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Risk Assessment Method Statement

Contract: *Customer*
Location: *Transformer location*
Date on site: *Date on site*
Activity: Change of insulating liquid in isolated HV transformers
Eden Ref: 123456.0000
Compiled *Date created*
Neil Denbow, Director

Eden has specialised in the analysis, treatment and handling of electrical oils since 1985, during this time our procedures and equipment have evolved and been utilised in a wide range of industries and situations.

This RAMS for changing the insulating liquid in a transformer may differ from those of other companies because Eden not only change the insulating liquid, but also use vacuum filtration-dehydration plant to treat the new fluid and internal transformer insulation board and windings to further improve the specification of the fluid and extend the working life of the fluid and transformer.

Whilst Eden has carried out services such as these for over a quarter of a century, we are not complacent and will welcome the opportunity to discuss this RAMS with Customer's site engineers and health & safety officers to make adjustments for any local site specific risks and sensitivities.

Neil Denbow, Director



Method Statement

Environmental Risks

As each site is unique, upon arrival at the transformer location Eden personnel will assess local risks to the environment such as drains, water table, and streams, rivers or lakes.

Precautionary spill containment will be located at key points, typically; at the transformer pen, location of plant, joins in hoses, if used, and drain covers.

People Risks

Physical barriers and signage will be placed to discourage access by unauthorised personnel.

If possible, after set-up the gates to transformer pen will be closed (but not locked to allow emergency access) and keys retained by Eden.

Where hoses and cables cross a thoroughfare that cannot be closed, pedestrian ramps will be deployed.

Financial Risks

Eden are insured by Norwich Union to £2,000,000 for public and product risks. Policy numbers are available upon request.

Principle Activities

Upon arrival at site, Eden personnel will register with security / site engineer and attend any site or health and safety induction courses.

Customer's site engineers to isolate and earth transformer, and issue permit to work as per Electricity at Work Act requirements

Eden vacuum-dehydration plant and oil drums will be located as close as possible to the transformer and power supply to minimise hose and cable hazards.

Drip trays and/or absorbent pads will be placed under all hose connections.

Barriers and signage will be placed

Power supply to run Eden's vacuum-dehydration plant will be connected to the Customer electrical supply (3 phase, 63A, 415V) by Customer's electrician, or an alternative generator supply. (Eden will supply our cable and earth leakage device).

Vacuum-dehydration plant warmed up and prepared prior to starting treatment of the insulating oil in the transformer.

Connect hose to bottom valve on transformer. Pump waste/contaminated oil from transformer into appropriate drums.

Remove main lid or inspection hatch in order to flush core, windings, radiator fins, conservator tank and main tank with new hot oil via Eden filtration dehydration unit. Insert suction hose into bottom of main tank to extract dregs of oil and sludge.

Refill transformer from drums of new insulating fluid via filtration plant and circulate total amount of oil in transformer to assist in drying the transformer core and windings.

Post-treatment tests will be completed for dielectric strength, water content, and fibre content and a report issued.

Sign off permit, the transformer to be switched back on by customer's electrical engineer.

Issue Environment Agency Hazardous Waste Regulations 2005 Consignment Note.

Waste /contaminated oil will be removed from site by Eden Oil Ltd. authorised controlled waste carrier No. CB/YP3075BQ

Issued by Environment Agency, West Malling, Kent, ME19 5SH.

After treatment, the hoses and power supply will be disconnected and barriers removed.

The work area will be left as found, clean, tidy and free from used consumables.

Director's signature

Director
123456.0000



Access Requirements

Vehicles & Plant

These works will require our trailer mounted vacuum dehydration plant and tow vehicle along with our mobile generator and tow vehicle. The two vehicle is also used to transport the oil and bunds.

Unless specifically agreed in advance, the treatment plant must be located within 30 metres of the transformer and 20 metres of the mobile generator.

It is the customers responsibility to ensure the required power (3 phase, 63A, 415V) and access is available for the duration of the work.

