



# PROCESS PLANTS & GENERAL CONSTRUCTION

| PROJECT  | CLIENT/<br>CONSULTANT   | SCOPE  | STATUS              |
|--|---|--|---------------------|
| 1 <b>Hydrocracker Unit</b>   | Indian Oil Corp Ltd/Lurgi India Co Ltd  | Residual process design, detailed engineering, procurement, supply, third party inspection, transportation of all equipment/ materials to site, materials management, construction, installation, testing, pre-commissioning, commissioning, performance guarantee run on single point responsibility basis. Capacity : 1.7 MMTPA at Haldia Refinery.  | Ongoing<br>Aug 2009 |
| 2 <b>Utilities and Offsites for LNG Plant</b>                          | Yemen LNG Co Ltd/Yemgas (JV of Technip France, JGC Corp and Kellogg Brown & Root) | Construction civil, pressurized underground piping, steel structure erection, hoisting and mechanical erection, above ground piping, electrical, instrumentation, painting, insulation of LNG Plant at Yemen.  | Ongoing<br>Dec 2008 |
| 3 <b>Hydrogen Generation Unit</b>                                      | Indian Oil Corp Ltd/Lurgi India Co Ltd  | Residual process design, detailed engineering, procurement, supply, transportation of all equipment/ materials to site, materials management, construction including installation, testing, pre-commissioning, commissioning, performance guarantee run on single point responsibility basis. Capacity : 70 TTPA at Haldia Refinery.   | Ongoing<br>Nov 2008 |
| 4 <b>Fuel Systems</b>  | New Doha International Airport/Bechtel (PMC)                                      | Engineering, procurement and construction of fuel farm, fuel receiving station, jet fuel hydrant system including 24 km piping, ground service equipment fuel system, ground service equipment washing system, portable water station and operation office, parking facility for hydrant dispenser vehicles, triturator facility, special fuel system equipment, special systems in building / facilities (BMS/ CCTV). | Ongoing<br>Dec 2008 |
| 5 <b>Tunu Field Development Phase 11 S / EPSC 5</b>                    | Total E&P Indonesie   | Engineering, procurement, construction and commissioning of the South Utility Platform, including deck structure for power, effluent treatment, potable water system, safety and fire fighting equipment along with piping, electrical and instrumentation work in Mahakam Delta.  | Ongoing<br>Aug 2008 |
| 6 <b>Heera Redevelopment Platform</b>                                  | ONGC  | Four new wellhead platforms, eight segments of rigid pipelines, (6" to 16" dia) 56.6 km, three segments of flexible pipelines (140 mm ID) 10.5 km, 25 km composite power and OFC, associated topside modifications on existing platforms, replacement of SBM system at Mumbai High South and disposal of old SBM.  | Ongoing<br>Apr 2008 |
| 7 <b>Onshore Gas Development Phase III</b>                             | Eastern Bechtel Co Ltd/ Abu Dhabi Gas Industries Ltd (GASCO)                      | Piping and equipment erection for offsites and utilities at Abu Dhabi.   | Ongoing<br>Nov 2007 |
| 8 <b>Asset Preservation and Maintenance of Daewoo Motors India Ltd</b> | ICICI, IDBI, Exim Bank, SBI   | Asset maintenance and preservation of press shop, body shop, paint shop, assembly shop, plastic paint and moulding shop and utilities area of Daewoo Motors India Ltd Car factory at Noida.  | Ongoing<br>Jul 2007 |
| 9 <b>Central Environment Protection Facility</b>                       | SNC-Lavalin International/ Abu Dhabi Oil Refining Co (Takreer)                    | Design, engineering, procurement, construction, commissioning and start-up of process piping and tankage for BeAAT project in Ruwais, UAE.   | Ongoing<br>Jun 2007 |

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| 10 <b>Second Generation Project Offsites and Utilities</b> | Tengizchevroil/<br>PFD International<br>LLC (Parsons/<br>Fluor Daniel JV) | Offsite and utilities mechanical work comprising equipment installation, piping fabrication, erection, insulation, painting, commissioning assistance for the following areas at Tengiz, Kazakhstan : Chemical Storage, Fuel Gas Compressor, Flare, Interconnecting Piperacks, LPG and Crude Storage Tanks, LACT (Lease Automatic Custody Transfer) Metre Water Treatment.  | Completed<br>Jun 2006 |
