



## Designer Hazard Evaluation Procedure

### General Statement of Intent

Aird Walker & Ralston Ltd recognises and accepts an essential element of good design is to "design out" hazards of construction, maintenance and cleaning of the structure, or where this is not possible, to minimise the risks of such hazards, as is required by Regulation 9 of the CDM Regulations 2015. Where it has not been practicable to remove a hazard completely there will be a residual risk.

The Company will follow this procedure to ensure that, as far as reasonably practicable, the requirements of Regulation 9 of the CDM Regulations 2015 will be met, which states the following:

#### *Duties of designers*

*(1) A designer must not commence work in relation to a project unless satisfied that the client is aware of the duties owed by the client under these Regulations.*

*(2) When preparing or modifying a design the designer must take into account the general principles of prevention and any pre-construction information to eliminate, so far as is reasonably practicable, foreseeable risks to the health or safety of any person:*

- (a) Carrying out or liable to be affected by construction work;*
- (b) Maintaining or cleaning a structure; or*
- (c) Using a structure designed as a workplace.*

*(3) If it is not possible to eliminate these risks, the designer must, so far as is reasonably practicable:*

- (a) Take steps to reduce or, if that is not possible, control the risks through the subsequent design process;*
- (b) Provide information about those risks to the principal designer; and*
- (c) Ensure appropriate information is included in the health and safety file.*

*(4) A designer must take all reasonable steps to provide, with the design, sufficient information about the design, construction or maintenance of the structure, to adequately assist the client, other designers and contractors to comply with their duties under these Regulations.*

### Procedure for Hazard Identification in Design (HAZID)

Hazard Identification or Evaluation can be carried out at various times within a project life cycle but will be most successful the earlier the process is completed. This is because the earlier the hazards are identified, the easier and more cost effective implementing the control measures will be.

With this in mind, an initial HAZID should be conducted as part of an initial site survey.

Additional HAZID may be required as the design scope develops.

The proper identification of hazards is not only a legal requirement; it is also an effective project management tool. To enable the process of HAZID within the company, a Designer Hazard Evaluation Form has been developed. A blank proforma is located in Appendix A and specimen completed example is located in Appendix B.

Many of the hazards each project faces will be common to them all. E.g. Falls from height, working with electrical equipment etc. To simplify the process, therefore, Appendix C contains a list of common hazards encountered and proposed control measures. It is the responsibility of the person conducting the HAZID to ensure that any of the proposed control measures are valid for their particular project.

### Procedure for using Designer Hazard Evaluation Form

The form contains a top section which requires general information such as Site, Project Reference etc. to be completed. Each Form should receive a unique sequential reference number, for example, DHE01. This number and summary description should also be recorded in the project specific register, see Appendix D. At the bottom of the form a list of potential hazards is provided as a reference aid. The number beside each hazard is the reference number which relates to the proposed control measure for that hazard.



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The following steps should now be followed to complete the HAZID procedure:

- Step 1 Write a brief description of the main project task under consideration. e.g. Supply and install cable-tray and cable between an MCC and remote field equipment.
- Step 2 Consider what hazard or hazards are associated with the project task listed in the first step. E.g. Electricity and work at height etc.  
At this stage the list of potential hazards can be used as a reference aid.
- Step 3 Consider the probability of the hazard being present. A high, medium and low assessment will suffice.
- Step 4 Consider now whether the hazard can be designed out or minimised. This is the stage of the process where particular consideration as to what is reasonably practicable is required. For instance, introducing a new (and possibly greater) hazard to minimise another hazard is not reasonable. Also, the costs of the proposed control measure in relation to the hazard should be considered. This is where competence and experience plays a large part of the evaluation process.
- Step 5 If the decision is that the hazard can be designed out or minimised, provide a brief description of the proposed design action. If the decision is that the hazard cannot be designed out or minimised, list what proposed control measures should be put in place to control the hazard. On the unusual occasion when there is no known control measure this must be specifically highlighted to the relevant project personnel.
- Step 6 After the design actions and proposed control measures have been identified, now consider what the residual hazard would be presupposing these actions and measures are taken. The aim should be to achieve a low residual risk. If this cannot be attained, this should also be highlighted to the relevant project personnel.
- Step 7 Repeat steps 1 to 6 until all the project tasks under consideration have been evaluated.
- Step 8 The design hazard evaluation process has now been completed. It now remains to consider who must receive the assessment findings. This can be determined on a project specific basis but as a minimum, those who will be responsible for the design actions and implementing the proposed control measures should be advised.

### General Hazards Listing & Proposed Control Measures

Included within this procedure at Appendix C is a list of general hazards which are frequently encountered. Alongside these hazards are proposed control measures which are aimed at reducing or eliminating the referenced hazard. The list is intended to simplify the hazard identification process, however, each person must be satisfied that the control measures are applicable for the specific hazard they are evaluating.

