

نوع ۲	گروه سند	 جمهوری اسلامی ایران وزارت نفت معاونت مهندسی، پژوهش و فناوری	عنوان سند
شماره	۱۴۰۰/۳۱۲۹۹۳		فهرست مدارک و اقلام قابل
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فهرست مدارک و اقلام قابل تحويل در بخش طراحی پایه و طراحی تفصیلی

عنوان	سمت	نام و نام خانوادگی	امضا و تاریخ
تهیه کننده	معاون امور استاندارد و ضوابط فنی	مهران مفخمی مهرآبادی	۱۴۰۰/۸/۱۵
تایید کننده	مدیر کل اداره نظام فنی و اجرایی و ارزشیابی طرحها	امید شاکری	۱۴۰۰/۸/۱۵
تصویب کننده	معاون مهندسی، پژوهش و فناوری وزارت نفت	وحیدرضا زیدی فرد	



به نام آفریدگار

فهرست مدارک و اقلام قابل تحویل در بخش طراحی پایه و طراحی تفصیلی

معاونت مهندسی، پژوهش و فناوری

اداره کل نظام فنی و اجرایی و ارزشیابی طرح‌ها



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پیش گفتار:

به استناد جزء ۲ بند الف ماده ۳ قانون وظایف و اختیارات وزارت نفت مبنی بر تهیه و تنظیم برنامه‌های راهبردی عملیات بالادستی و پایین دستی صنعت نفت، گاز، پتروشیمی و پالایشی و در راستای اجرای تبصره ۷ ماده ۴ سند نظام فنی و اجرایی طرح‌ها و پروژه‌های صنعت نفت به شماره ۹۶/۱۸۸۸۴۴ مورخ ۱۳۹۶/۰۴/۲۶، تدوین فهرست مدارک و اقلام قابل تحویل در بخش طراحی پایه و طراحی تفصیلی در دستور کار اداره کل نظام فنی و اجرایی و ارزشیابی طرح‌ها قرار گرفت. به منظور تکمیل اسناد پشتیبان مراحل مختلف طرح‌ها و پروژه‌های صنعت نفت و فهرست مدارک قابل تحویل در هر مرحله از اجرای آنها، کارگروهی متشکل از خبرگان، صاحب نظران و متخصصان صنعت نفت در سال ۱۳۹۸ تشکیل و نسبت به تدوین سند اقدام گردید. این سند بر اساس نقطه نظرات خبرگان صنعت نفت اعم از بخش کارفرمایی و پیمانکاری به صورت هم زمان در قالب یک سند و در دو مرحله طراحی پایه و طراحی تفصیلی تهیه گردید.

در تدوین این سند نمایندگان اداره کل نظام فنی و اجرایی و ارزشیابی طرح‌ها (مهران مفخمی به عنوان رییس و رضا حسین زاده به عنوان دبیر کارگروه) و متخصصان و خبرگان بخش‌های کارفرمایی و پیمانکاری به نمایندگی شرکت‌های ملی صنایع پتروشیمی، ملی مناطق نفتخیز جنوب، نفت و گاز پارس، ملی مهندسی و ساختمان، خطوط لوله و مخابرات، پژوهشگاه صنعت نفت، ملی مناطق نفت مرکزی، انجمن شرکت‌های مهندسی و پیمانکاری صنایع نفت، گاز و پتروشیمی، شورای مدیریت جامعه مهندسان مشاور ایران، انجمن شرکت‌های مهندسی و ساخت صنایع نفت و نیرو، مشارکت داشته‌اند. در تدوین این سند جا دارد از حضور تمامی همکارانی که در این جلسات حضور فعال داشته‌اند به خصوص انجمن شرکت‌های مهندسی و ساخت صنایع نفت و نیرو به لحاظ مشارکت مستمر و جدی، سپاس و قدردانی نمود.

این سند در رشته‌های مختلف تخصصی با حضور کارشناسان مرتبط تدوین گردید و شامل بخش‌های زیر است:

- General
- Material Selection and Corrosion Control
- Process And Utilities
- HSE
- Piping
- HVAC
- Instrumentation And Control System
- Electrical
- Electrical Documents For Transmission Line



- Electrical Documents For High Voltage Substation
- Telecommunication RTU/MTU SCADA
- Mechanical (Rotary & Packages List)
- Mechanical Fixed
- Pipeline
- Architecture
- Civil
- Structure

هدف:

به منظور استانداردسازی فرآیندهای مدیریت پروژه در سطح راهبردی، ایجاد وحدت رویه در بخش مطالعات مهندسی پروژه‌های صنعت نفت و مستندسازی دانش و تجربیات در حوزه طراحی مهندسی در مراحل مختلف طرح‌ها و پروژه‌ها صنعت نفت، این سند با استفاده از بهترین تجارب موجود در صنعت و الگوبرداری از اسناد مشابه در شرکت‌های داخلی و بین‌المللی صنعت نفت تدوین گردیده است.

دامنه کاربرد:

این سند فهرست مدارک قابل تحویل در مراحل طراحی پایه و طراحی تفصیلی در تمامی پروژه‌های خشکی صنعت نفت به جز پروژه‌های حوزه اکتشاف و حفاری صنعت نفت، گاز، پالایش و پتروشیمی و بخش طراحی مهندسی را پوشش می‌دهد. با توجه به گستردگی پروژه‌های طراحی مهندسی از منظر ابعاد و نوع پروژه، در این سند سعی شده فهرستی قابل انعطاف جهت پوشش در بخش طراحی مهندسی تدوین شود که کارفرما بتواند بر اساس نیاز پروژه از این سند در پروژه‌ها با انجام تغییرات قابل قبولی نسبت به تدوین فهرست مورد نیاز پروژه‌های اختصاصی خود بپردازد. همچنین این سند می‌تواند در مرحله انتخاب مشاور نیز مورد استفاده قرار گیرد.

با توجه به همپوشانی مدارک بخش‌های طراحی پایه و طراحی تفصیلی در برخی موارد و لزوم تفکیک مدارک طراحی مهندسی در این دو مرحله از پروژه، در تدوین این سند این دو مرحله از هم تفکیک گردید و با مشخصه های "B" به عنوان طراحی پایه و "D" به عنوان طراحی تفصیلی مشخص شده است. همچنین مدارک مشترک که در هر دو بخش تولید یا تکمیل می‌شوند از دو مشخصه به صورت هم زمان "B+D" در سند مشخص شده است. مدارکی که با مشخصه "B+D" مشخص شده اند علاوه بر اینکه در مرحله طراحی پایه تولید شده اند،

مجددا در مرحله طراحی تفصیلی باید تحت لوگوی مشاور طراحی تفصیلی بازنگری و تایید شوند. ضمناً برخی مدارک طراحی تفصیلی بر اساس نیاز پروژه می تواند در مرحله طراحی پایه تولید شوند.

با توجه به شرایط ویژه پروژه های خطوط لوله، مدارک اختصاصی این پروژه در بخش مربوطه تدوین و مدارک مشترک در فصل های دیگر در ستون مربوط با نماد "pipeline proj" مشخص شده اند.

فهرست مدارک قابل تحویل در دو مرحله از پروژه که در این سند تدوین شده است بر اساس نیاز پروژه با انجام تغییرات قابل قبولی توسط کارفرما انتخاب و در شرح کار پروژه قرار می گیرد.

فهرست مدارک قابل تحویل در مرحله طراحی پایه و طراحی تفصیلی طرح‌ها و پروژه‌های صنعت نفت

GENERAL

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B+D	COORDINATION PROCEDURE		YES	INCLUDING COMMUNICATION PROCEDURE & REPORTING PROCEDURE
2	B+D	PROJECT EXECUTION PLAN		YES	
3	B+D	PROJECT NUMBERING PROCEDURE		YES	INCLUDING DOCUMENT AND EQUIPMENT NUMBERING
4	B+D	INVOICING PROCEDURE		YES	
5	B+D	PROJECT CHANGE MANAGEMENT PROCEDURE		YES	
6	B+D	PROJECT CLOSE OUT PROCEDURE		YES	INCLUDING AS BUILT DRAWINGS PROCEDURE & FINAL BOOK PROCEDURE
7	D	ENDORSEMENT REPORT		YES	
8	B+D	PROJECT INTERFACE MANAGEMENT PLAN		YES	
9	D	SPARE PARTS PROCEDURE		YES	
10	B+D	HUMAN RESOURCE MANAGEMENT PROCEDURE		YES	INCLUDING ORGANIZATION CHART
11	B+D	VALUE ENGINEERING PROCEDURE		YES	
12	B+D	PROGRESS MEASUREMENT SYSTEM PROCEDURE		YES	
13	B+D	DOCUMENT HANDLING PROCEDURE		YES	
14	B+D	PROJECT SCHEDULING AND CONTROL PROCEDURE		YES	
15	B+D	WORK BREAKDOWN STRUCTURE (WBS) PROCEDURE		YES	
16	B+D	COST BREAKDOWN STRUCTURE PROCEDURE		YES	
17	B+D	MASTER DOCUMENT LIST PREPARATION PROCEDURE		YES	
18	B+D	MASTER DOCUMENT LIST (MDL)		YES	
19	B+D	PROJECT TIME SCHEDULE		YES	
20	B+D	PROJECT QUALITY MANAGEMENT PLAN		YES	
21	B+D	PROJECT HSE PLAN		YES	
22	B+D	PROJECT RISK MANAGEMENT PLAN		YES	

MATERIAL SELECTION AND CORROSION CONTROL

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
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1	B + D	MATERIAL SELECTION AND CORROSION CONTROL PHILOSOPHY & REPORT	PHL/RPT	YES	DESIGN AND INSTALLATION REQUIREMENTS FOR INTERNAL CORROSION MONITORING SHALL BE CONSIDERED IN THE REPORT. DIFFERENT METHODS FOR INTEGRITY MANAGEMENT OF PIPING SYSTEMS, EQUIPMENT AND PIPELINES SHALL BE ASSESSED DURING CONCEPTUAL STUDIES AND THE BEST METHODS SHALL BE INTRODUCED FOR DEVELOPMENT OF BASIC AND DETAIL ENGINEERING STAGES. THIS DOCUMENT SHALL BE DEVELOPED IN BASIC STAGE WITH CONSIDERING OF ALL REQUIRED PROJECT'S SCOPE OF WORK; DURING ENDORSEMENT STAGE, THE DOCUMENT SHALL BE REVIEWED BY ENGINEERING CONTRACTOR AND RE-ISSUED DURING DETAIL DESIGN WITH CONSIDERATION OF MODIFICATIONS WHICH APPROVED DURING ENDORSEMENT STAGE.
2	B + D	MATERIAL SELECTION DIAGRAMS (MSD)	DGR	YES	THESE DOCUMENTS SHALL BE DEVELOPED IN BASIC STAGE WITH CONSIDERING OF ALL REQUIRED PROJECT'S SCOPE OF WORK; DURING ENDORSEMENT STAGE, THE DOCUMENT SHALL BE REVIEWED BY ENGINEERING CONTRACTOR AND RE-ISSUED DURING DETAIL DESIGN WITH CONSIDERATION OF MODIFICATIONS
3	B + D	SPECIFICATION FOR PAINTING (INTERNAL AND EXTERNAL)	SPC	YES	
4	B + D	SPECIFICATION FOR EXTERNAL CORROSION PROTECTION OF UG PIPING SYSTEMS	SPC		
5	B + D	SPECIFICATION FOR MATERIAL AND METALLURGICAL REQUIREMENT IN SOUR SERVICES	SPC	YES	
6	B + D	SPECIFICATION FOR PIPELINE COATING	SPC	YES	
7	B + D	SPECIFICATION FOR INTERNAL LINING AND CLADDING	SPC		
8	B + D	SPECIFICATION FOR INSULATING JOINT	SPC	YES	
9	B + D	SPECIFICATION FOR INSULATION KIT	SPC		

10	B + D	SPECIFICATION FOR PIPELINE FIELD JOINT COATING	SPC	YES	THIS DOCUMENT SHALL BE DEVELOPED IN CASES THAT THE COATING SYSTEM OF FIELD WELD JOINTS AND OTHER PARTS INCLUDING BENDS, TEES, ETC. ARE DIFFERENT FROM THE EXTERNAL COATING SYSTEM OF LINE PIPE. THIS DOCUMENT SHALL BE DEVELOPED IN BASIC STAGE WITH CONSIDERING OF ALL REQUIRED PROJECT'S SCOPE OF WORK; DURING ENDORSEMENT STAGE, THE DOCUMENT SHALL BE REVIEWED BY ENGINEERING CONTRACTOR AND RE-ISSUED DURING DETAIL DESIGN WITH CONSIDERATION OF MODIFICATIONS WHICH APPROVED DURING ENDORSEMENT STAGE.
11	D	DATA SHEET FOR INSULATING JOINT	DSH	YES	
12	D	DATA SHEET FOR INSULATION KIT	DSH		
13	D	MTO FOR SHOP APPLIED EXTERNAL CORROSION PROTECTION MATERIAL	MTO	YES	THIS DOCUMENT IS NOT REQUIRED WHERE THE COMPONENTS WILL BE PURCHASED AS COATED.
14	D	MTO FOR FIELD APPLIED EXTERNAL CORROSION PROTECTION MATERIAL	MTO	YES	
15	D	MTO FOR PAINT	MTO	YES	IT ALSO CONSIDERED IN PIPING DOCUMENT LIST
16	D	MTO FOR INSULATING JOINT	MTO	YES	
17	D	MTO FOR INSULATION KIT	MTO		
18	D	MATERIAL REQUISITION FOR SHOP APPLIED EXTERNAL CORROSION PROTECTION MATERIAL	MR	YES	THIS DOCUMENT IS NOT REQUIRED WHERE THE COMPONENTS WILL BE PURCHASED AS COATED.
19	D	MATERIAL REQUISITION FOR FIELD APPLIED EXTERNAL CORROSION PROTECTION MATERIAL	MR	YES	
20	D	MATERIAL REQUISITION FOR PAINT	MR	YES	IT ALSO CONSIDERED IN PIPING DOCUMENT LIST
21	D	MATERIAL REQUISITION FOR INSULATING JOINT	MR	YES	
22	D	MATERIAL REQUISITION FOR INSULATION KIT	MR		
23	D	TBE FOR SHOP APPLIED EXTERNAL CORROSION PROTECTION MATERIAL	TBE	YES	THIS DOCUMENT IS NOT REQUIRED WHERE THE COMPONENTS WILL BE PURCHASED AS COATED.
24	D	TBE FOR FIELD APPLIED EXTERNAL CORROSION PROTECTION MATERIAL	TBE	YES	

25	D	TBE FOR PAINT	TBE	YES	IT ALSO CONSIDERED IN PIPING DOCUMENT LIST
26	D	TBE FOR INSULATING JOINT	TBE	YES	
27	D	TBE FOR INSULATION KIT	TBE		
28	B + D	SPECIFICATION FOR CATHODIC PROTECTION SYSTEM DESIGN	SPC	YES	COMMISSIONING PROCEDURE SHALL BE CONSIDERED AT DETAIL DESIGN STAGE DOCUMENT THIS DOCUMENT SHALL BE DEVELOPED IN THE BASIC STAGE WITH CONSIDERING OF ALL REQUIRED PROJECT'S SCOPE OF WORK; DURING ENDORSEMENT STAGE, THE DOCUMENT SHALL BE REVIEWED BY ENGINEERING CONTRACTOR AND RE-ISSUED DURING DETAIL DESIGN WITH CONSIDERATION OF MODIFICATIONS WHICH APPROVED DURING ENDORSEMENT STAGE.
29	B + D	SPECIFICATION FOR CATHODIC PROTECTION SYSTEM EQUIPMENT	SPC	YES	THESE DOCUMENTS SHALL BE DEVELOPED IN BASIC STAGE WITH CONSIDERING OF ALL REQUIRED PROJECT'S SCOPE OF WORK; DURING
30	B + D	TYPICAL INSTALLATION DETAILS FOR CATHODIC PROTECTION SYSTEM	DWG	YES	
31	B + D	DATA SHEET FOR CATHODIC PROTECTION EQUIPMENT	DSH	YES	
32	B + D	CATHODIC PROTECTION SYSTEM CALCULATION	DSH	YES	
33	D	CATHODIC PROTECTION SYSTEM LAYOUT	DWG	YES	
34	B + D	MTO FOR CATHODIC PROTECTION SYSTEM	MTO	YES	
35	D	MATERIAL REQUISITION FOR CATHODIC PROTECTION SYSTEM	MR	YES	
36	D	TBE FOR CATHODIC PROTECTION SYSTEM	TBE	YES	

