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KHATOON ABAD
POWER PLANT
230KV SUBSTATION
EARTHING SYSTEM PLAN

REFERENCE DOCUMENT & DWG

LEGENDS

NOTES

KEY PLAN

D								
C	FOURTH ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	DEHGHAN	1405.07.28	
B	THIRD ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	DEHGHAN	1405.05.26	
A	SECOND ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	DEHGHAN	1405.03.16	
O	FIRST ISSUE	NOORI	NOORI	DEHGHAN	DEHGHAN	DEHGHAN	1404.02.30	
Rev.	DESCRIPTION	DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE	



Mapna Power Plants Construction & Development Co(MD-1)



NIROO
TAVAN
GOSTAR
MOHAM
SHARGH
CO.



NATIONAL IRANIAN
COPPER INDUSTRIES
COMPANY
(N.I.C.I.)



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PROJECT: KHATOON ABAD GAS POWER PLANT
230KV AIS SUBSTATION

TITLE: EARTHING SYSTEM PLAN

OWNER'S DWG. NO. : MD1-RF-00-SS-E-01-NL0-101 REV. NO. : C

SCALE : AS SHOWN FORMAT : A3 FILE NO. : SHEET: 0 OF:

CONTRACT NO. : 97-BAL-12191-204-145 DESIGN TYPE : BASIC DESIGN ☐
DETAIL DESIGN ☒

NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.)		REV. NO. : MAPNA'S DWG. NO. : MD1-RF-00-SS-E-01-NL0-101		REV. NO. : SUB CONTRACTOR DWG. NO. : 1133
DRAWN	DESIGNED	CHKD.	HEAD	APPR.
DATE	DATE	DATE	DATE	DATE

XXXX IN-HOUSE REVISION							
C	FOURTH ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	DEHGHAN	1405.07.28
B	THIRD ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	DEHGHAN	1405.05.26
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<i>Page</i>	<i>Description</i>	<i>Revision</i>					
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<i>0</i>	<i>COVER SHEET</i>	✓	✓	✓	✓		
<i>1</i>	<i>INDEX</i>	✓	✓	✓	✓		
<i>2</i>	<i>NOTES & LEGEND</i>	✓	✓	✓	✓		
<i>3</i>	<i>EARTHING PLAN</i>	✓	✓	✓	✓		

 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY (N.I.C.I.)	SUB-CONTRACTOR'S LOGO	E						DWG./Doc. No. MD1-RF-00-SS-E-01-NLO-101	 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.			
		D											
		C	FOURTH ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN				1405.07.28		
	SUB CONTRACTOR DWG. NO.:	B	THIRD ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	1405.05.26	DRAWING TITLE: INDEX	REV. NO. : C			
		A	SECOND ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	1405.03.16		SHEET:01 OF: 03			
MAPNA'S DWG. No. :	NIYAM'S LOGO	O	FIRST ISSUE	NOORI	NOORI	DEHGHAN	DEHGHAN	1404.02.30	DESIGN STAGE :	FILE No.	FORMAT : A3	PROJECT : KHATOON ABAD GAS POWER PLANT 230KV AIS S/S	SCALE: —
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE					

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NOTES :

- 1 : ALL THE UNDER GROUND CONNECTIONS ARE THERMOWELDED.
- 2 : ALL THE ABOVE GROUND CONNECTIONS TO STRUCTURES ARE BOLTED.
- 3 : MESH CONDUCTOR SIZE : 185mm²
- 4 : RISER CONDUCTOR SIZE : 300mm²
- 5 : BURIAL DEPTH OF MESH CONDUCTORS IS -0.5m FROM SURFACE OF SOIL.
- 6 : SURFACE LAYER THICKNESS (GRAVEL HEIGHT) IS 0.15m.
- 7 : CABLE TRAYS MUST BE EARTHED AT INTERVALS MAXIMUM 15m.
- 8 : EARTH MAT MUST BE INSTALLED FOR DISCONNECTOR SWITCH.
- 9 : P.V.C PIPE (ø 50mm) MUST BE CONSIDERED AT CROSSING OF EARTHING WIRE WITH TRENCH AND ROAD.
- 10 : THE EQUIPMENTS MUST BE EARTHED BY RISERS FROM NEAREST PATH TO GROUND GRID.
- 11 : CONECTIONS OF EARTH RISERS TO EQUIPMENTS ARE DIFINED AT EARTHING DETAIL DOCUMENT.