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## Designer Hazard Evaluation Procedure

<b>Appendix A Company Standard Hazardous Physical Activity Control measures.</b> (To assist with the Hazard Risk Assessment steps 1,3 &4)	<b>Hazard Control Reference &amp; Description (HCR)</b>	<b>Control measures that have been put in place and that are reasonably practicable such as to reduce the hazard risks to an acceptable level.</b>
	HCR01- Design	The company's designs comply with the 17 <sup>th</sup> Edition of The IEE Wiring Regulations BS7671 for installation work, The engineering Standard for Factory Built Assemblies of Low Voltage Switchgear and Control Gear Assemblies BS61439-1 for Motor Control Centres, Switchboards and Control Panels. Designs will also comply with The Construction Design & Management Regulations 2015 whilst conforming to the client particular and standard specifications.
	HCR02 - Excavation / Demolition	Personnel undertaking excavation activities should be suitably competent and qualified. A method statement and risk assessment will be submitted to ensure all possible precautions have been considered. All activities will be in accordance with The Construction Design and Management (CDM) Regulations 2015.
	HCR03 - Underground / Overhead Utilities	Buried services and overhead services documentation / drawings are available from the client / principle contractor at the site offices. Personnel who may locate unidentified services are instructed to stop work immediately and report findings to site supervisor, so that the associated utility company be contacted for clarification and to determine further actions.
	HCR04 - Temporary Works / Scaffold	Personnel have been trained to erect portable tower scaffolding for temporary works and works of short duration. Where full scaffolding systems are required these installations will be carried out certified and maintained by competent qualified persons in accordance to the Work at height regulations 2005 (amended 2007).
	HCR05 - Waste Management Housekeeping / cleaning	The Company hold a waste disposal carrier's license waste will be removed from site by company transport and disposed of at the licensed waste disposal centre. Personnel are instructed to follow the site rules and ensure all areas are kept tidy and designated areas for waste are used. Any obstacles or obstructions which could cause harm to others are to be reported to the site supervisor as necessary.
	HCR06 - Working at heights	All activities will be in accordance with The Work at Height Regulations 2005 (amended 2007). Where by working at heights cannot be avoided activities will be detailed in the risk assessment method statement to ensure all possible precautions have been considered and limiting any short term work from ladders to 30 minutes and only as a last resort. Personnel are instructed and trained (IPAF and PASMA) in the safe use of the equipment provided and to be used to gain access to the required work area. All equipment will be registered and subject to periodic inspections, all personnel are instructed to check equipment before and after use, reporting any damage found to management whereby the equipment will be appropriately repaired or disposed of.
	HCR07 - Confined Space Working	Personnel undertaking activities in confined spaces will be competent and qualified. A method statement and risk assessment will be submitted to ensure all possible precautions have been considered. All works will be in accordance with the confined space regulations 1997.
	HCR08 - Use of Equipment	Personnel will be trained and competent in the use of work equipment. Equipment will be inspected, tested and maintained in accordance with the Provision and Use of Work Equipment Regulations 1998 (PUWER). Personnel will stop using and report any equipment failure to the site supervisor so the equipment is removed from circulation until it has been inspected, repaired and tested.
	HCR09 - Lifting Operations	Personnel will be trained and competent in the use of work equipment. Equipment will be inspected, tested and maintained in accordance with the provision and use of work equipment regulations 1998. A lifting plan will be provided for difficult and or awkward lifts when requested by the client / principle contractor in accordance with the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER).
	HCR10 - Use of Vehicles	Parking, offloading and use of vehicles will be carried out in agreed locations with the client / principle contractor. All personnel using vehicles will be competent and qualified to use the type of vehicle being used in accordance with The Construction Design and Management (CDM) Regulations 2015.
	HCR11 - Slips & Falls	Personnel will follow the general site rules and ensure all areas are kept tidy and designated areas for waste are used. Any static hazard or spillage, which could cause harm to others are to be removed / reported to the site supervisor as necessary.
	HCR12 - Electricity	Personnel undertaking activities on electrical systems will be competent and qualified. Electrical supplies have to be isolated and lock off system in place prior to commencement of activities. A method statement and risk assessment will be submitted to ensure all possible precautions have been considered. All activities will be in accordance with the electricity at works act 1989.
	HCR13 – Earth Electrodes	Personnel undertaking activities involved in the installation of earth mats or electrodes will ensure that the area in which they are to be installed has been checked to ensure no services are under ground prior to any works taken place.
HCR14 -		