PROCESS AND UTILITIES

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B	PROCESS DESIGN BASIS	SPC	YES	
2	B	PROCESS DESIGN CRITERIA	SPC	YES	
3	B	PROCESS BLOCK FLOW DIAGRAM	DGR		
4	B	PROCESS FLOW DIAGRAMS	DGR	YES	
5	B	UTILITIES FLOW DIAGRAMS	DGR		
6	B	PROCESS HEAT AND MATERIAL BALANCES	CAL	YES	
7	B	PROCESS DESCRIPTION	SPC		
8	B	MATERIAL FLOW/ SELECTION DIAGRAM (MFD/MSD)	DGR	YES	
9	B	DEPRESSURIZING AND BLOW DOWN PHILOSOPHY	PHL		

10	B	DRAINAGE PHILOSOPHY	PHL	YES	
11	B	ISOLATION PHILOSOPHY	PHL	YES	
12	B+D	PIPING AND INSTRUMENTATION DIAGRAMS	DGR	YES	
13	B+D	UTILITY DISTRIBUTION DIAGRAMS (UDD'S)	DGR		
14	D	INTERCONNECTING DIAGRAMS	DGR	YES	
15	B+D	PROCESS CONTROL PHILOSOPHY AND INTERLOCK DESCRIPTION	SPC		
16		CRITICAL/ COMPLEX LOOPS DESCRIPTION	SPC		
17	B+D	ESD SYSTEM CAUSE AND EFFECT DIAGRAM (MATRIX)	DGR		
18	B+D	ESD BLOCK DIAGRAM	DGR		
19	B+D	ALARM AND SET POINT LIST(S)	LST		
20	B	EQUIPMENTS PROCESS DATA SHEETS	DSH	YES	
21	B	DUTY SPECIFICATION FOR PACKAGE(S)	DSH		
22	B+D	EQUIPMENT LIST	LST	YES	
23	B	INSTRUMENTS PROCESS DATA SHEET	DSH	YES	IN THE BASIC ENGINEERING, PDS TO BE ISSUED JUST FOR PSV, CONTROL VALVE, ANALYZER AND FLOW METER. FOR THE OTHER INSTRUMENTS, PROCESS DATA TO BE PROVIDED IN A LIST/ PROPER DOCUMENTS, BUT PDS IS NOT REQUIRED IN THIS REGARD.
24	D	LABORATORY EQUIPMENT DATA SHEETS	DSH		DURING BASIC STAGE, ANALYTICAL TEST METHOD (AS A PART OF OPERATING MANUAL) IS ADEQUATE FOR DETAILED DESIGN
25	D	LABORATORY EQUIPMENT LIST	LST		DURING BASIC STAGE, ANALYTICAL TEST METHOD (AS A PART OF OPERATING MANUAL) IS ADEQUATE FOR DETAILED DESIGN
26	B+D	UTILITIES SUMMARY	LST	YES	CONSUMPTION, SPECIFICATION AND CONDITION
27	B+D	EFFLUENT SUMMARY	LST		GENERATION, SPECIFICATION AND IMPURITIES, CONDITION
28	B+D	CHEMICAL, CATALYST AND ADSORBENT SUMMARY	LST	YES	CONSUMPTION, SPECIFICATION AND CONDITION
29	B+D	RELIEF LOAD SUMMARY AND CALCULATION NOTE	CAL	YES	
30	B+D	FLARE LOAD SUMMARY AND CALCULATION NOTE	CAL		
31	B+D	HYDRAULIC CALCULATION REPORT	CAL	YES	
33	D	MATERIAL REQUISITIONS FOR LABORATORIES	MR		
34	D	TBE FOR LABORATORIES	TBE		
35	D	MATERIAL REQUISITIONS FOR CHEMICAL/CATALYST	MR	YES	
36	D	TBE FOR CHEMICAL/CATALYST	TBE	YES	

37	D	OPERATING MANUAL	MNU	YES	OPERATING MANUAL IS INCLUSIVE OF: A- ANALYTICAL TEST METHOD (IN BASIC PHASE), B- LABORATORY MANUAL (IN DETAILED PHASE)
HSE					
ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B	HSE CONCEPT	CON	YES	
2	B	ACTIVE / PASSIVE FIRE PROTECTION PHILOSOPHY	SPC	YES	
3	B	SPECIFICATIONS FOR FIREFIGHTING & SAFETY EQUIPMENT	SPC	YES	
4	B	FIRE & GAS DESIGN CRITERIA/FIRE & GAS DETECTION PHILOSOPHY	PHL	YES	FOR WHOLE PLANT
5	B	HAZARDOUS AREA AND DUST CLASSIFICATION SPECIFICATION	SPC	YES	
6	B	NOISE SPECIFICATION	SPC	YES	INCLUDING MEASURES FOR NOISE CONTROL
7	B	BLAST PROTECTION SPECIFICATION	SPC		
8	B	ESCAPE ROUTE/SAFETY SIGN SPECIFICATION	SPC	YES	
9	B	ENVIRONMENTAL SPECIFICATION	SPC	YES	INCLUDING EMISSION/SOIL/EFFLUENT CONTROL AND MONITORING AND AIR QUALITY
10	D	HYDRAULIC CALCULATION FOR FIREFIGHTING SYSTEM	CAL		
11	B+D	TOTAL FLOODING SYSTEM CALCULATION	CAL		
12	B+D	FIRE WATER AND FOAM DEMAND CALCULATION	CAL		
13	B+D	DRY CHEMICAL POWDER SYSTEM CALCULATION	CAL		
14	B+D	P&ID FOR FIREFIGHTING SYSTEM	DGR		
15	B	PFD FOR FIRE WATER SUPPLY (PUMP STATION, STORAGE TANKS, DIESEL TANK)	DGR		
16	D	P&ID FOR TOTAL FLOODING SYSTEM	DGR		
17	D	P&ID FOR DRY CHEMICAL POWDER SYSTEM	DGR		
18	B+D	SAFETY & FIREFIGHTING EQUIPMENT LAYOUT FOR PLANT & BUILDINGS	DWG		
19	B+D	FIRE ZONE STUDY / DRAWINGS	DWG		
20	B+D	FIRE AND GAS DETECTOR LAYOUT FOR PLANT & BUILDINGS	DWG		
21	B+D	SAFETY SIGN & ESCAPE ROUTE LAYOUT FOR PLANT & BUILDINGS	DWG		
22	B+D	FIRE WATER NETWORK LAYOUT	DWG		
23	B+D	HAZARDOUS AREA CLASSIFICATION DRAWING	DWG	YES	
24	B+D	DUST CLASSIFICATION DRAWING	DWG		
25	D	FIREPROOFING DRAWING	DWG	YES	
26	D	DETAIL INSTALLATION DRAWING FOR SAFETY & FIREFIGHTING EQUIPMENT	DWG	YES	
27	D	SAFETY SYMBOL & LEGEND	DWG	YES	
28	D	NOISE MAP	DWG		

29	B+D	QUANTITATIVE / QUALITATIVE RISK ASSESSMENT (QRA) STUDY PROCEDURE AND REPORT	RPT	YES	
30	D	HAZOP STUDY PROCEDURE AND REPORT (FOR PROCESS, UTILITY AND PACKAGES)	RPT	YES	
31	B	HAZID STUDY PROCEDURE AND REPORT	RPT	YES	
32	D	SIL (SAFETY INTEGRITY LEVEL) IDENTIFICATION / ASSESSMENT STUDY PROCEDURE AND REPORT	RPT	YES	
33	B	SRS (SAFETY REQUIREMENT SPECIFICATION)	SPC		
34	B	CONSEQUENCE ANALYSIS REPORT/DRAWING	RPT		INCLUDING RESTRICTED AND IMPACTED AREA
35	B&D	ADM (AIR DISPERSION MODELING) REPORT	RPT		
36	D	HAZARDOUS MATERIAL HANDLING PROCEDURE	RPT		
37	B+D	HAZARD SOURCE LIST	LST	YES	
38	B+D	FIRE & GAS CAUSE & EFFECT CHART	LST	YES	
39	B+D	MATERIAL SAFETY DATA SHEET (MSDS)	LST	YES	
40	B+D	FIREFIGHTING UNIT CAUSE & EFFECT CHART	LST		
41	B+D	DATA SHEET FOR FIREFIGHTING & SAFETY EQUIPMENT	DSH	YES	
42	B+D	DATA SHEET FOR FIREFIGHTING VEHICLE	DSH		
43	B+D	DATA SHEET FOR AMBULANCE	DSH		
44	B+D	DATA SHEET FOR FIRE WATER PUMP (MAIN AND JOCKEY)	DSH		
45	B+D	DATA SHEET FOR FIRE WATER STORAGE TANK	DSH		
46	B+D	DATA SHEET FOR FIRE WATER DIESEL PUMP DAILY TANK	DSH		
47	B+D	DATA SHEET FOR SAFETY SHOWER AND EYEWASH CIRCULATION PUMP	DSH		
48	B+D	DATA SHEET FOR SAFETY SHOWER AND EYEWASH CIRCULATION TANK	DSH		
49	B+D	DATA SHEET FOR SPRAY/SPRINKLER NOZZLE AND WATER CURTAIN	DSH		
50	B+D	DATA SHEET FOR FUSIBLE PLUG	DSH		
51	B+D	DATA SHEET FOR DELUGE VALVE AND ALARM CHECK VALVE	DSH		
52	B+D	SPECIFICATION/DATA SHEET FOR TOTAL FLOODING SYSTEM	DSH		
53	B+D	SPECIFICATION/DATA SHEET FOR DRY POWDER SYSTEM	DSH		
54	B+D	DATA SHEET FOR EXTINGUISHERS (PORTABLE AND WHEELED)	DSH	YES	
55	B+D	SPECIFICATION/DATA SHEET FOR FOAM SYSTEM (FIXED/SEMI FIXED)	DSH		
56	B+D	DATA SHEET FOR SAFETY SHOWER AND EYEWASH	DSH		
57	B+D	DATA SHEET FOR SAFETY SIGN	DSH	YES	
58	B+D	MATERIAL TAKE OFF FOR SAFETY & FIREFIGHTING EQUIPMENT	MTO	YES	
59	B+D	MATERIAL TAKE OFF FOR FIREFIGHTING VEHICLE	MTO		
60	B+D	MATERIAL TAKE OFF FOR AMBULANCE	MTO		
61	B+D	MATERIAL TAKE OFF FOR SPRAY/SPRINKLER NOZZLE AND WATER CURTAIN	MTO		
62	B+D	MATERIAL TAKE OFF FOR FUSIBLE PLUG	MTO		
63	B+D	MATERIAL TAKE OFF FOR DELUGE VALVE AND ALARM CHECK VALVE	MTO		
64	B+D	MATERIAL TAKE OFF FOR TOTAL FLOODING SYSTEM	MTO		
65	B+D	MATERIAL TAKE OFF FOR DRY POWDER SYSTEM	MTO		

66	B+D	MATERIAL TAKE OFF FOR EXTINGUISHERS (PORTABLE AND WHEELED)	MTO	YES	
67	B+D	MATERIAL TAKE OFF FOR FOAM SYSTEM (FIXED/SEMI FIXED)	MTO		
68	B+D	MATERIAL TAKE OFF FOR SAFETY SHOWER AND EYEWASH	MTO		
69	B+D	MATERIAL TAKE OFF FOR SAFETY SIGN	MTO	YES	
70	D	MATERIAL REQUISITION FOR SAFETY & FIREFIGHTING EQUIPMENT	MR	YES	
71	D	MATERIAL REQUISITION FOR FIREFIGHTING VEHICLE	MR		
72	D	MATERIAL REQUISITION FOR AMBULANCE	MR		
73	D	MATERIAL REQUISITION FOR SPRAY/SPRINKLER NOZZLE AND WATER CURTAIN	MR		
74	D	MATERIAL REQUISITION FOR FUSIBLE PLUG	MR		
75	D	MATERIAL REQUISITION FOR DELUGE VALVE AND ALARM CHECK VALVE	MR		
76	D	MATERIAL REQUISITION FOR TOTAL FLOODING SYSTEM	MR		
77	D	MATERIAL REQUISITION FOR DRY POWDER SYSTEM	MR		
78	D	MATERIAL REQUISITION FOR EXTINGUISHERS (PORTABLE AND WHEELED)	MR	YES	
79	D	MATERIAL REQUISITION FOR FOAM SYSTEM (FIXED/SEMI FIXED)	MR		
80	D	MATERIAL REQUISITION FOR SAFETY SHOWER AND EYEWASH	MR		
81	D	MATERIAL REQUISITION FOR SAFETY SIGN	MR	YES	
82	D	TECHNICAL BID EVALUATION FOR SAFETY & FIREFIGHTING EQUIPMENT	TBE	YES	
83	D	TECHNICAL BID EVALUATION FOR FIREFIGHTING VEHICLE	TBE		
84	D	TECHNICAL BID EVALUATION FOR AMBULANCE	TBE		
85	D	TECHNICAL BID EVALUATION FOR SPRAY/SPRINKLER NOZZLE AND WATER CURTAIN	TBE		
86	D	TECHNICAL BID EVALUATION FOR FUSIBLE PLUG	TBE		
87	D	TECHNICAL BID EVALUATION FOR DELUGE VALVE AND ALARM CHECK VALVE	TBE		
88	D	TECHNICAL BID EVALUATION FOR TOTAL FLOODING SYSTEM	TBE		
89	D	TECHNICAL BID EVALUATION FOR DRY POWDER SYSTEM	TBE		
90	D	TECHNICAL BID EVALUATION FOR EXTINGUISHERS (PORTABLE AND WHEELED)	TBE	YES	
91	D	TECHNICAL BID EVALUATION FOR FOAM SYSTEM (FIXED/SEMI FIXED)	TBE		
92	D	TECHNICAL BID EVALUATION FOR SAFETY SHOWER AND EYEWASH	TBE		
93	D	TECHNICAL BID EVALUATION FOR SAFETY SIGN	TBE	YES	

PIPING

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	D	DATA SHEETS FOR MANUAL VALVES	DSH	YES	
2	D	DATA SHEETS FOR IBB VALVES	DSH		INTEGRATED DOUBLE BLOCK AND BLEED VALVE
3	D	DATA SHEETS FOR SPECIAL VALVES	DSH		
4	D	DATA SHEET FOR STRAINER	DSH		
5	D	DATA SHEETS FOR STEAM TRAP	DSH		
6	D	DATA SHEET FOR HOSE AND HOSE CONNECTION	DSH		
7	D	DATA SHEET FOR SAMPLE COOLER AND SAMPLE CONNECTION	DSH		

8	D	DATA SHEET FOR EXPANSION JOINT	DSH		
9	D	DATA SHEET FOR SNUBBER	DSH		
10	D	DATA SHEET FOR SPRING	DSH		
11	D	DATA SHEET FOR RIGID HANGERS	DSH		
12	D	DATA SHEET FOR RIGID STRUTS	DSH		
13	D	DATA SHEET FOR POST INDICATOR VALVE	DSH		
14	D	DATA SHEET FOR INSULATION KIT / JOINT/ FLANGE	DSH	YES	
15	D	DATA SHEET FOR INJECTION NOZZLE	DSH		
16	D	DATA SHEET FOR VACUUM BREAKER	DSH		
17	D	DATA SHEET FOR SPECIAL ITEMS	DSH		OTHER PIPING ITEMS NOT INCLUDED IN PMS
18	D	DATA SHEET FOR FLAME ARRESTOR	DSH		
19	B+D	OVERALL PLOT PLAN	DWG	YES	
20	B+D	UNIT PLOT PLAN	DWG		
21	D	PIPING KEY PLAN (A/G)	DWG		
22	D	PIPING KEY PLAN (U/G)	DWG		
23	D	UTILITY STATION LOCATION PLAN	DWG		
24	D	PIPING ASSEMBLY DRAWING (PIPING HOOK UP)	DWG	YES	
25	D	SPECIAL PIPE SUPPORT DRAWING	DWG	YES	
26	D	ISOMETRIC DRAWING-UG	DWG	YES	PRESSURIZED PIPING AND CLOSED DRAIN
27	D	ISOMETRIC DRAWING-AG	DWG	YES	
28	D	PIPING ARRANGEMENT DRAWING (PIPING PLAN- A/G)	DWG	YES	
29	D	PIPING ARRANGEMENT DRAWING (PIPING PLAN - U/G)	DWG		
30	D	PIPING STANDARD DRAWING	DWG		
31	D	STANDARD PIPE SUPPORT DRAWING	DWG	YES	
32	D	TIE-IN DRAWING	DWG	YES	
33	D	STEAM TRACING MANIFOLD DRAWING AND LIST	LST		THIS DOCUMENT CONTAIN ALL DOCUMENTS AND ACTIVITIES OF STEAM TRACING.
34	B+D	LINE LIST	LST	YES	
35	B+D	TIE-IN LIST	LST	YES	
36	D	PIPE SUPPORT LIST	LST	YES	
37	D	SPECIAL ITEMS LIST	LST		
38	D	MATERIAL REQUISITION FOR A/G PIPES	MR	YES	MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
39	D	MATERIAL REQUISITION FOR A/G FITTINGS	MR	YES	MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
40	D	MATERIAL REQUISITION FOR A/G FLANGES & SPECTACLE BLINDS & SPACERS	MR	YES	MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
41	D	MATERIAL REQUISITION FOR A/G GATE / GLOBE VALVES/CHECK VALVES	MR	YES	MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.

