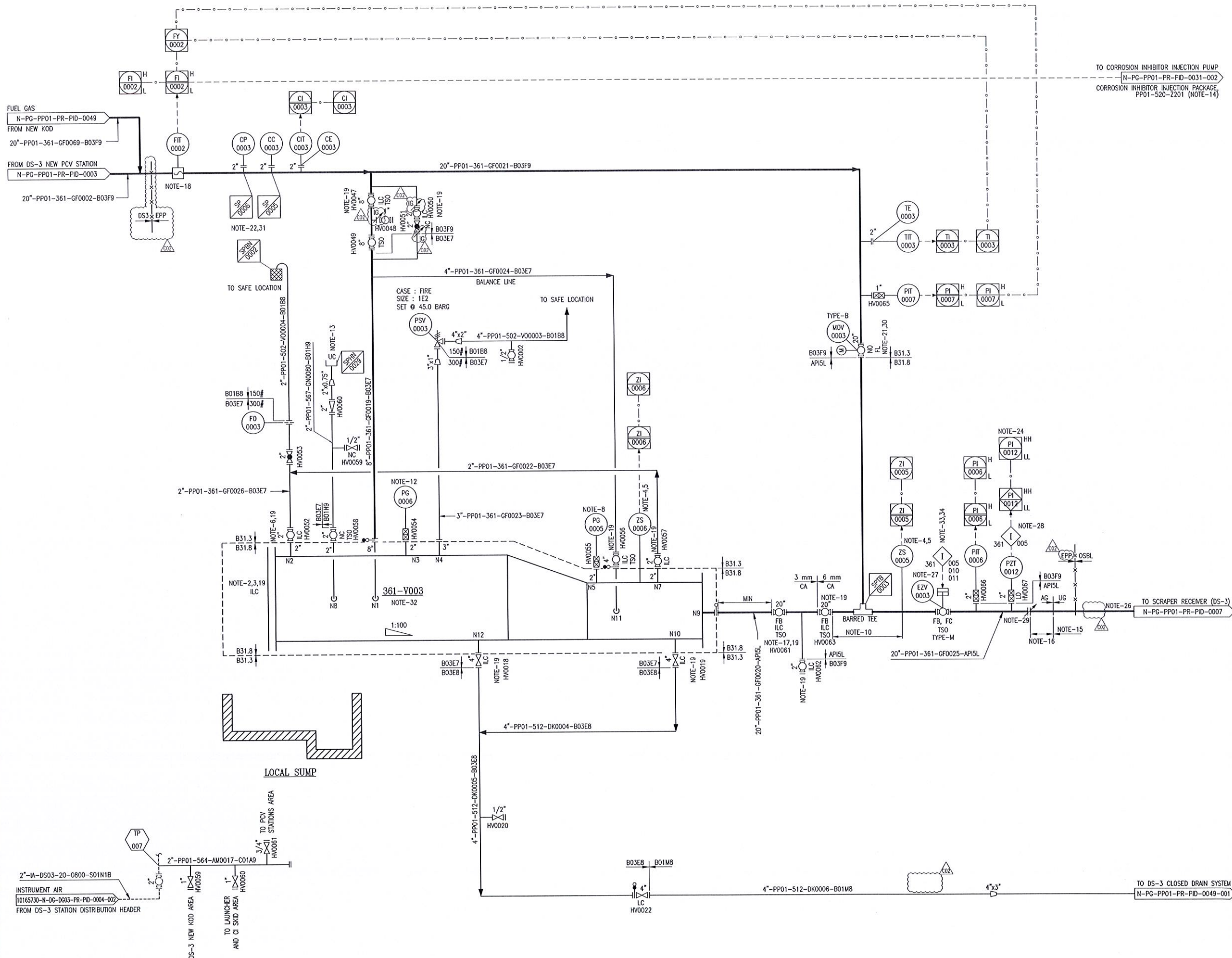


PP01-361-V003
SCRAPER LAUNCHER
 SIZE : MAJOR BARREL 610 mm DIA / MINOR BARREL 508 mm DIA
 DESIGN CONDITION : 45 barg @ -29~100°C
 OPERATING CONDITION : 10~11 barg @ 20~80°C
 MOC : CARBON STEEL (NACE) + 3 mm CA
 INSULATION : (NO)
 TRIM : PP01-361-V003-TX0001-B03E7



