

POTHEAD YARD
EL - 557

GIS

TRANSFORMER
HALL
EL-552

GIS
EL-

TRANSFORMER HA
GT-1 (401)

GT-2 (402)

"*" CT DETAILS TO BE SAME AS GIS CT

TRANSFORMER HAL
GT-3 (403)

TRANSFORMER HALI
GT-4 (404)

REFERENCE DRG.:— TENDER SINGLE LINE DIAGRAM

PROJECT:	ARUN-3 HYDRO ELECTRIC PROJECT (NEPAL) (4 x 225 MW)
----------	---

CUSTOMER: SJVN ARUN-3 POWER DEVELOPMENT
COMPANY PVT. LTD. (SAPDC LTD.)

CONSULTANT: **SJVN LTD.**
(A JOINT VENTURE OF GOVT OF INDIA AND GOVT OF HP)



BHEL
BHARAT HEAVY ELECTRICALS LTD.
TRANSMISSION BUSINESS GROUP
NOIDA

	NAME	SIGN.	DATE	NO.OF VAR.
DRN.	PK		02/11/2018	N.A.
CHD.	PUNEET		02/11/2018	
APPD.	VK		02/11/2018	

DEPT. TBG	UNTOL. DIMS. GR.		SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM NO.	NO.OF ITEMS
CODE	Q/M/P		N.T.S	N.A.	N.A.	N.A.	N.A.

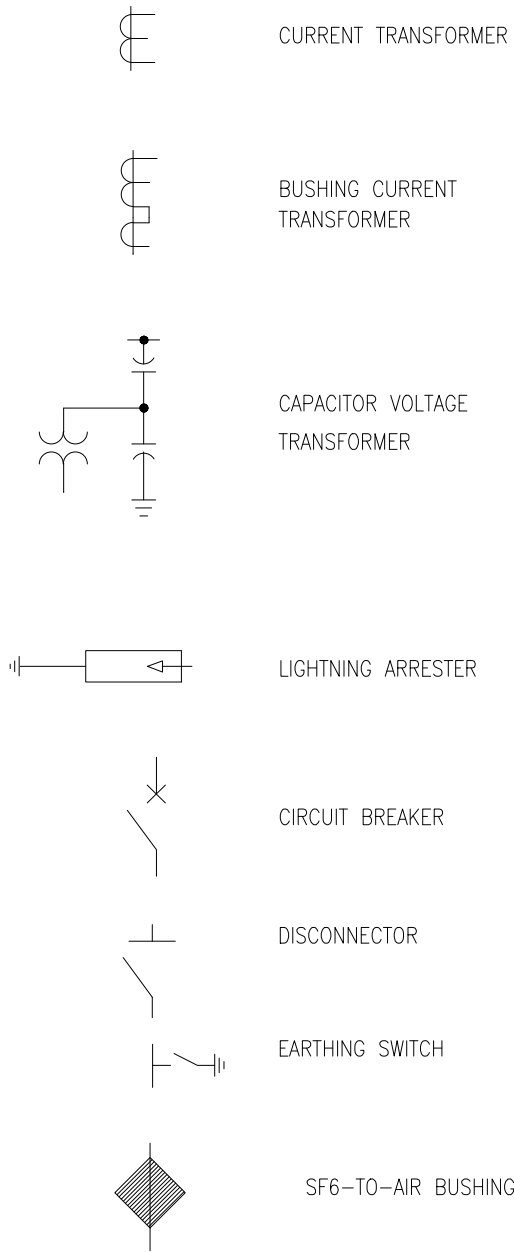
TITLE	CARD CODE	DRG.NO.	REV
400kV KEY PROTECTION DIAGRAM OF 4x225MW ARUN-3 HEP	NA	TB-2-405-510-002	02

