

	HAZARD IDENTIFICATION & RISK MANAGEMENT PROCEDURE	Pro. No.	JAS-OHS-01
		DOI	08/01/2017
		REV.	00

HAZARD IDENTIFICATION & RISK MANAGEMENT PROCEDURE

JAS-PM-OHS-01

PREPARED BY	APPROVED BY
<u>Management Representative</u> <u>Ali Mumtaz</u>	<u>Operations Manager</u> <u>Rashid Iqbal Khan</u>
Date: <i>Ali Mumtaz</i> 09/01/2017	Date: <i>Rashid Iqbal Khan</i>



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AMENDMENT RECORD			
0	08-01-2017	0	N/A



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1.0 PURPOSE:

The purpose of this procedure is to detail the methods, by which Occupational Health and Safety hazard and their associated risks are identified, recorded, and control measures are established that has or can have an impact or Risk the health and safety of workers of JASCON ENGINEERING WLL, in full compliance with the Legal and Other Requirements (LOR)

2.0 SCOPE:

This procedure applies to all JASCON ENGINEERING WLL's workplaces including all project sites.

3.0 TERMS & DEFINITIONS

MR	Management Representative
PD	Project Director
PE/PM	Project Engineer/ Project Manager
OHSMS	Occupational Health and Safety Management System, based on OHSAS 18001:2007
Procedure	A documented process with established inputs and outputs, as required by International Standards or required specifically by JASCON ENGINEERING WLL due to its operations.
Documents	OHSMS Manual, procedures and related forms are considered as Documents
Records	All order documents containing information related to OHSMS are considered as Records.
OH&S	Occupational Health & Safety
HAZARD	Anything (e.g. condition, situation, practice, behaviour) that has the potential to cause harm, including injury, disease, death, property and equipment damage.
LOR	Legal and Other Requirements
PPE	Personal Protective Equipment
JSA	Job Specific Assessment
MEEP	Material, Equipment, Environment, People, Place of work
MOC	Management of Change
ALARP	Impacts As Low As Reasonably Practicable to the accepted level.
ERICPD	Eliminate, Reduce/Substitute, Isolate, Control, PPE and Discipline



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4.0 REFERENCES

OHSAS 18001:2007

5.0 RESPONSIBILITIES

5.1 Project Director

- 5.1.1 Responsible for the approval of Risk Register
- 5.1.2 Reviews suitability and availability of resources.

5.2 MR

- 5.2.1 Reviews and finalize the risk assessments
- 5.2.2 Reviews for the applicable legal and other requirements
- 5.2.3 Reviews for suitability of controls

5.3 PE/PM

- 5.3.1 Prepares the risk assessment
- 5.3.2 Reviews the requirements related to work activities.



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6.0 PROCEDURE

6.1 PLANNING OF RISK ASSESSMENT

Risk assessments are required whenever workers are engaging in activities, processes, tasks, projects for which there are risks to health and safety e.g., working with chemicals, plant, field work, biological hazards etc.

HEALTH AND SAFETY Advisor must ensure that all reasonably foreseeable or identified hazards in their work area are risk assessed using OHS Risk Assessment and Control Procedure.

RISK ASSESSMENT & CONTROL PROCESS

The basis of risk assessment and control at JASCON ENGINEERING WLL is the thirteen Step Risk Assessment and Control Process. These steps are:

1. Identify the activity
2. Identify who is at risk
3. Identify the hazards
4. Identify the associated risks
5. Rate the risks with existing controls
6. Identify appropriate additional controls
7. Re-rate the risks
8. List any emergency procedures related to the activity
9. Implement the risk controls
10. List Legislative documents related to risk assessment
11. Authorisation of risk assessment
12. Sign off
13. Review and monitor controls



6.2.1 Identify the activity and the location

The activity to be controlled must be described in full. Site Engineers and supervisors, and others should be consulted to ensure that all steps in the activity are identified. The location where the activity is taking place must also be identified.

The location where the activity is taking place may have an influence on the controls needed.

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6.2.2 Identify who is at risk

While considering who is at risk following guidelines may be used:

- Person or persons performing the activity.
- Persons working in the vicinity or within the limits of work area.
- Any visitor who would be visiting the workplace.
- Public at large.

The impact of your activity on others influences the type of risk controls that may need to be in place.