NOTES:

- ALL SP ITEM, TIE-IN POINT & INSTRUMENT TAG NUMBERS, EXCEPT LINE NUMBERS ON THIS DRAWING SHALL BE PREFIXED BY PROJECT BREAK DOWN ID CODE (PP01) AND SYSTEM NO. 361, UNLESS SPECIFIED OTHERWISE.
- SCRAPER LAUNCHER TO BE SUITABLE FOR INTELLIGENT SCRAPING.
- SCRAPER LAUNCHER TO HAVE QUICK OPENING END CLOSURE.
- SCRAPER SIGNALER TO BE SUITABLE FOR THE VARIOUS TYPES OF SCRAPERS.
- NON INTRUSIVE SIGNALERS TO BE USED.
- LOCATE THIS VALVE AS CLOSE TO END CLOSURE.
- FOR PIPELINE LEAK DETECTION SYSTEM REFER TO SPECIFICATION FOR LEAK DETECTION SYSTEM DOC. NO. 100478CP-N-PG-PP01-IC-SPC-0015.
- PG-0005 SHALL BE OF FULL RANGE (0~45 barg).
- DELETED.
- DISTANCE FROM ISOLATION VALVE TO SCRAPER SIGNALER SHALL BE AT A MINIMUM DISTANCE OF THE MAXIMUM INTELLIGENT SCRAPER LENGTH.
- DELETED.
- PRESSURE INDICATOR TO BE VISIBLE FROM SCRAPER LAUNCHER DOOR. PRESSURE RANGE TO BE LOW (ATMOSPHERIC) WITH OVER RANGE PROTECTION.
- PORTABLE NITROGEN CYLINDER WITH PRESSURE REDUCTION REGULATOR SHALL BE USED FOR PURGING.
- NO FLOW SIGNAL FROM 361-FI-0002 SHALL STOP CORROSION INHIBITOR INJECTION PUMPS WITHIN CORROSION INHIBITOR INJECTION PACKAGE, PP01-520-2201.
- 3LPP SHALL BE TERMINATED 300 mm BELOW GROUND LEVEL.
- ANTI-CORROSION COATING SHALL BE AS PER SPECIFICATION FOR COATING OF BENDS AND FITTINGS DOC. NO. 100478CP-N-PG-PP01-ML-SPC-0018 AND EXTENDED UP TO THE ISOLATION JOINT.
- THE VALVE TRIM SHALL HAVE PREN VALUE OF 25 MINIMUM.
- DURING NORMAL OPERATIONAL PIGGING OF DS-3 PIPELINE, PIG VELOCITY TO BE MAINTAINED AT 5 m/sec. FIT-0002 SHOULD BE SET USING PV-1011/2011 TO GET THE REQUIRED PIG VELOCITY. DURING PIGGING AFTER PIPELINE COOLDOWN PIG VELOCITY TO BE MAINTAINED 3 m/sec.
- SCRAPER ISOLATION VALVES TO HAVE KEY INTERLOCK SYSTEM TO ENSURE VALVES ARE CORRECTLY POSITIONED SUCH THAT DOOR CAN NOT BE OPENED UNLESS SECURELY ISOLATED FROM GAS SYSTEM AND VESSEL DEPRESSURIZED.
- DELETED.
- VALVE TO BE PROVIDED WITH INCHING FACILITY.
- COSASCO TYPE FITTING TO BE CONSIDERED FOR CORROSION MONITORING.
- DURING PIGGING, CORROSION INHIBITOR INJECTION TO BE STOPPED.
- HYBRID CONTROLLER TO TRIP ESD VALVE.
- VENTS TO BE LOCATED AT HIGH POINT AND DRAINS AT LOW POINT.
- FIBER OPTIC BASED LEAK DETECTION SYSTEM IS PROVIDED. REFER LEAK DETECTION PHILOSOPHY 100478CEP-N-PG-PP01-IC-PHL-0002 FOR DETAILS.
- HAND SWITCH ON HARD WIRED CONSOLE IS PROVIDED IN EPP CONTROL ROOM FOR OPERATOR TO ACTIVATE ESD-1 SHUTDOWN ON CONFIRMED LEAK DETECTION.
- PZT-0012 WILL CLOSE EZV-0003 IN CASE OF HIGH HIGH AND LOW LOW PRESSURE IN THE PIPELINE.
- MONOLITHIC ISOLATION JOINT.
- STOP ARRANGEMENT TO BE PROVIDED TO AVOID FULL CLOSURE.
- CORROSION MONITORING FITTINGS SHALL BE LOCATED AT BOTTOM OF PIPE AT LEAST 10 PIPE DIAMETER DOWN STREAM OF BENDS; VALVES WHICH CAN CREATE TURBULENCE.
- FOR SEQUENCE OF OPERATION REFER SPECIFICATION FOR KEY MECHANICAL INTERLOCK DOCUMENT NO. 100478CP-N-PG-PP01-PL-SPC-0023.
- ESD SIGNAL FROM DS-3 CRASH VALVES CONTROL SYSTEM (CVCS) SHALL LEAD TO SHUTDOWN OF EPP GAS PIPELINE (361-I-010).
- A DEDICATED MANUAL SHUTDOWN PUSH BUTTON TO ISOLATE EPP SYSTEM TO BE PROVIDED (361-I-011).

