Scaffold Safety Procedure

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Rev 00	First release	R&P Sub committee	D Kamath	Vijay Chourey
Rev 01	Standardization of procedure	Uday Jha (Head - Contracts & Materials Jojobera)	Navendra Singh (Group Head – P & CB; Corp Safety.)	Vijay Chourey (Chief – Corp Safety)

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1. OBJECTIVE:

Objective of this procedure is to provide the mandatory requirements and safe practices required for scaffold erection, modification, dismantling, use and storage. This Procedure should be used in conjunction with local regulations, consensus standards which help to achieve safe scaffold erection and use.

2. SCOPE:

This procedure applies to all operating and project sites of Tata Power Group companies.

3. EXPECTED RESULTS:

3.1. Manage scaffold erection, use and dismantling job safely.
3.2. Control of incidents related to scaffold erection, use and dismantling work.
3.3. Compliance to Regulatory requirements related to Scaffolds.
3.4. To provide safe scaffolding platform for jobs to be done at height.

4. ACCOUNTABILITY & RESPONSIBILITY:

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

5. GLOSSARY/ DEFINITIONS:

Brace: A member fixed diagonally across two or more members in a scaffold to afford stability.

Bracing: Bracing is a system of braces or ties that prevent distortion of a scaffold.

Base Plate: It is a Mild Steel (MS) square plate of 100 mm x 100 mm x 6 mm thick with 38 mm diameter and 75 mm long spigot supporting at bottom to the standard at ground.

Competent person: one who through training and/or experience a) is knowledgeable of applicable scaffolding regulations; b) is capable of identifying existing and predictable hazards related to the erection, alteration, dismantlement, storage, and inspection of scaffolding; and c) has the authority to take prompt corrective actions to eliminate such hazards.

Fabricated-frame scaffold: A scaffold consisting of a platform(s) supported on fabricated end frames with integral posts, horizontal bearers, and intermediate members (also known as welded-frame scaffold and sectional scaffold).

Guard rail: A horizontal rail secured to standards and erected along the exposed edges of scaffolds to prevent workmen from falling.

HIRA: Hazard Identification and Risk Assessment
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 company property.
IDLH: Immediate Danger to Life and Health
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.
Job: A piece of physical work defined by time or other limits and that has a clear start and end point

Kicker Lift: The vertical distance measured from ground to the center of first ledger, normally this distance is 150 mm from ground and provided when scaffold is more than 6.0M height or scaffold carrying heavy load.

Ledger: A horizontal member which ties the standard at right angles and which may support putlogs and transoms.

Lift Height: The vertical distance measured between center of two ledgers. Normal lift height is 2.2 M.

Mobile (rolling) scaffold: A castor-mounted sections of tubular metal scaffolds and are used for work on street lighting, plant etc.

Non Routine Job / Task: Where an SOP / SMP is not available or the conditions of the SOP / SMP have changed
PPE: Personal Protective Equipment
PTW: Permit to Work

Putlog: A scaffold member spanning from ledger to ledger or from ledger/standard to a building and upon which platform rests.

Racker: An inclined load bearing tube that braces the scaffold against ground.

Risk: The likelihood (probability) which can lead to potential negative consequences.
Risk Assessment: A systematic and structured process whereby hazards present in a workplace, or arising from workplace activity, are identified, risks assessed / evaluated, and decisions prioritized in order to reduce risks to acceptable levels.
SHE: Safety, Health and Environment
Sole Plate: It is a Mild Steel plate of 300 mm x 300 mm x 6 mm thick, provided below the base plate in unpaved area.
Severity: The level of consequence / harm of an event that could occur due to exposure to the hazard present
Shall: Mandatory requirement
Should: Optional requirement

Scaffolding Supervisor: A competent person who through training and/or experience a) is knowledgeable of applicable scaffolding regulations; b) is capable of identifying existing and predictable hazards related to the erection, alteration, use, dismantling, storage, and inspection of scaffolding; and c) has the authority to take prompt corrective actions to eliminate such hazards.

Scaffolder: A person who through training and/or experience is capable of erecting, moving, modifying and dismantling scaffold

Scaffold: Any temporary elevated platform (suspended or supported) and its supporting structure (including points of anchorage) used for supporting man, material or both.

Supported scaffold: One or more platforms supported by outrigger beams, brackets, poles, legs, uprights, posts, frames, casters, or similar rigid support. Examples include fabricated-frame scaffold, system scaffold, tube-and-coupler scaffold, and manually propelled mobile scaffold.

Suspension (suspended) scaffold: One or more platforms suspended by ropes or other non rigid means from an overhead structure(s).

System scaffold: A scaffold consisting of posts with fixed connection points that accept runners, bearers, and diagonals that can be interconnected at predetermined levels.