6.2.3 Identify the hazards

- a) A hazard is a source of potential harm or a situation with the potential to cause harm.

JASCON ENGINEERING WLL identifies Hazards by an assessment of the operations, activities and services, together with consideration of the actual and potential effects of:

- a. the workplace environment
- b. the use of plant and substances
- c. poor work design or practices
- d. inappropriate management systems and procedures
- e. human behaviour
- f. emergencies situations

Hazard Identification Method

Numerous methods and sources of information can be used to identify hazards associated with activity:

- talk to your supervisors about the substances and methods you may be using
- information from manufacturers of plant and equipment
- information from suppliers of chemicals, e.g. Material Safety Data Sheets (MSDS's)
- Local Rules, Regulations & Codes of Practices.
- Non-conformances from OHS audits
- Incident data for the JASCON ENGINEERING WLL and local area
- Inspection and Testing Reports



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6.2.4 Identify the associated risks

Risk identification is a similar process to hazard identification except that you need to identify the harm that can be caused

In addition to the risk associated with the Hazard the following must be considered as they can contribute to the risk.

- The layout of the work area
- The work environment
- The characteristics of any relevant item; and
- Work organisation and the system of work.

6.2.5 Rate the risks with existing controls

HEALTH AND SAFETY Advisor should consider while rating the risks, how likely it is that a person could be exposed to a hazard or hazardous event, based on the following "exposure factors":

- Whether there are any other risks factors that increase the likelihood of exposure?
- How often the person is exposed (frequency)?
- For how long is the person exposed (duration)?
- How many people are exposed?
- The likely dose to which the person is exposed?
- Any legislative or recommended exposure levels required by statutory authorities.

6.2.6 Identify appropriate additional controls

JASCON ENGINEERING WLL 's OH&S Management System does not allow the activity to continue if the risk rating is **HIGH**.

Therefore appropriate additional risk controls must be put in place to further reduce the risk rating.



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Control Hierarchy

At this point it is mandatory to use the Hierarchy of Risk controls to identify the appropriate additional risk controls as per the following:

1. Eliminate
2. Substitute
3. Engineering controls
4. Administrative controls
5. Personal protective clothing and equipment

6.2.7 Re-rate the risks

In order to assess if the additional risk controls will be sufficient to reduce the risk, the activity must be re-assessed. The final risk rating must be **MEDIUM** or **LOW** for the activity to proceed.

6.2.8 List any emergency procedures related to the activity

List any emergency procedures for how to deal with fires, spills or exposure to hazardous substances and any emergency shutdown procedures.

6.2.9 Implement the risk controls

The risk controls identified in this procedure need to be implemented and used. If training is required, then this must be done prior to using it or any other risk control.

6.2.10 Legislation related to the risk assessment

Relevant legislation, standards and codes of practice need to be identified and incorporated into the risk assessment. List all legislation that has been referred to in the risk assessment.

6.2.11 Record and authorise the risk assessment

The people who undertake the activity as outlined above should begin the Risk assessment process in consultation with others who may be involved or able to provide advice and input.

All person involved in risk assessment activity must have attended the OHS Awareness Course.



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The final approval of the risk assessment rests with the HEALTH AND SAFETY Advisor. The risk assessment must be authorised by the HEALTH AND SAFETY Advisor and documented. Include the identified hazards/impacts from this risk assessment on JASCON ENGINEERING WLL's risk register if not already present.

6.2.12 Acknowledgement of Understanding

All persons performing the tasks listed in the risk assessment must have read and understood the contents of the risk assessment before performing the tasks. The acknowledgement of understanding sign off sheet on the form can be used to document this. It is important before signing off on this sheet to check the risk assessment has been approved, check it accurately describes the activity you will be undertaking and includes any special needs/requirements you may have.

For activities which are low risk or include a large group of people only the persons undertaking and/or coordinating the key activities in the risk assessment need to sign the acknowledgement of understanding form. For all others involved in such activities, e.g. site workers, the information can be covered by other methods including, for example, a safety briefing, Tool Box talks, induction and/or safety information sheet. This alternative method of communication needs to be noted in the risk assessment.

6.2.13 Monitor and review the risk controls

The risk controls must be working to ensure that the risks have been reduced to the lowest risk level that is reasonably practicable. An inspection, testing and monitoring plan must be in-place to ensure the risk controls are operating as designed.

