## UNIT IDENTIFICATION NUMBER

	UNIT IDENTIFICATION NUMBER					
UNIT No.	ABBREVIATION	UNIT DESCRIPTION				
00	COM	COMMON(SUBJECT RELATED TO ALL UNITS)				
21	STM/PWGS	STEAM GENERATION UNIT				
22		WATER SYSTEM UNIT				
23		FUEL SYSTEM UNIT				
24	ASU	AIR SEPARATION UNIT				
26		CONDENSATE AND WASTE WATER TREATMENT UNIT				
45		OFFSITE AND INTERCONNECTION				
	ABBREVIATION	PACKAGE/AREA NAME AND DESCRIPTION				
221	PWP	PLANT WATER SYSTEM				
222 FWP FIRE WATER PACKAGE		FIRE WATER PACKAGE				
225 CSP		CLOSED LOOP COOLING WATER SYSTEM				
223	DSP DESALINATION PACKAGE					
231	GOP	GASOIL STORAGE AND TRANSFER PACKAGE				
2402	AIP	AUXILIARY INSTRUMENT AIR PACKAGE				
260	LCP	CONDENSATE STORAGE AND TRANSFER PACKAG				
261	CPP	CONDENSATE POLISHING PACKAGE				
262	OWT	OILY WATER TREATMENT PACKAGE				
263	STP	SANITARY TREATMENT PACKAGE				
220	SW	SEA WATER PACKAGE				
2205	ECP	ELECTRO-CHLORINATION PACKAGE				

# FLUID ABBREVIATION SYMBOLS

**ABBREVIATION** 

A ) AIR SYSTEMS

FLUID DESCRIPTION

ISA	INSTRUMENT AIR
PLA	PLANT AIR
	B ) BLOWDOWN & PUMP OUT SYSTEMS / EFFLUENT DISPOSAL
ATM	ATMOSPHERE
BD	BOILER BLOW DOWN
	C ) CONDENSATE SYSTEMS
LCS	LOW PRESSURE CONDENSATE SUSPECT
LPC	LOW PRESSURE CONDENSATE STEAM
	D ) DRAIN (SEWER) SYSTEMS / WASTE WATER TREATMENT
CDB	CONCRETE DRAIN BOX
CDH	CLOSE DRAIN HEADER
CRW	CONTAMINATED RAIN WATER SEWER
CSW	ION EXCHANGE CHEMICAL EFFLUENT
DOE	DEOILED OSW EFFLUENT
DSO	DRY SLOP OIL
FW	FLOOR WASH
NSW	NON OILY WATER SEWER
OPD	OPEN DRAIN
OW	OILY WATER SEWER
OWA	OILY WATER
PMC	METHANOL DRAIN
SLS	OILY SLUDGE SEPARATED WATER
SSW	SANITARY WATER SEWAR
TRE	TREATED EFFLUENT
WBE	WASTE BIO EFFLUENT
WBS	BIO SOLID & SWAGE FOR DISPOSAL
	E)FLARE SYSTEMS
FLR	HYDROCARBON FLARE
	F ) FUELS
LFG	LOW PRESSURE FUEL GAS
FLG	FLARE / VENT GAS
GOR	GASOIL RETURN
GOS	GASOIL
A.ID.	G ) SPECIAL GAS SYSTEMS
AIR	AIR (DRYING SERVICE)
LFG	LOW PRESSURE FUEL GAS
NIT	NITROGEN
NG	NATURAL GAS
OXY	OXYGEN
ANF	H) SPECIAL CHEMICAL
ANS	ANTIFOAM SOLUTION
CCS	ANTISCALANT SOLUTION  CALCIUM CHLORIDE SOLUTION
CHM	CHEMICAL
CHS	CALCIUM HYPO CHLORITE SOLUTION
SBS	SODIUM BISULFITE SOLUTION
SCS	SODIUM BI CARBONATE & SODIUM CARBONATE SOLUTION
HCL	HYDROCHLORIC ACID
CS	CAUSTIC SODA
SPA	SULFURIC ACID
JI A	I) STEAM SYSTEMS
HHPS	HIGH HIGH PRESSURE STEAM
HPS	HIGH PRESSURE STEAM
LPS	LOW PRESSURE STEAM
LI'S	J ) WATER SYSTEMS
BFW	BOILER FEED WATER
CWR	COOLING WATER RETURN
CWS	COOLING WATER SUPPLY
DIW	DESALINATED WATER
DMW	DEMINERALIZED WATER
FWA	FIRE WATER
MCS	MACHINERY COOLING WATER SUPPLY
MCR	MACHINERY COOLING WATER RETURN
PRW	PROCESS WATER
PWA	PLANT WATER
SWR	SEA WATER RETURN
SWS	SEA WATER SUPPLY
SW	SEA WATER
PTW	POTABLE WATER
RWA	RAW WATER
	K ) PROCESS SERVICES
GAS	GAS
PMP	PURE METHANOL PRODUCT
PRC	PROCESS CONDENSATE
PA	PROCESS AIR
SLG	SLUDGE
SLP	SLOP

