JOB SAFETY ANALYSIS (JSA) PROCEDURE

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Rev 00	Initial Release	Navendra Singh	Sanjay Kale	Shrinivas Katti
Rev 01	To implement Tata Power JSA Standard	Navendra Singh (Group Head – P & CB; Corp Safety.)	Rajesh Sharma (Head – Crop. Safety Operation)	Vijay Chourey (Chief – Corp Safety)
Rev 02	Periodic revision	Navendra Singh Head- Safety (T&D) Corp safety	Rajesh Sharma Head- Safety (Generation) Corp safety	Suresh Khetwani Chief - Corporate Safety & Environment

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1. **OBJECTIVE:** Objective of this procedure is to have a task/job based risk assessment process in place that identifies, evaluates and controls the risks associated with work activities, and as a result, prevents those involved in the task or those potentially affected by the task, from being harmed.

2. **SCOPE:** This procedure applies to all operating and project sites of Tata Power Group companies including JVs/Subsidiaries. A JSA (Job Safety Analysis) Shall be carried out:

   2.1. When new / different people will be undertaking the job for which an SOP / SMP is available

   2.2. When a non-routine task is to be undertaken

   2.3. When Job to be executed under Permit-To-Work (PTW)

   2.4. When deviations, due to some specific reasons, are required for Standard Operating procedure (SOP) / SMP (Standard Maintenance Procedure)

   2.5. Whenever a job with a Standard Operating procedure (SOP) / SMP (Standard Maintenance Procedure) is being undertaken in circumstances where the conditions of the job are changed with respect to the SOP/SMP. e.g. A welder working in his fabrication area will be covered by a SOP with HIRA already carried out, however, if the welding is being done on the site at a height or a confined space or in an area which may interfere with other jobs we need to conduct a JSA and use this in conjunction with the HIRA (Hazard Identification Risk Assessment) for the welding activity.

3. **EXPECTED RESULTS:**

   3.1. Manage Non routine jobs being done under permit-to-work safe.

   3.2. Manage Routine jobs being done under SOP/SMP.

   3.3. Control of incidents related to Routine & Non routine Jobs.

   3.4. Compliance to Regulatory requirements to make work place safety

4. **ACCOUNTABILITY & RESPONSIBILITY:**

   4.1. **ACCOUNTABILITY:** Concerned Division's Heads / Assets Custodian.

   4.2. **RESPONSIBILITY:** Concerned Engineer

5. GLOSSARY/ DEFINITIONS:

Hazard Identification & Risk Assessment: Hazard Identification & Risk Assessment is to identify and evaluate the hazards, Risk and put controls measures for safe execution of activities.

Hazard: Source or situation with potential for harm, something that can cause body injury / occupational illness, damage property.

Job: A piece of physical work defined by time or other limits and that has a clear start and end point

Job Safety Analysis: Job safety analysis (JSA) is a procedure which helps integrate accepted safety and health principles and practices into a particular task or job. In a JSA, for each basic step of the job, it is to identify potential hazards and to recommend the safest way to do the job.

Non Routine Job / Task: Where an SOP / SMP is not available or the conditions of the SOP / SMP have changed

Risk Assessment: A systematic and structured process whereby hazards present in a workplace, or arising from workplace activity, are identified, risks assessed

Risk: Effect of uncertainty, Risk is a combination of the consequences of an event and the associated “likelihood” of occurrence.

Severity: The level of consequence / harm of an event that could occur due to exposure to the hazard present

SOP: Standard Operating Procedure

SMP: Standard Maintenance Procedure

Shall: Mandatory requirement

Should: Optional requirement

Task / Activity: A sequence of steps taken to conduct a job. A task/activity is a sub element of a Job.

6. PROCEDURES

6.1. The following criteria shall be used in determining whether HIRA or JSA will be required. Following illustrations may be useful to understand between selection of HIRA and JSA.

6.1.1. HIRA is activity specific like use of OXY-Acetylene Set for cutting.

6.1.2. JSA is Job specific like cutting of steam tubes using OXY-Acetylene set in the boiler

6.1.3. HIRA is Quantitative while JSA is Qualitative

6.1.4. HIRA primarily contain hazard & control measures specific to tools & equipment’s and methodology to be used for the activity.

