International Construction Consulting, LLC

Capabilities Overview

Services

Services

Services

- Conceptual Engineering and Design
- Budgetary Cost Estimates
- Detailed Cost Estimates
- Project Execution Planning
- Independent Project Reviews
- Feasibility Studies
- Project Management
- Project Management Training
- Construction Management
- Miscellaneous Support

Services

Conceptual Engineering and Design:

- Hydraulics and Line Sizing's
- Wall Thickness and D/t Calculations
- Design Basis Memorandum’s
- Class Locations
- ANSI B31.4, B31.8, API 5L & Associated US and International Codes and Standards
- Pipeline Route Selection
- Valve Studies

Services

OD"	WT"	GRADE	lb/ft	MAOP @ DESIGN FACTOR 0.72	0.60	0.50	0.40	D/t
1,200 psig Case								
2.375	0.083	65,000	2.03	3,271	2,725	2,271	1,817	28.6
2.375	0.083	65,000	2.03	3,271	2,725	2,271	1,817	28.6
2.375	0.083	65,000	2.03	3,271	2,725	2,271	1,817	28.6
2.375	0.083	65,000	2.03	3,271	2,725	2,271	1,817	28.6
4.500	0.083	65,000	3.92	1,726	1,438	1,198	959	54.2
4.500	0.083	65,000	3.92	1,726	1,438	1,198	959	54.2
4.500	0.125	65,000	5.85	2,600	2,166	1,805	1,444	36.0
4.500	0.125	65,000	5.85	2,600	2,166	1,805	1,444	36.0
6.625	0.109	65,000	7.59	1,539	1,283	1,069	855	60.8
6.625	0.109	65,000	7.59	1,539	1,283	1,069	855	60.8
6.625	0.125	65,000	8.69	1,766	1,471	1,226	981	53.0
6.625	0.172	65,000	11.87	2,430	2,025	1,687	1,350	38.5
8.625	0.125	65,000	11.36	1,356	1,130	942	753	69.0
8.625	0.156	65,000	14.12	1,692	1,410	1,175	940	55.3
8.625	0.188	65,000	16.96	2,040	1,700	1,416	1,133	45.9
8.625	0.203	65,000	18.28	2,202	1,835	1,529	1,223	42.5
10.750	0.156	65,000	17.67	1,358	1,131	943	754	68.9
10.750	0.188	65,000	21.23	1,636	1,364	1,136	909	57.2
10.750	0.203	65,000	22.89	1,767	1,472	1,227	981	53.0
10.750	0.250	65,000	28.06	2,176	1,813	1,511	1,209	43.0