| 11 <b>Paraxylene Unit No 2</b>                             | Indian Oil<br>Corp Ltd  | Fabrication and erection of structural work, equipment, piping and painting at Panipat Refinery.  | Completed<br>Jun 2006 |
| 12 <b>Motor Spirit Quality Upgradation</b>                 | Indian Oil<br>Corp Ltd/<br>Lurgi India                                    | Residual process design, detailed engineering, procurement, construction and commissioning on EPC basis at Haldia Refinery. <ul style="list-style-type: none"> <li>• Naphtha Splitter 385,000 MT/YR</li> <li>• Naphtha Hydrotreater 82,000 MT/YR</li> <li>• Reformate Splitter 182,000 MT/YR</li> <li>• Isomerisation – LPG Recovery 122,000 MT/YR</li> <li>• Selective Hydrogenation 200,000 MT/YR</li> <li>• FCC Gasoline Splitter 200,000 MT/YR</li> <li>• Prime G+ Selective Hydrodesulphurisation 160,000MT/YR</li> <li>• Automatic on-line MS Blending Station (with optimisation)</li> </ul> | Completed<br>Dec 2005 |
| 13 <b>Hydrocracker Unit</b>                                | Daelim Industrial<br>Co Ltd/Engineers<br>India Ltd/Indian<br>Oil Corp Ltd | Mechanical construction comprising erection of equipment including reactors, structural steel supply and fabrication, erection work, piping, fire-proofing and painting at Panipat Refinery – 1.7 MMTPA .   | Completed<br>Sep 2005 |
| 14 <b>Peciko Onshore Development Phase 4</b>               | TotalFinaElf E&P<br>Indonesie   | Engineering, procurement and supply of materials, construction, pre-commissioning and commissioning assistance for two gas compression trains at onshore plant at Senipah on EPC basis, with a gas capacity of 450 MMSCFD for each train.   | Completed<br>May 2005 |
| 15 <b>Visbreaker Unit (VBU) and Sulphur Block</b>          | Petrofac<br>International<br>Ltd/Chennai<br>Petroleum<br>Corp Ltd         | Residual process design, detailed engineering, procurement, construction and commissioning at Manali Refinery. <ul style="list-style-type: none"> <li>• VBU : 3600 mt/sd</li> <li>• SRU : 2 x 90 tpd</li> <li>• ARU : 330 tph</li> <li>• SWS : 58.9 mt/hr</li> </ul>  | Completed<br>Aug 2003 |
| 16 <b>Sulphur Block and Utilities/Offsite</b>              | Siirtec Nigi<br>S.p.A./Indian Oil<br>Corp Ltd                             | Residual process design, detailed engineering, procurement, construction and commissioning on EPC basis at Guwahati Refinery. <ul style="list-style-type: none"> <li>• SRU : 5 tpd</li> <li>• ARU : 6.5 tph</li> <li>• SWS : 6 m<sup>3</sup>/hr</li> <li>• Extensive Utilities and Offsites</li> </ul>  | Completed<br>Dec 2001 |
| 17 <b>Hydrocracker Unit</b>                                | Indian Oil<br>Corp Ltd  | Erection of equipment, machinery, structural work, fabrication, erection of piping, electrical instrumentation, painting, insulation and fire-proofing for Hydrocracker Unit of Matching Secondary Processing Facilities at Mathura Refinery (1.2 MMTPA).   | Completed<br>Jun 2000 |
| 18 <b>Sulphur Block</b>                                    | Petrofac<br>International Ltd/<br>Kochi Refineries<br>Ltd                 | Civil and structural work, erection of equipment, machinery, fabrication and erection of piping, tanks, electrical, instrumentation, painting, insulation and fire-proofing of the Sulphur Recovery Unit (2 x 72 TPD), Amine Regeneration Unit and Sour Water Stripper, including related supplies at Kochi Refinery.   | Completed<br>Mar 2000 |
| 19 <b>Additional Chilling Train</b>                        | Reliance<br>Petroleum Ltd/<br>Whessoe LGA                                 | Residual engineering, procurement, construction and pre-commissioning of additional LPG/Propylene chilling train for LPG Storage.   | Completed<br>Feb 2000 |