Standard: A vertical or near vertical member used in the construction of scaffold for transmitting the load to the foundation.

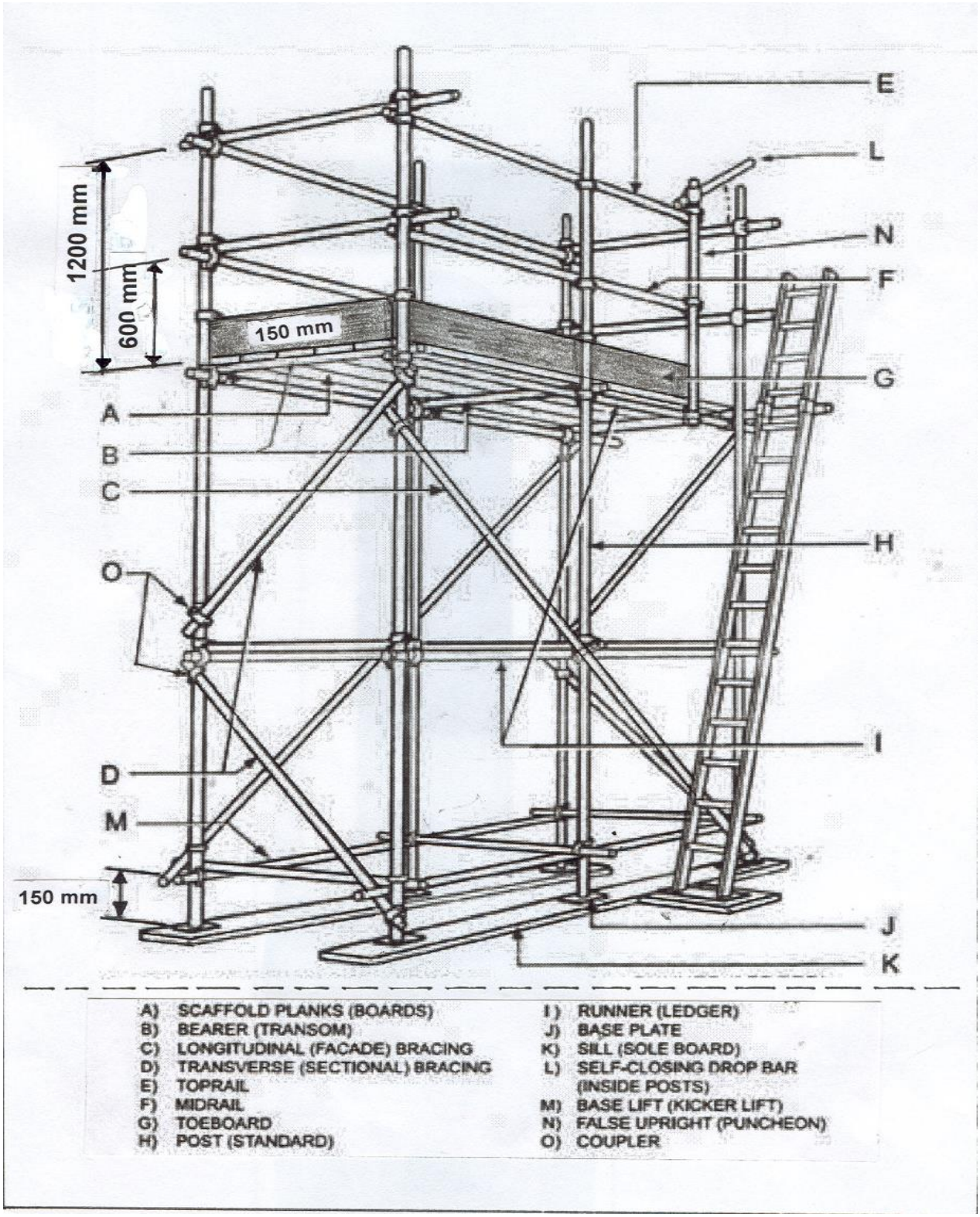
Tube-and-coupler scaffold: A supported or suspended scaffold consisting of a platform(s) supported by tubing, erected with coupling devices connecting uprights, braces, bearers, and runners (also known as tube-and-clamp scaffold).

Transom: A member spanning across ledgers/standards to tie a scaffold transversely and which may also support a working platform.

Toe Board: A barrier placed along the edge of scaffold platform and secured there to guard against the falling of material and equipment.

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

Note: Some of the common definitions, used in conjunction with scaffold, are illustrated in the diagram (as depicted) for the ease of understanding.