42	D	MATERIAL REQUISITION FOR A/G BALL VALVES	MR	YES	1.MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT . 2.THIS DOCUMENT INCLUDE : MATERIAL REQUISITION FOR IBB VALVES.
43	D	MATERIAL REQUISITION FOR A/G BUTTERFLY / PLUG VALVES	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
44	D	MATERIAL REQUISITION FOR A/G GASKETS	MR	YES	MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
45	D	MATERIAL REQUISITION FOR A/G NON-METALLIC PIPING COMPONENTS	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
46	D	MATERIAL REQUISITION FOR A/G STUD BOLTS & NUTS	MR	YES	MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
47	D	MATERIAL REQUISITION FOR SPECIAL VALVES	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
48	D	MATERIAL REQUISITION FOR POST INDICATOR VALVE	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
49	D	MATERIAL REQUISITION FOR STRAINERS	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
50	D	MATERIAL REQUISITION FOR STEAM TRAP	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
51	D	MATERIAL REQUISITION FOR HOSE AND HOSE CONNECTION	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
52	D	MATERIAL REQUISITION FOR SAMPLE COOLER AND SAMPLE CONNECTION	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
53	D	MATERIAL REQUISITION FOR SNUBBER & RIGID STRUT	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
54	D	MATERIAL REQUISITION FOR SPRING	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
55	D	MATERIAL REQUISITION FOR EXPANSION JOINT	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
56	D	MATERIAL REQUISITION FOR RIGID HANGERS	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
57	D	MATERIAL REQUISITION FOR U/G PIPES	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
58	D	MATERIAL REQUISITION FOR U/G FITTINGS	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
59	D	MATERIAL REQUISITION FOR U/G FLANGES & SPECTACLE BLINDS & SPACERS	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
60	D	MATERIAL REQUISITION FOR U/G GATE / GLOBE / CHECK VALVES	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
61	D	MATERIAL REQUISITION FOR U/G BALL VALVES	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
62	D	MATERIAL REQUISITION FOR U/G BUTTERFLY / PLUG VALVES	MR	YES	MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.

63	D	MATERIAL REQUISITION FOR U/G GASKETS	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
64	D	MATERIAL REQUISITION FOR U/G STUD BOLTS & NUTS	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
65	D	MATERIAL REQUISITION FOR U/G NON-METALLIC PIPING COMPONENTS	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
66	D	MATERIAL REQUISITION FOR INSULATION	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
67	D	MATERIAL REQUISITION FOR PROTECTION OF UNDERGROUND PIPING-COATING AND WRAPPING	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
68	D	MATERIAL REQUISITION FOR INSULATION KIT / JOINT/ FLANGE	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
69	D	MATERIAL REQUISITION FOR PIPE SUPPORTS	MR	YES	MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
70	D	MATERIAL REQUISITION FOR FLAME ARRESTOR	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
71	D	MATERIAL REQUISITION FOR PAINT	MR	YES	MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
72	D	MATERIAL REQUISITION FOR INJECTION NOZZLE	MR		MR BREAKDOWN CAN BE AGREED IN EACH INDIVIDUAL PROJECT.
73	D	MTO FOR PIPING BULK ITEMS (A/G)	MTO	YES	
74	D	MTO FOR PIPING BULK ITEMS (U/G)	MTO		
75	D	MTO FOR PIPING COMPONENT (A/G)	MTO		PIPING COMPONENTS INCLUDING: VALVE, FLANGE, GASKET AND ...
76	D	MTO FOR PIPING COMPONENT (U/G)	MTO		PIPING COMPONENTS INCLUDING: VALVE, FLANGE, GASKET AND ...
77	D	MTO FOR INSULATION	MTO		
78	D	MTO FOR PROTECTION OF UNDERGROUND PIPING-COATING AND WRAPPING	MTO		
79	D	MTO FOR PIPE SUPPORTS	MTO	YES	
80	D	MTO FOR SPECIAL PIPE SUPPORTS	MTO		
81	D	MTO FOR PAINT	MTO	YES	
82	D	3D MODEL REVIEW REPORT 30%	RPT		
83	D	3D MODEL REVIEW REPORT 60%	RPT		
84	D	3D MODEL REVIEW REPORT 90%	RPT		
85	B	PIPING ROUTE STUDY	RPT	YES	
86	D	STRESS ANALYSIS CALCULATION REPORT	RPT	YES	
87	D	WALL THICKNESS CALCULATION	CAL	YES	
88	D	ITP FOR PIPING ITEMS	-	YES	
89	B+D	PIPING MATERIAL SPECIFICATION (PMS)	SPC	YES	
90	B+D	PIPING DESIGN CRITERIA	SPC	YES	
91	B+D	SPECIFICATION FOR PIPING SYSTEM PRESSURE TESTING	SPC		
92	B+D	SPECIFICATION FOR STEAM TRACING	SPC		
93	B+D	SPECIFICATION FOR COLOR CODING	SPC		

94	B+D	SPECIFICATION FOR PAINTING	SPC	YES	INCLUDING SURFACE PREPARATION
95	B+D	SPECIFICATION FOR INSULATION	SPC		
96	B+D	SPECIFICATION FOR PROTECTION OF UNDERGROUND PIPING-COATING AND WRAPPING	SPC		
97	B+D	SPECIFICATION FOR NDE OF PIPING SYSTEM	SPC		
98	B+D	SPECIFICATION FOR WELDING	SPC		
99	B+D	SPECIFICATION OF 3D MODEL PROCEDURE	SPC		
100	B+D	SPECIFICATION OF 3D MODEL REVIEW PROCEDURE	SPC		
101	B+D	SPECIFICATION FOR MANUAL VALVES	SPC	YES	
102	B+D	SPECIFICATION FOR IBB VALVES	SPC		
103	B+D	SPECIFICATION FOR SPECIAL VALVES	SPC		
104	B+D	SPECIFICATION FOR PIPES	SPC	YES	
105	B+D	SPECIFICATION FOR FITTINGS	SPC	YES	
106	B+D	SPECIFICATION FOR FLANGES	SPC	YES	
107	B+D	SPECIFICATION FOR BOLT & NUT	SPC	YES	
108	B+D	SPECIFICATION FOR GASKETS	SPC	YES	
109	B+D	SPECIFICATION FOR NON-METALLIC PIPING ITEMS	SPC		INCLUDING GRE, GRP, RTP, PE ...
110	B+D	SPECIFICATION FOR PIPING FLEXIBILITY ANALYSIS	SPC	YES	
111	B+D	SPECIFICATIONS FOR SPRING SUPPORT	SPC		
112	B+D	SPECIFICATION FOR STRAINERS	SPC		
113	B+D	SPECIFICATION FOR PIPE SUPPORTS	SPC		
114	B+D	SPECIFICATION FOR FIGURE, BLANKS AND SPACERS	SPC	YES	
115	B+D	SPECIFICATION FOR STEAM JACKETING	SPC		
116	B+D	SPECIFICATION FOR PIPING FABRICATION AND ERECTION	SPC	YES	INCLUDING GRE, GRP, RTP, PE ...
117	B+D	SPECIFICATION FOR SPECIAL ITEMS	SPC		INCLUDING EXPANSION JOINT, INSULATION KIT, JOINT , MECHANICAL INTERLOCK AND ...
118	B+D	SPECIFICATION FOR CLEANING OF PIPING	SPC		
119	D	TBE FOR A/G PIPES	TBE	YES	
120	D	TBE FOR A/G FITTINGS	TBE	YES	
121	D	TBE FOR A/G FLANGES & SPECTACLE BLINDS & SPACERS	TBE	YES	
122	D	TBE FOR A/G GATE / GLOBE VALVES/CHECK VALVES	TBE	YES	
123	D	TBE FOR A/G BALL VALVES	TBE	YES	
124	D	TBE FOR A/G BUTTERFLY / PLUG VALVES	TBE	YES	
125	D	TBE FOR A/G GASKETS	TBE	YES	
126	D	TBE FOR A/G STUD BOLTS & NUTS	TBE	YES	
127	D	TBE FOR SPECIAL VALVES	TBE		
128	D	TBE FOR POST INDICATOR VALVE	TBE		
129	D	TBE FOR STRAINERS	TBE		
130	D	TBE FOR STEAM TRAP	TBE		

131	D	TBE FOR HOSE AND HOSE CONNECTION	TBE		
132	D	TBE FOR SAMPLE COOLER AND SAMPLE CONNECTION	TBE		
133	D	TBE FOR SNUBBER & RIGID STRUT	TBE		
134	D	TBE FOR SPRING	TBE		
135	D	TBE FOR EXPANSION JOINT	TBE		
136	D	TBE FOR RIGID HANGERS	TBE		
137	D	TBE FOR U/G PIPES	TBE		
138	D	TBE FOR U/G FITTINGS	TBE		
139	D	TBE FOR U/G FLANGES & SPECTACLE BLINDS & SPACERS	TBE		
140	D	TBE FOR U/G GATE / GLOBE VALVES/CHECK VALVES	TBE		
141	D	TBE FOR U/G BALL VALVES	TBE		
142	D	TBE FOR U/G BUTTERFLY / PLUG VALVES	TBE		
143	D	TBE FOR U/G GASKETS	TBE		
144	D	TBE FOR U/G STUD BOLTS & NUTS	TBE		
145	D	TBE FOR NON-METALLIC A/G PIPING COMPONENTS	TBE		
146	D	TBE FOR NON-METALLIC U/G PIPING COMPONENTS	TBE		
147	D	TBE FOR PROTECTION OF UNDERGROUND PIPING-COATING AND WRAPPING	TBE		
148	D	TBE FOR INSULATION	TBE		
149	D	TBE FOR INSULATION KIT / JOINT/ FLANGE	TBE		
150	D	TBE FOR PIPE SUPPORTS	TBE	YES	
151	D	TBE FOR FLAME ARRESTOR	TBE		

HVAC

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B + D	HVAC AND PLUMBING DESIGN CRITERIA	SPC		
2	B + D	HVAC AND PLUMBING PHILOSOPHY	SPC		
3	B + D	SPECIFICATION FOR MAIN HVAC EQUIPMENT	SPC		
4	B + D	SPECIFICATION FOR HVAC DUCT WORK & ACCESSORIES	SPC		
5	B + D	SPECIFICATION FOR HVAC PIPING AND PLUMBING SYSTEM	SPC		
6	B + D	SPECIFICATION FOR HVAC CONTROL SYSTEM	SPC		
7	D	SYMBOL AND ABBREVIATION FOR HVAC & PLUMBING SYSTEM	DWG		
8	D	HVAC & PLUMBING STANDARD DRAWING	DWG		
9	D	HVAC AND PLUMBING CALCULATION NOTE	CAL		(FOR EACH BUILDING)
10	D	HVAC FLOW DIAGRAM	DGR		(FOR EACH BUILDING)
11	D	HVAC INSTRUMENT AND CONTROL DIAGRAMS	DGR		(FOR EACH BUILDING)
12	D	PLUMBING SYSTEM LAYOUT	DWG		(FOR EACH BUILDING)
13	D	HVAC PIPING SYSTEM LAYOUT	DWG		(FOR EACH BUILDING)
14	D	HVAC SYSTEM, DUCTING PLAN AND SECTION	DWG		(FOR EACH BUILDING)

15	B + D	HVAC EQUIPMENT LAYOUT	DWG		(FOR EACH BUILDING)
16	D	HVAC ROOM LAYOUT	DWG		(FOR EACH BUILDING)
17	D	HVAC ROOF PLAN	DWG		(FOR EACH BUILDING)
18	D	DATA SHEET FOR HVAC EQUIPMENT	DSH		(FOR EACH BUILDING)
19	B + D	HVAC EQUIPMENT LIST	LST		(FOR EACH BUILDING)
20	D	MTO FOR HVAC BULK MATERIAL	MTO		
21	D	MR FOR HVAC EQUIPMENT	MR		
22	D	MR FOR HVAC BULK MATERIAL	MR		
23	D	TBE FOR HVAC EQUIPMENT	TBE		
24	D	TBE FOR HVAC BULK MATERIAL	TBE		

INSTRUMENTATION AND CONTROL SYSTEM

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B	INSTRUMENT CONTROL AND SAFEGUARDING PHILOSOPHY	SPC		
2	B	INSTRUMENT EARTHING PHILOSOPHY	SPC		
3	B+D	SPECIFICATION FOR FIRE & GAS DEVICES	SPC		
4	B+D	SPECIFICATION FOR CONTROL VALVES	SPC		
5	B+D	SPECIFICATION FOR ON-OFF ACTUATED VALVES	SPC		INCLUDING HYDRAULIC POWER UNIT ACTUATOR (IF ANY)
6	B+D	SPECIFICATION FOR MOTOR OPERATED VALVES	SPC	YES	
7	B+D	SPECIFICATION FOR SAFETY RELIEF VALVES	SPC	YES	
8	B+D	SPECIFICATION FOR ANALYZER SYSTEM	SPC		
9	B+D	SPECIFICATION FOR PCS	SPC		
10	B+D	SPECIFICATION FOR ESD	SPC		
11	B+D	SPECIFICATION FOR FGS	SPC		
12	B+D	SPECIFICATION FOR GENERAL INSTRUMENTATION	SPC	YES	
13	B+D	SPECIFICATION FOR TANK GAUGING SYSTEM	SPC		
14	B+D	SPECIFICATION FOR CUSTODY TRANSFER METERING SYSTEM	SPC		
15	B+D	SPECIFICATION FOR CORROSION MONITORING SYSTEM	SPC		ONLY IF DEDICATED MONITORING SYSTEMS IS REQUIRED
16	B+D	SPECIFICATION FOR INSTRUMENTATION AND CONTROL FOR PACKAGES	SPC		INCLUDING MMS REQUIREMENTS
17	B+D	SPECIFICATION FOR INSTRUMENT INSTALLATION	SPC		
18	B+D	SPECIFICATION FOR INSTRUMENT CABLE	SPC	YES	INCLUDING F&G CABLES
19	B+D	SPECIFICATION FOR INSTRUMENT AND ELECTRICAL INTERFACE	SPC		

20	D	SPECIFICATION FOR RTU/MTU	SPC	YES	COULD BE MERGED IN (PCS) EXCLUDING TELECOM REQUIREMENTS
21	B+D	SPECIFICATION FOR INSTRUMENT PANELS AND CABINETS	SPC	YES	INCLUDING POWER DISTRIBUTION PANELS
22	B+D	INSTRUMENT INDEX	LST	YES	
23	B+D	F&G DEVICE INDEX	LST		
24	B	I/O SUMMARY FOR PCS	LST	YES	
25	B	I/O SUMMARY FOR ESD	LST		
26	D	I/O LIST FOR PCS	LST	YES	
27	D	I/O LIST FOR ESD	LST		
28	D	I/O LIST FOR FGS	LST		
29	B+D	INSTRUMENT AIR & POWER CONSUMPTION LIST	LST		
30	D	INSTRUMENTS CABLE SCHEDULE	LST		INCLUDING F&G CABLES
31	B+D	PRELIMINARY SIZING CALCULATION FOR CONTROL VALVE	CAL		
32	B+D	PRELIMINARY SIZING CALCULATION FOR SAFETY VALVE	CAL	YES	
33	B+D	PRELIMINARY SIZING CALCULATION FOR FLOW ELEMENT	CAL		
34	B+D	DATA SHEET FOR FLOW ELEMENT (DP TYPE)	DSH		
35	D	DATA SHEET FOR VARIABLE AREA FLOW METER	DSH		
36	D	DATA SHEET FOR PITOT TUBE	DSH		
37	B+D	DATA SHEET FOR SPECIAL FLOW METER (CORIOLIS, THERMAL, MAGNETIC, TURBINE, VORTEX, ULTRASONIC, ...)	DSH	YES	COULD BE ISSUED IN SEPARATED DOCUMENTS
38	D	DATA SHEET FOR DISPLACER TYPE LEVEL TRANSMITTER	DSH		
39	D	DATA SHEET FOR RADAR TYPE LEVEL TRANSMITTER	DSH		
40	B+D	DATA SHEET FOR SPECIAL LEVEL TRANSMITTER (ULTRASONIC, SERVO, NUCLEAR, ...)	DSH		COULD BE ISSUED IN SEPARATED DOCUMENTS
41	D	DATA SHEET FOR LEVEL GAUGE	DSH		
42	D	DATA SHEET FOR LEVEL SWITCH	DSH		
43	D	DATA SHEET FOR FLOAT & TAPE TYPE LEVEL GAUGE	DSH		
44	D	DATA SHEET FOR PRESSURE TRANSMITTER	DSH	YES	
45	D	DATA SHEET FOR DIFFERENTIAL PRESSURE TRANSMITTER	DSH		
46	D	DATA SHEET FOR PRESSURE & DIFFERENTIAL PRESSURE GAUGE	DSH	YES	
47	D	DATA SHEET FOR TEMPERATURE TRANSMITTER/ ELEMENTS	DSH	YES	
48	D	DATA SHEET FOR TEMPERATURE GAUGE	DSH	YES	
49	B+D	DATA SHEET FOR CONTROL VALVE	DSH		INCLUDING SELF REGULATOR VALVE
50	B+D	DATA SHEET FOR SAFETY RELIEF VALVE	DSH		
51	D	DATA SHEET FOR PRESSURE VACUUM RELIEF VALVE	DSH		
52	D	DATA SHEET FOR RUPTURE DISK	DSH		