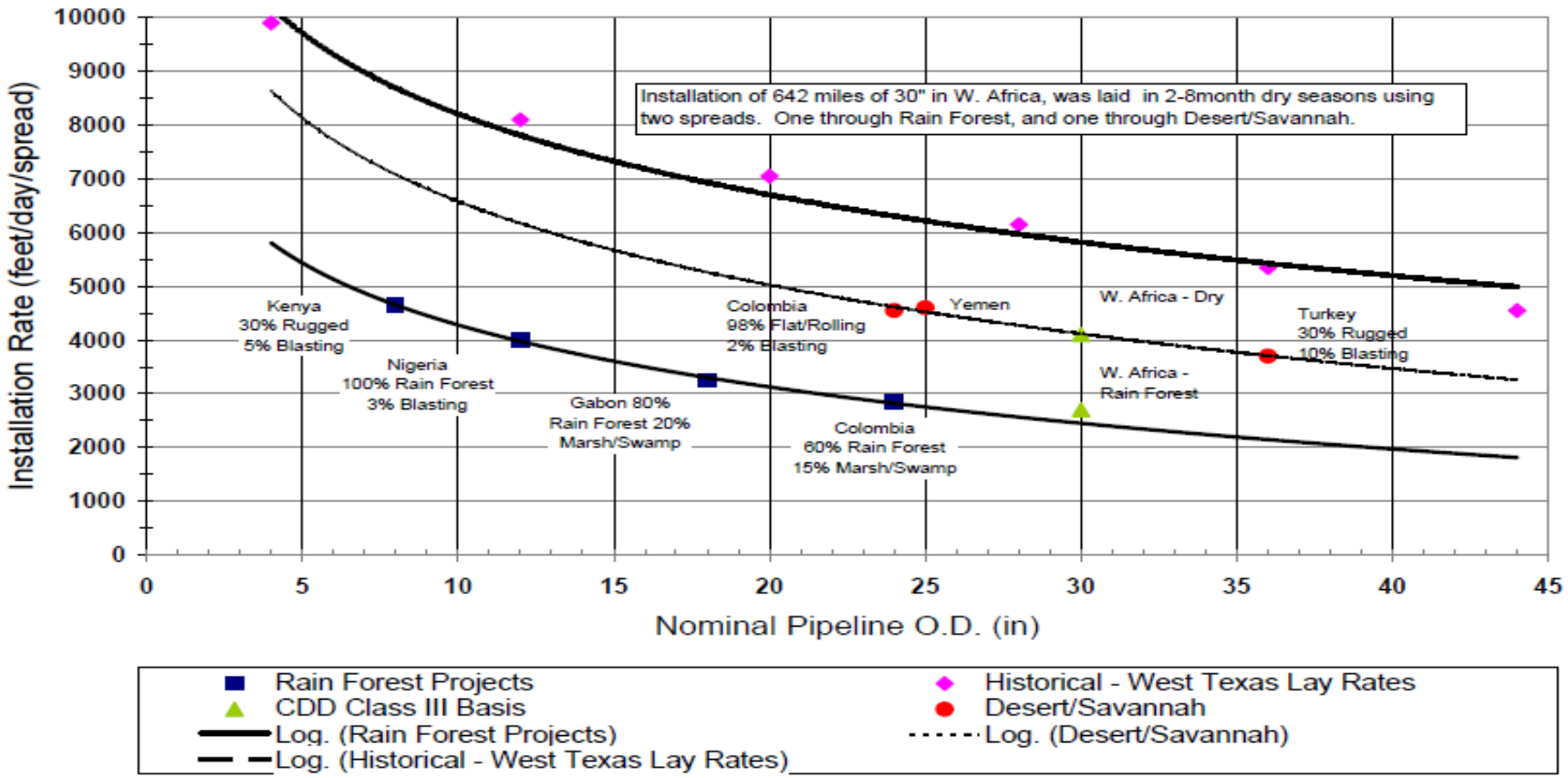
Services

Budgetary Cost Estimates

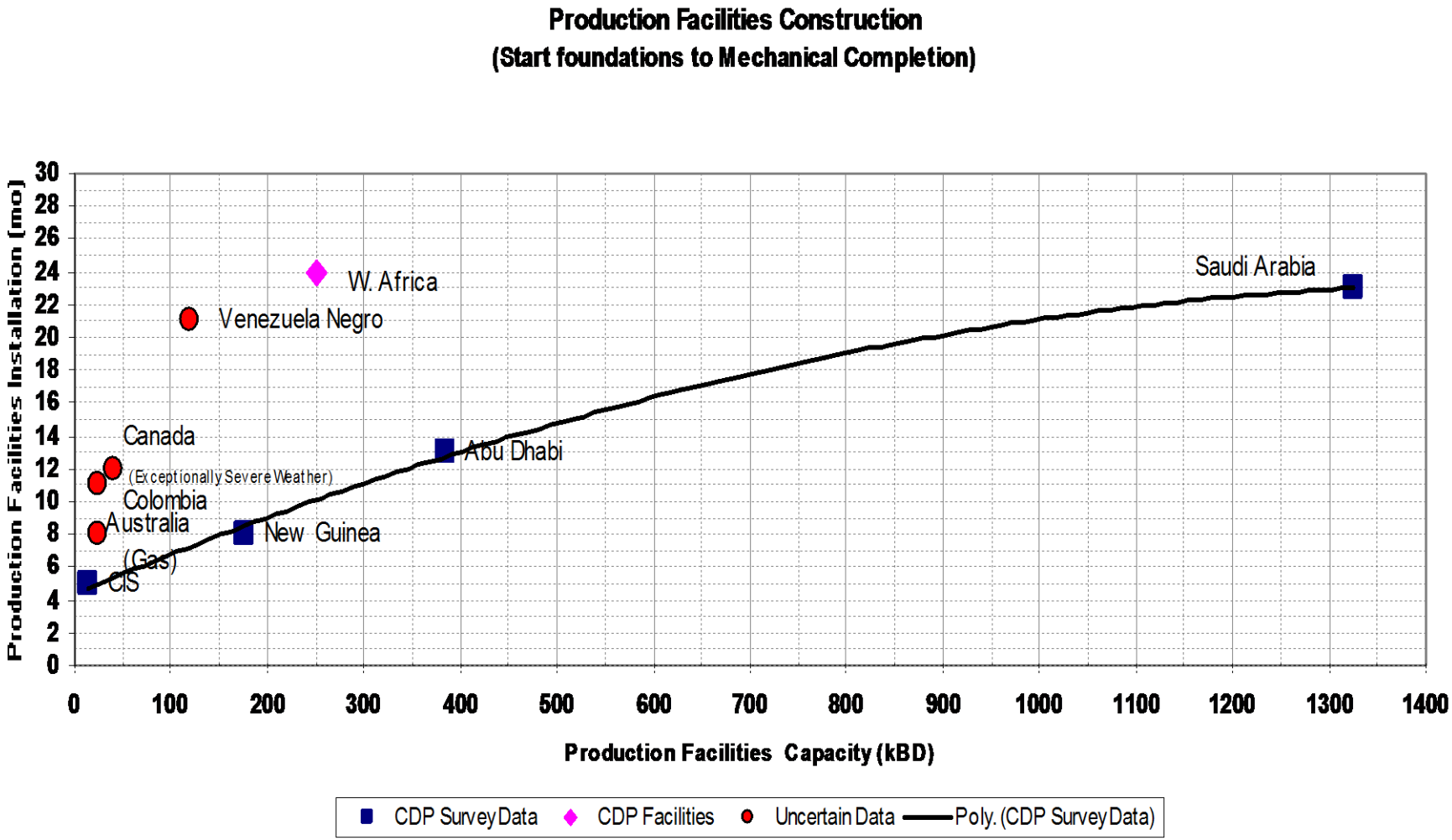
- Complete System Conceptual Estimates, including:
  - Engineering
  - Pipelines, Flowlines, and Gathering Lines
  - Compressor and Pump Stations
  - Production Facilities
  - Infrastructure (incl Roads, Well Pads, etc.)
  - Drilling
  - Field Facilities
  - Tank Farms
  - CAPEX, including Line pipe, Coating, Permanent Materials
  - Offshore Facilities
  - Telecom, SCADA, and CP
  - OPEX

Services

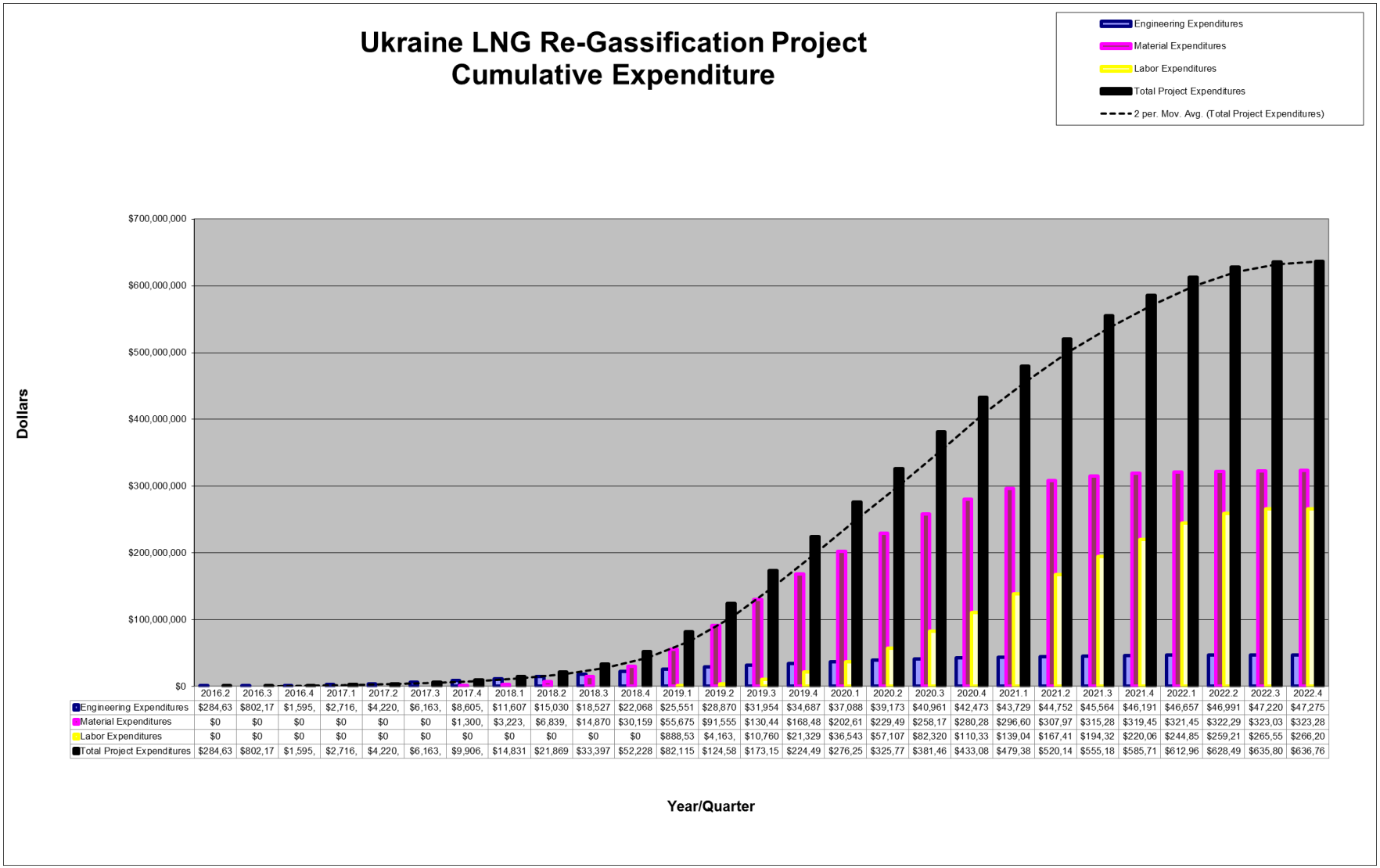
Pipeline Spread Installation Rates



Services


Production Facilities Construction
(Start foundations to Mechanical Completion)
Production Facilities Installation (mo)
Production Facilities Capacity (kBD)
W. Africa
Venezuela Negro
Canada
(Exceptionally Severe Weather)
Colombia
Australia
(Gas)
CIS
New Guinea
Abu Dhabi
Saudi Arabia
CDP Survey Data
CDP Facilities
Uncertain Data
Poly. (CDP Survey Data)

Services



	2016.2	2016.3	2016.4	2017.1	2017.2	2017.3	2017.4	2018.1	2018.2	2018.3	2018.4	2019.1	2019.2	2019.3	2019.4	2020.1	2020.2	2020.3	2020.4	2021.1	2021.2	2021.3	2021.4	2022.1	2022.2	2022.3	2022.4
Engineering Expenditures	$284,63	$802,17	$1,595,	$2,716,	$4,220,	$6,163,	$8,605,	$11,607	$15,030	$18,527	$22,068	$25,551	$28,870	$31,954	$34,687	$37,088	$39,173	$40,961	$42,473	$43,729	$44,752	$45,564	$46,191	$46,657	$46,991	$47,220	$47,275
Material Expenditures	$0	$0	$0	$0	$0	$0	$1,300,	$3,223,	$6,839,	$14,870	$30,159	$55,675	$91,555	$130,44	$168,48	$202,61	$229,49	$258,17	$280,28	$296,60	$307,97	$315,28	$319,45	$321,45	$322,29	$323,03	$323,28
Labor Expenditures	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$888,53	$4,163,	$10,760	$21,329	$36,543	$57,107	$82,320	$110,33	$139,04	$167,41	$194,32	$220,06	$244,85	$259,21	$265,55	$266,20
Total Project Expenditures	$284,63	$802,17	$1,595,	$2,716,	$4,220,	$6,163,	$9,906,	$14,831	$21,869	$33,397	$52,228	$82,115	$124,58	$173,15	$224,49	$276,25	$325,77	$381,46	$433,08	$479,38	$520,14	$555,18	$585,71	$612,96	$628,49	$635,80	$636,76

