SECTION 6 - SCHEDULE E – DRAWINGS AND O&M INSTRUCTIONS

SCHEDULE E1
DRAWINGS

Attention is called to the general requirements for submission of drawings for approval and to the details laid out below:

Drawing sizes should be from the ISO `A' series, shall not exceed A0 standard dimensions and shall contain the title block shown in the tender drawing at the bottom right-hand corner of the drawing containing the following information:

National Electric Power Co
Contract No 75/2026
NEPCO Drawing No

All drawings must contain the Contractor's name, date, scale, number and title irrespective of whether they are drawings produced specifically for the Contract or standard drawings.

All drawings shall have a NEPCO drawing number, which shall be selected from a block of numbers issued by the Employer.

Drawing outlines shall be 0.5mm thick, dimension lines 0.3mm thick and characters at least 3.5mm high.

On completion of installation the Contractor is required to provide a complete drawing schedule listing the drawings in the order of the NEPCO drawing numbers. The maximum drawing schedule size shall be A3.

Each drawing must have its own individual number, and the use of sheet numbers will only be permitted for the drawing schedule.

After completion of work on site all drawings shall be revised where necessary to show the equipment as installed and two copies submitted for approval. Following approval, three prints and an electronic copy in AutoCAD release format should be provided within two months after the provisional taking over date, and shall be of sufficient detail to enable all parts to be identified. These shall be sent directly to the Employer.

1. The following is a list of drawings attached to this Specification:

Drawing Title	400/132/33KV AAWDCP s/s
General Arrangement Layout	7-18-E0-0001
Substation Section	-
Control building layout	7-18-E0-0003
Key to schematic diagrams	7-18-E0-0004
Single line diagram for switching numbers	7-18-E0-0005
Schematic diagram of protection	7-18-E0-0006
Principles of LVAC Supply	7-18-E0-0007
Principles of 110 V DC Supply	7-18-E0-0008
Proposed arrangements of systems Neutral Earthing	7-18-E0-0009
Typical Switch Numbers and Labels	7-18-E0-0010
Typical Drawing Title Block	7-18-E0-0011
Shipping Mark	7-18-E0-0012
Property plate for Transformer	7-18-E0-0013
Diagram & instruction plate for oil and winding Temperature	7-18-E0-0014
Typical arrangement drawing for AVR panel	7-18-E0-0015
General Layout for BPS01	7-19-E1-0001

2. The following is a list of the drawings, which shall be submitted by the Contractor with the tender:

Description

a. General arrangement of substation. This drawing shall give the principal dimensions and approximate positions of the main equipment
b. Single line diagram of the main connections
c. Single line diagram of main protection including tripping logic
d. General arrangement of relay panels

3. The following drawings to be submitted by the Contractor for approval within the period stated in the Schedule.

Description

a. Contract Works Progress Chart (submitted monthly)

b. Detailed document and drawing list, showing issue date (expected and earned), revision index, approval status, etc (updated monthly)

b. Detailed Sub-Order Chart

c. Final drawings corresponding to all drawings submitted by the Contractor with his Tender

d. Foundation plan of station showing the loading at each column of the structure, at the switchgear, etc together with particulars of foundations required for all parts of the apparatus including the chases for cables, etc

e. Structures. Detail drawings showing dimensions of principal members

d. Arrangement and details of circuit breakers.

e. Arrangement and detail of disconnectors and earthing switches

f. Arrangement and detail of CVTs and CT.

g. Arrangement and detail of surge arresters

h. Insulation coordination study

i. Arrangement and details of interlocking

j. Arrangement and details of bushing, post and suspension insulators

k. Arrangement of main transformer (based on information from transformer Contractor)

l. Details and schematic diagrams of:

   i. Current transformer and voltage transformer connections for protection equipment, indication and synchronizing with Secondary earthing and bonding connection drawings

   ii. Tripping connections

   iv. Connections of electrical interlocking equipment (if any)

   v. Connections of busbar protection equipment

   vi. Voltage selection and synchronizing connections

   vii. Meter selection and instrument indications

m. Details of protective relays, control equipment and accessories including particulars of wiring and drilling dimensions

n. Details and arrangement of switchgear auxiliary plant and kiosks

o. Cable drawings

   i. Detailed cross sections giving dimensions and construction of all cables

   ii. Cable terminations, open type and terminations to switchgear and transformers

   iii. Cable joints

   iv. Supporting structure for cable terminations and cleat arrangement

v. Cable covering protection units

vi. Bonding and earthing arrangements

vii. Recommended cable trench construction

viii. Route plans

ix. Details of jointing procedure and instructions (All types of joints and terminations as required)

t. Arrangement and details of standby diesel generator

v. Arrangement and details of batteries and battery charging equipment

w. Arrangement and details of crane

x. Arrangement and details of fire protection equipment

y. Instrument scales

z. Details of maintenance and handling equipment

aa. Details of test equipment

bb. Details of portable earthing equipment

cc Material lists

dd Route plans, schematic diagrams and schedule of multicore cables

ee Protection relay setting calculations

ff Substation earthing calculations

gg Arrangement and details of conditioning and ventilation equipment

hh Arrangement drawings for all equipment

ii Any other document, calculation and drawing necessary to check the responsiveness of the detail design with the requirements of Standard and Contract Specification.