53	B+D	DATA SHEET FOR ON-OFF ACTUATED VALVE	DSH		
54	B+D	DATA SHEET FOR MOTOR OPERATED VALVE	DSH	YES	
55	D	DATA SHEET FOR ANALYZER	DSH		
56	D	DATA SHEET FOR TANK GAUGING INSTRUMENT	DSH		
57	D	DATA SHEET FOR CORROSION COUPON/TRANSMITTER	DSH		
58	B+D	DATA SHEET FOR CUSTODY TRANSFER METER	DSH		
59	D	DATA SHEET FOR TANK BLANKETING SYSTEM	DSH		
60	D	DATA SHEET FOR FIRE & GAS DEVICE	DSH		
61	B+D	CONTROL SYSTEM ARCHITECTURE DIAGRAM	DGR		
62	D	TYPICAL LOGIC DIAGRAM	DGR		DETAILED LOGIC DIAGRAM TO BE PROVIDED BY VENDOR OF SYSTEM (PCS, ESD , ...)
63	D	INSTRUMENT & JUNCTION BOX LOCATION LAYOUT	DWG	YES	
64	D	FIRE & GAS WIRING LAYOUT	DWG		
65	D	INSTRUMENT WIRING CONNECTION DIAGRAM	DGR		EXCLUDING TERMINATION OF MARSHALLING CABINETS INCLUDING FCS SEGMENTS
66	D	FIRE & GAS WIRING CONNECTION DIAGRAM	DGR	YES	
67	D	INSTRUMENT AIR DISTRIBUTION LAYOUT	DWG		
68	B+D	INSTRUMENT MAIN CABLE ROUTING LAYOUT	DWG	YES	
69	B+D	GENERAL ARRANGEMENT LAYOUT FOR PLANT CONTROL ROOM	DWG		
70	B+D	GENERAL ARRANGEMENT LAYOUT FOR INSTRUMENT AUXILIARY OR TECHNICAL ROOM	DWG		
71	D	PLANT CONTROL ROOM/INSTRUMENT TECHNICAL ROOM CABLE ROUTING LAYOUT	DWG		
72	D	PROCESS HOOK-UP DRAWING	DWG	YES	
73	D	INSTRUMENT AIR HOOK-UP DRAWING	DWG		COULD BE MERGED IN (PROCESS HOOK-UP DRAWING)
74	B	TYPICAL HOOK-UP DRAWING	DWG	YES	
75	B+D	TYPICAL INSTRUMENT AND F&G INSTALLATION DRAWING	DWG		
76	B	PRELIMINARY MTO FOR INSTRUMENTATION	MTO		INCLUDING INSTRUMENT DEVICES, CABLES, CABLING ACCESSORIES , JBS , ...
77	D	MTO FOR INSTRUMENT CABLE	MTO	YES	
78	D	MTO FOR INSTRUMENT CABLE TRAY/LADDER/CONDUIT	MTO	YES	
79	D	MTO FOR INSTRUMENT JUNCTION BOX	MTO	YES	
80	D	MTO FOR INSTRUMENT CABLE GLAND	MTO	YES	
81	D	MTO FOR TUBE & TUBE FITTING	MTO		

82	D	MATERIAL REQUISITION FOR FLOW ELEMENT	MR		
83	D	MATERIAL REQUISITION FOR VARIABLE AREA FLOW METER	MR		
84	D	MATERIAL REQUISITION FOR PITOT TUBE	MR		
85	D	MATERIAL REQUISITION FOR SPECIAL FLOW METER (CORIOLIS, THERMAL, MAGNETIC, TURBINE, VORTEX, ULTRASONIC, ...)	MR	YES	
86	D	MATERIAL REQUISITION FOR DISPLACER TYPE LEVEL TRANSMITTER	MR		
87	D	MATERIAL REQUISITION FOR RADAR TYPE LEVEL TRANSMITTER	MR		
88	D	MATERIAL REQUISITION FOR SPECIAL LEVEL TRANSMITTER (ULTRASONIC, SERVO, NUCLEAR, ...)	MR		
89	D	MATERIAL REQUISITION FOR LEVEL SWITCH	MR		
90	D	MATERIAL REQUISITION FOR LEVEL GAUGE	MR		
91	D	MATERIAL REQUISITION FOR FLOAT & TAPE TYPE LEVEL GAUGE	MR	YES	
92	D	MATERIAL REQUISITION FOR PRESSURE/TEMPERATURE TRANSMITTER	MR	YES	
93	D	MATERIAL REQUISITION FOR PRESSURE/TEMPERATURE GAUGE	MR	YES	
94	D	MATERIAL REQUISITION FOR CONTROL VALVE	MR		
95	D	MATERIAL REQUISITION FOR SAFETY RELIEF VALVE	MR	YES	
96	D	MATERIAL REQUISITION FOR RUPTURE DISK	MR		
97	D	MATERIAL REQUISITION FOR ON-OFF ACTUATED VALVE	MR		
98	D	MATERIAL REQUISITION FOR MOTOR OPERATED VALVE	MR	YES	
99	D	MATERIAL REQUISITION FOR ANALYZER	MR		
100	D	MATERIAL REQUISITION FOR TANK GAUGING SYSTEM	MR		
101	D	MATERIAL REQUISITION FOR CORROSION COUPON/TRANSMITTER	MR		
102	D	MATERIAL REQUISITION FOR CUSTODY TRANSFER METERING SYSTEM	MR		
103	D	MATERIAL REQUISITION FOR TANK BLANKETING SYSTEM	MR		
104	D	MATERIAL REQUISITION FOR FIRE & GAS DEVICE	MR		INCLUDING FACP (COULD BE MERGED IN FGS)
105	D	MATERIAL REQUISITION FOR PCS	MR		
106	D	MATERIAL REQUISITION FOR ESD	MR		
107	D	MATERIAL REQUISITION FOR FGS	MR		
108	D	MATERIAL REQUISITION FOR INSTRUMENT JUNCTION BOX & CABLE GLAND	MR	YES	
109	D	MATERIAL REQUISITION FOR INSTRUMENT CABLE	MR	YES	
110	D	MATERIAL REQUISITION FOR INSTRUMENT CABLE TRAY/LADDER	MR	YES	
111	D	MATERIAL REQUISITION FOR INSTRUMENT TUBE/TUBE FITTING	MR		
112	D	TBE FOR FLOW ELEMENT	TBE		
113	D	TBE FOR VARIABLE AREA FLOW METER	TBE		
114	D	TBE FOR PITOT TUBE	TBE		
115	D	TBE FOR SPECIAL FLOW METER (CORIOLIS, THERMAL, MAGNETIC, TURBINE, VORTEX, ULTRASONIC, ...)	TBE	YES	
116	D	TBE FOR DISPLACER TYPE LEVEL TRANSMITTER	TBE		

117	D	TBE FOR RADAR TYPE LEVEL TRANSMITTER	TBE		
118	D	TBE FOR SPECIAL LEVEL TRANSMITTER (ULTRASONIC, SERVO, NUCLEAR, ...)	TBE		
119	D	TBE FOR LEVEL SWITCH	TBE		
120	D	TBE FOR LEVEL GAUGE	TBE		
121	D	TBE FOR FLOAT & TAPE TYPE LEVEL GAUGE	TBE		
122	D	TBE FOR PRESSURE/TEMPERATURE TRANSMITTER	TBE		
123	D	TBE FOR PRESSURE/TEMPERATURE GAUGE	TBE		
124	D	TBE FOR CONTROL VALVE	TBE		
125	D	TBE FOR SAFETY RELIEF VALVE	TBE	YES	
126	D	TBE FOR RUPTURE DISK	TBE		
127	D	TBE FOR ON-OFF ACTUATED VALVE	TBE		
128	D	TBE FOR MOTOR OPERATED VALVE	TBE	YES	
129	D	TBE FOR ANALYZER	TBE		
130	D	TBE FOR TANK GAUGING SYSTEM	TBE		
131	D	TBE FOR CORROSION COUPON/TRANSMITTER	TBE		
132	D	TBE FOR CUSTODY TRANSFER METERING SYSTEM	TBE		
133	D	TBE FOR TANK BLANKETING SYSTEM	TBE		
134	D	TBE FOR FIRE & GAS DEVICE	TBE		
135	D	TBE FOR PCS	TBE		
136	D	TBE FOR ESD	TBE		
137	D	TBE FOR FGS	TBE		
138	D	TBE FOR INSTRUMENT JUNCTION BOX & CABLE GLAND	TBE	YES	
139	D	TBE FOR INSTRUMENT CABLE	TBE	YES	
140	D	TBE FOR INSTRUMENT CABLE TRAY/LADDER	TBE	YES	

ELECTRICAL

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B + D	POWER SYSTEM STUDY (LOAD FLOW , MOTOR STARTING AND SHORT CIRCUIT CALCULATION)	CAL		
2	D	CALCULATION FOR AREA LIGHTING SYSTEM	CAL	YES	
3	D	CALCULATION FOR BUILDING LIGHTING SYSTEM	CAL	YES	
4	D	CALCULATION SIZING FOR DIESEL GENERATOR	CAL		
5	D	CALCULATION SIZING FOR AC UPS AND BATTERIES	CAL	YES	
6	D	CALCULATION SIZING FOR DC CHARGER AND BATTERIES	CAL		
7	D	CALCULATION SIZING FOR EARTHING & LIGHTNING SYSTEM	CAL	YES	
8	D	CALCULATION SIZING FOR ELECTRICAL POWER CABLES	CAL	YES	
9	D	CALCULATION SIZING FOR NEUTRAL GROUNDING RESISTOR	CAL		
10	D	LOAD SHEDDING STUDY	CAL		

11		DYNAMIC AND TRANSIENT STABILITY STUDY	CAL		FOR POWER GENERATION PLANT
12	D	HARMONIC DISTORTION STUDY	CAL		
13	B + D	OVERALL SINGLE LINE DIAGRAM	DGR		INCLUDING MAIN EQUIPMENT IN LV SWITCHGEAR
14	B + D	TYPICAL MV & LV PROTECTION & METERING DIAGRAM	DGR		
15	D	BLOCK DIAGRAM FOR POWER DISTRIBUTION CONTROL SYSTEM (ELECTRICAL NETWORK CONTROL AND MONITORING SYSTEM)	DGR		
16	D	SINGLE LINE DIAGRAM FOR AC UPS AND BATTERIES	DGR	YES	
17	D	SINGLE LINE DIAGRAM FOR DC CHARGER AND BATTERIES	DGR		
18	D	SINGLE LINE DIAGRAM FOR LOW VOLTAGE SWITCHGEAR & MCC	DGR	YES	
19	D	SINGLE LINE DIAGRAM FOR MAIN DISTRIBUTION PANEL BOARDS	DGR	YES	
20	D	LOCAL PANEL SCHEDULE / SINGLE LINE DIAGRAM FOR LIGHTING AND SMALL POWER	DGR	YES	
21	D	SINGLE LINE DIAGRAM FOR MEDIUM VOLTAGE SWITCHGEAR & MCC	DGR		
22	D	TYPICAL LOGIC DIAGRAM	DGR		
23	D	TYPICAL ELECTRICAL SCHEMATIC DIAGRAM	DGR	YES	
24	D	DATA SHEET FOR AC UPS AND BATTERIES	DSH	YES	
25	D	DATA SHEET FOR ALARM PANEL	DSH		
26	D	DATA SHEET FOR BUS DUCT	DSH		
27	D	DATA SHEET FOR CAPACITOR BANK	DSH		
28	D	DATA SHEET FOR DC CHARGER AND BATTERIES	DSH		
29	D	DATA SHEET FOR DISTRIBUTION PANEL BOARDS	DSH	YES	
30	D	DATA SHEET FOR DIESEL / GAS ENGINE GENERATOR	DSH		
31	D	DATA SHEET FOR HIGH VOLTAGE SWITCHGEAR	DSH		
32	D	DATA SHEET FOR LOCAL CONTROL STATION	DSH		
33	D	DATA SHEET FOR LOW VOLTAGE SWITCHGEAR & MCC	DSH		
34	D	DATA SHEET FOR LV MOTORS	DSH		
35	D	DATA SHEET FOR MEDIUM VOLTAGE SWITCHGEAR & MCC	DSH		
36	D	DATA SHEET FOR MV MOTORS	DSH		
37	D	DATA SHEET FOR MV, LV AND CONTROL CABLE	DSH		
38	D	DATA SHEET FOR NEUTRAL GROUNDING RESISTOR	DSH		
39	D	DATA SHEET FOR TRANSFORMERS	DSH		
40	D	DATA SHEET FOR TURBO GENERATOR	DSH		
41	D	DATA SHEET FOR VARIABLE FREQUENCY DRIVES / SOFT STARTER	DSH		
42	B + D	EARTHING AND LIGHTNING PROTECTION TYPICAL INSTALLATION DETAILS	DWG	YES	
43	B + D	ELECTRICAL SYMBOLS & LEGENDS	DWG	YES	
44	B + D	LIGHTING TYPICAL INSTALLATION DETAILS	DWG	YES	
45	B + D	OVERALL ELECTRICAL CABLE ROUTING LAYOUT	DWG	YES	

46	B + D	POWER TYPICAL INSTALLATION DETAILS	DWG	YES	
47	B + D	SUBSTATION EQUIPMENT ARRANGEMENT LAYOUT	DWG		
48	D	AIR CRAFT WARNING LIGHT LAYOUT	DWG		
49	D	BUILDING CABLING SYSTEM LAYOUT FOR HVAC SYSTEM	DWG		
50	D	BUILDING EARTHING AND LIGHTNING LAYOUT	DWG	YES	
51	D	BUILDING SMALL POWER AND LIGHTING LAYOUT	DWG	YES	
52	D	ELECTRICAL EQUIPMENT LAYOUT IN CONTROL BUILDING	DWG		
53	D	ELECTRICAL HEAT TRACING SYSTEM LAYOUT	DWG		
54	D	HEAT TRACING SYSTEM TYPICAL INSTALLATION DETAILS	DWG		
55	D	LIGHTNING PROTECTION SYSTEM LAYOUT	DWG	YES	
56	D	OVERALL EARTHING SYSTEM LAYOUT	DWG	YES	
57	D	STREET LIGHTING LAYOUT	DWG		
58	D	SUBSTATION CABLE LADDER LAYOUT/ SECTION & DETAILS	DWG		
59	D	UNIT/AREA EARTHING SYSTEM LAYOUT	DWG	YES	
60	D	UNIT/AREA ELECTRICAL CABLE ROUTING LAYOUT AND SECTION DETAILS	DWG		
61	D	UNIT/AREA SMALL POWER AND LIGHTING LAYOUT	DWG	YES	
62	B + D	ELECTRICAL LOAD LIST AND LOAD BALANCE	LST	YES	INCLUDING TRANSFORMER AND CAPACITOR BANK SIZING
63	D	ELECTRICAL CABLE CONNECTION LIST	LST	YES	CAN BE ISSUED AS DIAGRAM
64	D	ELECTRICAL CABLE DRUM SCHEDULE	LST		
65	D	ELECTRICAL CABLE SCHEDULE	LST	YES	
66	D	ELECTRICAL LOAD/MOTOR SCHEDULE AND CONTROL LIST	LST		
67	D	I/O LIST FOR PDCS (ENCMS)/ PMS	LST		
68	D	MOTOR RESTARTING / REACCELERATION SCHEDULE	LST		
69	D	MATERIAL REQUISITION FOR AIR CRAFT WARNING LIGHT	MR		
70	D	MATERIAL REQUISITION FOR ALARM PANEL	MR		
71	D	MATERIAL REQUISITION FOR BUS DUCT	MR		
72	D	MATERIAL REQUISITION FOR CABLE GLAND	MR	YES	
73	D	MATERIAL REQUISITION FOR CABLE LADDER / TRAY	MR	YES	
74	D	MATERIAL REQUISITION FOR CAPACITOR BANK	MR		
75	D	MATERIAL REQUISITION FOR CONDUIT	MR	YES	
76	D	MATERIAL REQUISITION FOR DC & AC UPS	MR	YES	
77	D	MATERIAL REQUISITION FOR GAS ENGINE / DIESEL GENERATOR	MR		
78	D	MATERIAL REQUISITION FOR LIGHTING AND DISTRIBUTION PANEL	MR	YES	
79	D	MATERIAL REQUISITION FOR EARTHING & LIGHTNING SYSTEM	MR		
80	D	MATERIAL REQUISITION FOR ELECTRICAL HEAT TRACING SYSTEM	MR		
81	D	MATERIAL REQUISITION FOR MEDIUM VOLTAGE SWITCHGEAR & MCC	MR		
82	D	MATERIAL REQUISITION FOR JUNCTION BOX	MR	YES	
83	D	MATERIAL REQUISITION FOR LIGHTING AND SMALL POWER SYSTEM	MR	YES	