CONNECTION LEGENDS	
SYMBOL	DESCRIPTION
	CADWELD CONNECTION MESH TO MESH 185mm ² TO 185mm ² CONDUCTOR
	TEE CADWELD CONNECTION RISER TO MESH 300 TO 185mm ² CONDUCTOR
	TEE CADWELD CONNECTION RISER TO MESH 185 TO 185mm ² CONDUCTOR
	TEE CADWELD CONNECTION RISER TO MESH 35 TO 185mm ² CONDUCTOR
	TEE CADWELD CONNECTION RISER OR MESH CONDUCTOR TO EARTHING ROD ~ ROD : LENGTH 3m DIAMETER 3/4~

SYMBOLS	
	STANDS FOR P.V.C PIPE (ø 50)
	EARTH MAT (1000mm*500mm)
	M.B: MARSHALING or AC OUTDOOR PANEL
	M.B: MARSHALING or AC OUTDOOR PANEL
	J.B: JUNCTION BOX
	EARTHING POINT OF FENCE (PER 30 m)
	EARTH PIT

 NATIONAL IRANIAN COPPER INDUSTRIES COMPANY	SUB-CONTRACTOR'S LOGO	E						DWG./Doc. No. MD1-RF-00-SS-E-01-NLO-101			 Mapna Power Plants Construction & Development Co(MD-1)	NIROO TAVAN GOSTAR MOHAM SHARGH COMPANY  NIROO CONSULTING ENGINEERING CO.			
		D													
	SUB CONTRACTOR DWG. NO.:	C	FOURTH ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	1405.07.28	DRAWING TITLE:				REV. NO. : C		
		B	THIRD ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	1405.05.26	NOTES & LEGEND				SHEET:02OF: 03		
		A	SECOND ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	1405.03.16							
MAPNA'S DWG. No. :	NIYAM'S LOGO	O	FIRST ISSUE	NOORI	NOORI	DEHGHAN	DEHGHAN	1404.02.30	DESIGN STAGE :		FILE No.	FORMAT : A3	PROJECT :	KHATOON ABAD GAS POWER PLANT 230KV AIS S/S	SCALE: -
		REV.	DESCRIPTION	DESN	DWN	CHKD	APPR	DATE							

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POWERE PLANT EARTHING GRID

POWERE PLANT EARTHING GRID

REFERENCE DOCUMENT & DWG

LEGENDS

NOTES

KEY PLAN

D							
C	FOURTH ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	DEHGHAN	405.07.28
B	THIRD ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	DEHGHAN	405.05.26
A	SECOND ISSUE	BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	DEHGHAN	405.03.04
O	FIRST ISSUE	NOORI	NOORI	DEHGHAN	DEHGHAN	DEHGHAN	404.02.30
Rev.	DESCRIPTION	DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE

Mapna Power Plants Construction & Development Co(MD-1)

NIROO
TAVAN
GOSTAR
MOHAM
SHARGH
CO.



PROJECT: KHATOON ABAD GAS POWER PLANT
230KV AIS SUBSTATION

TITLE:
EARTHING PLAN (PRIMARY LEVEL)

OWNER'S DWG. NO. :	MD1-RF-00-SS-E-01-NL0-101	REV. NO. :	C
SCALE :	1/800	FORMAT :	A3
CONTRACT NO. :	01-BAk-12191-204-AIS	DESIGN TYPE :	BASIC DESIGN ☐ DETAIL DESIGN ☒

NATIONAL IRANIAN
COPPER INDUSTRIES
COMPANY
(N.I.C.I.)

BARZEGAR	BARZEGAR	DEHGHAN	DEHGHAN	DEHGHAN	405.07.28
DRAWN	DESIGNED	CHKD.	HEAD	APPR.	DATE

MAPNA'S DWG. NO. :	MD1-RF-00-SS-E-01-NL0-101	REV. NO. :	C	SUB CONTRACTOR DWG. NO.:	C
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- ⊕ : FOUNDATION
⊗ : LIGHTING POLE FOUNDATION
=== : CABLE CHANNEL
=== : DRAINAGE
→ : TO POWER PLANT EARTHING

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