## EQUIPMENT CATEGORY SYMBOL

<b>EQUIPMENT SYMBOL</b>	EQUIPMENT DESCRIPTION
Α	PROCESS FILTER
AE	COOLER , CONDENSER , AIR COOLER
В	BLOWER
С	COMPRESSOR
CN	CRANE
CLG	CALIBRATION POT
D	DRUM , SEPARATOR
DA	DEAERATOR
DR	DRYER
E	EXCHANGER , SHELL & TUBE , DOUBLE PIPE , PLATE , COIL , REBOILER , BOX COOLER , CASCADE COOLER , BAROMETRIC CONDENSER , WASTE HEAT BOILER
EC	EJECTOR CONDENSER
EJ	EJECTOR
EL	ELECTROLYZER
EVP	EVAPORATOR POND
Н	HEATER
GT	GAS TURBINE
M	ELECTRIC MOTOR
MX	MIXER , SOLID , LIQUID OR IN - LINE
Р	PUMP
PD	PULSATION DAMPENER
PK	PACKAGE UNIT
PUD	PULSATION DAMPNER
R	REACTOR , CONVERTER
RCT	RECTIFIER
RD	RUPTURE DISK
RTP	RESIN TRAP
S	STACK , STACK CHIMNEY , STRUCTURE
SC	SCALE , WEIGHING OR MEASURING
SI	SILENCER , MUFFLER
ST	STEAM TURBINE
STP	STEAM TRAP
STR	STRAINER
SU	SUMP
TC	THERMO COMPRESSOR
TK	TANK , STORAGE
TR	TRANSFORMER
U	FOUNDATION
UL	UNLOADER , BULK
X	MECHANICAL EQUIPMENT, MISCELLANEOUS EQUIPMENT

# PAINTING, INSULATION AND HEAT TRACING DESIGNATION

	A ) PAINTING & INSULATION
SYMBOL	DESCRIPTION
С	COLD INSULATED
Н	HOT INSULATED
N	NOT INSULATED & NO PAINTING
PT (NOTE 1)	PAINTING
Р	PERSONNEL PROTECTION INSULATED
	B ) HEAT TRACING
ET	ELECTRIC TRACED
PT (NOTE 1)	PAINTING
TR	TRACED MEDIA UNSPECIFIED
UCW	UNDERGROUND COATING & WRAPPING
	SHOULD NOT BE APPLIED TO GALVANIZED AND STAINLESS STEEL FIRE FIGHTING PIPE)

## PIPING ABBREVIATIONS

PIPING SYMBOL	PIPING DESCRIPTION
FF	FLAT FACE
IF	ISOLATION FLANGE
РВ	PRESSURE BLIND
PI	PIPING
RS	REMOVABLE SPOOL
SB	SPACTACLE BLIND
SS	STAINLESS STEEL
VB	VAPOR BLIND
TL	TRIM LINE
RF	RAISED FACE

# VALVE CATEGORY SYMBOL

VALVE SYMBOL	VALVE DESCRIPTION	
BV	BALL VALVE	
BFV	BUTTERFLY VALVE	
CHV	CHECK VALVE	
DIV	DIAPHRAGM VALVE	
FC	FAILURE CLOSED	
FL	FAILURE LOCKED	
FLO	FAILURE LOCKED OPEN	
FLC	FAILURE LOCKED CLOSE	
FO	FAILURE OPEN	
GV	GATE VALVE	
GLV	GLOBE VALVE	
IHV	HOT INSULATED VALVE	
LC	LOCKED CLOSED	
LO	LOCKED OPEN	
MOV	MOTOR OPERATED VALVE	
NC	NORMALLY CLOSED	
NO	NORMALLY OPEN	
NV	NEEDLE VALVE	
PSV	PRESSURE SAFETY RELIEF VALVE	
PVRV	PRESSURE VACUUM RELIEF VALVE	
SCV	SWING CHECK VALVE	
UV	ON - OFF VALVE	
UZV	ON - OFF VALVE FOR SAFETY LOOP	
VRV	VACUUM RELIEF VALVE	

# PIPE CLASS CODES

FIRST LETTER (INDICATES ELANGE RATING)	NUMBER (INDICATED MATERIAL)
FIRST LETTER (INDICATES FLANGE RATING)	NUMBER (INDICATES MATERIAL)
B = CLASS 150	24 = KILLED CARBON STEEL
D = CLASS 300	24G = KILLED CARBON STEEL / GALV.
F = CLASS 600	24L = KILLED CARBON STEEL - INTERNAL FUSION
G = CLASS 900	BONDED EPOXY COATING
H = CLASS 1500	42 = SS316L
J = CLASS 2500	50 = SS304
EXAMPLE : B24	80 = GRVE (Glass Reinforced Vinylester/Epoxy)
	90 = HDPE - PE 100
	91 = C-PVC
	92 = PP
CLASS OF CORROSION ALLOWANCE	AVERAGE CORROSION ALLOWANCE RATE (mm/year)
A (MILD CORROSION)	< 0.05
B (MEDIUM)	0.05 - 0.15
C (SEVER)	0.15 - 0.3