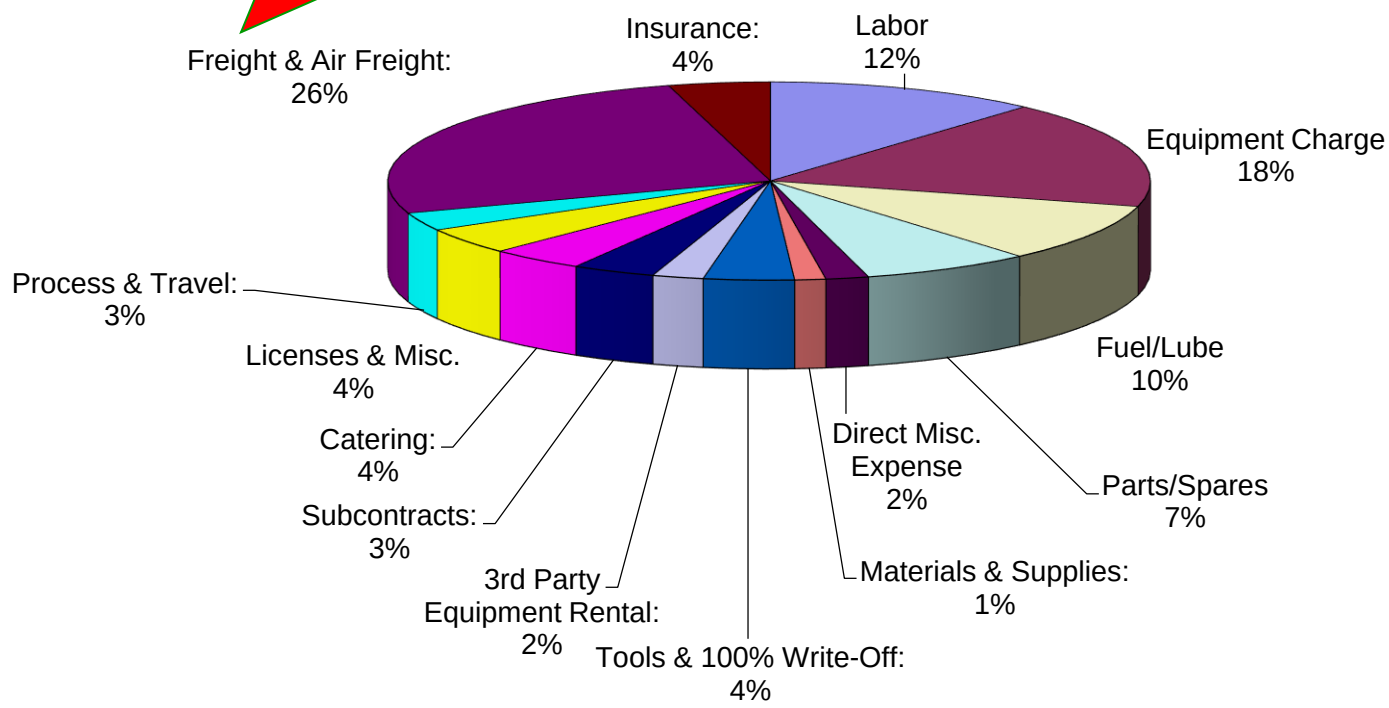
Services

Detailed Cost Estimates

- Labor, Equipment, and Materials
- Mobilization, Freight, Camp Construction
- Construction Management
- Field Support Services
- Detailed Crewing
- Infrastructure Upgrades
- Scheduling
- Manpower Loading

Services

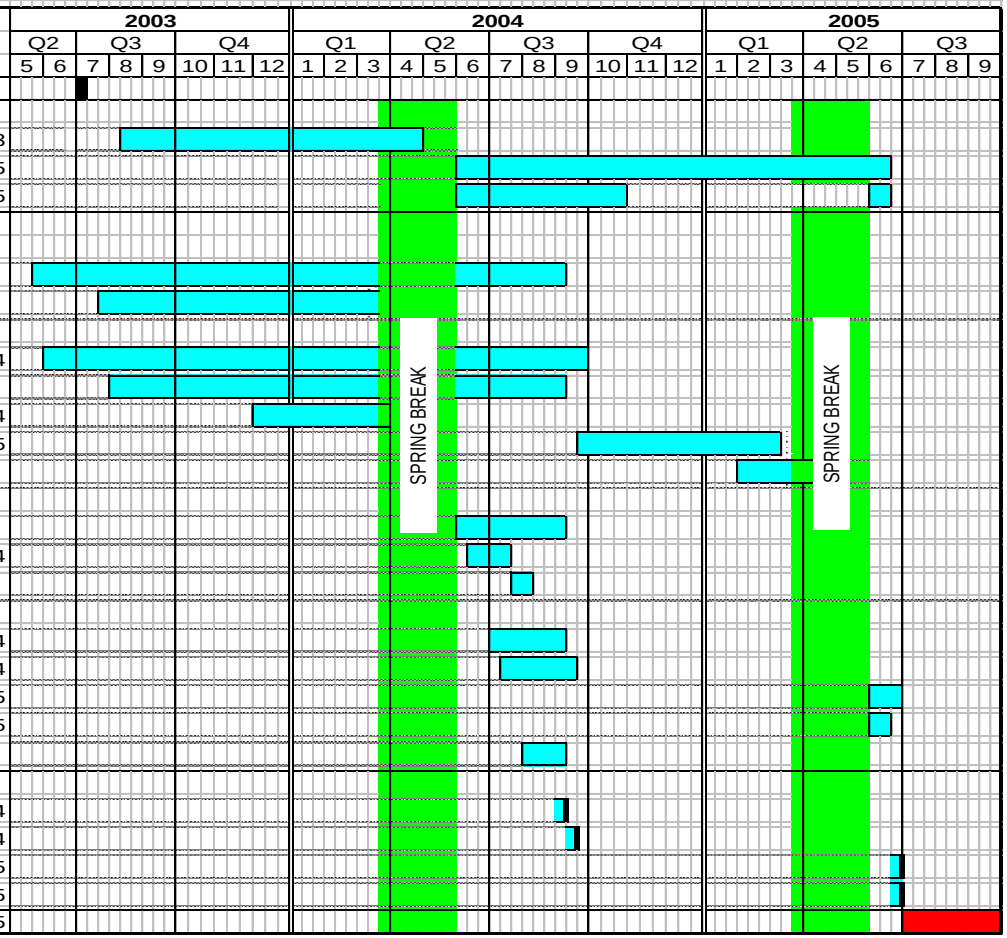
Pipeline Cost Distribution



Services

EPC-2 Pipeline, Flowlines & Export Terminal
Construction Execution Schedule

ACTIVITY DESCRIPTION	START	FINISH
CONTRACT AWARD		**7/1/2002**
EXPORT TERMINAL		
PRE-CONSTRUCTION WORK	8/1/2002	4/30/2003
ONSHORE FACILITIES	6/1/2003	6/30/2005
OFFSHORE FACILITIES	6/1/2003	6/30/2005
PIPELINE & FLOWLINES		
EAST COAST RUSSIA		
INFRASTRUCTURE & CIVIL	5/20/2003	9/3/2004
OIL EXPORT PIPELINE & SHORE CROSSING	7/28/2003	3/8/2004
SAKHALIN ISLAND		
INFRASTRUCTURE & CIVIL	6/1/2003	9/26/2004
OIL EXPORT PIPELINE & SHORE CROSSING	7/29/2003	9/2/2004
CHAYVO ONSHORE FLOWLINES	12/5/2003	3/28/2004
ODOPTU-CHAYVO FLOWLINE	9/18/2004	3/10/2005
ODOPTU GATHERING LINES	1/30/2005	4/9/2005
TATAR STRAIT & OFFSHORE		
SHORE APPROACH, DREDGING & BACKFILL	6/1/2004	9/9/2004
TATAR STRAIT CROSSING	6/14/2004	7/17/2004
ORLAN-CHAYVO FLOWLINES	7/18/2004	8/9/2004
HYDROTESTING & TIE-INS		
OIL EXPORT PIPELINE CHAYVO-DEKASTRI	7/1/2004	9/12/2004
CHAYVO ONSHORE FLOWLINES	7/10/2004	9/21/2004
ODOPTU-CHAYVO FLOWLINE	6/1/2005	6/30/2005
ODOPTU GATHERING LINES	6/6/2005	6/14/2005
ORLAN-CHAYVO OFFSHORE FLOWLINES	8/1/2004	9/5/2004
MECHANICAL COMPLETION		
OIL EXPORT PIPELINE		9/12/2004
CHAYVO GATHERING SYSTEM		9/21/2004
ODOPTU GATHERING SYSTEM		6/30/2005
EXPORT TERMINAL		6/30/2005
PRECOMMISSIONING & START UP	7/1/2005	9/30/2005

