

Safety Documentation

Please select the forms you require by selecting the check boxes below.
You can select more than one.

Method Statement

Risk Assessment

Chemicals COSHH

Once you have made your selections, scroll down and complete the forms.

Buttons: [+] will add a row to a list [-X] will delete a row from a list

You may save this file to a local drive at any time.

When you have finished, save the file to a local drive and email it to your supervisor for authorisation.

Supervisors - There is a sign-off section at the end of the document set that must be completed.

Staff may "self authorise", (as a supervisor), but the forms must still be submitted to the DSO for approval.

IMPORTANT:

YOU **MUST NOT** START ANY PRACTICAL WORK UNTIL THESE FORMS HAVE BEEN RETURNED TO YOU
WITH **BOTH** YOUR SUPERVISOR's AND DSO's APPROVAL SIGNATURES ATTACHED.

Please complete these fields

School or Service	Wolfson School of Mechanical, Electrical and Manufacturing Engineering
Department	Centre for Biological Engineering
Originator name	Kulvindar Sikand
email address	k.p.sikand@lboro.ac.uk
Location	Garendon Wing
Project / Activity / Task	Use of generator for back up of power
Supervisor Name	Mark Taylor

Safety Method Statement

Reference SAF/MEME/7135

Location Garendon Wing

Originator Kulvindar Sikand

Project / Activity / Task Use of generator for back up of power

What equipment will be used in this activity? +

Dual Fuel generator, extension leads	X
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What training must be completed to do this activity? +

Have had instruction from owners of generator on how to use it.	X
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What chemicals are being used? (These must be included in the COSHH Form) +

Propane and Petrol	X
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Spill and accident procedures. +

First choice of fuel is propane which is in a gas. Petrol will be used if the period of time the power is off exceeds Propane supplies, which would be around 24 hrs.	X
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Procedure in the event of an emergency. (How to leave the process in a safe condition in such an event) +

In the event of an emergency if the generator was already set up and running it could be locked up in a gas pod and left running. The emergency services would be told the location of the generator. Any petrol would be capped off.	X
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References. +

	X
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Detailed sequential description of the process

Process step	Precautionary measures and comments	+
The generator is attached to the propane supply and the generator is started before attaching to the appliances. Initially the appliance are just the freezers as the power outage is planned for 2 hrs max.	The generator is run outside the building, if it is raining the generator can be run in a well ventilated gas pod. The extension cables used are PAT tested.	X
Extension cables are run into the lab from the initial 30Amp strip plug. The cable from the generator will be fed in through a window.	Make sure that the initial strip plug from generator does not exceed 30Amps and that any cables going into the lab are not trip hazards. Important to note that it will be Good Friday 15th April so should not be anyone else in.	X
If the power outage goes on for longer than 24hrs the propane will run out at which point will need to get petrol. This will mean traveling to the nearest petrol station which is on Ashby rd just before Snell's Nook Lane.	The petrol would be transported in a jerry can which is designed for holding petrol.	X
When refueling the generator with petrol the generator should be switched off and the outlet should be unplugged. Once the generator has started the outlet can be plugged in.	When the generator is being refuelled the generator should be allowed to cool for 15 mins to prevent the petrol from causing a fire. When refueling a funnel will be used to prevent any spillages and gloves should be worn.	X
There are fridges and freezers which back onto the corridor and these will need to be plugged into an extension lead which is from area J.	The leads need to be taped down to prevent them being a trip hazard. Must make sure that the load doesn't exceed 5 Amps (due to being cleaners sockets).	X

Safety Method Statement (Continued)

Process step	Precautionary measures and comments	+
If the power outage goes over 2 hrs look at powering up some fridges from plugs in storage room in area J, this area will have power. This would involve running extension cables down the corridor to fridges.	Would need to make sure that the load to plugs doesn't exceed 5Amps as these are cleaners sockets. Would ensure that the cables are taped down so that they aren't a trip hazard.	X
		X
		X
		X
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		X
		X
		X
		X

Risk Assessment

Reference

Location

Originator

Project / Activity / Task

Is this process risk assessment for a : Laboratory / Workshop General use

Category 1: Machinery & work equipment:				
Design and Construction	Mechanical hazards	Electrical hazards	Radiation hazards	
N/A	N/A	Electrical test cables current	N/A	+
Category 2: Workplace				
Slips/Trips/Falls on the level				+
Outdoor on campus				X
Restricted access				X
Significant noise				X
Localised hot surfaces				X
				X
Category 3: Hazardous and/or Harmful substances				
Propane and potentially petrol				+
				X
Category 4: Work activity				
Lone working out of hours				+
				X
Category 5: Work organisation				
Two members of technical staff				+
				X