A risk assessment is a "living" document. It needs to be reviewed regularly but particularly when:

- a change of process occurs
- a change in a workplace substance, e.g. hazardous chemical, occurs
- a legislative requirement changes, e.g. storage of gases or chemicals
- a cause for concern amongst staff and students occurs

The Health Safety Advisor is responsible for carrying out an annual review of the overall Risk for those risk assessments that describe a less hazardous/insignificant activity and for all operations and activities at the head office and project sites.



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6.3 RISK MATRIX

Hazard Rating	Probability of Occurrence (Descriptions of Hazard ratings below are always subject to the level of established HEALTH AND SAFETY system, awareness of people and controls applied and related factors)
1	Very Unlikely Never happened the similar industry in Qatar.
2	Unlikely, never happened in the similar industry in Qatar but it happens in similar industry.
3	Possible, injury has occurred in the similar industry in Qatar once.
4	Has occurred in the similar industry in Qatar more than a once
5	Business as usual
Severity Rating	Severity Effect / Damage Potential (Descriptions of Hazard ratings below are always subject to the level of established HEALTH AND SAFETY system, awareness of people and controls applied, related factors and availability of medical facilities at source)
	Health & Safety Hazards
1	Trivial injury/illness which may be reported as near hit, without any loss time
2	First aid required
3	injury or illness(reportable). Medical treatment case, restricted works case
4	injury that requires medical treatment / hospitalization
5	Fatality / sever incapacity
Hazard Rating	Overall Inherent Risk Risk = Probability of Occurrence + Severity Effect
L = Low 1-4	Overall low risk, inherent by nature of operations, and ones which are not economically possible to eliminate; which can be controlled by established HEALTH AND SAFETY system, supervision and risk is acceptable subject to implementation and continuous monitoring of implementation and reporting performance
M = Medium 5-7	Overall medium risk, inherent by nature of operations, and ones which are not economically possible to eliminate; which can be controlled by established HEALTH AND SAFETY system, supervision and risk is acceptable subject to implementation and continuous monitoring of implementation and reporting performance; Ensure Job Hazard Analysis is done for related activities giving rise to such hazards, and ensure 100% supervision of activities, with safety patrols for surveillance. Ensure related insurances are kept current.
H = High 8-10	Overall high risk, inherent by nature of operations, and ones which are not economically possible to eliminate; which can be controlled by established HEALTH AND SAFETY system, supervision and risk is acceptable subject to implementation and continuous monitoring of implementation and reporting performance; Ensure Job Hazard Analysis is done for related activities giving rise to such hazards, and ensure 100% supervision of activities; requires Third Party Certification of activities as applicable and 100% Safety Attendance. Ensure related insurances are kept current.

JAS-OHS-01-01	Risk Register	05 Year	OHS Officer & Coordinator
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Occupational Health & Safety Management System

Ref. No. : JAS-OHS-01-01
 Rev. No. : 00
 Effective Date : 08/01/2017

Document Title:

Risk Assessment for Auxiliary Transformer Testing

Project ID: Head Office Cause of Assessment: New Contract / INCIDENT / Any Other Date: 16/01/2018

S #	Activity/ Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			6	Protective / Preventive Controls
				Serious ISK	Prob. Rating (PR)	Risk Rating (RR)		
1	Visual & Mechanical Checks of equipment, (Fast Moisture equipment Diagnostic, etc.)	<ul style="list-style-type: none"> Improper connections Improper Grounding Cut die to sharp edges Missing Name Plates Inadequate existence of Primary & Secondary wiring 	AT&C operators / Engineers	3	2		<ul style="list-style-type: none"> Perform safety Tool Box Talks Verify nomenclature in accordance with the approved drawings and specifications. Inspect for physical damages / defects and Oil Leakage Check impact meter record for any abnormal impacts during transit, if applicable Verify the positive pressure maintained in N: Blanketed transformer Verify tightness of accessible inlet electrical connections by calibrated torque-wrench method Verify that all required grounding and shorting connection provided. Check that piping to Buchholz relay has proper slope Check transformer wheel stoppers installed. Top up the oil to the tank if required any drying out oil Check oil in the tank, conservator and bushing for proper level. Release trapped air at the bushing jurrets and tank top. Check that valves between the tank and the vapours are open Check location (color and quantity) of silica gel in breather and oil in both level Perform safety Tool Box Talks Use appropriate PPEs. Barricade the area. Ensure the grounding of equipment under test. Use all mandatory sign posters 	
2	Carrying out Insulation Resistance Test	<ul style="list-style-type: none"> Electrical hazards Inflaming factors like 	AT&C operators / Engineers	3	3	9		