84	D	MATERIAL REQUISITION FOR LIGHTING TOWERS AND POLES	MR	YES	
85	D	MATERIAL REQUISITION FOR LOCAL CONTROL STATIONS	MR		
86	D	MATERIAL REQUISITION FOR LOW VOLTAGE SWITCHGEAR & MCC	MR	YES	
87	D	MATERIAL REQUISITION FOR MV CABLE TERMINATION	MR		
88	D	MATERIAL REQUISITION FOR MV, LV AND CONTROL CABLES	MR	YES	
89	D	MATERIAL REQUISITION FOR NEUTRAL GROUNDING RESISTOR	MR		
90	D	MATERIAL REQUISITION FOR POWER DISTRIBUTION CONTROL SYSTEM (ENCMS)	MR		
91	D	MATERIAL REQUISITION FOR TRANSFORMERS	MR	YES	
92	D	MATERIAL REQUISITION FOR VARIABLE FREQUENCY MOTOR DRIVES / SOFT STARTER	MR		
93	D	MTO FOR CABLE GLANDS	MTO	YES	
94	D	MTO FOR CABLE LADDER / TRAY	MTO	YES	
95	D	MTO FOR CONDUIT	MTO	YES	
96	D	MTO FOR EARTHING AND LIGHTNING SYSTEM	MTO	YES	
97	D	MTO FOR JUNCTION BOXES	MTO	YES	
98	D	MTO FOR LIGHTING FIXTURES & SMALL POWER SYSTEM	MTO	YES	
99	D	MTO FOR LIGHTING POLE	MTO	YES	
100	D	MTO FOR MV CABLE TERMINATION KIT	MTO		
101	D	MTO FOR MV, LV AND CONTROL CABLES	MTO	YES	
102	B	PRELIMINARY MTO FOR MAIN EQUIPMENT	MTO		
103	D	ELECTRICAL PROTECTION SELECTIVITY STUDY & RELAY COORDINATION / SETTINGS	RPT		
104	B	ELECTRICAL POWER SUPPLY STUDY REPORT	RPT		
105	B + D	ELECTRICAL DESIGN CRITERIA	SPC	YES	
106	B + D	SPECIFICATION FOR AC UPS AND BATTERIES	SPC	YES	
107	B + D	SPECIFICATION FOR AIR CRAFT WARNING LIGHT	SPC		
108	B + D	SPECIFICATION FOR ALARM PANEL	SPC		
109	B + D	SPECIFICATION FOR BUS DUCT	SPC		
110	B + D	SPECIFICATION FOR CAPACITOR BANK	SPC		
111	B + D	SPECIFICATION FOR CATHODIC PROTECTION SYSTEM	SPC	YES	
112	B + D	SPECIFICATION FOR DC CHARGER AND BATTERIES	SPC		
113	B + D	SPECIFICATION FOR DISTRIBUTION PANEL BOARDS	SPC	YES	
114	B + D	SPECIFICATION FOR EARTHING & LIGHTNING SYSTEM	SPC	YES	
115	B + D	SPECIFICATION FOR ELECTRICAL BULK MATERIALS	SPC	YES	
116	B + D	SPECIFICATION FOR ELECTRICAL EQUIPMENT IN BUILDINGS	SPC		
117	B + D	SPECIFICATION FOR ELECTRICAL HEAT TRACING SYSTEM	SPC		
118	B + D	SPECIFICATION FOR ELECTRICAL REQUIREMENT IN PACKAGES	SPC		
119	B + D	SPECIFICATION FOR DIESEL / GAS GENERATOR	SPC		

120	B + D	SPECIFICATION FOR HIGH VOLTAGE SWITCHGEAR	SPC		
121	B + D	SPECIFICATION FOR LIGHTING AND SMALL POWER SYSTEM	SPC	YES	
122	B + D	SPECIFICATION FOR LOW VOLTAGE SWITCHGEAR & MCC	SPC	YES	
123	B + D	SPECIFICATION FOR LV MOTORS	SPC		
124	B + D	SPECIFICATION FOR MEDIUM VOLTAGE SWITCHGEAR & MCC	SPC		
125	B + D	SPECIFICATION FOR MV MOTORS	SPC		
126	B + D	SPECIFICATION FOR MV, LV AND CONTROL CABLES	SPC	YES	
127	B + D	SPECIFICATION FOR SUB-SEA CABLES	SPC		OFF-SHORE
128	B + D	SPECIFICATION FOR NEUTRAL GROUNDING RESISTOR	SPC		
129	B + D	SPECIFICATION FOR POWER DISTRIBUTION CONTROL SYSTEM (ELECTRICAL NETWORK CONTROL AND MONITORING SYSTEM)	SPC		
130	B + D	SPECIFICATION FOR POWER MANAGEMENT SYSTEM	SPC		FOR POWER GENERATION PLANT
131	B + D	SPECIFICATION FOR TRANSFORMERS	SPC	YES	
132	B + D	SPECIFICATION FOR TURBO GENERATOR	SPC		
133	B + D	SPECIFICATION FOR VARIABLE FREQUENCY MOTOR DRIVES / SOFT STARTER	SPC		
134	D	TBE FOR AIR CRAFT WARNING LIGHT	TBE		
135	D	TBE FOR ALARM PANEL	TBE		
136	D	TBE FOR BUS DUCT	TBE		
137	D	TBE FOR CABLE GLAND	TBE	YES	
138	D	TBE FOR CABLE LADDER / TRAY	TBE	YES	
139	D	TBE FOR CAPACITOR BANK	TBE		
140	D	TBE FOR CONDUIT	TBE	YES	
141	D	TBE FOR DC & AC UPS	TBE	YES	
142	D	TBE FOR GAS ENGINE / DIESEL GENERATOR	TBE		
143	D	TBE FOR LIGHTING AND DISTRIBUTION PANEL	TBE	YES	
144	D	TBE FOR EARTHING & LIGHTNING SYSTEM	TBE	YES	
145	D	TBE FOR ELECTRICAL HEAT TRACING SYSTEM	TBE		
146	D	TBE FOR MEDIUM VOLTAGE SWITCHGEAR & MCC	TBE		
147	D	TBE FOR JUNCTION BOX	TBE	YES	
148	D	TBE FOR LIGHTING AND SMALL POWER SYSTEM	TBE	YES	
149	D	TBE FOR LIGHTING TOWERS AND POLES	TBE	YES	
150	D	TBE FOR LOCAL CONTROL STATIONS	TBE		
151	D	TBE FOR LOW VOLTAGE SWITCHGEAR & MCC	TBE	YES	
152	D	TBE FOR MV CABLE TERMINATION	TBE		
153	D	TBE FOR MV, LV AND CONTROL CABLES	TBE	YES	
154	D	TBE FOR NEUTRAL GROUNDING RESISTOR	TBE		
155	D	TBE FOR POWER DISTRIBUTION CONTROL SYSTEM (ENCMS)	TBE		
156	D	TBE FOR TRANSFORMERS	TBE	YES	

157	D	TBE FOR VARIABLE FREQUENCY MOTOR DRIVES / SOFT STARTER	TBE		
ELECTRICAL DOCUMENTS FOR TRANSMISSION LINE					
ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B	ELECTRICAL POWER SUPPLY STUDY REPORT	RPT		
2	B + D	GEO ELECTRIC REPORT	RPT		
3	B	ELECTRICAL NETWORK STUDY REPORT (LOAD FLOW AND SHORT CIRCUIT AND MOTOR STARTING)	RPT		
4	B + D	TRANSMISSION LINE ELECTRICAL DESIGN CRITERIA	SPC		
5	B + D	SPECIFICATION FOR TOWERS & CONCRETE POLES	SPC		
6	B + D	SPECIFICATION FOR TRANSMISSION LINES (CONDUCTOR & SHIELD WIRE)	SPC		
7	B + D	SPECIFICATION FOR CONDUCTOR AND SHIELD WIRE HARDWARE AND ACCESSORIES	SPC		
8	B + D	SPECIFICATION FOR EARTHING & LIGHTNING SYSTEM	SPC		
9	B + D	SPECIFICATION FOR INSULATORS	SPC		
10	D	DATA SHEET FOR TRANSMISSION LINES (CONDUCTOR AND SHIELD WIRE)	DSH		
11	D	DATA SHEET FOR TOWER & CONCRETE POLES	DSH		
12	D	DATA SHEET FOR CONDUCTOR AND SHIELD WIRE HARDWARES AND ACCESSORIES	DSH		
13	D	DATA SHEET FOR EARTHING & LIGHTNING SYSTEM	DSH		
14	D	DATA SHEET FOR INSULATOR	DSH		
15	D	CLAMP AND CONNECTOR DETAILS	DWG		
16	D	INSTALLATION DETAILS FOR TRANSMISSION LINE	DWG		
17	D	SPOTTING DRAWING	DWG		
18	B+D	TRANSMISSION LINE ROUTE PLAN DRAWING	DWG		
19	D	TRANSMISSION LINE PLAN AND PROFILE DRAWING	DWG		
20	D	CONDUCTOR HARDWARES & ACCESSORIES INSTALLATION DETAIL DRAWING	DWG		
21	D	SHIELD WIRE HARDWARES & ACCESSORIES INSTALLATION DETAIL DRAWING	DWG		
22	D	STRUCTURE LIST	LST		
23	D	SAG & TENSION TABLE FOR TRANSMISSION LINE	LST		
24	D	ELECTRICAL AND MECHANICAL CALCULATION FOR CONDUCTORS FOR TRANSMISSION LINE	CAL		
25	D	ELECTRICAL AND MECHANICAL DESIGN AND CALCULATION FOR TOWERS & CONCRETE POLES	CAL		
26	D	CALCULATION SIZING FOR EARTHING & LIGHTNING SYSTEM	CAL		
27	D	MTO FOR TRANSMISSION LINES (CONDUCTOR AND SHIELD WIRE)	MTO		
28	D	MTO FOR TOWERS & CONCRETE POLES	MTO		

29	D	MTO FOR CONDUCTOR AND SHIELD WIRE HARDWARES ACCESSORIES	MTO		
30	D	MTO FOR EARTHING & LIGHTNING SYSTEM	MTO		
31	D	MTO FOR INSULATORS	MTO		
32	D	MR FOR TRANSMISSION LINES (CONDUCTOR AND SHIELD WIRE)	MR		
33	D	MR FOR TOWERS & CONCRETE POLES	MR		
34	D	MR FOR CONDUCTOR AND SHIELD WIRE HARDWARE ACCESSORIES	MR		
35	D	MR FOR EARTHING & LIGHTNING SYSTEM	MR		
36	D	MR FOR INSULATORS	MR		
37	D	TBE FOR TRANSMISSION LINES(CONDUCTOR AND SHIELD WIRE)	TBE		
38	D	TBE FOR INSULATORS	TBE		
39	D	TBE FOR CONDUCTOR AND SHIELD WIRE HARDWARES ACCESSORIES	TBE		
40	D	TBE FOR EARTHING & LIGHTNING SYSTEM	TBE		
41	D	TBE FOR TOWERS & CONCRETE POLES	TBE		
42		CIVIL DOCUMENTS			

ELECTRICAL DOCUMENTS FOR HIGH VOLTAGE SUBSTATION

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B	ELECTRICAL POWER SUPPLY STUDY REPORT	RPT		
2	B+D	ELECTRICAL NETWORK STUDY REPORT (LOAD FLOW AND SHORT CIRCUIT AND MOTOR STARTING)	RPT		
3	B+D	ELECTRICAL DESIGN CRITERIA FOR HV SUBSTATION	CRT		
4	B+D	SPECIFICATIONS FOR POWER TRANSFORMER	SPC		
5	B+D	SPECIFICATIONS FOR DISTRIBUTION AND EARTHING TRANSFORMERS	SPC		
6	B+D	SPECIFICATIONS FOR MV SWITCHGEAR	SPC		
7	B+D	SPECIFICATIONS FOR LV SWITCHGEAR	SPC		
8	B+D	SPECIFICATIONS FOR BUS DUCT	SPC		
9	B+D	SPECIFICATIONS FOR DISTRIBUTION PANEL	SPC		
10	B+D	SPECIFICATIONS FOR MV, LV & CONTROL CABLES	SPC		
11	B+D	SPECIFICATIONS FOR HV CABLES	SPC		
12	B+D	SPECIFICATIONS FOR LIGHTING & SMALL POWER SYSTEM	SPC		
13	B+D	SPECIFICATIONS FOR BATTERY & BATTERY CHARGER	SPC		
14	B+D	SPECIFICATIONS FOR EARTHING & LIGHTNING SYSTEM	SPC		
15	B+D	SPECIFICATIONS FOR BULK MATERIAL	SPC		
16	B+D	SPECIFICATIONS FOR NEUTRAL GROUNDING RESISTOR (NGR)	SPC		
17	B+D	SPECIFICATION FOR CT, PT, CVT	SPC		
18	B+D	SPECIFICATION FOR CB	SPC		
19	B+D	SPECIFICATION FOR DS/ES	SPC		
20	B+D	SPECIFICATION FOR PI & SI (POST INSULATION & STRING INSULATION)	SPC		

21	B+D	SPECIFICATION FOR LIGHTNING ARRESTER / SURGE COUNTER	SPC		
22	B+D	SPECIFICATION FOR CONTROL, PROTECTION , AC, DC AND OUTDOOR PANEL	SPC		
23	D	CALCULATION FOR CURRENT TRANSFORMER	CAL		
24	D	CALCULATION FOR NEUTRAL GROUNDING RESISTOR (NGR)	CAL		
25	D	CALCULATION FOR VOLTAGE TRANSFORMER (OR CAPACITOR VOLTAGE TRANSFORMER)	CAL		
26	D	ELECTRICAL CALCULATION FOR BUSWORK	CAL		
27	D	MECHANICAL CALCULATION FOR BUSWORK	CAL		
28	D	POWER TRANSFORMER SIZING	CAL		
29	D	DISTRIBUTION AND EARTHING TRANSFORMER SIZING	CAL		
30	D	LIGHTNING ARRESTER CALCULATION	CAL		
31	D	RELAYS COORDINATION AND SETTING TABLES	CAL		
32	D	CALCULATION FOR SUBSTATION EARTHING & LIGHTNING SYSTEM	CAL		
33	D	CALCULATION FOR BATTERY & BATTERY CHARGER	CAL		
34	D	CALCULATION FOR (INDOOR & OUTDOOR) LIGHTING	CAL		
35	D	CALCULATION FOR CABLE SIZING	CAL		
36	D	DATA SHEET FOR POWER TRANSFORMER	DSH		
37	D	DATA SHEET FOR DISTRIBUTION AND EARTHING TRANSFORMERS	DSH		
38	D	DATA SHEET FOR MV SWITCHGEAR	DSH		
39	D	DATA SHEET FOR LV SWITCHGEAR	DSH		
40	D	DATA SHEET FOR BUS DUCT	DSH		
41	D	DATA SHEET FOR DISTRIBUTION PANEL	DSH		
42	D	DATA SHEET FOR MV, LV & CONTROL CABLES	DSH		
43	D	DATA SHEET FOR HV CABLES	DSH		
44	D	DATA SHEET FOR LIGHTING & SMALL POWER SYSTEM	DSH		
45	D	DATA SHEET FOR BATTERY & BATTERY CHARGER	DSH		
46	D	DATA SHEET FOR EARTHING & LIGHTNING SYSTEM	DSH		
47	D	DATA SHEET FOR BULK MATERIAL	DSH		
48	D	DATA SHEET FOR NEUTRAL GROUNDING RESISTOR (NGR)	DSH		
49	D	DATA SHEET FOR CT, PT, CVT	DSH		
50	D	DATA SHEET FOR CB	DSH		
51	D	DATA SHEET FOR DS/ES	DSH		
52	D	DATA SHEET FOR PI & SI (POST INSULATION & STRING INSULATION)	DSH		
53	D	DATA SHEET FOR LIGHTNING ARRESTER / SURGE COUNTER	DSH		
54	D	DATA SHEET FOR CONTROL, PROTECTION , AC, DC AND OUTDOOR PANEL	DSH		
55	D	ELECTRICAL LEGEND AND SYMBOLS	DWG		
56	D	HV SUBSTATION LAYOUT AND SECTIONS	DWG		
57	D	ELECTRICAL EQUIPMENT LAYOUT IN BUILDING	DWG		
58	D	AC/DC PANELS FRONT VIEW	DWG		