Explain the risks associated with these hazards				
People / Groups at risk	<input type="text" value="Operator and people in proximity"/>			X
Enter risk details here:-	Impact	Probability	Risk Score	
<input type="text" value="Trips/slips/falls on the level"/>	<input type="text" value="Harmful"/>	<input type="text" value="Likely"/>	High	
What are the control measures?	Lowers Impact	Lowers Probability	+	
<input type="text" value="Tape down trailing cables."/>	<input type="text" value="Significantly"/>	<input type="text" value="Significantly"/>	X	
			Residual Risk	
			<input type="text" value="Low"/>	
People / Groups at risk	<input type="text" value="Operator and people in proximity"/>			X

Process Risk Assessment Form (Continued)

Enter risk details here:- significant noise	Impact Harmful	Probability Likely	Risk Score High
What are the control measures?	Lowers Impact	Lowers Probability	+
The noise is from a generator which is to be run outside. If operator needs to stay with generator ensure that they wear ear plugs.	Significantly	Significantly	x
			Residual Risk Low
People / Groups at risk	Operator and people in proximity		x
Enter risk details here:- localised hot areas	Impact Harmful	Probability Likely	Risk Score High
What are the control measures?	Lowers Impact	Lowers Probability	+
Be aware that surface of engine may be hot. If need to refuel generator with petrol to make sure that generator has cooled for a minimum of 15 mins and ensure that a funnel is used to prevent spillage.	Significantly	Significantly	x
			Residual Risk Low
People / Groups at risk	Operator and people in proximity		x
Enter risk details here:- Restricted access	Impact Harmful	Probability Unlikely	Risk Score Medium
What are the control measures?	Lowers Impact	Lowers Probability	+
Security and FM also have access to area and will be aware	Significantly	Significantly	x
			Residual Risk Low
People / Groups at risk	Operator and people in proximity		x
Enter risk details here:- lone working/out of hours	Impact Slightly Harmful	Probability Highly Unlikely	Risk Score
What are the control measures?	Lowers Impact	Lowers Probability	+
Will be doing this on good Friday. There will be two technicians carrying out the work and they will both sign into the lone working app. The work will be done on the Good Friday so there will be less staff around.	Slightly	Slightly	x
			Residual Risk Low
People / Groups at risk	Operator and people in proximity		x
Enter risk details here:- Outdoor on campus - generator run outside back door	Impact Slightly Harmful	Probability Highly Unlikely	Risk Score
What are the control measures?	Lowers Impact	Lowers Probability	+
The generator will not be left unattended.	Significantly	Significantly	x

Process Risk Assessment Form (Continued)

	Residual Risk
	Low
+ Add another Risk	

Who may be at risk as a result of this activity?

Personnel Group	Maximum (Task setup/ Re-configuration)	High (Performing the task)	Medium (Observing the task)	Low (Present, but not involved)	Lone Working (Out of hours)	No Exposure Permitted	Total
Academic Staff	0	0	0	0	0	0	0
Technical Staff	2	2	0	0	0	0	4
Research Staff (PDRA)	0	0	0	0	0	0	0
Research Students (PhD)	0	0	0	0	0	0	0
Students (Undergraduate / MSc)	0	0	0	0	0	0	0
Visitors	0	0	0	0	0	0	0
Others - Over-type as needed	0	0	0	0	0	0	0
Total	2	2	0	0	0	0	4

With these controls in place, the risk is:

The activity is LOW RISK - and is effectively controlled



COSHH Form

Reference SAF/MEME/1480, 1481

Location Garendon Wing

Originator Kulvindar Sikand

Project / Activity / Task Use of generator for back up of power




CHEMICAL NAME						Hazard Rating High		OVERALL RISK: Low						
Propane						Exposure Potential Low								
CAS No.	74-98-6	Amount used	g	Period of use (hrs)	2	The process is:	Semi Closed	Physical State	Gas	<input type="checkbox"/> Eyes	<input type="checkbox"/> Skin	<input type="checkbox"/> Inhaled	<input type="checkbox"/> Ingested	
W.E.L. (Itel / stel)														

Hazard Statement and Description	Precaution Statement and Description	
H220 Extremely flammable gas.	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.	X
H280 Contains gas under pressure; may explode if heated.	P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.	X
	P381 Eliminate all ignition sources if safe to do so.	X
	P403 Store in a well-ventilated place.	X

How will the precautions listed above be implemented?
The propane will be stored in gas pod 3 (Garendon Wing) and attached to a generator outside the building. The gas pod is outside the building and well ventilated.

Special Storage and Containment Measures	Disposal Method	
Store in a well ventilated place.	Once carried out procedure return any remaining gas in cylinder to BOC.	X
How will spillages be dealt with?	<i>Please note: any material used to clean up a spill of hazardous material must also be disposed of as hazardous material. Click here to see spill procedures</i>	

Propane is a liquefied gas in a pressurised cylinder so no spillage is possible. If there is any leak shut off the tap.

CHEMICAL NAME								Hazard Rating High		OVERALL RISK: Low			
Gasoline								Exposure Potential Low					
CAS No.	86290-81-5	Amount used	g	Period of use (hrs)		The process is:	Semi Closed	Physical State	Volatile Liquid	<input type="checkbox"/> Eyes	<input checked="" type="checkbox"/> Skin	<input type="checkbox"/> Inhaled	<input checked="" type="checkbox"/> Ingested
W.E.L. (Itel / stel)													

This chemical has a high health risk associated with it.