Occupational Health & Safety Management System

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Rev. No. : 00

Effective Date : 08/01/2017

Document Title:

Risk Assessment for Auxiliary Transformer Testing

Project ID: _____ Head Office: _____ Cause of Assessment: New Contract / INCIDENT / Any Other Date: 16/01/2018

S/N	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob Rating (PR)	Risk Rating (RR)	
3	<p>(Test Voltage Limity are mentioned in Table 4 (1, Section 4 SCP 1)</p> <ul style="list-style-type: none"> Carrying out Voltage Ratio Test (at 220 V) Electrical Hazards 	with high temperature	AT&C operators / Engineers	4	3	12	<ul style="list-style-type: none"> All electrical Test work must be carried out only by a competent person. All circuits must be provided with overhead air gap protection systems. Defects or mistakes must be corrected by 500V as they are observed. Perform safety Tool Box Talks Use appropriate PPEs. Barricade the area Ensure the grounding of equipment under test. Perform good communications while phasing R, Y and B.
4	<ul style="list-style-type: none"> Carrying out Magnetization Test (at 220V) Electrical Hazards 		AT&C operators / Engineers	3	3	9	<ul style="list-style-type: none"> Wear appropriate PPEs such as Gloves, Hi-Vic Vest, and Eye & face protection Perform safety Tool Box Talks Use appropriate PPEs Barricade the area Ensure the grounding of equipment under test. Perform good connections while phasing R, Y and B.

Risk Rating Matrices

The outcome of the probability multiplied by the severity. (SR X PR)		10 - 25 High
Risk Rating (P.P)	1 - 3 Low	4 - 9 Medium
Severity Rate (SR)	5. Catastrophic	5. Frequent
	4. Severe	4. Probable
	3. Critical	3. Occasional
	2. Marginal	2. Remote
	1. Negligible	1. Improper



ENGINEERING & CONSTRUCTION SERVICES

Occupation: **Health & Safety Management System**

Ref. No. : JAS-OHS-01-01

Document Title:

Rev. No. : 00

Risk Assessment for Auxiliary Transformer Testing

Effective Date : 08/01/2017

Project ID: Head Office Cause of Assessment: New Control / INCIDENT / Any Other Date: 16/01/2018

S#	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)		
				Severity (SR)	Prob. Rating (PR)	Risk Rating (RR)

Protective / Preventive Controls



Occupations, Health & Safety Management System

Ref. No. : JAS-OHS-01-
01

Rev. No. : 00

Effective Date : 08/01/2017

Document Title:

Risk Assessment for Battery Charger Testing

Date: 16/01/2018

Cause of Assessment: New Contract / INCIDENT / Any Other

Project ID: Head Office

S #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (NR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	Risk Rating (RR)	
1	Visual & Mechanical Checks of equipment (Over, Measure, Damage)	<ul style="list-style-type: none"> Electrical shock Crucial part Electrocution Fire 	AT&C operators Engineers	3	2	6	<ul style="list-style-type: none"> Perform safety Tool Box Talks Support for physical damage / defects and not to use any faulty equipment for test. Ensure Check appropriate information for correctness. Ensure tightness for all wiring & terminal and breaker connections. Ensure racking mechanism for alignment and smoothest operation Ensure operation of all mechanical interlocks Ensure Check correct breaker / contactor position indication. Ensure the manual operation of breaker / contactor
2	Carrying out the test	<ul style="list-style-type: none"> Electrical Shocks Current sparking Heating Improper function of installed equipment Equipment damage Electrocution 	AT&C operators Engineers	4	3	12	<ul style="list-style-type: none"> Perform safety Tool Box Talks Perform safety Tool Box Talks Use appropriate PPEs. Restrict the area Ensure the grounding of equipment under test. Ensure the visual inspection & Mechanical check before the test starts Use drawings as per system Ensure component is isolated from other connected system which may feedback to components or circuits or connected system. Ensure the grounding of each equipment & circuit Use engineering controls (RCDs, MCCBs or GFCIs) to avoid behavioral fluctuations on power supply. Maintain the safe zones to nearby circuits in accordance to procedures Isolate the adjacent existing plant.