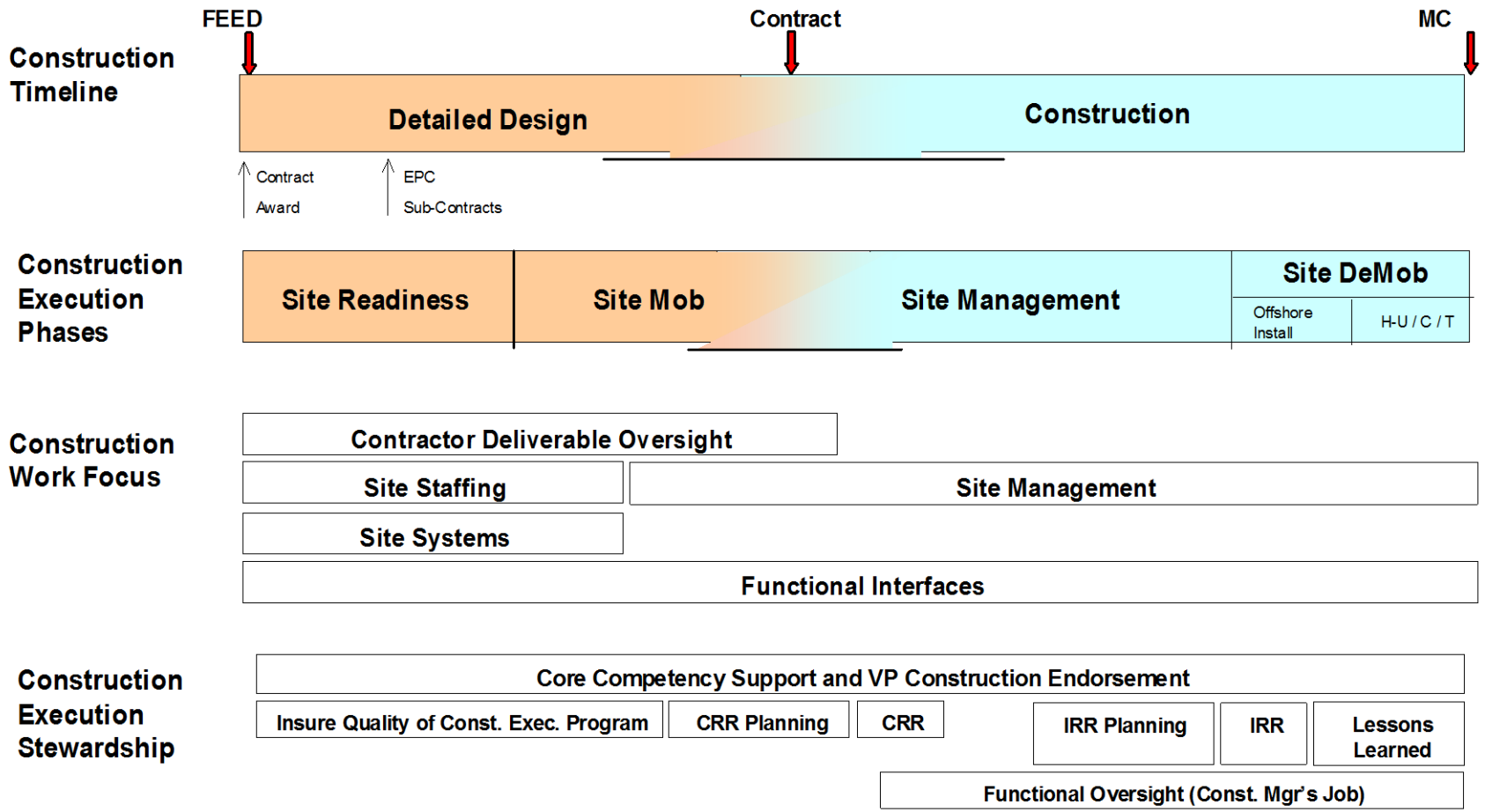


Services

Project Execution Planning

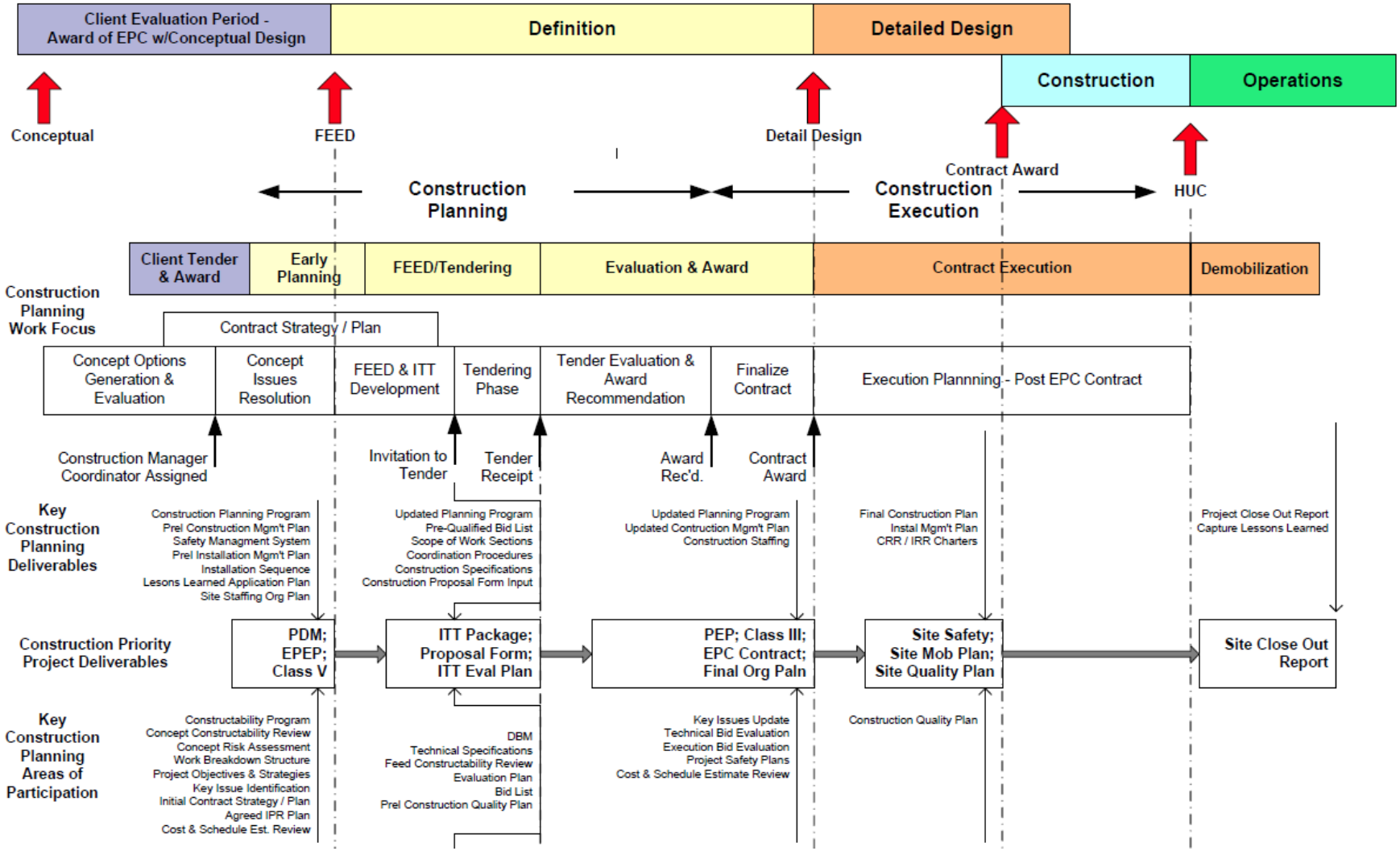
- Project Management Plan (PMP) Development
- Project Execution Plan (PEP) Development
- Engineering Management & Execution Plans
- Preliminary Construction Planning
- Detailed Construction Execution Plan (CEP)
- Logistics Planning