59	D	AC/DC PANELS INTERNAL VIEW	DWG		
60	D	CONTROL & PROTECTION FRONT VIEW	DWG		
61	D	CONTROL & PROTECTION INTERNAL VIEW	DWG		
62	D	LIGHTING AND SMALL POWER LAYOUT (INDOOR & OUTDOOR)	DWG		
63	D	EARTHING & LIGHTNING LAYOUT	DWG		
64	D	CABLE ROUTE LAYOUT	DWG		
65	D	EARTHING & LIGHTNING INSTALLATION DETAILS	DWG		
66	D	LIGHTING INSTALLATION DETAILS	DWG		
67	D	SUBSTATION CABLE LADDER & TRAY LAYOUT / SECTION & DETAILS	DWG		
68	D	CONTROL AND INTERLOCK LOGIC DIAGRAM	DGR		
69	D	TRIP LOGIC DIAGRAM	DGR		
70	D	ELECTRICAL TERMINATION DIAGRAM	DGR		
71	D	SUBSTATION OVERALL SINGLE LINE DIAGRAM	DGR		
72	D	MV SINGLE LINE DIAGRAM	DGR		
73	D	LV SINGLE LINE DIAGRAM	DGR		
74	D	PROTECTION LOGIC DIAGRAM	DGR		
75	D	PROTECTION & METERING SINGLE LINE DIAGRAM	DGR		
76	D	BATTERY & BATTERY CHARGER & DC DISTRIBUTION BOARD SINGLE LINE DIAGRAM	DGR		
77	D	PROTECTION SCHEMATIC DIAGRAM	DGR		
78	D	AC SCHEMATIC DIAGRAM	DGR		
79	D	DC SCHEMATIC DIAGRAM	DGR		
80	D	CONTROL SCHEMATIC DIAGRAM	DGR		
81	D	SCADA SCHEMATIC DIAGRAM	DGR		
82	D	RTU SCHEMATIC DIAGRAM	DGR		
83	D	TELECOMMUNICATION DOCUMENT	-		
84	D	CIVIL DOCUMENTS	-		
85	D	ELECTRICAL CABLE SCHEDULE LIST /DIAGRAM	LST		
86	D	ELECTRICAL CABLE DRUM SCHEDULE	LST		
87	D	ELECTRICAL LOAD LIST FOR SUBSTATION INTERNAL USE	LST		
88	D	MTO FOR POWER TRANSFORMER	MTO		
89	D	MTO FOR DISTRIBUTION AND EARTHING TRANSFORMERS	MTO		
90	D	MTO FOR MV SWITCHGEAR	MTO		
91	D	MTO FOR LV SWITCHGEAR	MTO		
92	D	MTO FOR BUS DUCT	MTO		
93	D	MTO FOR DISTRIBUTION PANEL	MTO		
94	D	MTO FOR MV, LV & CONTROL CABLES	MTO		
95	D	MTO FOR HV CABLES	MTO		
96	D	MTO FOR LIGHTING & SMALL POWER SYSTEM	MTO		

97	D	MTO FOR BATTERY & BATTERY CHARGER	MTO		
98	D	MTO FOR EARTHING & LIGHTNING SYSTEM	MTO		
99	D	MTO FOR BULK MATERIAL	MTO		
100	D	MTO FOR NEUTRAL GROUNDING RESISTOR (NGR)	MTO		
101	D	MTO FOR CT, PT, CVT	MTO		
102	D	MTO FOR CB	MTO		
103	D	MTO FOR DS/ES	MTO		
104	D	MTO FOR PI & SI (POST INSULATION & STRING INSULATION)	MTO		
105	D	MTO FOR LIGHTNING ARRESTER / SURGE COUNTER	MTO		
106	D	MTO FOR CONTROL, PROTECTION , AC, DC AND OUTDOOR PANEL	MTO		
107	D	MRQ FOR POWER TRANSFORMER	MR		
108	D	MRQ FOR DISTRIBUTION AND EARTHING TRANSFORMERS	MR		
109	D	MRQ FOR MV SWITCHGEAR	MR		
110	D	MRQ FOR LV SWITCHGEAR	MR		
111	D	MRQ FOR BUS DUCT	MR		
112	D	MRQ FOR DISTRIBUTION PANEL	MR		
113	D	MRQ FOR MV, LV & CONTROL CABLES	MR		
114	D	MRQ FOR HV CABLES	MR		
115	D	MRQ FOR LIGHTING & SMALL POWER SYSTEM	MR		
116	D	MRQ FOR BATTERY & BATTERY CHARGER	MR		
117	D	MRQ FOR EARTHING & LIGHTNING SYSTEM	MR		
118	D	MRQ FOR BULK MATERIAL	MR		
119	D	MRQ FOR NEUTRAL GROUNDING RESISTOR (NGR)	MR		
120	D	MRQ FOR CT, PT, CVT	MR		
121	D	MRQ FOR CB	MR		
122	D	MRQ FOR DS/ES	MR		
123	D	MRQ FOR PI & SI (POST INSULATION & STRING INSULATION)	MR		
124	D	MRQ FOR LIGHTNING ARRESTER / SURGE COUNTER	MR		
125	D	MRQ FOR CONTROL, PROTECTION , AC, DC AND OUTDOOR PANEL	MR		
126	D	TBE FOR POWER TRANSFORMER	TBE		
127	D	TBE FOR DISTRIBUTION AND EARTHING TRANSFORMERS	TBE		
128	D	TBE FOR MV SWITCHGEAR	TBE		
129	D	TBE FOR LV SWITCHGEAR	TBE		
130	D	TBE FOR BUS DUCT	TBE		
131	D	TBE FOR DISTRIBUTION PANEL	TBE		
132	D	TBE FOR MV, LV & CONTROL CABLES	TBE		
133	D	TBE FOR HV CABLES	TBE		
134	D	TBE FOR LIGHTING & SMALL POWER SYSTEM	TBE		
135	D	TBE FOR BATTERY & BATTERY CHARGER	TBE		

136	D	TBE FOR EARTHING & LIGHTNING SYSTEM	TBE		
137	D	TBE FOR BULK MATERIAL	TBE		
138	D	TBE FOR NEUTRAL GROUNDING RESISTOR (NGR)	TBE		
139	D	TBE FOR CT, PT, CVT	TBE		
140	D	TBE FOR CB	TBE		
141	D	TBE FOR DS/ES	TBE		
142	D	TBE FOR PI & SI (POST INSULATION & STRING INSULATION)	TBE		
143	D	TBE FOR LIGHTNING ARRESTER / SURGE COUNTER	TBE		
144	D	TBE FOR CONTROL, PROTECTION , AC, DC AND OUTDOOR PANEL	TBE		
TELECOMMUNICATION RTU/MTU SCADA					
ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	D	PRELIMINARY PAGING SYSTEM CALCULATION	CAL		BY VENDOR FINAL DOCUMENT
2	D	DATA SHEET FOR RADIO SYSTEM	DSH	YES	
3	D	DATA SHEET FOR ACCESS CONTROL SYSTEM	DSH		
4	D	DATA SHEET FOR ANTI INTRUSION & SURVEILLANCE SYSTEM (AISS)	DSH		
5	D	DATA SHEET FOR FIBER OPTIC NETWORK	DSH	YES	
6	D	DATA SHEET FOR LAN/WAN SYSTEM	DSH		
7	D	DATA SHEET FOR PAGING/INTERCOM SYSTEM	DSH		
8	D	DATA SHEET FOR PROCESS CCTV SYSTEM	DSH		
9	D	DATA SHEET FOR SATELLITE COMMUNICATION SYSTEM	DSH		
10	D	DATA SHEET FOR TELECOMMUNICATION CABLE	DSH	YES	
11	D	DATA SHEET FOR TELEPHONE HOTLINE SYSTEM	DSH		CAN BE MERGED
12	D	DATA SHEET FOR TELEPHONE SYSTEM	DSH	YES	CAN BE MERGED
13	B + D	INSTALLATION DETAILS FOR TELECOMMUNICATION SYSTEMS	DWG	YES	
14	B + D	OVERALL BLOCK DIAGRAM FOR TELECOM SYSTEMS	DWG	YES	
15	D	ANTI INTRUSION & SURVEILLANCE SYSTEM LAYOUT	DWG		
16	D	BLOCK DIAGRAM FOR ACCESS CONTROL SYSTEM	DWG		
17	D	BLOCK DIAGRAM FOR ANTI INTRUSION & SURVEILLANCE SYSTEM (AISS)	DWG		
18	D	BLOCK DIAGRAM FOR FIBER OPTIC NETWORK	DWG	YES	
19	D	BLOCK DIAGRAM FOR LAN/WAN SYSTEM	DWG		
20	D	BLOCK DIAGRAM FOR PAGING/INTERCOM SYSTEM	DWG		
21	D	BLOCK DIAGRAM FOR PROCESS CCTV SYSTEM	DWG		
22	D	BLOCK DIAGRAM FOR RADIO SYSTEM	DWG	YES	
23	D	BLOCK DIAGRAM FOR SATELLITE COMMUNICATION SYSTEM	DWG		
24	D	BLOCK DIAGRAM FOR TELEPHONE HOTLINE SYSTEM	DWG		CAN BE MERGED
25	D	BLOCK DIAGRAM FOR TELEPHONE SYSTEM	DWG	YES	CAN BE MERGED
26	D	BUILDING TELECOM EQUIPMENT & CABLE ROUTE LAYOUT	DWG		

27	D	OVERALL TELECOM CABLE ROUTE LAYOUT	DWG	YES	
28	D	UNIT/AREA OUTDOOR PAGING/INTERCOM LAYOUT	DWG		
29	D	UNIT/AREA OUTDOOR TELEPHONE LAYOUT	DWG	YES	
30	D	UNIT/AREA PROCESS CCTV LAYOUT	DWG		
31	D	TELECOMMUNICATION CABLE DRUM SCHEDULE	LST	YES	
32	D	TELECOMMUNICATION CABLE SCHEDULE	LST	YES	
33	D	MATERIAL REQUISITION FOR TELECOMMUNICATION BULK MATERIALS	MR	YES	
34	D	MATERIAL REQUISITION FOR TELECOMMUNICATION CABLE	MR	YES	
35	D	MATERIAL REQUISITION FOR TELECOMMUNICATION SYSTEMS	MR	YES	
36	D	MTO FOR ACCESS CONTROL SYSTEM	MTO		
37	D	MTO FOR ANTI INTRUSION & SURVEILLANCE SYSTEM (AISS)	MTO		
38	D	MTO FOR FIBER OPTIC NETWORK	MTO	YES	
39	D	MTO FOR LAN/WAN SYSTEM	MTO		
40	D	MTO FOR PAGING/INTERCOM SYSTEM	MTO		
41	D	MTO FOR PROCESS CCTV SYSTEM	MTO		
42	D	MTO FOR RADIO SYSTEM	MTO	YES	
43	D	MTO FOR SATELLITE COMMUNICATION SYSTEM	MTO		
44	D	MTO FOR TELECOMMUNICATION BULK MATERIALS	MTO	YES	INCLUDED TRAY-LADDER, JB, CONDUIT,...
45	D	MTO FOR TELECOMMUNICATION CABLE	MTO	YES	
46	D	MTO FOR TELEPHONE HOTLINE SYSTEM	MTO		CAN BE MERGED
47	D	MTO FOR TELEPHONE SYSTEM	MTO	YES	CAN BE MERGED
48	B + D	SPECIFICATION FOR ACCESS CONTROL SYSTEM	SPC		
49	B + D	SPECIFICATION FOR ANTI INTRUSION & SURVEILLANCE SYSTEM (AISS)	SPC		
50	B + D	SPECIFICATION FOR FIBER OPTIC NETWORK	SPC	YES	
51	B + D	SPECIFICATION FOR LAN/WAN SYSTEM	SPC		
52	B + D	SPECIFICATION FOR PAGING/INTERCOM SYSTEM	SPC		
53	B + D	SPECIFICATION FOR PROCESS CCTV SYSTEM	SPC		
54	B + D	SPECIFICATION FOR RADIO SYSTEM	SPC	YES	
55	B + D	SPECIFICATION FOR SATELLITE COMMUNICATION SYSTEM	SPC		
56	B + D	SPECIFICATION FOR TELECOMMUNICATION CABLE	SPC	YES	
57	B + D	SPECIFICATION FOR TELEPHONE HOTLINE SYSTEM	SPC		CAN BE MERGED
58	B + D	SPECIFICATION FOR TELEPHONE SYSTEM	SPC	YES	CAN BE MERGED
59	B + D	TELECOMMUNICATION SYSTEMS DESIGN CRITERIA	SPC	YES	
60	D	TBE FOR TELECOMMUNICATION BULK MATERIALS	TBE	YES	
61	D	TBE FOR TELECOMMUNICATION CABLE	TBE	YES	
62	D	TBE FOR TELECOMMUNICATION SYSTEMS	TBE	YES	
MECHANICAL (ROTARY & PACKAGES LIST)					

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B + D	SPECIFICATION FOR CENTRIFUGAL PUMP (API TYPE)	SPC		
2	B + D	SPECIFICATION FOR CENTRIFUGAL PUMP (NON-API TYPE)	SPC		
3	B + D	SPECIFICATION FOR ROTARY PUMP	SPC		
4	B + D	SPECIFICATION FOR RECIPROCATING PUMP	SPC		
5	B + D	SPECIFICATION FOR CONTROLLED VOLUME PUMP	SPC		
6	B + D	SPECIFICATION FOR SEAL LESS PUMP	SPC		
7	B + D	SPECIFICATION FOR FIRE WATER PUMP	SPC		
8	B + D	SPECIFICATION FOR CENTRIFUGAL COMPRESSOR	SPC		
9	B + D	SPECIFICATION FOR RECIPROCATING COMPRESSOR	SPC		
10	B + D	SPECIFICATION FOR ROTARY COMPRESSOR	SPC		
11	B + D	SPECIFICATION FOR STEAM TURBINES (GENERAL PURPOSE)	SPC		
12	B + D	SPECIFICATION FOR STEAM TURBINES (SPECIAL PURPOSE)	SPC		
13	B + D	SPECIFICATION FOR GAS TURBINES	SPC		
14	B + D	SPECIFICATION FOR FLARE PACKAGE	SPC		
15	B + D	SPECIFICATION FOR FIRED HEATER	SPC		
16	B + D	SPECIFICATION FOR CRANES/HOISTS	SPC		
17	B + D	SPECIFICATION FOR LUBRICATION, SHAFT SEALING, CONTROL OIL AND AUXILIARIES SYSTEMS	SPC		
18	B + D	SPECIFICATION FOR SHAFT SEALING SYSTEMS FOR CENTRIFUGAL AND ROTARY PUMPS	SPC		
19	B + D	SPECIFICATION FOR DIESEL ENGINE	SPC		
20	B + D	SPECIFICATION FOR PACKAGED EQUIPMENT	SPC		
21	B + D	SPECIFICATION FOR GAS AND AIR BLOWER	SPC		
22	B + D	SPECIFICATION FOR CENTRIFUGAL COMPRESSOR: EXPANDER DRIVEN	SPC		
23	B + D	SPECIFICATION FOR AIR COMPRESSOR	SPC		
MECHANICAL FIXED					
ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B + D	LIST OF ALLOWABLE FORCES & MOMENTS ON VESSELS NOZZLES	LST		
2	B + D	STANDARD DRAWINGS FOR SHELL & TUBE HEAT EXCHANGERS	DWG		
3	B + D	STANDARD DRAWINGS FOR STORAGE TANKS	DWG		
4	B + D	STANDARD DRAWINGS FOR PRESSURE VESSELS	DWG		
5	B + D	SPECIFICATION FOR PRESSURE VESSELS	SPC		INCLUDING DIFFERENT DESIGN CODES SUCH AS ASME SEC VIII DIV1&2 & PD5500
6	B + D	SPECIFICATION FOR COLUMN AND VESSEL TRAY & INTERNALS	SPC		