Illustrative Diagram – Scaffold Terminology

6. PROCEDURES:

6.1 General Information

6.1.1 Erection, dismantlement, movement, and modification

Approved Permit-To-Work and Job Safety Analysis (JSA) shall be made available before erecting, dismantling, moving, or modifying scaffolding. Examples of hazards to consider include, but not limited to the following:

- Working from heights
- The presence of nearby electrical lines or process equipment
- Hazardous area classification
- The condition of working surfaces
- The presence and activity of other people in the vicinity of the work
- The weather (Heavy rain, high wind velocity-more than 36 Km/Hr, etc)

6.1.2 Scaffolding shall be erected, dismantled, moved, and modified only under the direction of a competent person and by employees who have received appropriate and specific training for the work they are to perform. Determination and designation of competent persons for scaffold work are the responsibility of the site except where local regulations set other criteria.

6.1.3 Categories and Classification:

Most scaffolds fall into one of the four primary categories:

- Tube and coupler scaffold/Coup lock scaffold
- Suspended scaffold
- Mobile scaffold
- System scaffold
- Supported scaffold
- Scaffolds are classified according to their intended use as:
- Light duty
- Medium duty
- Heavy duty

Load duty	Light		Medium	Heavy/Special		
Maximum Safe load in Kg/M²	75	150	225	300	450	600
Maximum bay length in meter	2.7	2.2	1.8	1.4	1.0	0.8

6.1.4 Specifications of Scaffolds applicable to all Scaffolds:

6.1.4.1 All elevated structures/ working platform areas shall be guarded on all sides.

6.1.4.2 Railings and toe boards shall be provided on the platform.

6.1.4.3 Scaffolds shall be designed to support at least 4 times the anticipated weight of Men and material.

6.1.4.4 Make certain that all scaffolds are in plumb and level at all times.

6.1.4.5 Scaffolds shall be secured from tipping when the scaffold height exceeds four times its minimum base dimension.

6.1.4.6 Scaffolds shall be constructed at least 2 planks wide unless location makes this physically impossible.

6.1.4.7 The scaffolding width is determined by the width of the boards, the minimum width allowed for two boards is 600 mm but a more typical four-board scaffold would be 870 mm wide from standard to standard. More heavy-duty scaffolding can require 5, 6 or even up to 8 boards width

6.1.4.8 Landing platform shall be provided at every 9 meter of height.

6.1.4.9 The members of scaffolds shall overhang not less than 6" on either ends but not more than 12". They shall be fastened on both ends and laid tight by scaffolds and clamps.

6.1.5 Specifications of Scaffolds applicable to Tube-and-Coupler Scaffold:

6.1.5.1 Minimum height of first horizontal member (Ledger) of scaffolds from the Ground/Kicker lift member shall be 2.2 meters. When scaffold is more than 6 meter height or carrying heavy load, kicker lift should be provided.

6.1.5.2 The mid rail and Top rail shall be at height 600 mm and 1200 mm respectively and toe boards (150mm) shall be securely attached to the platform.

6.1.5.3 Wall scaffoldings shall be secured between structure and scaffolding, at least every 10 meters of length and 8 meters of height.

6.1.5.4 Minimum overlap of vertical members (standards) and/ or horizontal members (Ledgers) shall be 600 mm with at least two couplers.

6.1.5.5 Base plate 100 x 100 x 3 mm shall be used to support all vertical pipes of Scaffolds.

6.1.5.6 Sole plate of 300 x 300 x 6 mm shall be used at all unpaved area to support base plate.

6.1.6 Precautions applicable to Mobile Scaffold:

6.1.6.1 Attach castors with plain stems to the panel or adjustment screw by pins or other suitable means. Mid rail and Top rail shall be at height 600mm and 1200 mm respectively.

6.1.6.2 Apply castor brakes at all times when a scaffold is not being moved.

6.1.6.3 Do not ride rolling scaffoldings.

6.1.6.4 Remove all material and equipment from platform before moving scaffolding.

6.1.6.5 Do not try to move rolling scaffolding without sufficient help. Watch out for holes in the floor and for overhead obstructions.

6.1.6.6 Do not use brackets on rolling scaffoldings without first considering the overturning effect.

6.1.6.7 Mobile Scaffolds shall be designed to restrict maximum height verses length to 4:1.

6.1.7 Safety Requirements

6.1.7.1 Appropriate barricades shall be installed to protect people in the vicinity during scaffold erection, use, modification and dismantling. As far as practicable, barricades shall be provided by keeping a clear distance of 1.0 meter from scaffold structure.

6.1.7.2 Fall protection when erecting, dismantling, and modifying scaffolds shall be under the direction of a competent person (Scaffold Supervisor).

6.1.7.3 Scaffold erectors (Scaffolders) shall use personal fall-arrest systems that provide continuous fall protection while erecting, dismantling or modifying scaffolds unless the determination is made by a competent person that fall protection is not feasible or it creates a greater hazard.