Services


Construction Timeline
FEED
Contract
MC
Detailed Design
Construction
Contract Award
EPC Sub-Contracts
Construction Execution Phases
Site Readiness
Site Mob
Site Management
Site DeMob
Offshore Install
H-U / C / T
Construction Work Focus
Contractor Deliverable Oversight
Site Staffing
Site Management
Site Systems
Functional Interfaces
Construction Execution Stewardship
Core Competency Support and VP Construction Endorsement
Insure Quality of Const. Exec. Program
CRR Planning
CRR
IRR Planning
IRR
Lessons Learned
Functional Oversight (Const. Mgr's Job)

Services

Project Timeline for Construction Planning under an EPC Project



Services

Independent Project Reviews

- Risk Assessments & Risk Management Plans
- Constructability Reviews
- Construction Readiness Assessments
  - Fabrication Readiness Review
  - Construction Performance Review
- Operations Readiness Assessments

Services

Independent Project Review Outline

Discussion Topics

- **Process Overview**
- **Project Content**
- **Key Message**
- **Assessment Areas**
- **Path Forward Recommendations**

Key Messages

- Continued vigilance in maintaining Road Transportation Safety (RTS) within the project site.
- Work to keep Contractor accountable for the performance of their Sub-contractors including scheduling and sequence of work.
- Improve internal and external communications using Site Memos / Site Instructions / Formal letters, and translation of key Governmental Requirements.
- Further develop construction schedule for forecasting and productivity. Develop variance reporting to emphasize tasks not meeting scheduled dates.
- Establish a system to up date estimate quantities and actual quantities required.

Desired Outcomes

- **Highlight opportunities and observed gaps in the project execution strategy to assist the Site Execution Team.**
- **Establish a clear Path Forward with the Site Execution Team.**

Services

Feasibility Studies

- Field Development Planning
- Conceptual Engineering and Design
- Conceptual/Budgetary Cost Estimates
- Strategic Project and Business Planning
- Risk Assessments (Business, Political, Currency, Market, etc.)

Services

Project Overviews

Project Description:	Sakhalin 1, Phase 1 Exxon Neftegas Ltd
Description	***Cost***
Pipeline Installation	$286,214,405
Mainline Pipe (includes FBE coating & shipping)	$117,462,948
Mainline Valves, Misc. Materials, CP System, Signs (includes shipping)	$15,730,563
Telecommunications	$43,367,500
Compressor Stations	$0
Tank Farms	$53,625,000
Pump Stations	$15,840,000
Production Facility	$962,500,000
Gathering Facilities	$53,222,400
Misc Facilities (i.e. meter stations)	$2,062,500
Offshore Facilities	$235,620,000
Infrastructure	$53,955,000
Drilling	$0
Engineering	$74,737,021
Subtotal	$1,914,337,337
Contingency - 20%	$382,867,467
Sub Total Installed Cost	**$2,297,204,804**
Client/Owner Costs	$59,789,617
Parent Company Operating Costs	$5,978,962
Sub Total Client/Owner Costs	**$65,768,578**
Total Installed Cost (TIC)	**$2,362,973,383**
Description	***Cost***
Operating Costs (typical year)	$17,229,036
Years of Operating	25
Total Operating Cost *	**$633,167,074**
Description	***Cost***
Total Installed Costs	**$2,362,973,383**
Total Operating Cost *	**$633,167,074**
Total System Cost	**$2,996,140,457**
**** Includes 2% per year for inflation/escalation.***	
Construction phases include all materials.	

CAPEX Costs

OPEX Costs

Total Installed Costs (TIC)

Services

Project Management

- Contracting Strategy
- Project Management Plan (PMP)
- Project Development and Identification of Key Objectives, Risks and Mitigations
- Staffing and Organizational Development
- Operations Strategy
- Security
- Engineering, Design, and Construction Interface
- Scheduling

Services

Description of Deliverables

The following descriptions relate to the deliverables identified on the Project Management Process – Summary. The intent of the descriptions is to broadly identify the main elements that should be included in each deliverable. Where the deliverable appears in more than one Project Stage (e.g. External Affairs Plan) and is identified by words like *initial, update, apply, manage, final, etc*., it is expected that the level of maturation increases as the project progresses. Where the deliverable is named the same from stage to stage (e.g. Independent Project Review) that deliverable applies specifically to the time period of the gate in question, but can build off previous work if warranted. Finally, the team will need to determine when work on a particular deliverable should begin to ensure completion prior to a specific gate.

Project Management Plan (PMP)

Project Execution Plan

- Project Overview
- Goals and Philosophies
- Organization Plan
- Appropriations & Funding Plan
- Engineering Plans
- Value Improving Practices (VIPs)
- Construction Plan
- Contracting and Procurement Plans
- Interface Management Plans
- Project issue resolution, identification of responsibilities
- Information Management Plan
- HSE Plans
- Risk Management Plan
- Regulatory, Permitting, and External Organizations plans
- Quality Management program
- Project Controls Plans (cost & schedule)
- Operations Involvement
- Commissioning and Start-up Plans

Services

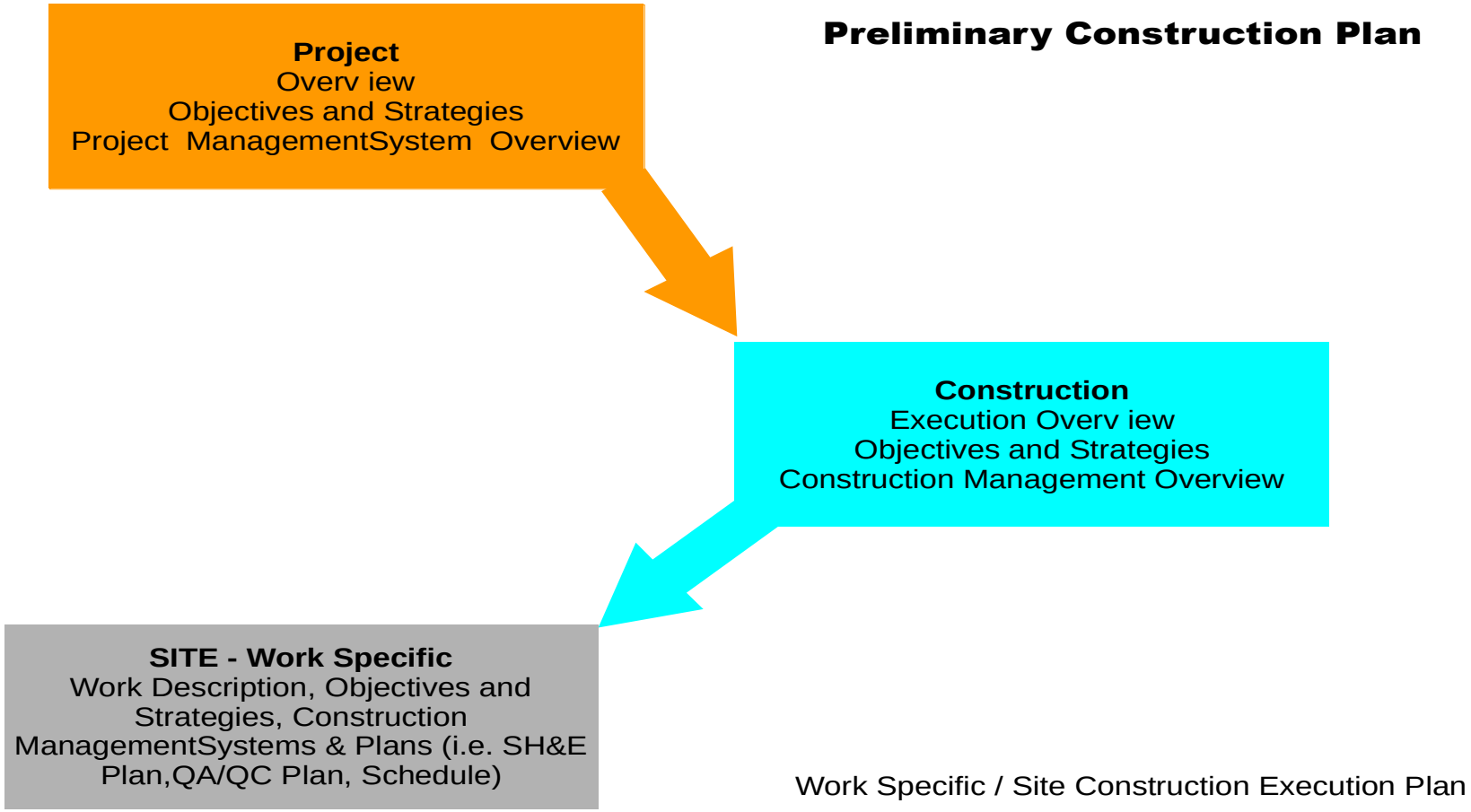
WORK BREAKDOWN STRUCTURE									
	MODU	OFFSHORE FACILITIES			ONSHORE FACILITIES				
	Modu	Topsides	Jackets	Flowlines/ Risers	Instrastructure	Power Plant	Compressor Station	Pipelines	Power Transmission Lines
Project Management	COMPANY	COMPANY			COMPANY				
FEED	INTEC	ABB LUMUS GLOBAL			ABB LUMUS GLOBAL				
Site Data Collection	N/A	AMEC			AMEC			N/A	N/A
EIA Review	N/A	N/A	DAMES & MOORE						
Route Survey	N/A	N/A	N/A	N/A	N/A	N/A	N/A	GULF INTERSTATE	
R.O.W. Acquisition	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LS (ROW-RC)
Detail Design	Lease	EPC2-LS			EPC1-LS				
Equipment & Bulks Procurement Note 2									
Construction/Fabrication/									
Onshore HUC		N/A	N/A	N/A					
Transport to Site & Installation		EPC2-LS							
Offshore HUC					N/A	N/A	N/A	N/A	N/A
O & M		MPN			EPC1 - LS				