GENERAL NOTES:

- FOR GENERAL NOTES, LEGENDS AND SYMBOLS REFER DRAWING NO. 100478CP-N-PG-PP01-PR-PID-0001 SHEETS 001 TO 017.
- FOR ESD CAUSE & EFFECT CHART FOR PROCESS AREA REFER DOCUMENT NO. 100478CP-N-PG-PP01-PR-DCE-0001.

HOLDS:

- DELETED.

CO2	01.09.16	ISSUED FOR CONSTRUCTION	DX	VU	AB	SQ
CO1	01.06.16	ISSUED FOR CONSTRUCTION	DX	VU	AB	SQ
DO1	29.02.16	ISSUED FOR USE (DD)	DX	DM/VU	AB	SQ
HO1	07.01.16	ISSUED FOR HAZOP (DD)	DX	DM/VU	AB	SQ
GO1	06.10.15	ISSUED FOR REVIEW (DD)	DX	DM/VU	TT	SQ
BO2	06.08.15	APPROVED FOR COMPLETION OF FEED	DX	HM/ST	TT	SQ
BO1	26.03.15	ISSUED FOR FEED HAZOP	DX	SI/RS	TT	SQ
AO1	19.02.15	ISSUED FOR COMPANY REVIEW	DX	HM/RS	TT	JF
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D	

EARLY POWER PLANT
 RUMAILA OIL FIELD
 CONTRACT NO. 100478

中国石油工程建设公司
 CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP.