Occupation: Health & Safety Management System

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Risk Assessment for Battery Charger Testing

Effective Date : 08/01/2017

Project ID: Head Office

Cause of Assessment: New Contract / INCIDENT / Any Other

Date: 16/01/2018

S. #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	Risk Rating (RR)	
							<ul style="list-style-type: none"> Ensure all the members of party understand the requirement of isolation Confirm all cable ends are terminated prior to energization 1/A testing voltage is applied, ensure the good connections between phase and other phases. Use appropriate sign posters under test to avoid unauthorized entry in the vicinity of test. All circuits must be provided with overload or fault protection systems. Defects or mistakes must be corrected as soon as they are observed.

Risk Rating Matrices

The outcome of the probability multiplied by the severity. (SR X PR)	
Risk Rating (P.P)	10 - 25 High
	4 - 9 Medium
Severity Rate (SR)	Probability Rate (PR)
5. Catastrophic	5. Frequent
4. Severe	4. Probable
3. Critical	3. Occasional
2. Marginal	2. Remote
1. Negligible	1. Improper



Occupational Health & Safety Management System

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Document Title:

Rev. No. : 06

Risk Assessment for Battery

Effective Date : 08/01/2017

Project ID: Head Office

Cause of Assessment: New Contract / INCIDENT / Any Other

Date: 16/02/2018

S. #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)				Proactive / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	H	M	
1	Visual & Mechanical Checks of equipment, (Thot, Moisture, Gaseous)	<ul style="list-style-type: none"> Electrical spark Circuit spark Electrocution Fire 	AT&C operators / Engineers	3	2		6	<ul style="list-style-type: none"> Perform safety Test Box Talk Battery should be completed charge as per commissioning instructions of Battery Manufacturer during specified time. Inspect for physical damage / defects and not to use any faulty equipment for test Ensure Check complete information for correctness. Ensure tightness for all wiring & terminal and breaker connections. Ensure racking mechanism for alignment and smoothness operation Ensure operation of all mechanical interlocks Ensure Check correct breaker / contactor position indication Ensure the manual operation of breaker / contactor
2	Carrying out the test.	<ul style="list-style-type: none"> Electrical Shocks Current sparking Floating Impinger burntion of installed equipments Equipment damages Electrocution 	AT&C operators / Engineers	4	3	12	<ul style="list-style-type: none"> Perform safety Tool Box Talks Use appropriate PPEs. Barricade the area. Ensure the grounding of equipment under test. Ensure the verbal inspection & Mechanical check before the test starts Use drawings as per system. Ensure component is isolated from other connected system which may feedback to components or circuits or connected system. Ensure the grounding of each equipment & circuit Use engineering controls (RCDs, MCBs or GFCIs), to avoid behavioral fluctuations in power supply. 	



CONCRETE
ENGINEERING W.L.L.

Occupational Health & Safety Management System

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Risk Assessment for Battery

Effective Date : 08/01/2017

Project ID: Head Office

Cause of Assessment: New Contract / INCIDENT / Any Other

Date: 16/01/2018

S #	Activity / Facility(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob Rating (PR)	Risk Rating (RR)	
							<ul style="list-style-type: none"> Maintain the exclusion zones in nearby circuits in accordance to procedures. Isolate the subject causing problem. Ensure all the members of party understand the requirement of isolation. Confirm all cable ends are terminated prior to energization. On testing voltage is applied, ensure the good connections to a one phase and other phases. Use appropriate sign markers under test to avoid unauthorized entry in the vicinity of test. Use appropriate PPEs for the test. All circuitry must be provided with overload or fault protection systems. Defects or mistakes must be corrected as soon as they are observed.

Risk Rating Matrices

The outcome of the probability multiplied by the severity: (SR X PR)

Risk Rating (P.P)	1 - 3 Low	4 - 9 Medium	10 - 25 High
Severity Rate (SR)	5. Catastrophic 4. Severe 3. Critical 2. Marginal 1. Negligible	5. Frequent 4. Probable 3. Occasional 2. Remote 1. Improper	5. Frequent 4. Probable 3. Occasional 2. Remote 1. Improper



ENGINEERING W.L.L.