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| 20 <b>Sulphur Block</b>                                  | Petrofac International Ltd/<br>Indian Oil Corp Ltd      | Civil and structural work, erection of equipment, machinery, fabrication and erection of piping, tanks, electrical, instrumentation, painting, insulation and fire-proofing of the Sulphur Recovery Unit (3 x 60 TPD), Amine Regeneration Unit and Sour Water Stripper, including related supplies at Mathura Refinery.                        | Completed<br>Oct 1999 |
| 21 <b>MTBE Plant</b>                                     | Indian Oil Corp Ltd                                     | Detailed and residual basic engineering, procurement, construction and commissioning of MTBE plant at Gujarat Refinery (37,000 TPA) on EPC basis.  | Completed<br>Sep 1999 |
| 22 <b>CDU III, VDU III, VBU for VREP-II</b>              | Hindustan Petroleum Corp Ltd/Engineers India Ltd        | Erection of CS, alloy steel and clad piping, mechanical equipment erection work for 3 MMTPA capacity expansion at Vizag.   | Completed<br>Sep 1999 |
| 23 <b>Sulphur Block</b>                                  | Kinetic Technology Ltd/Hindustan Petroleum Corp Ltd     | Civil and structural work, erection of equipment, machinery, fabrication and erection of piping, tanks, electrical, instrumentation, painting, insulation and fire-proofing of the Sulphur Recovery Unit (2 x 65 TPD), Amine Regeneration Unit and Sour Water Stripper, including related supplies at Mahul Refinery.                          | Completed<br>Aug 1999 |
| 24 <b>Sulphur Block</b>                                  | Petrofac International Ltd/<br>Indian Oil Corp Ltd      | Civil and structural work, erection of process equipment, machinery, fabrication and erection of piping, tanks, electrical, instrumentation, painting, insulation and fire-proofing of the Sulphur Recovery Unit (2 x 35 TPD), Amine Regeneration Unit and Sour Water Stripper, including related supplies at Koyali Refinery.                 | Completed<br>Jul 1999 |
| 25 <b>Piping Work</b>                                    | Reliance Petroleum Ltd                                  | Fabrication and erection of piping (1,500,000 inch m) for marine tank farm area, fire water pump house and associated work at Reliance Refinery.   | Completed<br>Jul 1999 |
| 26 <b>Low Temperature LPG/Propylene Storage</b>          | Reliance Industries Ltd/<br>Bechtel, UK                 | Residual engineering, procurement, construction for Propylene system package to convert pressurised LPG into cryogenic LPG, storage and re-liquefaction package including one double walled propylene storage system (26,000 m <sup>3</sup> ) and allied mechanical, electrical, instrumentation and civil work at Reliance Jamnagar Refinery. | Completed<br>Jun 1999 |
| 27 <b>Rajasthan Atomic Power Project (Units 3 and 4)</b> | Nuclear Power Corp of India Ltd/<br>Engineers India Ltd | Supply, fabrication, erection, testing and commissioning of indoor piping and associated work for 2 x 220 MW Nuclear Power Plant at Kota.  | Completed<br>Apr 1999 |
| 28 <b>Rajasthan Atomic Power Project (Units 3 and 4)</b> | Nuclear Power Corp of India Ltd/<br>Engineers India Ltd | Supply, fabrication, erection of piping, equipment and instrumentation of active process cooling water system for 2 x 220 MW Nuclear Power Plant at Kota.  | Completed<br>Jun 1998 |
| 29 <b>Gas Field Development</b>                          | Oil India Ltd/<br>Triune Projects                       | Detailed and residual basic engineering, procurement, construction, testing and commissioning of gas gathering stations and gas processing complex, (1.0 MMSCMD) SCADA system and other facilities required for the development of gas fields at Dandewalan and Tanot in western Rajasthan.  | Completed<br>Mar 1997 |
| 30 <b>Ravva Oil Field Development</b>                    | Hyundai Heavy Industries Ltd/<br>Cairn Energy           | Construction of onshore processing facility for oil and gas fields in S. Yanam, including 6 Nos. oil storage tanks on stone column foundations, electrical and instrumentation work, equipment erection and onshore pipelines from the process plant to the landfall point.  | Completed<br>Oct 1996 |