ZONE	ZONE	ZONE	REVISED TO ACCOMMODATE THE GIS ADAPTOR BOX
------	------	------	--

DEVICE NO.	FUNCTION
21M1/M2	DIST. PROTECTION MAIN-I/II (BOTH OF SAME MAKE)
79	AUTO-RECLOSE FUNCTION (IN BUILT FUNCTION OF DISTANCE RELAY)
59	TWO STAGE OVER VOLTAGE PROTECTION
67/67N	DIRECTIONAL IDMT PHASE O/C / E/F PROTECTION WITH HIGH SET FUNCTION
WTI	WINDING TEMPERATURE INDICATOR
68	POWER SWING BLOCKING FUNCTION
46 BC	BROKEN CONDUCTOR PROTECTION
85	CARRIER-AIDED INER-TRIPPING FUNCTION
21R	BACKUP IMPEDANCE PROTECTION
78	OUT OF STEP PROTECTION
27	UNDER VOLTAGE PROTECTION
DR	DISTURBANCE RECORDER FUNCTION
63 AX/TX	BUCHHOLZ RELAY, ALARM/TRIP
PRD TX	PRESSURE RELIEF DEVICE, TRIP
49O AX/TX	OIL TEMPERATURE HIGH, ALARM/TRIP
49W AX/TX	WINDING TEMPERATURE HIGH, ALARM/TRIP
OLAX	OIL LEVEL LOW, ALARM
OTI	OIL TEMPERATURE INDICATOR
87R	REACTOR DIFFERENTIAL PROTECTION
64R	REACTOR RESTRICTED EARTH FAULT PROTECTION
99	OVER FLUXING PROTECTION
87BB1/BB2	BUSBAR DIFFERENTIAL PROTECTION MAIN-1/2 (BOTH OF SAME MAKE)
50Z	LOCAL BREAKER BACKUP PROTECTION
LCB	LOCAL CONTROL BOARD
EM	ENERGY METER (ABT)
87OA	GT OVERALL DIFFERENTIAL PROTECTION (IN GRP)
51G	GT OVERCURRENT PROTECTION (IN GRP)
87CD1/CD2	CABLE DIFFERENTIAL PROTECTION MAIN-1/2
87T	TRANSFORMER DIFFERENTIAL (IN GRP)
64GT	RESTRICTED EARTH FAULT PROTECTION OF GT (IN GRP)

1) ALL PROTECTION FEATURES SHOWN IN THIS DRAWING SHALL BE PROVIDED IN THE OFFERED SYSTEM; HOWEVER, CLUBBING OF PROTECTION FUNCTIONS IN NUMERICAL RELAYS SHALL BE DECIDED AFTER FINALISATION OF RELAY SUPPLIER.

2) 50LBB PROTECTION SHALL BE BUILT-IN FUNCTION OF NUMERICAL RELAY



REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
		CHD/APPD			CHD/APPD	02	03/06/2019	CHD/APPD	01	31/03/2019	CHD/APPD
ZONE			ZONE			ZONE	REVISED TO ACCOMODATE THE GIS ADAPTOR BOX		ZONE	REVISED IN LINE WITH CUSTOMER COMMENTS DATED VIDE EMAIL DATED 27/03/2019	

REFERENCE DRG.:— TENDER SINGLE LINE DIAGRAM																	
PROJECT: ARUN-3 HYDRO ELECTRIC PROJECT (NEPAL) (4 x 225 MW)																	
CUSTOMER: SJVN ARUN-3 POWER DEVELOPMENT COMPANY PVT. LTD. (SAPDC LTD.)																	
CONSULTANT: SJVN LTD. (A JOINT VENTURE OF GOVT OF INDIA AND GOVT OF HP)																	
		BHARAT HEAVY ELECTRICALS LTD.						NAME		SIGN.		DATE		NO.OF VAR.			
		TRANSMISSION BUSINESS GROUP				DRN.		PK				02/11/2018					
		NOIDA				CHD.		PUNEET				02/11/2018		N.A.			
						APPD.		VK				02/11/2018					
DEPT. TBG CODE		UNTOL. DIMS. GR. 9/M/ff				SCALE N.T.S		WEIGHT (KG) N.A.		REF. TO ASSY. DRG. N.A.				ITEM NO. N.A.		NO.OF ITEMS N.A.	
TITLE 400kV KEY PROTECTION DIAGRAM OF 4x225MW ARUN-3 HEP								CARD CODE NA		DRG.NO. TB-2-405-510-002				REV. 02			
								SHT. No		02		NO. OF SHT.		02			