Occupational Health & Safety Management System

Ref. No. : JAS-OHS-01
Rev. No. : 01

Document Title:

Risk Assessment for Cable VLF Testing

Effective Date : 08/01/2017

Project ID: Head Office Cause of Assessment: New Contract / INCIDENT / Any Other Date: 16/01/2018

S/N	Activity/ Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob Rating (PR)	Risk Rating (RR)	
1	Visual & Mechanical Checks of equipment; Dust, Moisture, Damage	<ul style="list-style-type: none"> Electrical shock Circuit spark Electrocution Fire 	AT&C operators / Engineers	3	2	6	<ul style="list-style-type: none"> Perform safety Tool Box Talks Before carrying test. Dust and moisture on equipment must be removed to remove their influence on test. Inspection of all portable electrical tools must be carried out by the user and the supervisor/foreman concerned before to use Use properly insulated equipment to carry out the test.
2	Carrying out test of: <ul style="list-style-type: none"> Conductor Continuity Test Sheath insulation IR before & after HV High Voltage Test VLF. 	<ul style="list-style-type: none"> Electrical Shock Circuit sparking heating, Impairer function of installed equipment Equipment damages Electrocution 	AT&C operators / Engineers	4	3	12	<ul style="list-style-type: none"> Perform safety Tool Box Talks Use appropriate PPEs. Furrow the area Secure the grounding of equipment under test. Secure the grounding of equipment under test. Use all mandatory risk barriers Barriade the area. All electrical P&C work must be carried out only by a skilled person Ensure the wiring & connector connections is appropriately tightened or not. All circuits must be provided with overload or fault protection systems Warnings or mistakes must be corrected as soon as they are observed.

Risk Rating Matrices

The outcome of the probability multiplied by the severity: (SR X PR)		
Risk Rating (P.P)	1 - 3 Low	4 - 9 Medium
Severity Rate (SR)	5. Catastrophic 4. Severe	Probability Rate (PR) 5. Frequent 4. Probable



Occupation... Health & Safety Management System

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Risk Assessment for Cable VLF Testing

Project ID: Head Office Cause of Assessment: New Contract / INCIDENT / Any Other Date: 16/01/2018

S #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Severity (S)	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
					Prob. Rating (PR)	H	M	

3. Critical		3. Occasional
2. Marginal		2. Remote
1. Negligible		1. Improper



2400 NEERING ROAD, SUITE 200, WILSONVILLE, OR 97150

Occupation: Health & Safety Management System

Ref. No. : JAS-OHS-01-01

Document Title:

Rev. No. : 00

Risk Assessment for Switch Board Distribution

Effective Date : 08/01/2017

Project ID: Head Office Cause of Assessment: New Contract / INCIDENT / Any Other Date: 16/01/2018

S #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	Risk Rating (RR)	
PP 1	Visual & Mechanical Checks of Switch Board / Distribution Board	<ul style="list-style-type: none"> Electrical shock Circuit spark Electrocution Fire Sharp Edges Cuts 	AT&C operators / Engineers	4	4	16	<ul style="list-style-type: none"> Perform safety Tool Box Talks Check the switch board / Distribution Board visual and mechanical conditions. Ensure that Switch board / distribution board placed at good location, dry and covered place Check the cover of the board in good condition and must be covered in routine next routine operations. Repair or replace the damages parts before use. Fixure all the sockets & switch buttons in good conditions. Ensure Wires and cables should be without spaces. Fixure that current breakers are placed with DB. Ensure that grounding is provided properly with copper wire that is connected to copper grounded plate.

Risk Rating Matrices		
The outcome of the probability multiplied by the severity. (SR X PR)		
Risk Rating (P,P)	1 - 3 Low	4 - 9 Medium
Severity Rate (SR)	5. Catastrophic	5. Frequent
	4. Severe	4. Probable
	3. Critical	3. Occasional
	2. Marginal	2. Remote
	1. Negligible	1. Improper
	Probability Rate (PR)	
	10 - 25 High	



1000 BELLEVUE AVENUE, SUITE 2000, BELLEVUE, WA 98004-4000

Occupation... Health & Safety Management System

Document Title:

Risk Assessment for Switch Board Distribution

Ref. No. : JAS-OHS-01-01
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Date: 16/01/2018

Project ID: Head Office Cause of Assessment: New Contract / INCIDENT / Any Other

S #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	Risk Rating (RR)	
				11	11	1	



Occupational Health & Safety Management System

Ref. No. : JAS-OHS-01-01

Document Title:

Risk Assessment for Dry Transformer Testing

Rev. No. : 00

Effective Date : 08/01/2017

Project ID: Head Office Cause of Assessment: New Contract / INCIDENT / Any Other Date: 16/01/2018

S #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	Risk Rating (RR)	
1	Visual & Mechanical Checks of equipment (Dust, Moisture, equipment Damage, etc.)	<ul style="list-style-type: none"> Improper connections Improper Grounding Cut due to sharp edges Missing Name Plates Inadequate existence of Primary & Secondary wiring 	AT&C operators / Engineers	3	2	6	<ul style="list-style-type: none"> Perform safety Tool Box Talks Verify nameplate are in accordance with the approved drawings and specifications. Inspect for physical damages / defects and Oil Leakage. Check impact recorder record for any abnormal impacts during transit, if applicable. Verify the positive pressure maintained in the blanketed transformer. Verify tightness of accessible bolted electrical connections by calibrated torque wrench method Verify that all required grounding and shorting connection provided. Check that piping to Buchholz relay has proper slope. Check transformer wheel supports installed. Top up the oil to the tank if required any drying out oil Check oil in the tank, conservator and bushing for proper level. Release trapped air at the bushing turns and tank top Check that valves between the tank and the radiators are open. Check condition (color and quantity) of silica gel in breather and oil in both level. Check the OTI and WTI thermal probes are fixed in the oil pockets and the oil pockets are filled with oil.



Occupational Health & Safety Management System

Ref. No. : JAS-OHS-01-01
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Document Title:

Risk Assessment for Dry Transformer Testing

Project ID: Head Office Cause of Assessment: New Contract / INCIDENT / Any Other Date: 16/01/2010

S/N	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)				Primitive / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	IL	M	
2	Carrying out Insulation Resistance Test (Test Voltage Limits are mentioned in Table 4.1. Section 4. SOP 1)	<ul style="list-style-type: none"> Electrical Hazards Influencing factors like ambient temperature 	AT&C operators / Engineers	3	3		9	<ul style="list-style-type: none"> Perform safety Tool Box Talks Use appropriate PPEs. Barricade the area. Ensure the grounding of equipment under test. Use all mandatory sign posters. All electrical T&C work must be carried out only by a competent person. All circuits must be provided with overload or fault protection systems. Defects or mistakes must be corrected as soon as they are observed.
3	Carrying out Voltage Ratio Test (at 770 V)	<ul style="list-style-type: none"> Electrical Hazards 	AT&C operators / Engineers	4	3	12		<ul style="list-style-type: none"> Perform safety Tool Box Talks Use appropriate PPEs. Barricade the area. Ensure the grounding of equipment under test. Perform good connections while plugging R, Y and B. Wear appropriate PPEs such as Gloves, Hi-Vic Vert. and Eye & face protection.
4	Carrying out Magnetization Test (at 770V)	<ul style="list-style-type: none"> Electrical Hazards 	AT&C operators / Engineers	3	3	9		<ul style="list-style-type: none"> Perform safety Tool Box Talks Use appropriate PPEs. Barricade the area. Ensure the grounding of equipment under test. Perform good connections while plugging R, Y and B.

Risk Rating Matrices		
<i>The outcome of the probability multiplied by the severity: (SR X PR)</i>		
Risk Rating (P x P)	1 - 3 Low	4 - 9 Medium
		10 - 25 High



Occupation: Health & Safety Management System

Ref. No. : JAS-OHS 01-01

Document Title:

Rev. No. : 00

Risk Assessment for Grounding Testing

Effective Date : 08/01/2017

Project ID: Head Office Cause of Assessment: New Contract / INCIDENT / Any Other Date: 16/01/2018