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<b>Hazard Control Reference &amp; Description.</b>	<b>Control measures that have been put in place and that are reasonably practicable such as to reduce the hazard risks to an acceptable level.</b>
<i>HCR15 - Site Establishment &amp; Safety Rules</i>	On site arrival all personnel will report to the site office where they will be given a site induction by the client / principle contractor prior to commencement on site. This induction will include all site safety rules, general rules and details of site facilities in accordance with the health and safety (consultation with employees) regulations 1996.
<i>HCR16 - Welfare and Facilities</i>	The client / principal contractor is to provide the welfare facilities. Welfare facilities will be provided to all personnel in accordance with The Construction Design and Management (CDM) Regulations 2015. Personnel will be inducted on these facilities on arrival at site.
<i>HCR17 - Adverse Weather</i>	Personnel protection equipment will be issued in accordance with the personal protective equipment at work regulations 1992, include high visibility jackets and wet weather gear. In agreement with the client / principle contractor severe weather will result in activities being postponed until weather improves. Personnel working in extreme temperatures will have regular 10min breaks every 30mins, and have water close to hand. All activities will be in accordance with The Construction Design and Management (CDM) Regulations 2015.
<i>HCR18 - Personnel Protective Equipment</i>	Personnel protection equipment will be issued in accordance with the personal protective equipment at work regulations 1992, including any further protection equipment required for individual or specialised activities. Sub-contractors have to provide their employees with the required PPE. In accordance with The Construction Design and Management (CDM) Regulations 2015.
<i>HCR19 - Hand &amp; Arm Vibration &amp; Dust</i>	HAVs assessments shall be carried out on all equipment personnel are to use when carrying out activities required by the scope of works. The main piece of equipment that employees will be using relating to HAV is the battery / 110v drills. All operative will be face fitted and use face masks provided.
<i>HCR20 - Noise</i>	Personnel will wear ear defenders when working in areas where the noise levels exceeds 80 decibels, disposable ear plugs are available for use when working in areas where noise levels are above 50 decibels. Personnel will be protected and noise levels restricted in accordance to the control of noise at work regulations 2005.
<i>HCR21 - Manual Handling</i>	Personnel have been instructed on manual handling and will not manual handle loads over 25kg themselves, they are to seek assistance and or use lifting equipment provided to assist with manual handling activities in accordance with manual handling regulations 1992. Personnel will be instructed as to the operation of such equipment.
<i>HCR22 - Exposure to Substances Hazardous to health.</i>	Any substance to be used of brought onto the site must be accompanied with the substance data sheet and COSHH assessment for review by the client / principle contractor as to the substance suitability. All substances to be used on site shall be used and stored in accordance to the control of substances hazardous to health regulations 2002.
<i>HCR23 - Exposure to biological Agents</i>	Personnel should inform their GP of the environment they will be working in and take regular health checks. The client is required to inform the known biological agents that could be present on the site. (polio, tetanus, anthrax, leptospirosis, hepatitis)
<i>HCR24 - Working with Water &amp; Sewage</i>	Personnel undertaking activities over or next to chambers or tanks should have the correct PPE including a harness and a sufficient working platform. No lone working is to be carried out in these areas. A method statement and risk assessment will be submitted to ensure all possible precautions have been considered. All activities will be in accordance with The Construction Design and Management (CDM) Regulations 2015.
<i>HCR25 - Working with pressurised systems</i>	Personnel undertaking activities on pressurised systems should be suitably competent and qualified. A method statement and risk assessment will be submitted to ensure all possible precautions have been considered.
<i>HCR26 - First Aid</i>	Personnel have been trained in (appointed persons) emergency first aid only. All Company vehicles have a basic first aid kit in them for operatives use. All first aid procedures will be in accordance with the clients / principal contractor site procedures that comply with the first aid at work regulations 1981. All incidents (accidents or near misses) to be reported to site supervisor and recorded.
<i>HCR27 -Asbestos</i>	The client / Principal contractor provide the requested information (asbestos survey report) on the premises / work area where activities are to take place, to assist with our risk assessment method statement. Personnel have been given awareness training and are instructed to follow the RAMS, however whilst undertaking activities operatives find or suspect asbestos, are instructed to stop work immediately, report findings to staff for further investigation, clarification and instruction in accordance with Company Policy and The Control of Asbestos Regulations 2002.
<i>HCR28 - Fire &amp; Gas</i>	The principal contractor will determine the fire procedures to be adopted on site; these procedures will be detailed to personnel at the induction. A fire extinguisher will be present on site, to put out small fires. Personnel on sighting any fire should raise the alarm with the site supervisor, who will initiate the emergency procedures. Personnel who suspect presence of gas either by smell or by gas monitoring equipment should raise the alarm with the site supervisor, who will initiate emergency procedures

Appendix B Company Standard Hazardous III Health Activity Control measures  
(To assist with the Hazard Risk Assessment steps 1,3 &4)