6.1.5. JSA contain hazards and control measure including to activity and site conditions where job to be accomplished.

6.2. For methodology and details about HIRA refer Tata Power Hazard Identification & Risk Assessment (HIRA) Procedure (TPSMS/GSP/HIRA/005).

6.3. Job Safety Analysis (JSA) involves the following:

6.3.1. Determining the scope of the job and listing the steps in the job.

6.3.2. Identifying possible hazards in the job.

6.3.3. Determining who and/or what is at potential risk

6.3.4. Describing the recommended safe way to do the job in order to prevent incidents and injuries.

6.3.5. Anticipating what might go wrong and devising back-up controls.

6.4. This will help to:

6.4.1. Identify and address hazards.

6.4.2. Prevent incidents and injuries.

6.4.3. Get organized to do the job right and more efficiently.

6.4.4. Create procedures that can be used by everyone.

6.4.5. Get people in the habit of working safely.

6.5. **Key Steps: The Job Safety Analysis consists of the following 6 steps**:

Step 1: Describe the job and the sequence of job steps

Step 2: Identification of the potential hazards of each step

Step 3: Determine who and/or what is at potential risk

Step 4: Description of the recommended safe job procedure

Step 5: Identification of what might go wrong

Step 6: Identification of back up controls

JSA should be done using SAP-EHS Modules. Alternatively it can be done using above 6 steps and format given in the Annexure 1.

6.6. Team Composition: The JSA is generally carried out by a team comprising;

6.6.1. Person/Team who do the work

6.6.2. Person supervising the job

6.6.3. Person with safety knowledge

6.6.4. Person (Specialist/Consultant) with technical knowledge

6.6.5. The number of team members will depend on and vary with the complexity of the job.

7. RECORDS :

7.1. Job safety analysis (JSA) (TPSMS/CSP/JSA/009/FORM/001)- Retention 12 Months

8. TRAINING & COMMUNICATION

8.1. Training of procedure shall be covered along with Permit-To-Work (PTW) procedure as Safety Training Needs identified.

8.2. Initial Communication to be done through Corporate Communication, Email and subsequently shall be made available at safety portal at Sangam.

9. VERIFICATION

9.1. Verification of implementation shall be done during Permit-To-Work (PTW) audit, field safety visit and site inspections.

10. EXCEPTION: Any exception to this procedure Any Exception to this procedure shall only be done as per Document Control .Procedure (TPSMS/GSP/DC/014)**.**

11. REFERENCES

- Tata Group Job Safety Analysis (JSA) Standard
- Tata Power Permit-To-Work (PTW) procedure (TPSMS/CSP/PTW/008)
- Tata Power Hazard Identification & Risk Assessment (HIRA) Procedure (TPSMS/GSP/HIRA/005)

12. REVIEW:

12.1. Review of this procedure shall be done as and when but not later than once in every three (03) years. Typical Factors like Changes in legislation, Review of Incident Reports, Inspection & Audit findings, Feedback from users, Recommendations in Incident investigation reports may be inputs for the review and revision of the procedure.

12.2. In case release of revised procedure gets delay due to obtaining feedback or any other reasons, safety advisory may be issued immediately to take precautions for the proposed changes in the procedure and revised procedure should be released subsequently.

13. ATTACHMENTS/APPENDIX :

13.1. Annexure – 1: Sample Format for Job Safety Analysis (JSA) (TPSMS/CSP/JSA/009/FORM/001)

Annexure - 1

TPSMS/CSP/JSA/009/FORM/001

JOB SAFETY ANALYSIS

Division			
Job Title			
ID / Order No/ PTW No			
Job to be performed by	Tata Power / Contractor		
Date			
Tag No			
JSA Team / Assessment Team			
Name			
Role	Team Member	Maint. Engineer	HOD
Generated by			
Name	(Maker)		(Checker)
Company /Contractor			

Locations

Job Location

Analysed Job

Job Steps, Hazards and Controls

Sr. No.	Activities	Hazard	Required Control	Person Responsible

To be filled before applying for PTW

All above activities, Hazards, Controls have been explained to M/S _____
and are required to be followed by M/s _____.