7	B + D	SPECIFICATION FOR SPHERICAL TANKS	SPC		
8	B + D	SPECIFICATION FOR STORAGE TANKS	SPC		
9	B + D	SPECIFICATION FOR CRYOGENIC DOUBLE WALL TANKS	SPC		
10	B + D	SPECIFICATION FOR DOUBLE WALL TANKS	SPC		
11	B + D	SPECIFICATION FOR ELEVATED TANKS	SPC		
12	B + D	SPECIFICATION FOR SHELL & TUBE HEAT EXCHANGERS	SPC		
13	B + D	SPECIFICATION FOR HAIRPIN HEAT EXCHANGERS	SPC		
14	B + D	SPECIFICATION FOR PLATE TYPE HEAT EXCHANGERS	SPC		
15	B + D	SPECIFICATION FOR AIR COOLED HEAT EXCHANGERS	SPC		
16	B + D	SPECIFICATION FOR ELECTRICAL HEATER	SPC		
17	D	MECHANICAL DATA SHEET FOR SHELL AND TUBE HEAT EXCHANGERS	DSH		
18	D	MECHANICAL DATA SHEET FOR DOUBLE PIPE HEAT EXCHANGERS (WELDED TYPE)	DSH		
19	D	MECHANICAL DATA SHEET FOR AIR COOLED HEAT EXCHANGERS	DSH		
20	D	MECHANICAL DATA SHEET FOR STORAGE TANKS	DSH		
21	D	MECHANICAL DATA SHEET FOR FLOATING ROOF STORAGE TANKS	DSH		
22	D	MECHANICAL DATA SHEET FOR SPHERICAL TANKS	DSH		
23	D	MECHANICAL DATA SHEET FOR ELEVATED TANKS	DSH		
24	D	MECHANICAL DATA SHEET FOR PRESSURE VESSELS	DSH		
25	D	MECHANICAL DATA SHEET FOR TOWERS/COLUMNS	DSH		
26	D	MECHANICAL DATA SHEET FOR REACTORS	DSH		
27	D	MECHANICAL DATA SHEET FOR STATIC MIXER	DSH		
28	D	MECHANICAL DATA SHEET FOR EJECTOR	DSH		
29	D	MECHANICAL DATA SHEET FOR SILENCER	DSH		
30	D	MATERIAL REQUISITION FOR AIR COOLED HEAT EXCHANGERS	MR		
31	D	MATERIAL REQUISITION FOR SHELL AND TUBE HEAT EXCHANGERS	MR		
32	D	MATERIAL REQUISITION FOR HAIRPIN HEAT EXCHANGERS	MR		
33	D	MATERIAL REQUISITION FOR PLATE TYPE HEAT EXCHANGERS	MR		
34	D	MATERIAL REQUISITION FOR BRAZED ALUMINUM PLATE-FIN HEAT EXCHANGERS	MR		
35	D	MATERIAL REQUISITION FOR SPECIAL HEAT EXCHANGERS	MR		
36	D	MATERIAL REQUISITION FOR ELECTRICAL HEATER	MR		
37	D	MATERIAL REQUISITION FOR STORAGE TANKS	MR		
38	D	MATERIAL REQUISITION FOR SPHERICAL TANKS	MR		
39	D	MATERIAL REQUISITION FOR DOUBLE WALL TANKS	MR		
40	D	MATERIAL REQUISITION FOR ELEVATED TANK	MR		
41	D	MATERIAL REQUISITION FOR SILOS/HOPPERS	MR		
42	D	MATERIAL REQUISITION FOR PRESSURE VESSELS	MR		
43	D	MATERIAL REQUISITION FOR TOWERS/COLUMNS	MR		

44	D	MATERIAL REQUISITION FOR REACTORS	MR		
45	D	MATERIAL REQUISITION FOR FILTERS	MR		
46	D	MATERIAL REQUISITION FOR TRAY & INTERNALS	MR		
47	D	MATERIAL REQUISITION FOR DESUPER HEATER	MR		
48	D	MATERIAL REQUISITION FOR STATIC MIXER	MR		
49	D	MATERIAL REQUISITION FOR EJECTOR	MR		
50	D	MATERIAL REQUISITION FOR SILENCER	MR		
51	D	TBE FOR AIR COOLED HEAT EXCHANGERS	TBE		
52	D	TBE FOR SHELL AND TUBE HEAT EXCHANGERS	TBE		
53	D	TBE FOR HAIRPIN HEAT EXCHANGERS	TBE		
54	D	TBE FOR PLATE TYPE HEAT EXCHANGERS	TBE		
55	D	TBE FOR BRAZED ALUMINUM PLATE-FIN HEAT EXCHANGERS	TBE		
56	D	TBE FOR SPECIAL HEAT EXCHANGERS	TBE		
57	D	TBE FOR ELECTRICAL HEATER	TBE		
58	D	TBE FOR STORAGE TANKS	TBE		
59	D	TBE FOR SPHERICAL TANKS	TBE		
60	D	TBE FOR DOUBLE WALL TANKS	TBE		
61	D	TBE FOR ELEVATED TANK	TBE		
62	D	TBE FOR SILOS/HOPPERS	TBE		
63	D	TBE FOR PRESSURE VESSELS	TBE		
64	D	TBE FOR TOWERS/COLUMNS	TBE		
65	D	TBE FOR REACTORS	TBE		
66	D	TBE FOR FILTERS	TBE		
67	D	TBE FOR TRAY & INTERNALS	TBE		
68	D	TBE FOR STATIC MIXER	TBE		
69	D	TBE FOR SILENCER	TBE		
70	D	TBE FOR EJECTOR	TBE		
71	D	TBE FOR DESUPER HEATER	TBE		

PIPELINE

ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B + D	PIPELINE DESIGN CRITERIA	CRT	YES	PIPELINE
2	B + D	Pipeline MECHANICAL DESIGN	RPT	YES	PIPELINE
3	B + D	PIPELINE ROUTING STUDY REPORT	RPT	YES	PIPELINE
4	B + D	PIPELINE HYDRAULIC REPORT	RPT	YES	PIPELINE
5	B + D	TRANSIENT STUDY REPORT FOR PIPELINES	RPT	YES	PIPELINE
6	B + D	PIPELINE SURGE ANALYSIS REPORT	RPT	YES	PIPELINE
7	B + D	PIPELINE WALL THICKNESS CALCULATION	CAL	YES	PIPELINE

8	D	CALCULATION NOTE FOR ANCHOR BLOCK	CAL	YES	PIPELINE
9	D	CALCULATION NOTE FOR PIG LAUNCHER / RECEIVER FOUNDATION	CAL	YES	CIVIL
10	B + D	PIPELINE OVER- PRESSURE PROTECTION SYSTEM PHILOSOPHY	PHL	YES	PROCESS
11	B + D	SPECIFICATION FOR LINE PIPE COATING	SPC	YES	PIPING
12	B + D	SPECIFICATION FOR CONCRETE COATING OF LINE PIPE	SPC	YES	PIPING
13	B + D	SPECIFICATION FOR LINE PIPE	SPC	YES	PIPING
14	B + D	SPECIFICATION FOR FIELD JOINT COATING	SPC	YES	PIPING
15	B + D	SPECIFICATION FOR PIPELINE VALVES	SPC	YES	PIPING
16	B + D	SPECIFICATION FOR HYDRO TEST	SPC	YES	PIPING
17	B + D	SPECIFICATION FOR WELDING	SPC	YES	PIPING
18	B + D	SPECIFICATION FOR PIG LAUNCHER & RECEIVER	SPC	YES	MECHANIC
19	B + D	MATERIAL SPECIFICATION OF ROCK-SHIELD	SPC	YES	PIPING
20	B + D	PIPELINE CONSTRUCTION SPECIFICATION	SPC	YES	PIPING
21	B + D	SPECIFICATION FOR LINE BREAKING VALVE	SPC	YES	INSTRUMENT
22	B + D	SPECIFICATION FOR LEAK DETECTION SYSTEM	SPC	YES	INSTRUMENT
23	D	DATA SHEET FOR FIELD JOINT COATING	DSH	YES	PIPING
24	D	DATA SHEET FOR ISOLATION JOINTS	DSH	YES	PIPING
25	D	DATA SHEET FOR PREFABRICATED HOT-BEND	DSH	YES	PIPING
26	B + D	DATA SHEET FOR PIPELINE VALVES	DSH	YES	PIPING
27	D	DATA SHEET FOR BARRED TEES	DSH	YES	PIPING
28	D	DATA SHEET FOR ANCHOR FLANGE	DSH	YES	PIPING
29	B + D	DATA SHEET FOR PIG LAUNCHER & RECEIVER	DSH	YES	MECHANIC
30	D	DATA SHEET FOR LINE BREAKING VALVE	DSH	YES	INSTRUMENT
31	B + D	PIG LAUNCHER/RECEIVER PROCESS DATA SHEETS	DSH	YES	PROCESS
32	D	DATA SHEET FOR PIG SIGNALER	DSH	YES	INSTRUMENT
33	B + D	PIPELINE INTERFACE LIST	LST	YES	PIPING
34	B + D	PIPELINE CROSSING LIST	LST	YES	PIPING
35	B + D	PIPELINE OVERALL LOCATION MAP	DWG	YES	PIPING
36	B + D	PIPELINE PLAN AND PROFILE DRAWING	DWG	YES	PIPING
37	B + D	TYPICAL DETAILS FOR RIVER CROSSING	DWG	YES	CIVIL
38	B + D	TYPICAL DETAILS FOR TRACK AND ACCESS ROAD CROSSINGS	DWG	YES	CIVIL
39	B + D	TYPICAL DETAILS FOR MAIN ROAD CROSSINGS	DWG	YES	CIVIL
40	B + D	TYPICAL DETAILS FOR CROSSING OF FOREIGN PIPELINES OR CABLES	DWG	YES	CIVIL
41	B + D	TYPICAL DETAILS FOR RAILWAY CROSSING	DWG	YES	CIVIL
42	D	VALVE STATION PIPING LAYOUT	DWG	YES	PIPING
43	B + D	TYPICAL DETAILS FOR PIPELINE TRENCH	DWG	YES	CIVIL
44	B + D	TYPICAL DETAIL FOR MAIN CHANNEL CROSSING	DWG	YES	CIVIL
45	B + D	TYPICAL PIPELINE RIGHT OF WAY	DWG	YES	CIVIL
46	B + D	HYDRAULIC GRADIENT DIAGRAM	DWG	YES	PROCESS

47	B + D	LAND ACQUISITION DRAWINGS	DWG	YES	PIPING
48	D	SPECIAL CROSSING PLAN-PROFILE	DWG	YES	PIPING
49	D	PIPELINE CROSS SECTION & EARTH WORKS ESTIMATION	DWG	YES	CIVIL
50	D	VALVE STATION CIVIL LAYOUT	DWG	YES	CIVIL
51	B + D	TYPICAL DETAILS FOR IRISH CROSSING	DWG	YES	CIVIL
52	B + D	TYPICAL DETAILS FOR STOPPAGE BACKFILL	DWG	YES	CIVIL
53	B + D	TYPICAL DETAILS FOR CONCRETE CONTINUOUS WEIGHT	DWG	YES	CIVIL
54	B + D	TYPICAL DETAILS FOR PIPELINE MARKER	DWG	YES	CIVIL
55	B + D	TYPICAL DETAILS FOR GHANAT CROSSING	DWG	YES	CIVIL
56	B + D	TYPICAL DETAILS FOR GEOTEXTILE INSTALLATION	DWG	YES	CIVIL
57	B + D	TYPICAL DETAIL FOR PIG SIGNAL INDICATOR PIT	DWG	YES	CIVIL
58	B + D	TYPICAL DETAIL FOR GABION	DWG	YES	CIVIL
59	B + D	TYPICAL DETAIL FOR PIPELINE VALVE SUPPORT	DWG	YES	PIPING
60	B + D	TYPICAL DETAIL FOR BEARING AND WARNING SLAB	DWG	YES	CIVIL
61	D	ANCHOR BLOCK PLAN, SECTION & DETAILS	DWG	YES	PIPING
62	D	PIG LAUNCHER / RECEIVER FOUNDATION	DWG	YES	CIVIL
63	B + D	TYPICAL DETAIL FOR DRY STREAM/FLOODWAY CROSSING	DWG	YES	CIVIL
64	B + D	TYPICAL DRAWING FOR H-PIPE SUPPORT	DWG	YES	PIPING
65	B + D	TYPICAL DRAWING FOR ACCESS ROAD DETAIL	DWG	YES	CIVIL
66	B + D	TYPICAL DETAIL FOR PIPELINE VALVE PIT	DWG	YES	CIVIL
67	B + D	WALL THICKNESS TELESCOPIC DIAGRAM	DWG	YES	PIPING
68	D	MATERIAL REQUISITION FOR PIPELINE VALVE	MR	YES	PIPING
69	D	MATERIAL REQUISITION FOR ISOLATION JOINTS	MR	YES	PIPING
70	D	MATERIAL REQUISITION FOR BARRED TEES	MR	YES	PIPING
71	D	MATERIAL REQUISITION FOR FIELD JOINT COATING	MR	YES	PIPING
72	D	MATERIAL REQUISITION FOR PIG LAUNCHER & RECEIVER	MR	YES	MECHANIC
73	D	MATERIAL REQUISITION FOR ANCHOR FLANGE	MR	YES	PIPING
74	D	MATERIAL REQUISITION FOR ROCK SHIELD	MR	YES	PIPING
75	D	MATERIAL REQUISITION FOR PREFABRICATED HOT-BEND	MR	YES	PIPING
76	D	MATERIAL REQUISITION FOR LINE BREAKING VALVE	MR	YES	INSTRUMENT
77	D	MATERIAL REQUISITION FOR PIG SIGNALER	MR	YES	INSTRUMENT
78	D	TBE FOR PIPELINE VALVE	TBE	YES	PIPING
79	D	TBE FOR ISOLATION JOINTS	TBE	YES	PIPING
80	D	TBE FOR FIELD JOINT COATING	TBE	YES	PIPING
81	D	TBE FOR PIG LAUNCHER & RECEIVER	TBE	YES	MECHANIC
82	D	TBE FOR PIPELINE ANCHOR FLANGE	TBE	YES	PIPING
83	D	TBE FOR BARRED TEES	TBE	YES	PIPING
84	D	TBE FOR ROCK SHIELD	TBE	YES	PIPING
85	D	TBE FOR LINE BREAKING VALVE	TBE	YES	INSTRUMENT

86	D	TBE FOR PIG SIGNALER	TBE	YES	INSTRUMENT
ARCHITECTURE					
ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B + D	ARCHITECTURAL DESIGN CRITERIA	CRT		INCLUDING ARCHITECTURAL STUDY FOR BUILDING AND SHELTER
2	B + D	PHYSICAL PROGRAM FOR BUILDINGS AND SHELTERS	SPC		
3	B + D	SPECIFICATION FOR BUILDINGS AND SHELTERS	SPC		
4	B + D	SPECIFICATION FOR BUILDING MATERIAL	SPC		
5	B + D	SPECIFICATION FOR BLAST RESISTANT ITEMS	SPC		
6	B + D	ARCHITECTURAL STANDARD DETAILS	DWG		
7	B	ARCHITECTURAL PLANS AND ROOF PLAN FOR BUILDINGS	DWG		SUCH AS CONTROL ROOM, SUBSTATION, WORKSHOP, SAMPLING ROOM AND ETC.
8	B+D	ARCHITECTURAL ELEVATIONS AND SECTIONS FOR BUILDINGS	DWG		
9	D	ARCHITECTURAL OVERALL PLANS AND FINISH SCHEDULE FOR BUILDINGS	DWG		
10	D	ARCHITECTURAL MEASUREMENT PLANS FOR BUILDINGS	DWG		
11	D	ARCHITECTURAL ROOF PLANS FOR BUILDINGS	DWG		
12	D	ARCHITECTURAL REFLECTED CEILING PLAN FOR BUILDINGS	DWG		
13	D	ARCHITECTURAL FLOORING PLAN FOR BUILDINGS	DWG		
14	D	ARCHITECTURAL WALL SECTION AND DETAILS FOR BUILDINGS	DWG		
15	D	ARCHITECTURAL DOOR AND WINDOW TYPES AND SCHEDULE FOR BUILDINGS	DWG		
16	D	ARCHITECTURAL FURNITURE LAYOUTS FOR BUILDINGS	DWG		
17	D	ARCHITECTURAL SPECIFIC DETAILS FOR BUILDINGS	DWG		
18	B+D	ARCHITECTURAL DRAWING FOR SHELTERS	DWG		
19	D	MTO FOR BLAST RESISTANT ITEMS	MTO		
20	D	MATERIAL REQUISITION FOR BLAST RESISTANT ITEMS	MR		
21	D	TBE FOR BLAST RESISTANT ITEMS	TBE		
CIVIL					
ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B + D	CIVIL DESIGN CRITERIA	SPC	YES	
2	B + D	SPECIFICATION FOR EARTH WORKS	SPC	YES	
3	B + D	SPECIFICATION FOR ROADS AND PAVING	SPC	YES	
4	B + D	SPECIFICATION FOR FENCE & GATES	SPC	YES	
5	B + D	SPECIFICATION FOR SEWER & DRAINAGE SYSTEMS	SPC	YES	

