TECHNICAL STANDARD (TS)

STRCUTURAL STEEL FABRICATION AND ERECTION

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Document Change Note

Rev. No	Rev. Date	Comments / Changes
00	24-12-2022	New Issue

Contents

1 PURPOSE

To prevent accidents while carrying out fabrication and erection of steel structures

2 SCOPE

This procedure shall apply to all AMNS project sites and related work areas including contractors to meet –

- Legal and regulatory requirements
- AMNS HSE requirements
- ISO 45001 and ISO 14001 standard requirements
- AMNS HSE Policy

3 RESPONSIBILITY

The Project Head is responsible for ensuring that the project is in compliance with the general requirements and those given in this procedure.

HSE Manager is responsible for providing advice on this standard and oversight inspections to verify compliance.

4 HAZARDS

The hazards associated with fabrication and steel erection are:

- Flying particles (Grinding operations)
- Respiratory hazards (Welding/ gas cutting)
- Slip/Trip/Fall
- Falling objects from height
- Use of high pressure compressed air
- Mechanized material handling/ Lifting operations
- Working at height/ fall from height
- Sharp edges
- Manual material handling
- Fire hazard

5 STEEL STRUCTURE ERECTION- SAFETY ASSURANCE PROCESS

5.1 GENERAL

Fabrication and erection of steel structures and components are carried out based on project requirements. Fabrication can be done in dedicated workshop or in a place associated with project location.

Fabrication and erection includes –

- Fabrication and erection of steel structures for buildings/ sheds/girder
- Fabrication and erection of ducts for Air Handling Units (AHUs) for HVAC (Heating Ventilation & Air Conditioning) and supporting structures
- Fabrication and erection of cable trays and supporting structures

5.2 FABRICATION AND ERECTION

- Only trained and experienced personnel shall be engaged in fabrication and erection of steel structures.
- Permit To Work (PTW) shall be obtained (Where ever applicable) prior to erection activities
- Erection work shall be carried out in accordance with approved Method statement/ risk assessment/ JHAs (Where and whichever applicable)
- All operators should wear personal protective equipment as prescribed in relevant job safety analysis and applicable procedures
- All equipment/ machinery used in fabrication and erection shall be fit for the purpose and having valid certificate/ license from regulatory bodies/ third party (as applicable)
- All equipment should be properly maintained as per recommendations by equipment manufacturer/ supplier and records of periodic maintenance shall be maintained.
- Respective operators of equipment shall inspect daily before use. Upon noticing any defect, work should not be started/ continued until the defect is rectified.
- Various sub activities involved in fabrication and erection shall follow respective procedures as enclosed in SECTION-9- REFERENCE DOCUMENTS.
- All workshops, stores, site office and open yard involving fabrication and erection activities shall be identified in such a way that there will be as minimum as possible work interference with other activities in the area to make it reasonably safe. (E.g. Welding and painting are incompatible)
- Hazardous activities such as welding, cutting, grinding, grit blasting, painting, etc., shall be segregated from other activities and are clearly identified.
- Transit walkways shall be always kept free of any obstacles.
- All emergency systems, escape routes, assembly points, fire-fighting equipment, first aid equipment shall be strategically established and installed. Proper identification marking shall be done.
- All the necessary informative, mandatory and cautionary and indicative sign boards shall be displayed as per the hazards and as per the standard.
- Adequate Lighting and ventilation shall be provided in the work area to perform task safely.

- Where ever space is a constraint, the workers shall be made aware of the hazards while working in congested spaces (Crushed/ suffocation/ Awkward postures leading to Musculoskeletal disorders/ poor communication) during prestart toolbox talks

5.3 MINIMUM PPE REQUIREMENTS

Head Protection	Helmet	**Eye protection**	Safety glasses
Foot Protection	Steel toe safety shoes	**Hand Protection**	Hand gloves suitable for the task
Additional PPE (Including fall protection) shall be used as per Job Safety Analysis			

6 TRAINING

All employees shall be trained in general hazards and precautions to be taken while working in fabrication and erection during induction

Relevant supervisors/ Engineers shall be trained in this procedure for compliance

Task specific training shall be carried out for those employees carrying out specific tasks through Toolbox Talks using Job Safety Analysis and in-house training modules.

7 CHECKING, CORRECTIVE AND PREVENTIVE ACTION

Periodic inspections shall be carried out to assess compliance to this procedure. Any deviations shall be reported to Project Head & Corrective and preventive action shall be taken.

8 RECORDS

S. N.	Title	Location	Retention period
01	Periodic inspection reports	HSE Department	Until the completion of project

9 REFERENCE DOCUMENTS

AMNS/Project/SS/HSEM/08	HIRAC
AMNS/Project/SOP/HSEM/01	MECHANISED ELEVATED WORK PLATFORMS
AMNS/Project/SOP/HSEM/03	HOT WORKS
AMNS/Project/TS/HSEM/04	WORKING AT HEIGHT
AMNS/Project/TS/HSEM/11	LIFTING OPERATIONS
AMNS/Project/TS/HSEM/21	MANUAL MATERIAL HANDLING