

What?

- There is a legal requirement to carry out suitable and sufficient risk assessments of all hazardous activities undertaken by a business
- What is a 'hazard'?
 Anything that can cause harm (e.g. electricity, chemicals, pressurised systems, working at height, noise)
- What is 'risk'?
- The chance that somebody will be harmed by the hazard (e.g. electric shock, burns/poisoning, asphyxiation from loss of containment, fatality from falling, hearing damage)

Why?

- A general risk assessment should be in place for any planned work from the engage/effective software system
- An engineer's Dynamic Risk Assessment should be generated if no general risk assessment is available when carrying out maintenance tasks such as going to break downs or call outs
- Dynamic Risk Assessments also allow you to make quick assessment of the work environment so you can continue to carry out your duties safely
- Dynamic Risk Assessments are also to be used when the execution of a job changes to that specified in the issued RAMS

The Process

- Step 1: Hazard identification
- Step 2: Who might be harmed and how
- Step 3: Evaluate the risks and existing controls
- Step 4: Record your findings
- Step 5: Review and revise your findings

Do



- Consider how likely each hazard could cause harm
- ☑ Eliminate the hazard
- ✓ Reduce the risk 'as low as reasonably practicable' (ALARP)
- ☑ Add control measures where necessary
- Communicate with the client and other workers in the area

Don't



- ☑ Over complicate things
- ☑ Carry out any task if its unsafe
- Brush hazards and risks to one side
- Work outside the scope of the permit to work







Paper Version

Engineers Site Risk Assessment

Service order No: Work to be carried out:				
22 22 12 2 2 2 1				
Company of the Compan				
Location / Site			Date	
Type of Hazard / Operation	Risk Ra	2003 S. Order 10	Control Measures / Comments	Residual Risk
X Clin by a set of	High/Med			High/Med/Low
Slip,trip or fall.	H M	L	-	H M L
Fall From Height	H M	느		H M L
Exposure to fumes (toxic)	H M	L		H M L
Contact with refrigerant (Burns)	н м			H M L
Contact with refrigerant (Asphyxiant)	H M			H M L
Pressure testing with O.F.N	H M	ᆜ		H M L
Release of refrigerant oil mixture	н м			H M L
Contact with lubricant)(Skin irritant)	н м	ᆜ		H M L
Working on pressure systems	н м	ᆜ		H M L
Breaking into sealed systems	н м	L		H M L
Contact with electricity (Shock)	н м	니		H M L
Contact with electricity (Burns)	н м	ᆜ		H M L
Contact with moving machinery	н м	L		H M L
Manual/Mechanical handling	H M	L		H M L
Contact with Chemicals / Solutions	н м	L		H M L
Contact With Asbestos	н м	L		H M L
Cold Work	н м	L		H M L
Hot Work	н м	L		H M L
Fire	н м	L		H M L
Inadequate lighting	н м	L		H M L
Working in confined spaces	н м	L		H M L
Lone working	H M	L		H M L
Noise	H M	L		H M L
Use of power tools	н м	L		H M L
Any Others - Please Specify:	н м	L		H M L
	н м	L		H M L
	H M	L		H M L
	H M	L		H M L
Signature				
Print Name				
-filit Name				
Signature			Signature	
-			1 *	- 1
Print Name			Print Name	
Nanature.			Client Repre	semative
Signature				
Print Name				



JEH/ENG/RA001



Issue A



Electronic Version

How to Calculate Risk

To understand the health and safety risk matrix, you first need to understand how risk is calculated.

It might surprise you to know there's a little more to it than choosing if a risk is LOW (green), MEDIUM (Yellow) or HIGH (Red). Yes, there's a proper way to calculate risk, but it's fairly simple.

Risk = Likelihood x Severity

Looks pretty simple, doesn't it? The risk is how likely it is that harm will occur, against how serious that harm could be. The more likely it is that harm will happen, and the more severe the harm, the higher the risk and before you can control risk, you need to know what level of risk you are facing.

To calculate risk, you simply need to multiply the likelihood by the severity. Well, how on earth do you do that? I'll just type "not very likely" and "broken leg" into my calculator.

Nope, it's not going to work, we need another way of multiplying likelihood by severity, and we can assign numbers to each level. For example, unlikely to hurt someone could be a 1.

Almost certain to cause harm could be a 5.

The numbers go up on a scale for both likelihood and severity. Now we have some numbers, we can use a calculator (or your head if you're feeling especially smart today) to do some maths!