6.1.7.4 Fall protection can be accomplished through the use of adequate anchorages that are independent of the scaffold or by using scaffold systems and components that are approved by the manufacturer as adequate anchorages.

6.1.7.5 Employees shall use appropriate fall-arrest equipment in accordance with Engineering Standard on “Full body Harness and fall protection system”.

6.1.7.6 The footing for supported scaffolds shall be sound, rigid, and capable of supporting the maximum intended load, including the weight of the scaffold.

6.1.7.7 Manufacturer’s guidelines for proprietary scaffolds (e.g. Cup & lock, H frame, Insulating modular scaffolds) shall be followed with applicable regulations.

6.1.7.8 There shall be firm foundation for all scaffoldings. All scaffolding shall be made of sound (free from deformation, cracks, corrosion) material.

6.1.7.9 Scaffolding material shall be inspected and used, only if found in good condition. Avoid using equipment whose strength is not known.

6.1.7.10 Provide adequate sills for scaffolding posts. Metal base plate is used under all upright or standard scaffoldings. Correct type of couplers shall be used for all connections.

6.1.7.11 Plumb and level scaffoldings as erection proceeds, so that braces will fit without forcing. Fasten all braces securely.

6.1.7.12 Where scaffoldings are erected above walkways or work areas, the space between toe board and railing should be covered with net / screens.

6.1.7.13 Whenever work is being done above the scaffolding under erection, overhead protection should be provided to the scarfolders.

6.1.7.14 A safe and convenient means of access shall be provided to the platform level. Means of access may be a portable ladder, fixed ladder, ramp or runway or

stairway. The ladder shall be so installed that there supporting member (pipe) is just below ladder rung. This is to avoid tripping hazard, especially while using the ladder.

6.1.7.15 During erection, the ladder shall be installed as early as practicable, but not later than first two horizontal members (Ledgers). This is to facilitate Scaffolder while erecting the scaffold.

6.1.7.16 Ladder should be provided with tie rods/studs at top and bottom rungs.

6.1.7.17 Do not cantilever or extend putlogs / trusses as side brackets, without thoroughly considering the loads to be applied.

6.1.7.18 Do not climb cross braces.

6.1.7.19 Do not use ladders or makeshift devices on top of scaffoldings to increase the height.

6.1.7.20 Have at least 12” overlap and 6” extension beyond centerline of support or cleat both ends to prevent sliding.

6.1.7.21 Do not allow unsupported ends of planking to extend an unsafe distance beyond supports.

6.1.7.22 Planks shall be non-greasy and free from defects.

6.1.7.23 Access to working platform shall be suitably protected against inadvertent fall by providing swing members/ swing gate or chains.

6.1.7.24 When scaffolding is no longer required, request for dismantling of scaffold shall be sent to scaffolding supervisor through work permit.

6.1.7.25 Scaffold shall be removed from top bracings. Ties, ledgers etc. should not be removed from section lower than the one which is being dismantled.

6.1.7.26 Do not throw or allow falling to ground any scaffold member, board or fittings.

6.1.7.27 Dismantled scaffold material shall be neatly stacked, away from the site until whole of scaffold has been dismantled.

6.1.7.28 During the erection stage of a scaffold, warning notices with the wording “scaffold incomplete, Do not use” (Annexure - 3) shall be fixed to the scaffold at all access points. This warning will be in the form of a painted board. It is a good practice to have the authorized (competent) person(s) sign the boards.

6.1.7.29 In NO circumstances, incomplete scaffolding shall be allowed to carry out any job.

6.1.7.30 The status board with the wording “Scaffold Complete, Safe for Use" (Annexure - 3) shall be displayed when the scaffolding is ready for use.

6.1.7.31 After erection, but before first use of a scaffold, the erected scaffolding shall be inspected (Using scaffold check list as per Part 2 in Annexure-2) and approved by the competent person. The certification of the scaffolding shall be as per Part 3 in Annexure-2.

6.1.7.32 Once erected the scaffolding shall be inspected “Every Week” and recorded in Part 4 in Annexure-2. Scaffold after due date of inspections shall not be permitted for Use without Re-inspection by the Competent person.

6.1.7.33 When the completed scaffold is handed over for use, it is the responsibility of user to ensure its correct and safe use.

6.1.7.34 In the event of any doubt concerning the integrity of a particular scaffold, “Scaffold Incomplete – Do not Use” (Annexure-3) boards shall be displayed. These boards will be put up after removing "Scaffold Complete- Ready for Use" boards.