The plant tow vehicle is also a mobile laboratory with test equipment, computers with 3G Wi-Fi, scanner and printers and will draw 240V 16A from the generator. All power output from the vehicle for tools and pumps is stepped down to

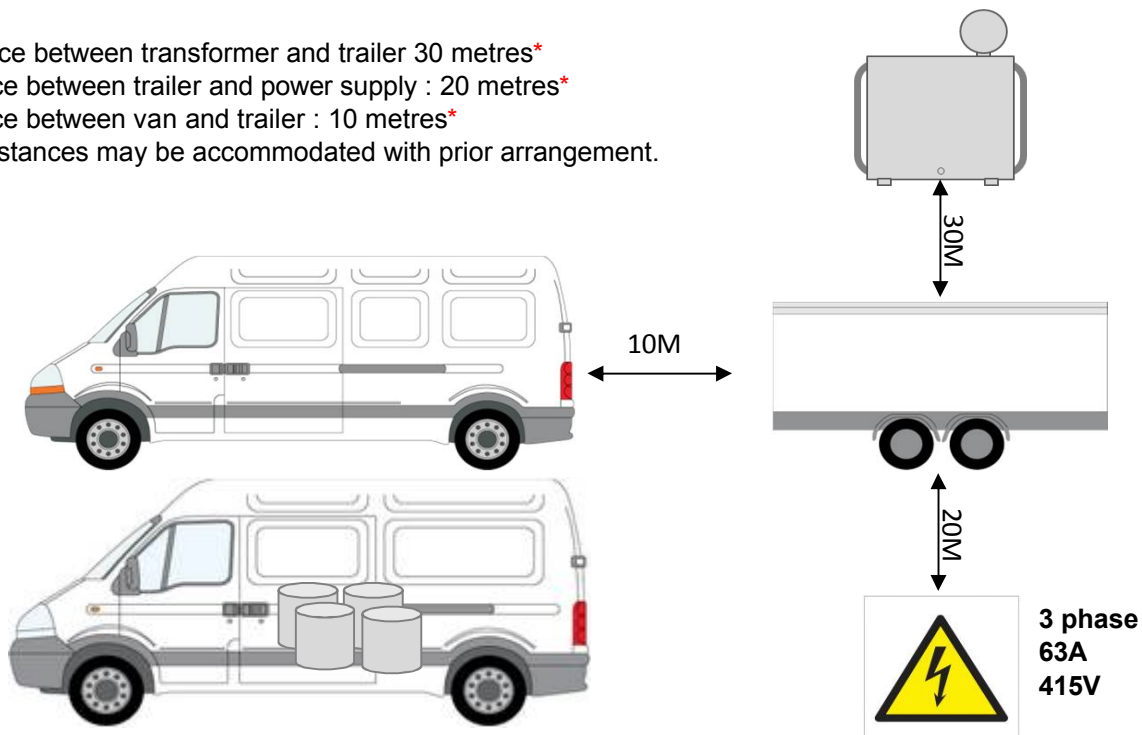
Data

Trailer length: 5,200 mm
 Trailer Width: 3,300 mm
 Trailer Height: 2,300 mm
 Trailer Weight: 2,500 Kg
 Required power: 3 Phase, 63A, 415V

Van length: 6,500 mm
 Van Width: 3,000 mm
 Van Height: 2,600 mm
 Van Weight: 3,500 Kg
 Required power: Single phase, 240V, 16A

Van length: 6,500 mm
 Van Width: 3,000 mm
 Van Height: 2,600 mm
 Van Weight: 3,500 Kg

Max. distance between transformer and trailer 30 metres*
 Max distance between trailer and power supply : 20 metres*
 Max distance between van and trailer : 10 metres*
 * Greater distances may be accommodated with prior arrangement.