Not Very Likely (2) x Broken Leg (4) = Risk (8)

Ok, great. We have calculated some risk. But what does 8 mean?

The risk level of 8 could mean anything. It needs to be put into the context of the risk scale you are using and this is where a risk matrix comes in handy.

How To Use A 5x5 Risk Matrix

Now we know how to calculate risk, and what a risk matrix is, we can apply this knowledge to the 5x5 risk matrix. Because a 5x5 risk matrix is just a way of calculating risk with 5 categories for likelihood, and 5 categories severity. Here's how the 5x5 risk matrix could look, using the above scale:



Now we can calculate our risk level, from 1 (Very Low Risk) to 25 (Very High Risk) using the 5x5 risk matrix. Let's take our earlier example.

A broken leg would be a major injury, but we estimated that it's not very likely to happen in the risk we are assessing.

That would be unlikely on our likelihood scale.

And major injury on our severity scale.

Using the 5x5 risk matrix, we can see that gives us a '8' medium risk.







Point of Work Assessment of Risk for Refrigeration, Air Conditioning and Heat Pump Systems [please read introductory text accompanying this template which forms part of the IOR Guiddone Note)															
-	Client / Site						Project Title							_	
Contract	Contract No.				Location										
demaraci				1000	COCOCION	Additional Safety Accordment	Leantinue on conseste chae	if required)				_			
	Before you start					Checked		Additional Safety Assessment (continue on separate sheet if required)							
	Are you authorised and qualified to undertake the work.							1							
	Are you at the correct plant / component?							Hazard			Remaining Risk (High, Medium or Lo		ing Dick		
		e job before if not do you know what you are doing:							Control Measures / Precautions						
	Do I know how to get help or where to go in an emergency?							(from Part 2)			(High, Medium or Low)			4)	
	Do you have Risk Assessment (RA), Method Statement, Hot Work or other Permit to Work and have you signed on to them?								i						
	If you are working to Generic RA's p	lease	list the applicable ones below or ov	erleaf:										_	
Q	Is the dient aware of your work?		,,,												
Stop	Does someone know where you are	worl	ting?												
S	Do you have the right PPE (Persona			orv											
	Protective Equipment for the job? Are your test meters (electrical/gas) in calibration?														
T															
t	Ammonia work - is there a shower, hose or buckets of water nearby?														
Pai	Work equipment – are you trained i					Į.	- 15								
	If working with flammable refrigera			g, elim	inated relevant ignition sources,		- Act								
	ensured adequate ventilation and suitability of equipment?					1.0									
	Are newer tools and leads and plan	Annual control to the second s				\vdash	m								
	Are power tools and leads and plant tested? Are scaffolds and ladders inspected (access safe)?				\vdash	Part 3									
	Is lifting equipment inspected?	Jacob	33 3016/1												
	Have you inducted the contractors?													_	
	If answer is 'No' to any of the above, take required action or report to your supervisor. If in doubt ask!														
	Safety and Health Assessment (if the hozord is present tick the box)														
	Falls from height		Slips, trips or falls on the same level		Temperature (high/low)										
	Fragile surfaces		Entry into a confined space		Adverse weather		1								
	Falling or flying objects		Fumes		Risk to you from the work of others										
	Chemicals or harmful substances		Noise		Risk to others from your work										
	Heat, fire or explosion		Vibration		Stored energy or insecure load			Date		Time					
	Asphyxiation or drowning		Electricity		Traffic or moving vehicles			Name		Signature of employer or self employed person					
*	Contact with stationary object		Manual handling		Asbestos present		-	End of Job Review							
Think	Object overturning or collapsing		Poorlighting		Other risk identified (state overleaf)		Review	Are there any lessons for next			Yes		olo		
1-	If required, you must have a rescue plan in place. Provide brief details below or overleaf.						وَّ	Has the work created any new hazards Yes No							
2	(You must always be able to provide a way of safe escape in the event of something going wrong).						4-1	If you have answered 'Yes' to	either of these questions, m	ake a brief note below and tell y	our superv	risor.			
art	Any ticks for hazards that are signific	ant ar	d for which there are no (or inadenua	tel con	trols. If you have ticked any hazards	. Part 3	Part 4								
ď	needs to be completed and additiona				, seried mily interior	,	Pa								

Point of Work Assessment of Risk (continuation sheet for further details)							
Client / Site		Project Title					
Contract No.		Location					
Name		Date					