# MISCELLANEOUS DESIGNATIONS

ABBREVIATION	DESCRIPTION
AMB	AMBIENT
AG	ABOVE GROUND
BL	BATTERY LIMIT
DCS	DISTRIBUTED CONTROL SYSTEM
ESD	EMERGENCY SHUTDOWN SYSTEM
FF	FOUNDATION FIELDBUS
FGS	FIRE & GAS SYSTEM
US	UTILITY STATION
HC	HOSE CONNECTION
HCB	HYDROCARBON
HCH	HYDROCARBON WITH HYDROGEN
HHLL	HIGH HIGH LIQUID LEVEL
HIL	HIGH INTERFACE LIQUID LEVEL
HLL	HIGH LIQUID LEVEL
HV	HALF VACUUM
LG	LEVEL GAUGE
LIL	LOW INTERFACE LIQUID LEVEL
LLL	LOW LIQUID LEVEL
LLLL	LOW LOW LIQUID LEVEL
LSHH	LEVEL SWITCH HIGH HIGH
LSLL	LEVEL SWITCH LOW LOW
M	
	MANHOLE
NILL	NORMAL INTERFACE LIQUID LEVEL
NLL	NORMAL LIQUID LEVEL
P	PRESSURE
P.C	PRESSURE CONNECTION
PE	POLYETHYLENE
PFD	PROCESS FLOW DIAGRAM
PG	PRESSURE GAUGE
PI	PRESSURE INDICATOR
P&ID	PROCESS & INSTRUMENTATION DIAGRAM
RO	RESTRICTION ORIFICE
RS	REMOTE SETPOINT
SC	SAMPLE CONNECTION
SCL	SAMPLE CONNECTION  SAMPLE COOLER
SGL	SIGHT GLASS
NNF	NORMALLY NO FLOW
SP.GR.	RELATIVE MASS DENSITY (SPECIFIC GRAVITY)
TG	TEMPERATURE GAUGE
TI	TEMPERATURE INDICATOR
T/T	TANGENT TO TANGENT
TW	THERMO - WELL
UC	UTILITY CONNECTION
UG	UNDER GROUND
VB	VORTEX BREAKER
V	VENT
SO	STEAM OUT
SD	SHUT DOWN
SDV	PROCESS SHUTDOWN VALVE
MAX.	MAXIMUM NATERNAL PLANETER
ID	INTERNAL DIAMETER
IND.	INDICATION
SH	SHELL HEIGHT
ESDV	EMERGENCY SHUTDOWN VALVE
MC	MANAGEMENT CONSULTANT
ELEV.	ELEVATION
FB	FULL BORE
FV	FULL VACUUM
IN.	INSTRUMENT SECTION SUPPLY
MIN.	MINIMUM
PI.	PIPING SECTION SUPPLY
PLC	PROGRAMMABLE LOGIC CONTROLLER
SP	SPECIAL DEVICE
T.L	PIPING SECTION SUPPLY
T.L-T.L	TANGENT LINE TO TANGENT LINE
TSV	THERMAL RELIEF VALVE

REFERENCE DRAWINGS							
NO.	DRAWING NUMBER	DRAWING TITLE					
1	UT-MT-00-PR-PID-0100-01	SYMBOL AND LEGEND					

#### NOTES:

1- DEFINITION OF PACKAGE IS REFERRED TO CONTRACTOR SCOPE OF WORK CORRESPONDING TO SITE SUBDIVIDING BY CLIENT.

#### GENERAL NOTE:

1-LEGEND WILL BE FINALIZED AFTER RECEIVING FINAL OFFER FROM VENDOR.

ВЗ	7,Jul.,14	L.Q	M.P	L.Q	M.Q		IFA
B2	15,Jun.,13	M.A	M.P	M.A	M.Q		IFA
B1	16,APR.,13	M.A	M.P	M.A	M.Q		IFA
A4	26,JAN.,13	M.A	M.P	M.A	M.Q		IFA
АЗ	29,NOV.,12	M.A	M.P	S.S	M.Q		FOR REVIEW
A2	21,0CT.,12	M.A	M.A	S.S	M.Q		IFA
A1	10,0CT.,12	M.A	M.A	S.S	M.Q		FOR REVIEW
REV.	DATE	DESIGN	DRAW	CHECK	APPROVE	M.C.	DESCRIPTION

#### ENERGY INVESTMENT COMPANY

#### PROJECT:

METHANOL PLANT (5000 MTPD) UTILITY AND OFFSITE

MC: CONTRACTOR:

#### DRAWING TITLE:

LEGEND OF P&ID

SIZE: A1	REV. B3	DRAWING NUMBER					
PAGE:	SCALE:	CODE No.	TYPE	SIZE	GROUP	CODE No.	
1 OF 5	N/A	1277	PD	1	EPP	10000	