6.1.7.35 If any changes or alternation to the original scaffold are found, inform the scaffolding supervisor and prevents others from using the scaffold by do not use boards until it is re-inspected by the scaffolding supervisor.

6.1.7.36 Removal of scaffold shall be done through Permit-To-Work.

6.1.8 Use of scaffold:

6.1.8.1 Person who use scaffolds shall be trained. The scope of the training shall include the appropriate safe working practices for the work to be performed and guidance on assessing hazards and selecting the proper protective measures.

6.1.8.2 Personnel working below and passersby shall be protected from overhead hazards.

6.1.8.3 Safe access shall be provided for scaffold users. Cross-bracing shall not be used for access. End frames shall not be used for access unless they were designed for use as access.

6.1.8.4 Person who use scaffolds shall assess the hazards posed by working on them and take appropriate precautions to mitigate the hazards.

6.1.8.5 No scaffold shall be loaded beyond the working load for which it is intended.

6.1.8.6 Person shall use appropriate fall-arrest equipment in accordance with Standard on “Full body harness and fall protection system” on scaffolds not equipped with standard top rail, mid rail, toe guard and complete decking.

6.1.9 Storage and inspection of Scaffold materials

6.1.9.1 All scaffolding material shall be stored at designated location to protect them from adverse environment conditions such as corrosion, weather according the manufacturer’s recommendations and /or as per instructions of scaffolding supervisor.

6.1.9.2 Storage racks/ Locations/ areas shall be clearly identified. Long term storage of scaffolding material may be at a single location.

6.1.9.3 From designated storage, the requisite material should be moved to the location, as transit storage, for immediate use for erection of scaffolding.

6.1.9.4 The dismantled scaffolding material should not be allowed to pile up in the plant area. Storage facility of scaffold material shall be properly constructed for its stability and load bearing capability.

6.1.9.5 Scaffolding material such as tubular, planks, clamps etc. shall be inspected annually by the user department as per Annexure 5 to ensure they are free from defects. The visual inspection shall cover 100% scaffold materials. The inspected

lot of material should be suitably painted, clearly indicating due date for the next inspection.

6.1.9.6 Information on inspecting scaffold components and testing scaffolds planking can be found in the manufacturer's literature.

7. Records:

Following records shall be retained in compliance with the Corporate Records.

7.1. Scaffolding request, inspection, certificate and Weekly re-certificate (TPSMS/CSP/SCAF/007/FORM/001) – Retention -12 months

7.2. Scaffolding Audit check list (TPSMS/CSP/SCAF/007/FORM/002) - Retention –Three Years

7.3. Scaffold pipe, Ladder, Plank/Jali, Clamps, Base Plate Check-list (TPSMS/CSP/SCAF/007/FORM/003)- Retention –Three Years

8. Training & Communication:

8.1. Training on Scaffold Safety Procedure shall be carried out to cover for following-

a. Competent Person,
b. Scaffolding Supervisor,
c. Scaffolder

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 Scaffold Safety procedure audit, field safety visit and site inspections.

10. REFERENCES

- Indian Factory Act 1948 and State Factory Rules
- Tata Power Permit-To-Work Procedure(TPSMS/CSP/PTW/008)
- Tata Power Job Safety Analysis (JSA) Procedure (TPSMS/CSP/JSA/009)
- Tata Power Hazard Identification & Risk Assessment (HIRA) Procedure (TPSMS/GSP/HIRA/005)
- Tata Power Working at Height Procedure (TPSMS/CSP/WAH/004)

Other references

IS : 3696 (Part 1) – 1987 (Scaffolds) Safety code of scaffolds and ladders
IS : 3696 (Part 2) – 1987 (Ladders) Safety code of scaffolds and ladders
IS : 4014 – 1967 Code of practice for steel tubular scaffoldings
IS : 3521 – 1999 Industrial safety belts and harnesses

- Provision on scaffold under the building and other construction workers. (Regulation on employment and conditions of service) central rules, 1998.

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

12. Review: 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.

13. ATTACHMENTS/APPENDIX :

Refer Sample formats as Annexures attached in next page of this document:

13.1 Annexure-1: Scaffold erection, use and removal process flow Chart

13.2 Annexure-2: Scaffolding request, inspection, certificate and Weekly re-certificate (TPSMS/CSP/SCAF/007/FORM/001)

Pat-1: Requesting for Scaffolding

Part-2: Inspection Check List for Scaffolding

Part-3: Certificate of Fitness of Scaffolding

Part-4: Weekly Re-Certification for Fitness of Scaffolding

13.3 Annexure-3: Safety Boards.

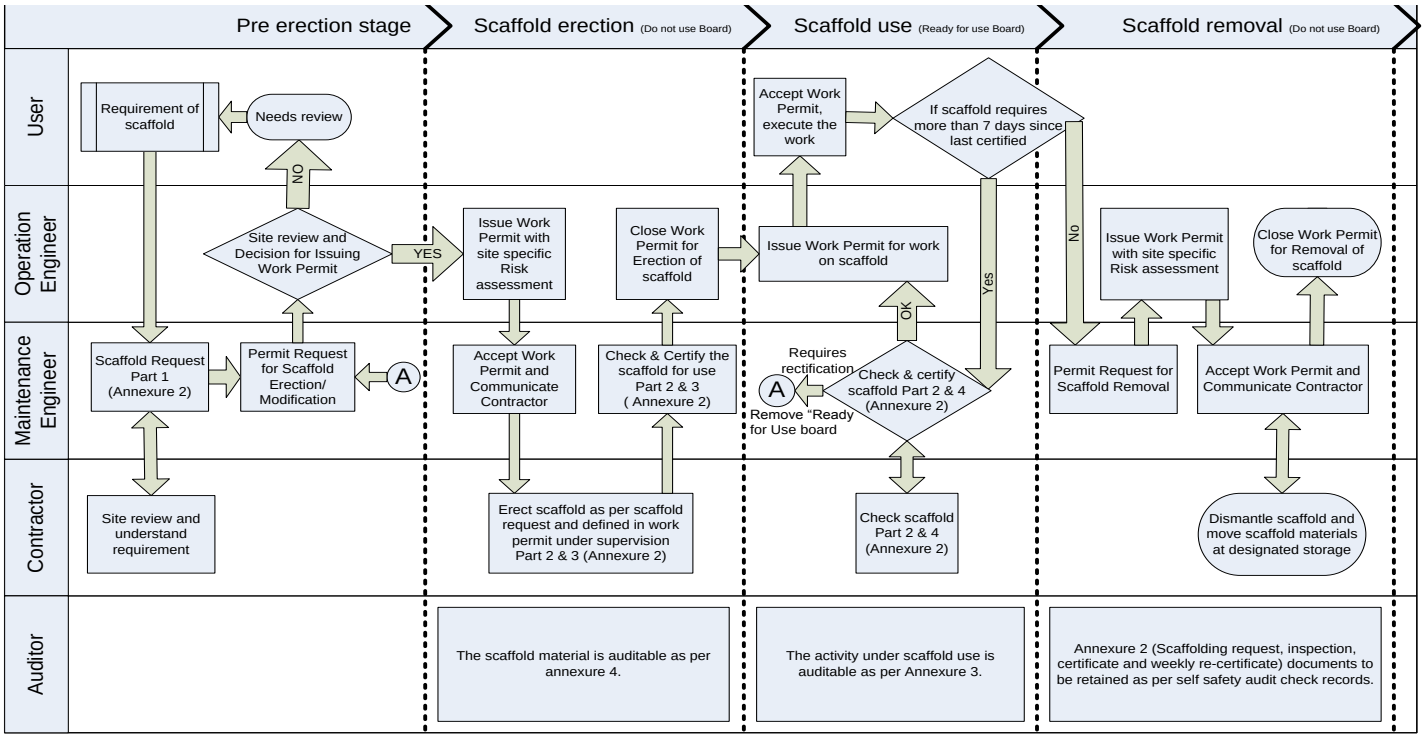
13.4 Annexure-4: Scaffolding Audit check list (TPSMS/CSP/SCAF/007/FORM/002)

13.5 Annexure-5: Scaffold pipe, Ladder, Plank/Jali, Clamps, Base Plate Check-list (TPSMS/CSP/SCAF/007/FORM/003)

13.6 Annexure 6: Do’s and Don’ts for Scaffold Safety

Annexure - 1

Scaffold erection, use and removal process flow Chart



Annexure - 2

TPSMS/CSP/SCAF/007/FORM/001

(Part: 1 of 4)

Part 1

Scaffolding request, Inspection, Certificate and Weekly re-certificate

REQUEST FOR SCAFFOLDING

I hereby request that the scaffolding for purpose of …….. be erected for the duty (select from load table as given below) and height…….. Meter.