| 31 <b>Effluent Treatment Plant</b>                       | Oil and Natural Gas Corp Ltd                            | Design, engineering, supply, erection and commissioning of 4,000 m <sup>3</sup> per day effluent treatment plant at North Santhal.   | Completed<br>Aug 1996 |

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| 32 <b>Fire Water System for Desalter Plant</b>   | Oil and Natural Gas Corp Ltd   | Engineering, supply, erection and commissioning of fire water, storm water and electrical work at Navagam, Gujarat.  | Completed<br>Jan 1995 |
| 33 <b>Integration System for Desalter Plant</b>  | Oil and Natural Gas Corp Ltd/<br>Engineers India Ltd                 | Engineering, supply, erection and commissioning of integration systems covering civil, mechanical, piping, electrical and instrumentation work at Navagam.   | Completed<br>Jan 1995 |
| 34 <b>Natural Gas Compressor Station</b>         | Oil and Natural Gas Corp Ltd   | Design, engineering, supply, erection and commissioning of 10 Nos. reciprocating compressors, each of 50,000 Nm <sup>3</sup> per day capacity, with all utilities, including an 11 kV substation at Kalol and South Santhal.   | Completed<br>Jan 1994 |
| 35 <b>Structural Work</b>                        | Chambal Fertilisers and Chemicals Ltd                                | Structural steel work for ammonia and urea plant at Gadepan.   | Completed<br>Nov 1992 |
| 36 <b>Piping Work</b>                            | Chambal Fertilisers and Chemicals Ltd                                | Interconnection piping work at Gadepan plant.  | Completed<br>Jul 1992 |
| 37 <b>Underground Cooling Water Piping</b>       | Chambal Fertilisers and Chemicals Ltd                                | Underground cooling water piping for ammonia and urea plant.   | Completed<br>May 1992 |
| 38 <b>Gas Turbine Generator</b>                  | Tamil Nadu Electricity Board/<br>Hindustan Aeronautics Ltd           | Design and procurement of indigenous equipment, erection and commissioning of these and 2 Nos. 5 MW gas turbine generators on turnkey basis for a gas based power plant in Tamil Nadu.   | Completed<br>Mar 1992 |
| 39 <b>Underground Cooling Water Pipeline</b>     | Chambal Fertilisers and Chemicals Ltd/<br>Toyo Engineering India Ltd | Underground cooling water piping work, piping for offsite area at Gadepan plant.   | Completed<br>Dec 1991 |
| 40 <b>Captive Power Generation Facility</b>      | Hindustan Aeronautics Ltd,<br>Engine Division                        | Design and procurement of indigenous equipment, erection and commissioning of these and 5 Nos. 3 MW gas turbine generators on turnkey basis for gas-based power plants at three different locations in Assam, including operation and maintenance of the plants for two years after commissioning. | Completed<br>Mar 1991 |
| 41 <b>Auriya Compressor and Terminal Station</b> | Spie Capag/<br>NKK/Toyo Consortium                                   | Complete mechanical work, including equipment erection, piping, painting and insulation of compressor station for HBJ Gas Pipeline at Auriya.  | Completed<br>Apr 1989 |
| 42 <b>PTFE Plant</b>                             | Hindustan Fluorocarbons Ltd/Davy Power Gas                           | Mechanical erection of equipment (static and rotary); erection of CS/SS, Inconel 600 and jacketed piping for PTFE plant at Medak, Andhra Pradesh.  | Completed<br>Jan 1987 |
| 43 <b>Desalter/Dehydration Plant</b>             | Toyo Engineering India Ltd/Toyo Engineering Corp                     | Mechanical erection of piping, rotary and skid-mounted equipment for Kuwait Oil Co   | Completed<br>Aug 1985 |
| 44 <b>Methanol Plant</b>                         | Gujarat Narmada Valley Fertilizer Co Ltd/Tata Consultancy Engineers  | Mechanical erection of equipment – vessels, rotary equipment, etc. – fabrication and erection of CS/SS piping of Methanol plant at Bharuch.  | Completed<br>Apr 1985 |