patterns to maximise sleep
   - Education of personnel’s family re importance of sleep
   - Complete an analysis of current shift pattern to determine level of risk and recommend a shift pattern that reduces risk of accidents or fatalities as a result of sleepiness
   - Provide napping facilities
   - Provide safe transport home after night shift

### Learning Legacy Document

- **Personnel Involved in Review:** Enter names here…
- **Date Review Completed:** Enter date of review here
- **Intensity of controls**
  - 1. Elimination – remove the hazard entirely;
  - 2. Substitution – replace the original substance or process with one less hazardous;
  - 3. Technical or Engineering control
    - Containment and isolation – the hazard, though present is contained to reduce exposure e.g. e.g. contained sampling equipment
    - Local exhaust ventilation e.g. fume cupboard;
  - Administrative/management control
    - Modification of the procedure or work practices to reduce the risk of exposure to the hazard
    - Working instructions and job aids
    - Health surveillance
  - Personal protective equipment (PPE)
  - 4. Personal protective equipment (PPE)

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*Based on HRA Risk Matrix (March 2001) S = Severity  L = Likelihood Risk = Severity $\times$ Likelihood*