Services

Construction Management

- Detailed Construction Execution Planning
- Logistics
- Subcontracting Strategy
- Equipment and Personnel Mobilization
- Construction Sequencing and Scheduling
- Engineering and Construction Interfaces
- Constructability Program
- Environmental Management Plan (EMP) Review

Services


Preliminary Construction Plan
Project
Overv iew
Objectives and Strategies
Project ManagementSystem Overview
Construction
Execution Overv iew
Objectives and Strategies
Construction Management Overview
SITE - Work Specific
Work Description, Objectives and Strategies, Construction ManagementSystems & Plans (i.e. SH&E Plan,QA/QC Plan, Schedule)
Work Specific / Site Construction Execution Plan

Services

Miscellaneous Support

- Project Specific Engineering, Procurement, and Construction Specifications
- Water and Waterbody Crossing Design and Construction
- Tender Package Preparation & Tender Evaluation Planning
- Engineering & Design Review
- Expert Witness
- Constructability Reviews

Services

Miscellaneous Support (con't)

- Position papers (HDD's, pipeline route selection, pipe stacking, valve study's, etc.)
- Design to capacity studies (evaluating the required maximum capacity of each system and major piece of equipment relative to the desired overall facility capacity)

Services

Invitation to Tender (ITT) Overview

Invitation Letter

Attachment I Instructions to Tenderers

Attachment II Principal Document / Exhibits

Attachment III Commercial Tender Form

Attachment IV Technical Tender Form

Attachment V Preliminary Engineering

- Pricing
  - Lump Sum & Reimbursables
  - Options
  - Unit Rates for Changes
- Local Content
- Guarantees, Insurance, Vessel Commitments
- Exceptions

- Execution Plan
- Management of Local Participation
- Project Management
- Component Specific Information
- Onshore Pipelines
- Offshore Pipelines
- Export Terminal
- Near Term Plans (EPEP, etc)

Services

Buoyancy Control – Typical Output

Exxon Neftegas Ltd					9-May-02
Sakhalin 1, EPC2					Greg Lamberson
					International Construction Consulting

Concrete Pipe Coating Summary

Description	Length	Concrete Coating Thickness (INCHES)	Labor Costs	Material Costs	Total Cost
Small Streams	0	0.00	$0	$0	$0
Marsh & Wetlands	0	0.00	$0	$0	$0
Large Rivers	0	0.00	$0	$0	$0
Offshore	36,060	1.75	$622,731	$1,961,749	$2,584,479
Contingency					$219,213
Totals	**36,060**		**$622,731**	**$1,961,749**	**$2,803,692**
Pipe Size	36.00				
Number of Joints	902				
Selling Price per Foot	$77.75				

Note: Above are "Selling Prices" (includes OH & Profit) for concrete coating operations only, lay price is not included.