S #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	Residual Rating (RR)	
1	Visual & Mechanical Checks of equipment.	<ul style="list-style-type: none"> Electrical shock Contact spark Electrocution Current leakage Asset Damage 	AT&C operators / Engineers	3	2	6	<ul style="list-style-type: none"> Perform safety Tool Box Talks Check the painting for damage Check that all grounding cables are connected as per drawings Check oil level Check for oil leakage Check position of all valves (open-close) are correctly operate Check breather for proper function Check quality for dehydrator Check phase marking on cable box Check lens location (optional) All checked visual inspection should be mentioned in Inspection Report. Check the name plate and reformed to factory test.
2	Carrying Out the Test	<ul style="list-style-type: none"> Electrical Shocks Current sparking Splash back Fall from height Asset loss Burns 	AT&C operators / Engineers	4	3	12	<ul style="list-style-type: none"> Perform safety Tool Box Talks Use appropriate PPEs. Barricade the area. Ensure the grounding of equipment under test. All joints and bolts must be tightened and in well maintained Ensure the moisture and dust removed from the equipment before using. All wires and connections must be in good conditions. No repairs. No Damage. Maintain suitable distance (1.2 meter) while carrying out impedance test of HV Need to use the Safety Harness while working at the top of the transformer.



Occupatio. Health & Safety Management System

Ref. No. : JAS-OHS-01-01
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Document Title:

Risk Assessment for Grounding Testing

Project ID: Heat Office Cause of Assessment: New Contract / INCIDENT / Any Other Date: 16/01/2018

S #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	Risk Rating (RR)	
							<ul style="list-style-type: none"> Take precautions (Slowly Opening) for taking the oil samples. All alarms and tags of equipment must be in Open positions

Risk Rating Matrices	
The outcome of the probability multiplied by the severity. (SR X PR)	
Risk Rating (P.P)	1 - 3 Low
	4 - 9 Medium
	10 - 25 High
Severity Rate (SR)	Probability Rate (PR)
5. Catastrophic	5. Frequent
4. Severe	4. Probable
3. Critical	3. Occasional
2. Marginal	2. Remote
1. Negligible	1. Improper



Occupatio. JI Health & Safety Management System

Ref. No. JA5-OHS-01-01

Document Title:

Rev. No. 00

Risk Assessment for Grounding Transformer Testing

Effective Date 08/01/2017

Project ID: _____ Head Office _____ Cause of Assessment: New Contract / INCIDENT / Any Other _____ Date: 16/01/2018 _____

S #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PH)			Protective / Preventive Controls
				Severity (SR)	Prob. Rating (PH)	Asset Rating (RR)	
1	Visual & Mechanical Checks of equipment.	<ul style="list-style-type: none"> Electrical shock Circuit spark Electrocution Current leakage Asset Damage 	AT&C operators / Engineers	3	2	6	<ul style="list-style-type: none"> Perform safety task Tool Box Talks Check the painting for damage Check that all grounding cables are connected as per drawings Check oil level Check for oil leakage Check position of all valves (open-close) are correctly operate Check breather for proper function Check quality for dehydrator Check phase marking on cable box Check ferris location (optional) All checked visual inspection should be mentioned in Inspection Report. Check the name plate and conformed to factory test.
2	Carrying Out the Test	<ul style="list-style-type: none"> Electrical Shocks Circuit sparking Splash tank Fall from height Asset loss Burns 	AT&C operators / Engineers	4	3	12	<ul style="list-style-type: none"> Perform safety Tool Box Talks Use appropriate PPE. Barraade the area. Ensure the grounding of equipment under test. All joints and bolts must be tightened and in well maintained. Ensure the moisture and dust removed from the equipment before using. All works and corrections must be in good conditions No repair. No Damage. Maintain suitable distance (1.7 meter) while carrying out impedance test at HV. Need to use the Safety Harness while working at the top of the transformer.



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Occupational Health & Safety Management System

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Risk Assessment for Grounding Transformer Testing

Effective Date : 08/01/2017

Project ID: _____ Head Office _____ Cause of Assessment: New Contract / INCIDENT / Any Other _____ Date: 16/01/2018 _____

S #	Activity / Hazard(s)	Risk(s)	Who might be affected?	Risk Assessment (RR - SR X PR)			Protective / Preventive Controls
				Severity (SR)	Prob. Rating (PR)	Risk Rating (RR)	
							<ul style="list-style-type: none"> Take precautions (Slowly Opening) for taking the oil samples. All alarms and trips of equipment must be in Open positions.

Risk Rating Matrices	
The outcome of the probability multiplied by the severity. (SR X PR)	
Risk Rating (P.P)	1 - 3 Low
	4 - 9 Medium
	10 - 25 High
Severity Rate (SR)	Probability Rate (PR)
5. Catastrophic	5. Frequent
4. Severe	4. Probable
3. Critical	3. Occasional
2. Marginal	2. Remote
1. Negligible	1. Improper