Hazard Statement and Description	Precaution Statement and Description	
H224 Extremely flammable liquid and vapour.	P101 If medical advice is needed, have product container or label at hand.	X
H304 May be fatal if swallowed and enters airways.	P102 Keep out of reach of children.	X
H315 Causes skin irritation.	P202 Do not handle until all safety precautions have been read and understood.	X
H336 May cause drowsiness or dizziness.	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.	X
H340 May cause genetic defects.	P233 Keep container tightly closed.	X
H350 May cause cancer.	P240 Ground/bond container and receiving equipment.	X

COSHH Form (Continued)

H361d Suspected of damaging the unborn child.	P241 Use explosion-proof electrical/ventilating/lighting/.../equipment.	X
H411 Toxic to aquatic life with long lasting effects.	P242 Use only non-sparking tools.	X
	P243 Take precautionary measures against static discharge.	X
	P261 Avoid breathing dust/fume/gas/mist/vapours/spray.	X
	P264 Wash ... thoroughly after handling.	X
	P271 Use only outdoors or in a well-ventilated area.	X
	P273 Avoid release to the environment.	X
	P280 Wear protective gloves/protective clothing/eye protection/face protection.	X
	P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.	X
	P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated	X
	P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position com	X
	P308 + P313 IF exposed or concerned: Get medical advice/attention.	X
	P312 Call a POISON CENTER or doctor/physician if you feel unwell.	X
	P331 Do NOT induce vomiting.	X
	P332 + P313 If skin irritation occurs: Get medical advice/attention.	X
	P362 Take off contaminated clothing and wash before reuse.	X
	P370 + P378 In case of fire: Use ... for extinction.	X
	P391 Collect spillage.	X
	P405 Store locked up.	X
	P501 Dispose of contents/container to ...	X
Justify the use of this chemical:	This will be used as a backup fuel if the power outage goes on for more than 24hrs. When the propane cylinder is finished.	
How will the precautions listed above be implemented?		
Petrol will only be used if the power outage last long enough to use all the propane, more than 24 hrs for 47kg cylinder.		
Special Storage and Containment Measures	Disposal Method	+
Any storage of petrol will be in a jerry can which will be stored in a flammables cabinet in the gas pod (outside).	If petrol does need disposing of it will go through the chemical disposal route.	X
How will spillages be dealt with?	<i>Please note: any material used to clean up a spill of hazardous material must also be disposed of as hazardous material. Click here to see spill procedures</i>	
Use sand to absorb the petrol and prevent it from running and allow it to evaporate.		

+ Add another chemical

Statement of work (Process to be undertaken)

Using propane as fuel for a back up generator. Should only need to use this for a period of two hours maximum if outage goes to plan. If the outage carried on for 24 hrs would then need to start using petrol, plan on getting a 47kg cylinder of propane.

Show image

COSHH Form (Continued)

Personal protection requirements not covered in the precaution statements above.

To wear safety glasses when working with pressurised cylinder.

Sources of information and references

https://www.boconline.co.uk/en/images/propane-industrial_tcm410-632412.pdf
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjP3-ONkuH2AhWLY8AKHQdjCJoQFnoECACQAQ&url=https%3A%2F%2Fwww.msds.exxonmobil.com%2FIntApps%2Fpsims%2FDownload.aspx%3FID%3D745561&usg=AOvVaw0lxmjg_noSc2IJH_ddqaCj

Reference to **existing approved** Risk Assessment

With the current controls, the risk of using these chemicals is: Low

Supervisor to check that the process involving the safe use of these chemicals has been satisfactorily evaluated

Supervisor and Departmental Safety Office (DSO) Sign-off.

Supervisors

Please check the documents above and if you want to approve them:

- 1) Electronically sign this document
- 2) Save it to a local drive (You will be prompted to do this)
- 3) eMail the signed document to the DSO.

DSO

Please review the documents above and if you want to approve them:

- 1) Enter the reference numbers as appropriate
- 2) Electronically sign this document
- 3) Save it to a local drive (You will be prompted to do this)
- 3) eMail the signed document to the originator

IF YOU DO NOT WANT TO AUTHORISE THE FORMS,

Please do not sign the form, but click the "Not Approved" check-box and return it to the originator by email stating why and what you expect them to do to put it right in the comments box below.

Not Approved

Supervisors Signature

Form Reference Numbers

Risk Assessment

SAF/MEME/7135

Method Statement

SAF/MEME/7135

COSHH Assessment

SAF/MEME/1480, 1481

DSO Signature

This document set must be reviewed and re-approved at the following times:

- 1) After the first occurrence of the activity described above (Review only)
- 2) After any change to the procedure or reagents used
- 3) After any incident resulting from this activity
- 4) At least annually from the date of approval

Next Review:

29 Mar 2023

Review comments