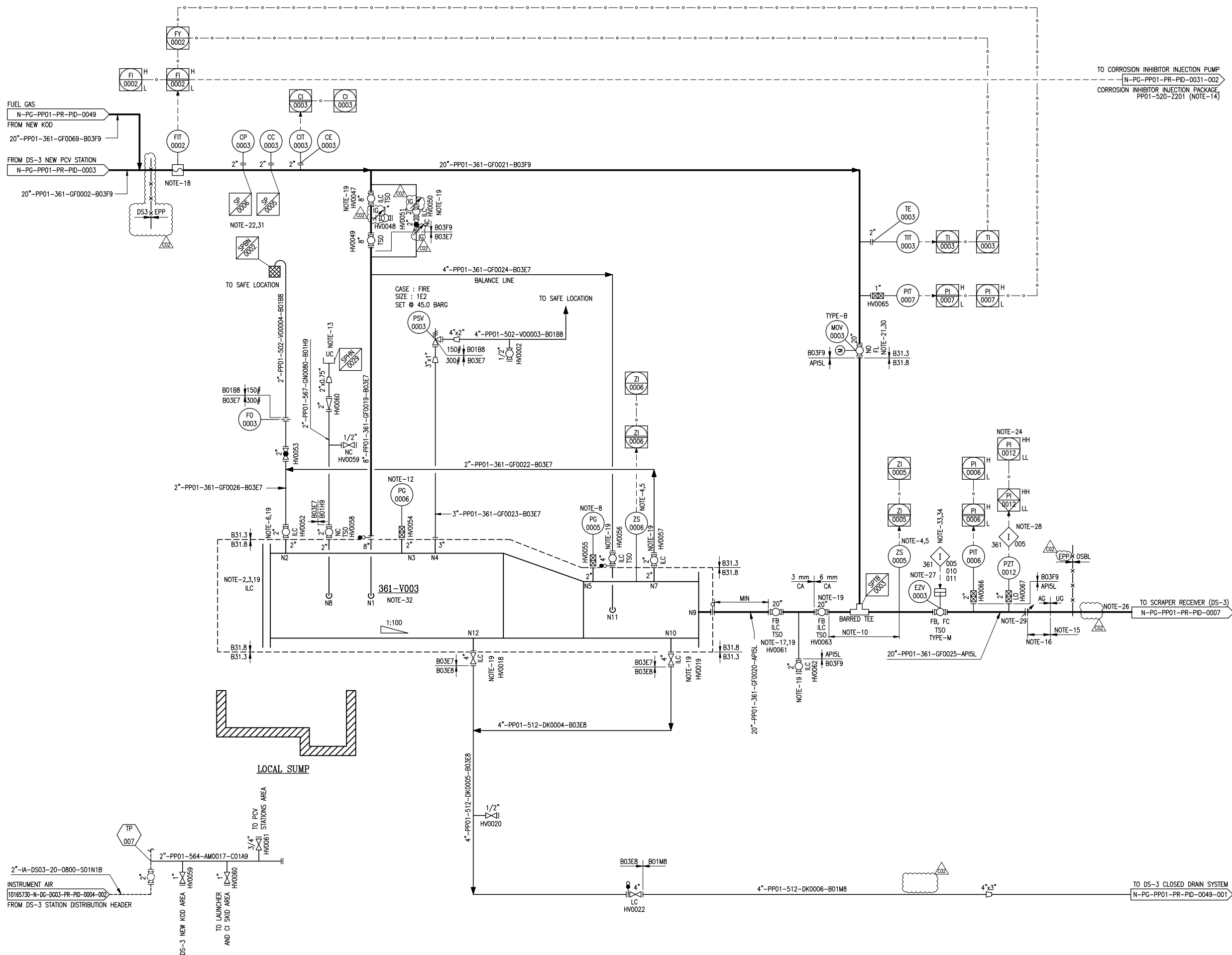
CH2M HILL

DRAWING TITLE:
**PIPING AND INSTRUMENTATION DIAGRAM
 SCRAPER LAUNCHER (DS-3)**

PROJECT NO.	100478CP	SCALE:	NONE	DWG SIZE:	A1
DRAWING NUMBER:	100478CP-N-PG-PP01-PR-PID-0006-001	SHT. NO.:	01/01	REV.	C02

NOTICE: THIS DRAWING AND THE INFORMATION IT CONTAINS IS THE SOLE PROPERTY OF RUMAILA OPERATING ORGANIZATION IT SHALL NOT BE REPRODUCED OR LENT WITHOUT THE AGREEMENT OF THE OWNER.

PP01-361-V003
SCRAPER LAUNCHER
SIZE : MAJOR BARREL 610 mm DIA / MINOR BARREL 508 mm DIA
DESIGN CONDITION : 45 barg @ -29~100°C
OPERATING CONDITION : 10~11 barg @ 20~80°C
MOC : CARBON STEEL (NACE) + 3 mm CA
INSULATION : (NO)
TRIM : PP01-361-V003-TX0001-B03E7