Load duty	Light		Medium	Heavy/Special		
Maximum Safe load in Kg/ M²	75	150	225	300	450	600
Maximum bay length in Meter	2.7	2.2	1.8	1.4	1.0	0.8
Width in Meter*						

*Note: The scaffolding width is determined by the width of the boards, the minimum width allowed for two boards is 600 mm but a more typical four-board scaffold would be 870 mm wide from standard to standard. More heavy-duty scaffolding can require 5, 6 or even up to 8 boards width

Remarks (If any) :

(Name & Signature of Maintenance Engineer)

M/s _____ **Date:**

(Scaffolding Contractor)

Annexure - 2

TPSMS/CSP/SCAF/007/FORM/001

(Part: 2 of 4)

Part 2

INSPECTION CHECK LIST - SCAFFOLDING

S. No	Checks Points	Yes/ No/ NA	Remarks
1.	Are the scaffoldings erected as per the load duty requested?		
2.	Is every work platform fitted with handrail (top rail 1200 mm and mid rail at 600 mm high) and a toe board (150 mm) secured to the platform sides?		
3.	Are the scaffolding in plumb and level?		
4.	Are the planks/gratings placed in order without undue gaps and anchored?		
5.	Are the footing / anchorage for scaffolds sound and the bay lengths maintained as per the maximum Intended load (duty)?		
6.	Are the poles, legs or uprights of scaffolding are securely braced to prevent swaying / displacement?		
7.	Are the base plates (100 x 100 x 3 mm) provided for scaffolding posts?		
8.	Are the base plates are supported by sole plate (300 x 300 x 6 mm) at unpaved area?		
9.	Is kicker lift (at distance 150 mm from ground/base) provided for scaffold of height more than 6.0 meter?		
10.	If the scaffolding is erected above walkways or work areas, are the space between toe boards and railings screened?		
11.	If work is done over men who are working on scaffolding, is overhead protection provided?		
12.	Has the scaffolding area suitably barricaded during erection / usage / dismantling? As far as practicable, barricades shall be provided by keeping a clear distance of 1.0 meter from scaffold structure.		
13.	Is free standing scaffolding tower protected from tipping by guying or other means?		

S. No	Checks Points	Yes/ No/ NA	Remarks
14.	Is there a safe and convenient means of access? If a ladder is used, is it rising at least 1050mm above the platform?		
15.	Are relevant status boards (tags) attached to the scaffolding completed / under erection as applicable?		
16.	Is safe access to equipment or emergency egress restricted by scaffolds?		
17.	Are wall scaffolding anchored every 10 m of length and 8 m of height?		
18.	Are landing platforms provided for access ladders more than 9 meters height?		
19.	If two pipes are connected, are they overlapped at least 600 mm and at least two clamps used?		

Checked by (Scaffolding Inspector/Supervisor):

Annexure - 2

TPSMS/CSP/SCAF/007/FORM/001

(Part: 3 of 4)

Part 3

CERTIFICATES OF FITNESS OF SCAFFOLDING

I hereby certify that the scaffolding erected for work permit no. ---------- is ready and fit for use. I further certify that it is intended for light duty/ General purpose (Medium duty)/ Heavy duty or special duty (tick whatever applicable) service and fit for a load of …….. Kg and should not be overloaded.

Name and signature of
Competent Person

(Dept……..)

Name and signature of
Scaffolding Supervisor

M/s _____
(Scaffolding Contractor)

Date: _____

Annexure - 2

TPSMS/CSP/SCAF/007/FORM/001

(Part: 4 of 4)

Part 4

WEEKLY RE-CERTIFICATION FOR FITNESS OF SCAFFOLDING

Certification for	Date	Scaffolding is inspected as per part 2 (any new observation)	Scaffolding is safe for use (Yes/ No)	Name and sign of scaffolding supervisor	Name & sign of Competent Person
2nd week					
3rd week					
4th week					
5th week					
6th week					
7th week					
8th week					
9th week					
10th week					

Annexure - 3

Safety Boards

Scaffold No:_____

SCAFFOLDING

INCOMPLETE

DO NOT USE

Name of Contractor :

Scaffold No:_____

SCAFFOLDING

COMPLETE

READY FOR USE

Name of Contractor :

Date of Inspection :

Name of Scaffold Inspector:

Annexure – 4

TPSMS/CSP/SCAF/007/FORM/002

Scaffolding Audit Check List

S. No	Checks Points	Yes/ NO/ NA	Remarks
1.	Has the request for scaffolding been signed by authorized person?		
2.	Has the 'certificate of fitness of scaffolding' been signed by a scaffolding supervisor and maintenance engineer?		
3.	Are the scaffoldings erected as per the load duty requested?		
4.	Is every work platform fitted with handrail (top rail 1200mm and mid rail at 600 mm high) and a toe board (150mm) secured to the platform sides?		
5.	Are the scaffolding in plumb and level?		
6.	Are the gratings placed in order without undue gaps and anchored?		
7.	Are the footing / anchorage for scaffolds sound and the bay lengths maintained as per the maximum intended load?		
8.	Are the poles, legs or uprights of scaffolding are securely braced to prevent swaying / displacement?		
9.	Are the base plates (100 x 100 x 3 mm) provided for scaffolding posts?		
10.	Are the base plates are supported by sole plate (300 x 300 x 6 mm) at unpaved area?		
11.	Is kicker lift (at distance 150mm from ground/base) provided for scaffold of height more than 6.0 meter?		
12.	If the scaffolding is erected above walkways or work areas, are the space between toe boards and railings screened?		
13.	If work is done over men who are working on scaffolding, is overhead protection provided?		
14.	Has the scaffolding area suitably barricaded during erection / usage / dismantling? As far as practicable, barricades shall be provided by keeping a clear distance of 1.0 meter from scaffold structure.		
15.	Is free standing scaffolding tower protected from tipping by guying or other means?		
16.	Is there a safe and convenient means of access? If a ladder is used, is it rising at least 1050mm above the platform		
17.	Are relevant status boards (tags) attached to the scaffolding completed / under erection as applicable?		