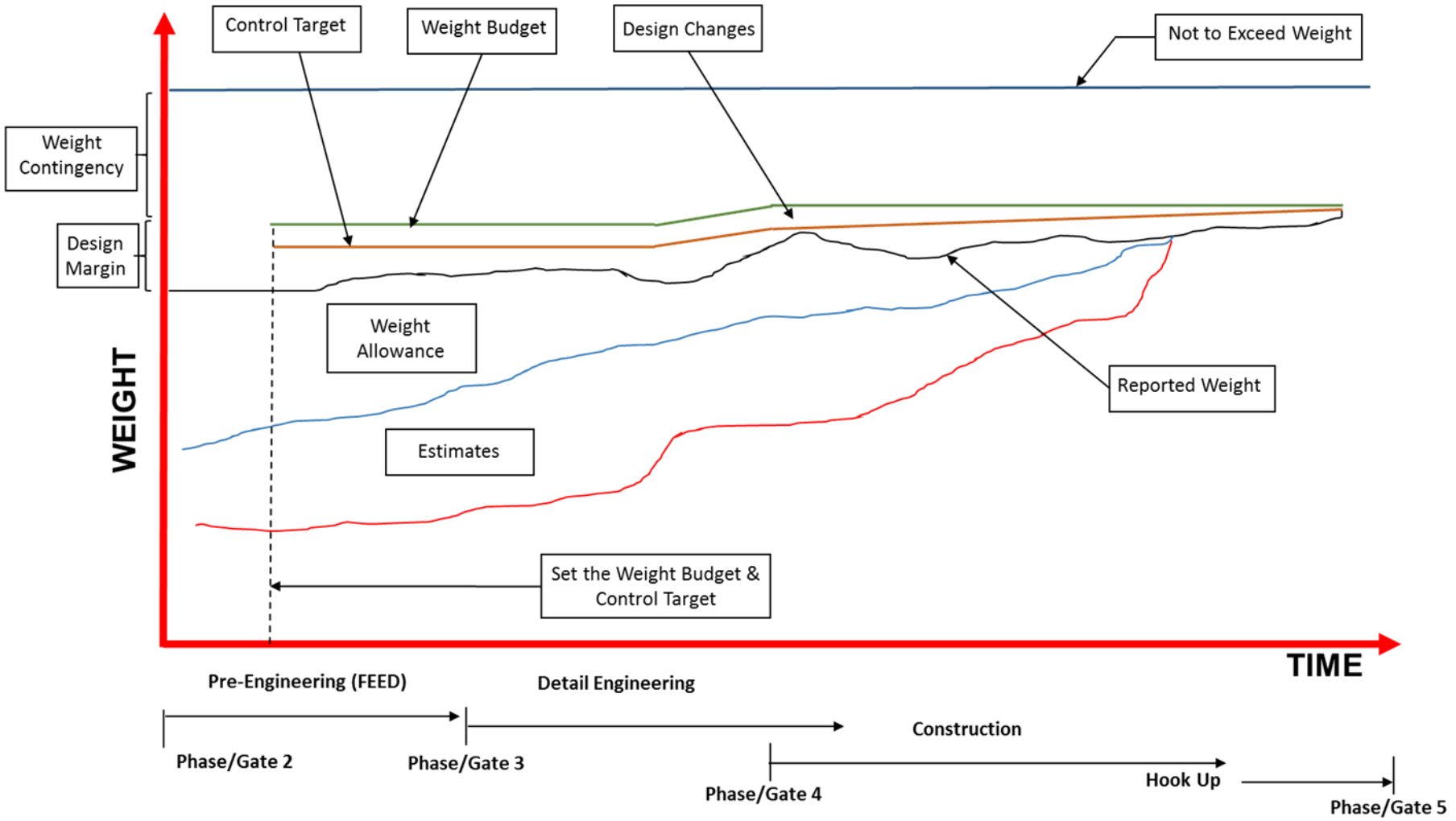
Summary Sheet

Detailed Calculations

Exxon Neftegas Ltd				9-May-02
Sakhalin 1, EPC2				Greg Lamberson
				International Construction Consulting
Input Data	Input Data	US Units	Input Data	Metric Units
Pipe O. D.	**36.00**	**inches**	**914.40**	**MM**
Pipe Wall Thickness	**0.900**	**inches**	**22.86**	**MM**
Protective Coating Thickness	0.019	inches	0.48	mm
Protective Coating Weight per Foot	1.329	lbs./ft.	2.01	kg / mtr
Protective Coating O. D.	36.04	inches	915.37	mm
Pipe Volume Displaced Including Coating	7.08	ft^3/ft.	0.64	cm / mtr
Pipe Weight Per Foot	337.37	lbs./ft.	511.17	kg / mtr
Density of Contents	0.00	lbs./ft^3	0.00	kg / cm
Pipe Contents Weight Per Foot	0.00	lbs./ft.	0.00	kg / mtr
Pipe & Contents Weight Per Foot	**337.37**	**lbs./ft.**	**511.17**	**kg / mtr**
Mud Specific Gravity (Sink Factor)	**1.15**		**1.15**	
Mud Density	71.76	lbs./ft^3	1,208.08	kg / cm
Weight of Concrete in Mud	118.24	lbs./ft^3	1,990.57	kg / cm
Weight of Concrete in Air	**190.00**	lbs./ft^3	**3,198.65**	**kg / cm**
Negative Buoyancy Required	0.00	lbs./ft.	0.00	kg / mtr
Calculation Results				
Upward Buoyancy	**508.31**	**lbs./ft.**	**770.17**	kg / mtr
Net Buoyancy	170.94	lbs./ft.	259.00	kg / mtr
Weight Concrete/foot of pipe	**274.69**	**lbs./ft.**	**416.20**	kg / mtr
Square of Coating O. D.	1,563.81	$inches^2$	10,086.55	cm^2
Coating O. D. calculated	39.54	inches	100.44	cm
Coating Thickness Calculated	**1.75**	**inches**	**4.45**	cm
Concrete Required				
Pipe length	**36,060.00**	**feet**	**10,991.09**	**mtr**
Concrete density	190.00	lbs./ft^3	3,198.65	kg / mtr
Coating thickness used	**1.75**	**inches**	**4.45**	**cm**
Concrete Coated pipe O.D.	39.54	inches	100.43	cm
Bare pipe area	7.08	ft^2	0.64	mtr^2
Concrete Coated pipe area	8.53	ft^2	0.77	mtr^2
Concrete area	1.44	ft^3/ft.	0.13	cm / mtr
Concrete area	0.05	yards/foot	0.14	cm / mtr
Concrete weight (concrete)	**274.12**	**lbs./foot**	**415.33**	**kg / mtr**
Total concrete required	**1,926.83**	**yards**	**1,464.39**	**cm**
Total Wire Mesh Needed	104,049	ft^2	9,364.37	mtr^2
Labor Cost per Pound	$0.0630	per #	$0.03	kg
Labor Cost	$622,731		$622,731	
Labor Cost per Foot	$17.27	per foot	$56.64	mtr
Concrete Cost per Cubic Yard	$750	yd^3	$570	cm
Reinforced Steel Cost	$52,024		$52,024	
Concrete Cost	$1,445,119		$1,445,119	
Misc Material Costs	$72,256		$72,256	
Total Material Cost	$1,569,399		$1,569,399	
Total Material Cost / foot	$43.52	per foot	$142.79	mtr
Total Cost / foot	$60.79	per foot	$199.44	mtr
Contingency	$219,213	10%	$219,213	10%
TOTAL COST	**$2,411,343**		**$2,411,343**	

Services

Weight Management: From Initial Estimates to Completion



Services

- Confidential Client -

Corning Meter Tube Velocities & Pressure Drop

Inlet Pressures of 500, 750 and 1200 psig

500 psig Inlet

MMscfd	P (psig)
100.0	500
Temp. (°F)	60
Density (lbs/ft^3)	2.042
Compressibility	0.894

Suction	▼			
Line Size	8	10	12	16
Wall Thickness	0.500	0.500	0.500	0.750
Delta P/100'	4.77	1.20	0.40	0.09
Vel. (ft/s)	110.6	66.9	44.8	25.8
% of Errosional	99	60	40	23

750 psig Inlet

MMscfd	P (psig)
100.0	750
Temp. (°F)	60
Density (lbs/ft^3)	2.244
Compressibility	0.885

Suction	▼			
Line Size	8	10	12	16
Wall Thickness	0.500	0.500	0.500	0.750
Delta P/100'	3.18	0.80	0.26	0.06
Vel. (ft/s)	73.7	44.6	29.8	17.2
% of Errosional	69	42	28	16

1200 psig Inlet

MMscfd	P (psig)
100.0	1200
Temp. (°F)	60
Density (lbs/ft^3)	2.347
Compressibility	0.881

Suction	▼			
Line Size	8	10	12	16
Wall Thickness	0.500	0.500	0.500	0.750
Delta P/100'	1.99	0.50	0.17	0.04
Vel. (ft/s)	46.2	27.9	18.7	10.8
% of Errosional	44	27	18	10

Note: Recommended % of Errosion should be less than 62.5%.

Delta P = $(12.6fQ^2S_gTZL)/(d^5P)$

Velocity = 0.3272 QTZ/PA

f = friction factor $0.032/d^{1/2}$

S_g = Specific gravity

Z = Compressibility

d = Internal diameter, in

Q = flow rate (MMscfd)

T = Temp in °R

L = Equivalent Length, ft

P = Absolute pressure, psia

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Recent Projects

- Alpha Crude Connector Project, *USA*
- Chad Development Project, *Chad*
- Doseo Pipeline Project, *Chad*
- Caspian Sea Pipeline Expansion, *Russia*
- Angola LNG Project, *Angola*
- EGP3A Offshore Pipeline Project, *Nigeria*
- Sakhalin 1, Phase 1, EPC 2, *Far East Russia*
- Cuiaba Gas Pipeline, *Bolivia & Brazil*
- Chad Development Project, *Chad & Cameroon*
- Alaska Gas Pipeline Producers Project, *USA & Canada*
- China Gas Pipeline Project, *China*

Recent Projects

➢ Alpha Crude Connector Project, *USA*

- ❑ Crude oil gathering system in southeast New Mexico and Texas with initial capacity of 100Mb/d.
- ❑ Approximately 400 miles of pipelines and gathering lines
- ❑ Over 200 well pad connections
- ❑ 300MBbl of storage,
- ❑ Downstream pipeline connections.
- ❑ FERC regulated system.
- ❑ Received the Hart Energy "Project of the Year" award for 2016.

Recent Projects

➢ Chad Development Project, *Chad*

- ❑ Numerous major capital projects
- ❑ Field development projects,
- ❑ Well head fabrications & hook-ups,
- ❑ Civil construction,
- ❑ Flowlines and gathering lines,
- ❑ Gathering facilities,
- ❑ SIMOPS for Brownfield
- ❑ Greenfield
- ❑ Remote, logistically challenged

Recent Projects

➢ Doseo Pipeline Project, *Chad*

- ❑ 500 kms of 16”-24” ANSI Class 900 pipeline
- ❑ 5 pump stations,
- ❑ Gas handling;
- ❑ Heating stations;
- ❑ Topping plants;
- ❑ Power generation;
- ❑ 3 major river crossings
- ❑ Tie-in to the existing Chad-Cameroon pipeline.
- ❑ Pipeline throughput was designed for 100K BOPD
- ❑ Capital cost of $1.3B.