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 - SCRAPER LAUNCHER TO HAVE QUICK OPENING END CLOSURE.
 - SCRAPER SIGNALER TO BE SUITABLE FOR THE VARIOUS TYPES OF SCRAPERS.
 - NON INTRUSIVE SIGNALERS TO BE USED.
 - LOCATE THIS VALVE AS CLOSE TO END CLOSURE.
 - FOR PIPELINE LEAK DETECTION SYSTEM REFER TO SPECIFICATION FOR LEAK DETECTION SYSTEM DOC. NO. 100478CP-N-PG-PP01-IC-SPC-0015.
 - PG-0005 SHALL BE OF FULL RANGE (0~45 barg).
 - DELETED.
 - DISTANCE FROM ISOLATION VALVE TO SCRAPER SIGNALER SHALL BE AT A MINIMUM DISTANCE OF THE MAXIMUM INTELLIGENT SCRAPER LENGTH.
 - DELETED.
 - PRESSURE INDICATOR TO BE VISIBLE FROM SCRAPER LAUNCHER DOOR. PRESSURE RANGE TO BE LOW (ATMOSPHERIC) WITH OVER RANGE PROTECTION.
 - PORTABLE NITROGEN CYLINDER WITH PRESSURE REDUCTION REGULATOR SHALL BE USED FOR PURGING.
 - NO FLOW SIGNAL FROM 361-FI-0002 SHALL STOP CORROSION INHIBITOR INJECTION PUMPS WITHIN CORROSION INHIBITOR INJECTION PACKAGE, PP01-520-Z201.
 - SLPP SHALL BE TERMINATED 300 mm BELOW GROUND LEVEL.
 - ANTI-CORROSION COATING SHALL BE AS PER SPECIFICATION FOR COATING OF BENDS AND FITTINGS DOC. NO. 100478CP-N-PG-PP01-ML-SPC-0018 AND EXTENDED UP TO THE ISOLATION JOINT.
 - THE VALVE TRIM SHALL HAVE PREN VALUE OF 25 MINIMUM.
 - DURING NORMAL OPERATIONAL PIGGING OF DS-3 PIPELINE, PIG VELOCITY TO BE MAINTAINED AT 5 m/sec. FIT-0002 SHOULD BE SET USING PV-1011/2011 TO GET THE REQUIRED PIG VELOCITY. DURING PIGGING AFTER PIPELINE COOLDOWN PIG VELOCITY TO BE MAINTAINED 3 m/sec.
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 - DELETED.
 - VALVE TO BE PROVIDED WITH INCHING FACILITY.
 - COSASCO TYPE FITTING TO BE CONSIDERED FOR CORROSION MONITORING.
 - DURING PIGGING, CORROSION INHIBITOR INJECTION TO BE STOPPED.
 - HYBRID CONTROLLER TO TRIP ESD VALVE.
 - VENTS TO BE LOCATED AT HIGH POINT AND DRAINS AT LOW POINT.
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 - PZI-0012 WILL CLOSE EZV-0003 IN CASE OF HIGH HIGH AND LOW LOW PRESSURE IN THE PIPELINE.
 - MONOLITHIC ISOLATION JOINT.
 - STOP ARRANGEMENT TO BE PROVIDED TO AVOID FULL CLOSURE.
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- GENERAL NOTES:
- FOR GENERAL NOTES, LEGENDS AND SYMBOLS REFER DRAWING NO. 100478CP-N-PG-PP01-PR-PID-0001 SHEETS 001 TO 017.
 - FOR ESD CAUSE & EFFECT CHART FOR PROCESS AREA REFER DOCUMENT NO. 100478CP-N-PG-PP01-PR-DCE-0001.

- HOLDS:
- DELETED.

C02	01.09.16	ISSUED FOR CONSTRUCTION	DX	VU	AB	SQ
C01	01.06.16	ISSUED FOR CONSTRUCTION	DX	VU	AB	SQ
D01	29.02.16	ISSUED FOR USE (DD)	DX	DM/VU	AB	SQ
H01	07.01.16	ISSUED FOR HAZOP (DD)	DX	DM/VU	AB	SQ
G01	06.10.15	ISSUED FOR REVIEW (DD)	DX	DM/VU	TT	SQ
B02	06.08.15	APPROVED FOR COMPLETION OF FEED	DX	HM/SI	TT	SQ
B01	26.03.15	ISSUED FOR FEED HAZOP	DX	SI/RS	TT	SQ
A01	19.02.15	ISSUED FOR COMPANY REVIEW	DX	HM/RS	TT	JF
REV	DATE	DESCRIPTION	PREP'D	CHK'D	APP'D	

EARLY POWER PLANT
RUMAILA OIL FIELD
CONTRACT NO. 100478

中国石油工程建设公司
CHINA PETROLEUM ENGINEERING & CONSTRUCTION CORP.

CH2MHILL

DRAWING TITLE:
PIPING AND INSTRUMENTATION DIAGRAM
SCRAPER LAUNCHER (DS-3)

PROJECT NO.	100478CP	SCALE:	NONE	DWG SIZE:	A1
DRAWING NUMBER:				SHT. NO.:	REV.
100478CP-N-PG-PP01-PR-PID-0006-001				01/01	C02