Annexure – 4

TPSMS/CSP/SCAF/007/FORM/002

S. No	Checks Points	Yes/ NO/ NA	Remarks
18.	Is safe access to equipment or emergency egress restricted by scaffolds?		
19.	Are wall scaffolding anchored every 10 m of length and 8 m of height?		
20.	Are landing platforms provided for access ladders more than 9 meters height?		
21.	If two pipes are connected, Are they overlapped at least 600 mm and at least two clamps are used?		

Remarks (If any) :

Inspected By (Name & Signature of Scaffolding inspector/supervisor) :

Reviewed By (Name & Signature) :

Annexure – 5

TPSMS/CSP/SCAF/007/FORM/003

Scaffold pipe, Ladder, Plank/Jali, Clamps, Base Plate - Check-list

Material	Check List	Observation
Pipes	- Rust Free Pipes - No Bends, Cuts, Holes - No Sharp edge, pipe end condition - Pipe thickness minimum 2 mm - Painted / galvanized pipes - Any other(Specify)	
Ladder	- Rail Damaged (cracks, deformation etc.) - Rust free & Properly Painted Ladder. - No Cut, Hole or any Physical damage. - Equal spacing between rungs (max 30 cm). - Ladder width greater than = 30 cm. - No Bent, Broken, loose Rungs. - No Sharp edge. - No Oil, Grease and other slippery items - Bottom non-skid pad damaged/missing - Top and bottom rung tie rod provided - Any other(Specify)	
Plank/Jalli	- Jalli spacing maximum 1.5” to 2”. - Plank all 4 hooks not damaged. - No Cut or any other Physical damage. - Not depressed beyond 15 mm. - Rust free and properly painted. - Flat Thickness 3mm internal and 5mm outer boundary. - Any other(Specify)	
Clamps	- Rust free and properly painted. - No cut/cracks or physical damage. - No lubrication. - No Eyebolts bent. - Thread condition/Nut condition. - No welding / local repair - Any other(Specify)	
Base Plate & Sole plate	- Rust free and properly painted. - No bend. - No Cut, Hole or physical damage. - Flat Bottom portion. - Any other(Specify)	

Inspected By: Name: _____Designation:_____ Sign: _____Date:_____

Reviewed By: Name: _____Designation:_____ Sign: _____Date:_____

Annexure – 6

Do's and Don'ts for Scaffold Safety

Do's

- Use only certified scaffolding, tagged with "Scaffolding Complete, Ready for Use"
- Maintain three-point-contact while climbing up or down the ladder.
- Use rope or container or other suitable means for carrying material from or to ground.
- Maintain good housekeeping, especially at elevated working platform and near the access.
- Do take special precautions while working in vicinity of mobile cranes or electrical overhead lines.
- Wear full body safety harness with double lanyard/ personal fall arrest system or other equally effective means while ascending or descending the ladder or scaffolding working platform is not fully guarded.
- Do check for emergency approach/ evacuation, especially adequacy means of egress.
- Use safe material handling ways while shifting the material.
- Do report "At-risk conditions" e.g. missing ladder, incomplete decking, improper guarding, no landing platform, loosely clamped ladder, etc. to your supervisor.
- Do check weekly certification of scaffold at random

Don'ts

- Do not use any part of operational line or pressurized piping as a support, or tie point for scaffolds or staging.
  Do not permit mixing of scaffold types in any one structure (e.g., steel/aluminum couplers, wooden boards/metal grid boards).
- During the possibility of a thunderstorm, no work shall be executed at a height where a person can be exposed to lightning.
- Never keep loose tools, materials etc at height in a way it may roll off and fall from height.
- Do not use cross-bracing or end-frame (unless specially designed) for access.
- Avoid overloading and impact loading
- Never alter or modify or dismantle any part of the scaffold without permission from scaffolding supervisor or Tata Power personnel.
- Do not throw tools or scaffolding materials from height.
- Do not use "Incomplete Scaffold".