Risk Assessment

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<u>RISK ASSESSMENT</u>		<u>YES</u>	<u>NO</u>
<u>Persons At Risk</u>			
Eden Employees		✓	
Sub-contractors			✓
Young Persons			✓
Other contractors			✓
Public			✓
Customer Employees			✓
Others			✓

<u>POTENTIAL SEVERITY OF INJURY OR ILLNESS</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1) FIRST AID 2) REPORTABLE 3) PERMANENT DISABLEMENT 4) FATAL 5) MULTIPLE FATAL	✓				

<u>NUMBER OF WORKERS EXPOSED TO HAZARD</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1) 1 2) 2-5 3) 6-20 4) 21-100 5) 100+		✓			

<u>PROBABILITY OF INJURY OR ILLNESS</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1) HAPPENS RARELY 2) HAPPENS EACH YEAR 3) HAPPENS ON MOST JOBS 4) HAPPENS REGULARLY ON MOST JOBS 5) CERTAIN TO HAPPEN	✓				

<u>CONTROL MEASURES</u>	<u>YES</u>	<u>NO</u>
Warning Sign	✓	
Physical Barriers to vehicles and work area	✓	
Pedestrian ramps over hoses and cable.	✓	
Permit to work / Tagging system	✓	
Spill containment	✓	
Supervision		✓
Specialist Training		✓
Competency Certificate		✓
Training / Information	✓	
Safetyman / Assistant	✓	
Other:		✓

<u>CONTROL MEASURES/COMMENTS/REMARKS</u>
- Customer will issue permit to work and or tag equipment
- Risk Assessment reviewed by Eden employees
- Steps/bandstands placed on firm ground, footed and tied at top
- Ladders and steps inspected before and after use as required.
- Electric hand tools and pumps all 110 volt and PAT tested.
- PPE to be used for all jobs as needed and required.
- Risk assessment has been read and understood by Eden Oil workers.
- Generator fitted with earth leakage, connections made when turned off.
- All Eden vehicles and plant carry spill containment equipment.
- Emergency procedure preparations: a) Spillage containment booms, Absorbant pads and granuals. b) Cleaning of contaminated area. c) Removal of spillage. d) Inform relevant authorities if necessary. e) Incineration of waste.
- Correct PPE to be used by Eden employees. (As List).

<u>SIGNIFICANT HAZARDS</u>	<u>YES</u>	<u>NO</u>
Engergised Transformer - High Voltage		✓
Stepping On, Striking Against		✓
Manual handling		✓
Hand Tools	✓	
Hand Tools - Electrical		✓
Fire		✓
Lifting / Access Equipment	✓	
Moving Parts of Machinery		✓
Slips, Trips, Falls		✓
Falls from height (>2 metres)		✓
Hot / Cold Objects		✓
Confined Spaces		✓
Access / Egress		✓
Falls of materials / plant		✓
Electrical	✓	
Hardarous Substances (COSHH)		✓
Noise / Vibration		✓
Weather conditions		✓
Lone Working		✓

<u>EQUIPMENT NECESSARY</u>	<u>YES</u>	<u>NO</u>
Ladder	✓	
Safety Harness (>3 metre working)		✓
Steps / Bandstands	✓	
Vacuum Filtration-Dehydration Unit	✓	
Electric Oil Pumps	✓	
Lifting Equipment (Eden hydraulic lift)	✓	
Hoses	✓	
Oil spill response kit	✓	
205 litre drums	✓	
Trade Tools	✓	
Analysis Equipment	✓	
Task Lighting		✓
Sample Bottles	✓	
Fire Extinguisher	✓	
Diesel generator	✓	
Other:		✓

<u>PERSONAL PROTECTIVE EQUIPMENT</u>	<u>YES</u>	<u>NO</u>
Hard hat / bump cap	✓	
Protective footwear	✓	
Eye Protection	✓	
Face Visor		✓
Gloves	✓	
Hearing protection		✓
Body Harness		✓
Protective Clothing	✓	
Respirator		✓
Breathing Apparatus		✓
High Visibility Garments	✓	
Other:		✓

Director's signature

Compiled By: Director **Eden Ref:** 123456.0000
DATE: Date created

Eden Staff:	_____	Signed:	_____	Date:	_____	Comments:	_____
	_____	Signed:	_____	Date:	_____		_____
	_____	Signed:	_____	Date:	_____		_____
Customer:	_____	Signed:	_____	Date:	_____		_____