6	B	TOPOGRAPHICAL SURVEY SPECIFICATION & SCOPE OF WORK	SPC	YES	
7	B	HYDROLOGICAL STUDY REPORT	RPT	YES	
8	B + D	SITE SURVEY REPORT	RPT	YES	
9	B + D	SITE SURVEY/TOPOGRAPHICAL DRAWINGS	DWG	YES	
10	B + D	STANDARD DETAILS FOR ROADS	DWG	YES	
11	B + D	STANDARD DETAILS FOR SLOPE PROTECTION	DWG	YES	
12	B + D	STANDARD DETAILS FOR FENCE & GATE	DWG	YES	
13	B + D	STANDARD DETAILS FOR STONE WALL	DWG	YES	
14	B + D	STANDARD DETAILS FOR SURFACE DRAINAGE DITCH	DWG	YES	
15	B + D	STANDARD DETAILS FOR PIPE BEDDING	DWG	YES	
16	B + D	STANDARD DETAILS FOR CONCRETE PAVEMENT	DWG	YES	
17	B + D	STANDARD DETAILS FOR MISCELLANEOUS ITEMS FOR CIVIL	DWG	YES	
18	B + D	STANDARD DETAILS FOR SANITARY SEWER MANHOLE	DWG	YES	
19	B + D	STANDARD DETAILS FOR OILY SEWER MANHOLE	DWG		
20	B + D	STANDARD DETAILS FOR OILY SEWER CATCH BASIN	DWG		
21	B + D	STANDARD DETAILS FOR FIRE WATER VALVE PIT	DWG		
22	B + D	STANDARD DETAILS FOR FIRE WATER HYDRANT GUARD POSTS	DWG		
23	B + D	STANDARD DETAILS FOR GUARD RAIL	DWG	YES	
24	B + D	STANDARD DETAILS FOR CABLE TRENCH	DWG	YES	
25	B + D	STANDARD DETAILS FOR CABLE PULL PIT & CABLE TRANSITION	DWG	YES	
26	B + D	STANDARD DETAILS FOR DESANDER	DWG		
27	B + D	STANDARD DETAILS FOR SIGN ROAD & MARKING PLAN	DWG		
28	B + D	STANDARD DETAILS FOR OPEN DRAIN SYSTEM & CLEAN OUT	DWG	YES	
29	B + D	STANDARD DETAILS FOR DUCT BANK	DWG	YES	
30	B + D	STANDARD DETAILS FOR ACCIDENTALLY OILY CATCH BASIN	DWG		
31	B + D	CIVIL GENERAL ARRANGEMENT	DWG		
32	B + D	ROUGH GRADING PLAN, SECTIONS AND DETAILS	DWG	YES	
33	D	EVAPORATION POND PLAN, SECTIONS & DETAILS	DWG		
34	D	BURN PIT PLAN, SECTIONS & DETAILS	DWG	YES	
35	D	UNDERGROUND COMPOSITE PLAN	DWG	YES	
36	D	STORM AND SURFACE WATER DRAINAGE SYSTEM CALCULATION	CAL	YES	
37	D	UNDERGROUND WATER DRAINAGE SYSTEM CALCULATION	CAL		
38	D	CALCULATION FOR FLOOD DIVERSION CHANNELS	CAL	YES	
39	D	FLOOD CONTROL SYSTEM CALCULATION	CAL	YES	
40	D	MANHOLE, VALVE PIT & CATCH BASIN DIMENSION SCHEDULE	DWG	YES	
41	B + D	ROADS & PAVING PLAN & DETAILS	DWG	YES	
42	B + D	FINISH GRADING & SURFACE DRAINAGE SYSTEM PLAN & DETAILS	DWG	YES	
43	B + D	MAIN ACCESS ROADS PLAN & PROFILE	DWG	YES	
44	B + D	FENCING & GATE ARRANGEMENT PLAN & DETAILS	DWG		

45	D	FOUNDATION LOCATION PLAN	DWG		
46	D	FLOOD DIVERSION CHANNELS LAYOUT AND DETAILS	DWG	YES	
47	D	BOQ FOR CIVIL WORKS		YES	
STRUCTURAL					
ITEM NO	BASIC / DETAIL	DOCUMENT TITLE/DESCRIPTION	CATEGORY	PIPELINE PROJ.	REMARKS
1	B + D	STRUCTURAL DESIGN CRITERIA	SPC	YES	
2	B + D	SPECIFICATION FOR CONCRETE WORKS MATERIAL & CONSTRUCTION	SPC	YES	
3	B + D	SPECIFICATION FOR STEEL WORKS FABRICATION & ERECTION	SPC	YES	
4	B + D	SPECIFICATION FOR STORAGE TANK FOUNDATION	SPC		
5	B + D	SPECIFICATIONS FOR GROUTING	SPC	YES	
6	B + D	SPECIFICATION FOR DESIGN OF BLAST RESISTANT BUILDINGS	SPC		
7	B + D	SPECIFICATION FOR PILE & PILING	SPC		
8	B + D	SPECIFICATION FOR CULVERT BRIDGES AND RELATED STRUCTURES	SPC		
9	B	GEOTECHNICAL SCOPE OF WORK	SPC	YES	
10	B + D	SPECIFICATION FOR RETAINING WALLS AND SLOPE PROTECTION	SPC		
11	B + D	SPECIFICATION FOR FIRE PROOFING	SPC	YES	
12	B + D	SPECIFICATION FOR SUPPORTING STRUCTURES AND FOUNDATIONS FOR MACHINERY	SPC		
13	B	GEOTECHNICAL INVESTIGATION REPORT	RPT	YES	
14	B	SEISMIC HAZARD ASSESSMENT STUDY	RPT		
15	B + D	GENERAL NOTES FOR R/C STRUCTURES & ABBREVIATIONS	DWG		
16	B + D	GENERAL NOTES FOR STEEL STRUCTURES & ABBREVIATIONS	DWG		
17	B + D	STANDARD DETAILS FOR ANCHOR BOLTS	DWG	YES	
18	D	TYPICAL DETAILS FOR BUILT-UP SECTIONS	DWG		
19	B + D	STANDARD DETAILS FOR LADDER & SAFETY CAGE	DWG	YES	
20	B + D	STANDARD DETAILS FOR HANDRAIL	DWG	YES	
21	B + D	STANDARD DETAILS FOR STEEL STAIR	DWG	YES	
22	B + D	STANDARD DETAILS FOR STEEL FLOORING, GRATING AND CHEQUERD PLATE	DWG		
23	D	TYPICAL DETAILS FOR COLUMN BASE PLATE	DWG		
24	D	TYPICAL DETAILS FOR BEAM TO COLUMN FIXED CONNECTION	DWG		
25	D	TYPICAL DETAILS FOR BEAM TO COLUMN HINGED CONNECTION	DWG		
26	D	TYPICAL DETAILS FOR BEAM TO BEAM CONNECTION	DWG		
27	D	TYPICAL DETAILS FOR BEAM & COLUMN SPLICE	DWG		
28	D	TYPICAL DETAILS FOR VERTICAL BRACING CONNECTION	DWG		
29	D	TYPICAL DETAILS FOR HORIZONTAL BRACING CONNECTION	DWG		
30	D	TYPICAL DRAWINGS FOR SHELTER DETAILS	DWG		
31	D	TYPICAL DETAILS FOR FIRE PROOFING ON STRUCTURAL STEEL MEMBER	DWG		

32	D	TYPICAL DETAILS FOR INSERT PLATES	DWG	YES	
33	D	TYPICAL DETAILS FOR LIGHTING POLE FOUNDATION	DWG		
34	D	TYPICAL DETAILS FOR STRUCTURAL R/C JOINTS	DWG		
35	D	TYPICAL DETAILS FOR JOIST & BLOCK	DWG		
36	D	TYPICAL DETAILS FOR PILES	DWG		
37	D	PILING LAYOUT	DWG		
38	D	BUILDING FOUNDATION FORMWORK & REINFORCEMENT PLAN & DETAILS	DWG		
39	D	BUILDING BAR BENDING SCHEDULE	DWG		
40	D	BUILDING CONNECTION DETAILS	DWG		IF THERE IS NOT TYPICAL DETAILS
41	D	BUILDING COLUMN LAYOUT & WALL/BRACING ARRANGEMENT PLAN	DWG		
42	D	BUILDING FRAMING PLANS	DWG		
43	D	BUILDING FRAMING ELEVATIONS	DWG		
44	D	BUILDING COLUMNS REINFORCEMENT DETAILS	DWG		
45	D	BUILDING BEAMS REINFORCEMENT DETAILS	DWG		
46	D	BUILDING WALLS REINFORCEMENT DETAILS	DWG		
47	D	BUILDING SLABS REINFORCEMENT DETAILS	DWG		
48	D	CALCULATION NOTE FOR BUILDING FOUNDATION & STRUCTURE	CAL		
49	D	PIPE RACK FOUNDATION FORMWORK & REINFORCEMENT PLAN & DETAILS	DWG		
50	D	PIPE RACK COLUMN LAYOUT & BRACING ARRANGEMENT PLAN	DWG		
51	D	PIPE RACK FRAMING PLANS	DWG		
52	D	PIPE RACK FRAMING ELEVATIONS	DWG		
53	D	PIPE RACK BAR BENDING SCHEDULE	DWG		
54	D	PIPE RACK CONNECTION DETAILS	DWG		IF THERE IS NOT TYPICAL DETAILS
55	D	PIPE RACK COLUMNS REINFORCEMENT DETAILS	DWG		
56	D	PIPE RACK BEAMS REINFORCEMENT DETAILS	DWG		
57	D	CALCULATION NOTE FOR PIPE RACK FOUNDATION & STRUCTURE	CAL		
58	D	EQUIPMENT STRUCTURE FOUNDATION FORMWORK & REINFORCEMENT PLAN & DETAILS	DWG		
59	D	EQUIPMENT STRUCTURE COLUMN LAYOUT & BRACING ARRANGEMENT PLAN	DWG		
60	D	EQUIPMENT STRUCTURE BAR BENDING SCHEDULE	DWG		
61	D	EQUIPMENT STRUCTURE CONNECTION DETAILS	DWG		IF THERE IS NOT TYPICAL DETAILS
62	D	EQUIPMENT STRUCTURE FRAMING PLANS	DWG		
63	D	EQUIPMENT STRUCTURE FRAMING ELEVATIONS	DWG		
64	D	EQUIPMENT SUPPORT FRAMING PLANS, ELEVATIONS & DETAILS	DWG		
65	D	EQUIPMENT STRUCTURE COLUMN REINFORCEMENT DETAILS	DWG		

66	D	EQUIPMENT STRUCTURE BEAM REINFORCEMENT DETAILS	DWG		
67	D	ERECTION DRAWING FOR COMPLEX EQUIPMENT STRUCTURE	DWG		
68	D	CALCULATION NOTE FOR EQUIPMENT STRUCTURE FOUNDATION & STRUCTURE	CAL		
69	D	SHELTER FOUNDATION FORMWORK & REINFORCEMENT PLAN & DETAILS	DWG	YES	
70	D	SHELTER COLUMN LAYOUT & BRACING ARRANGEMENT PLAN	DWG	YES	
71	D	SHELTER CONNECTION DETAILS	DWG	YES	IF THERE IS NOT TYPICAL DETAILS
72	D	SHELTER FRAMING PLANS	DWG	YES	
73	D	SHELTER FRAMING ELEVATIONS	DWG	YES	
74	D	CALCULATION NOTE FOR SHELTER FOUNDATION & STRUCTURE	CAL	YES	
75	D	PLATFORM FOUNDATION FORMWORK & REINFORCEMENT PLANS, SECTIONS & DETAILS	DWG		
76	D	PLATFORM STRUCTURE FRAMING PLANS & ELEVATIONS	DWG		
77	D	EQUIPMENT FOUNDATION FORMWORK & REINFORCEMENT PLANS, SECTIONS & DETAILS	DWG	YES	
78	D	CALCULATION NOTES FOR EQUIPMENT FOUNDATION	CAL	YES	
79	D	TYPICAL PIPE SUPPORT FOUNDATION FORMWORK & REINFORCEMENT PLANS, SECTIONS & DETAILS	DWG	YES	
80	D	SPECIAL PIPE SUPPORT FOUNDATION FORMWORK & REINFORCEMENT PLANS, SECTIONS & DETAILS	DWG	YES	
81	D	SPECIAL PIPE SUPPORT STRUCTURE FRAMING PLANS & ELEVATIONS	DWG	YES	
82	D	CALCULATION NOTES FOR SPECIAL PIPE SUPPORT	CAL	YES	
83	D	PIT FORMWORK & REINFORCEMENT PLAN, SECTIONS AND DETAILS	DWG		
84	D	CALCULATION NOTES FOR PIT	CAL		
85	D	SEPTIC TANK FORMWORK & REINFORCEMENT PLAN, SECTIONS & DETAILS	DWG		
86	D	CALCULATION NOTES FOR SEPTIC TANK	CAL		
87	D	CULVERT FORMWORK & REINFORCEMENT PLAN, SECTIONS AND DETAILS	DWG		
88	D	CALCULATION NOTES FOR CULVERT	CAL		
89	D	PIPE SLEEPER FORMWORK & REINFORCEMENT PLANS, SECTIONS & DETAILS	DWG	YES	
90	D	CALCULATION NOTES FOR PIPE SLEEPERS	CAL	YES	
91	D	DIKE WALL FORMWORK & REINFORCEMENT PLANS, SECTIONS & DETAILS	DWG		
92	D	DIKE WALL STAIRCASE PLANS, SECTIONS & DETAILS	DWG		
93	D	CALCULATION NOTES FOR DIKE WALL	CAL		
94	D	RETAINING WALL FORMWORK & REINFORCEMENT PLANS, SECTIONS & DETAILS	DWG		
95	D	CALCULATION NOTES FOR RETAINING WALL	CAL		
96	D	FIRE DEFENSE / EXPLOSION PROOF WALL FORMWORK & REINFORCEMENT PLANS, SECTIONS & DETAILS	DWG		

97	D	CALCULATION NOTES FOR FIRE DEFENSE / EXPLOSION PROOF WALL	CAL		
98	D	PIG HOLDER WALL FORMWORK & REINFORCEMENT PLANS, SECTIONS & DETAILS	DWG	YES	
99	D	CALCULATION NOTES FOR PIG HOLDER WALL	CAL	YES	
100	D	CALCULATION NOTE FOR STORM BASIN	CAL		
101	D	DRAWING FOR STORM BASIN	DWG		
102	D	MTO FOR STEEL STRUCTURE	MTO	YES	
103	D	MTO FOR GRATING	MTO		
104	D	MTO FOR CHEQUERED PLATE	MTO		
105	D	MTO FOR CLADDING	MTO		
106	D	MTO FOR PILE	MTO		
107	D	MTO FOR ANCHOR BOLT	MTO	YES	
108	D	MATERIAL REQUISITION FOR STEEL STRUCTURE	MR		
109	D	MATERIAL REQUISITION FOR GRATING	MR		
110	D	MATERIAL REQUISITION FOR ANCHOR BOLT	MR	YES	
111	D	TBE FOR STEEL STRUCTURE	TBE		
112	D	TBE FOR GRATING	TBE		
113	D	TBE FOR ANCHOR BOLT	TBE	YES	

ITEM NO	CATEGORY	ABBREVIATION
1	REPORT	RPT
2	DRAWING	DWG
3	SPECIFICATION	SPC
4	DATASHEET	DSH
5	MATERIAL TAKE OF	MTO
6	MATERIAL REQUISITION	MR
7	TECHNICAL BID EVALUATION	TBE
8	DIAGRAM	DGR
9	CALCULATION	CAL
10	LIST	LST
11	MANUAL	MAN
12	CRITERIA	CRT
13	PHILOSOPHY	PHL
14	CONCEPT	CON
15	STUDY	STD