Recent Projects

➢ Caspian Sea Pipeline Expansion, *Russia*

- ❑ 6 each 100K M3 Floating Roof Tanks (VRFT)
- ❑ Marine terminal expansion and tie-in to offshore pipeline
- ❑ Process piping;
- ❑ Automated fire protection system;
- ❑ Production service support depot;
- ❑ Power substations, power supply and equipment room with control room;
- ❑ SIMOP's for Commissioning & final tie-ins.
- ❑ Greenfield / Brownfield

Recent Projects

➢ Angola LNG Project, *Angola*

- ❑ 1 Onshore LNG process train
- ❑ 2 LNG storage tanks
- ❑ Marine terminal
- ❑ "ConocoPhillips Optimized Cascade Process"
- ❑ Gas separation & treating
- ❑ Condensate stabilization
- ❑ LPG fractionation
- ❑ Liquefaction & product storage
- ❑ 200 kms of 18", 22", and 24" – worlds highest pressure gas pipelines installed to date.

Recent Projects

➢ EGP3A Offshore Pipeline Project, *Nigeria*

- ❑ 14 total Km of onshore pipelines, dual 24”- predominately swamps
- ❑ 94 total Km of 24”, 20”, 10” offshore pipelines
- ❑ Offshore platforms & topsides
- ❑ Hook ups
- ❑ Shore approach
- ❑ SIMOPS integration
- ❑ Security challenged

Recent Projects

➢ Sakhalin 1, Phase 1, EPC 2, *Far East Russia*

- ❑ 369 Km of Pipelines (crude, gas injection, and water injection)
- ❑ 201 Km 24” Crude Export Pipeline
- ❑ Marine Terminal
- ❑ Tatar Strait Crossing
- ❑ Environmentally Sensitive
- ❑ Logistically challenged

Recent Projects

➢ Cuiaba Gas Pipeline, *Bolivia & Brazil*

- ❑ 636 Km of 18”, Gas
- ❑ 5 Future Compressor Stations
- ❑ 3 Meter Facilities
- ❑ 5 Major River Crossings
- ❑ Environmentally Sensitive
- ❑ Logistically Challenged
- ❑ Bolivia-Brazil Border Crossing
- ❑ Crossed Worlds Largest Wetland (Pantanal)

Recent Projects

➢ Chad Development Project, *Chad & Cameroon*

- ☐ 1,070 Km of 30”, Crude Oil
- ☐ 3 Pump Stations
- ☐ Field Facilities and Infrastructure
- ☐ Remote Location - Logistically Challenged
- ☐ Telecommunications
- ☐ World Bank Financed
- ☐ Environmentally Challenged
- ☐ Multiple Interfaces
- ☐ Cameroon-Chad Border Crossing

Recent Projects

➢ Alaska Gas Pipeline Producers Project, *USA & Canada*

- ❑ Feasibility Study
- ❑ 6,440 Km of 48” or 52”, Gas
- ❑ 12 Compressor Stations
- ❑ NGL Plant
- ❑ 5 Major River Crossings
- ❑ Remote Location
- ❑ Harsh Environment
- ❑ Largest Gas Pipeline Project in the World

Recent Projects

China Gas Pipeline Project, *China*

- 4,830 Km of 40”, Gas
- 18 Compressor Stations
- Remote Location
- 40 Major River and Canal Crossings
- 300 Km of Congested Construction in Shanghai
- Pipeline Crossing of the Great Wall

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Clients

- AGA Resources
- Alaska Gas Producers Pipeline Team (BP; Phillips; and ExxonMobil)
- Alex Stewart International
- Angola LNG Ltd
- Boardwalk Partners
- Boston Strategies
- Branford Castle
- Caracal Energy
- Chevron
- Chevron Neftegas Ltd
- Chevron Nigeria, Ltd
- Comision de Regulacion de Energia y Gas (CREG)
- Confidential Major Investment Bank
- Constructora CAMSA, CA
- Cumming Company
- Dueltex Energy (Nigeria) Ltd
- ExxonMobil
- Exxon Neftegas Ltd
- Frontier Energy, LLC
- Germer Gertz; LLP
- Glencore E&P
- Goldman-Sachs
- Guidepoint Global Advisors
- Jahind Projects Limited
- K&M Engineering and Consulting, LLC
- Network Oil & Gas Ltd
- Parsons E&C
- Project Management Resources, Inc
- Select Equity Group
- Shell
- Snelson Companies
- Universal Strategic Alliance
- Willbros Engineering
- Willbros International
- Willbros West Africa

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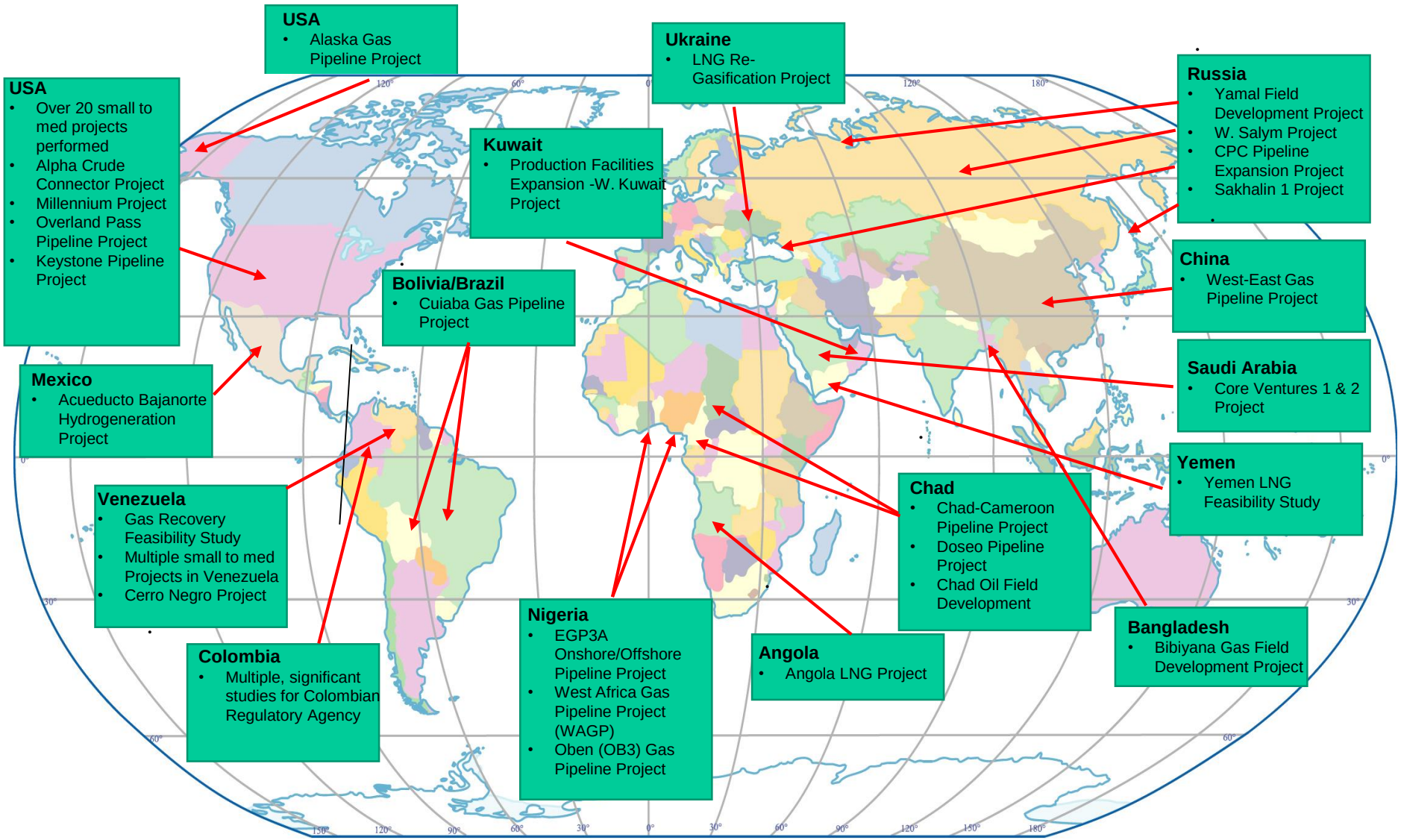
Worldwide Project Locations



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