

Pulsation Studies

This is a list of some projects for which Spectrum has provided Pulsation Analysis services.

Client	Project	Engineering Contractor
AES /Gardner Denver Belliss & Morcom	AES Barry Power Station, UK	-
AGOCO/Dresser Rand	Messla Gas Project, Libya	MAN
AGOCO/Dresser Rand	Nafoora Gas Utilisation, Libya	-
Air Liquide/Sulzer-Burckhardt	Rhodia Project, France	Air Liquide
Amoco (UK) Exploration Co./Peter Brotherhood	North Sea, Central Graben Development/CATS Project, UK	Brown and Root, Vickers.
APC/Neuman & Esser Italia	APC Project, Alexandria, Egypt	AE Mechanica
Basell/Sulzer-Burckhardt	Targor Tarragona Project, Spain	Basell
BASF Rozenburg/Neuman & Esser Deutschland	Polypropylene Compressor, Netherlands	-
BHP Petroleum/Peter Brotherhood	Synthesis Gas Compressor for Methanol Unit, Australia	Davy John Brown Pty Ltd
BP Oil/Thomassen Compression Systems	Queensland Clean Fuels Project, Melbourne, Australia.	Kvaerner Process (Australia) Pty Ltd
BP/Peter Brotherhood	Kinneil Terminal Expansion, Scotland	Brown and Root, Vickers
British Gas/Peter Brotherhood	North Sea Amethyst Easington Terminal , UK	Ralph M Parsons
British Gas/Peter Brotherhood Ltd/Dresser Rand	Partington, Glenmavis, Avonmouth and Dynevor Arms LNG Pre-treatment Coalescer Modifications, UK	-
Caltex Oil (SA) (Pty) Limited / Peter Brotherhood	Cape Town Oil Refinery Unit 27, South Africa	Fluor Engineers
CEPSA/ABC Compressors	La Rabida Refinery, Spain	Technip
CNOOC /Dresser Rand	Hiizhou Refinery, Guangdong, China	Sinopec Engineering Incorporation
CompAir Reavell	Compressor Development Project, UK	-

Client	Project	Engineering Contractor
Conoco/Thomassen Compression Systems	Humber Refinery Clean Fuels Program, UK	Parsons Group International Ltd
Dow Chemical Iberica SA/Thomassen Compression Systems	Fuel Gas Compressor - Dow Tarragona, Spain	Dow Chemical
Elf/Dresser Rand	Milford Haven Oil Refinery, UK	AMEC
Elf/Peter Brotherhood	Naptha Isomerisation Project, Milford Haven, UK	Matthew Hall
Engen Refinery/Peter Brotherhood Hitachi, Ingersoll Rand	Engen Refinery Clean Fuels Project, South Africa	Fluor
Engen/Dresser Rand	Engen Refinery Rex Project, South Africa	Fluor Engineers
Engen/Peter Brotherhood /Hitachi	Engen Refinery Reflex Project, South Africa	Badger Africa
ENI/Thomassen Compression Systems	Sannazarro Refinery, Italy	Eni Saipem
Equate/Buckhardt Compression AG	Equate Petrochemicals, Kuwait	-
Exxon Mobil/Burckhardt Compression	BRPO De-Bottlenecking Project	GRSA
Exxon Mobil/Neuman & Esser	Jerome Gravenhou Refinery	-
Fertilizer Plant/Mikuni Engineering Co	KPI Project, Indonesia	Mitsubishi Heavy Industries Ltd
Hellenic Aspropyrgus Refinery/Peter Brotherhood	Recycle H2 Gas Compressor – Naptha Hydrodesulphurization Unit Upgrade, Greece	Asprofos
Hungary/Peter Brotherhood	Szazhalombatta Petrochemical Plant, Hungary	KTI/Mannesman
Indian Oil Corporation/Thomassen Compression Systems	Barauni Refinery Expansion, India	-
IOCL/ Thomassen Compression Systems	Paradip Refinery, India	Uhde India Private Ltd (UIPL)
Irish Refining plc/Peter Brotherhood	Auto Oil Upgrade Project, Whitegate Refinery, Eire	Foster Wheeler Energy Ltd
Johnson Matthey Catalysts	Trinidad	ABB Engineering Services
Kaltim Parna Industry (KPI)/Mikuni Engineering	Fertilisation Plant, Indonesia	Mikuni Engineering

Client	Project	Engineering Contractor
Kaucuk AS/Neuman & Esser Deutschland	Make-Up Gas Compressor, Czech Republic	Voest John Brown
Kharg Chemical Co./Cooper Bessemer	IPAC and Consortium Booster Compressors, Iran	Ralph M Parsons
Linde Brunsbüttel/Neuman & Esser Deutschland	Linde Brunsbüttel Project, Germany	Linde
Lukoil/Dresser Rand	Burgas Refinery, Bulgaria	Technip
Mobil/Peter Brotherhood	Fuel Gas Compressor – Coryton Gas Turbine Project	Oil & Gas Systems
Moss Gas/Peter Brotherhood	Mossel Bay Onshore Project, South Africa	Badger Engineers/Synfuels Engineering
MTBE/Peter Brotherhood	Kuantan Propylene Project, Malaysia	Mitsubishi/M W Kellogg
NMML/Mikuni Engineering	NMML-D Plant	Sumitomo Chemical Engineering
NNPC/ Dresser Rand	Escravos project, Nigeria	KBR/Snamprogetti/Eni/MGN
NODCO/Sulzer-Burckhardt	NODCO Refinery Expansion Project, Mesaieed, Qatar	Lurgi Consortium
OJSC Taneco/Thomassen Compression Systems	Nizhnekamsk refinery, Tatarstan, Russia	Tecnimont
OK Refinery AB/Peter Brotherhood	Make-up Gas Compressor for Isomerisation Project, Sweden	M W Kellogg
OK Refinery AB/Thomassen Compression Systems	Recycle and Make-up Gas Compressors, Sweden	ABB Lummus Crest
ORL/Dresser Rand	Haifa Oil Refinery, Israel	-
Petrobel/Peter Brotherhood	El Qara NGL Plant, Egypt	AGIP/Snamprogetti
Petronor/Peter Brotherhood	Somorostro Refinery Hydrodesulphurisation Project, Spain	Technicas Reunidas
PNEM Eindhoven/Neuman & Esser Deutschland	PNEM Eindhoven Power Plant, Netherlands	TSSI
Polinter/ Thomassen Compression Systems	Petroquimico Ana Maria Campos, Zulia, Venezuela	Tecnimont
Reliance Industries/Peter Brotherhood	Hazira NGL Naptha Cracker, India	Stone & Webster
Reliance Petroleum/Thomassen	Jamnagar Export Refinery Project, India. (9 compressors)	Bechtel
Repsol/ ABC Compressors	Cartegena Refinery	Fluor
Samad/Peter Brotherhood	2-Ethyl Hexanol Plant Syngas Pre-treatment, Saudi Arabia	John Brown Engineers and Constructors

Client	Project	Engineering Contractor
SARAS/Dresser Rand	SARAS SPA, Sardinia	Foster Wheeler Italiana
Shell Chemicals/Peter Brotherhood	Carilon Polymers Project – Loop Gas and Booster Compressors, UK	M W Kellogg
Shell Chemicals/Thomassen Compression Systems	Shell Carrington Flash Gas Compressor, UK	M W Kellogg
Shell Expro/Peter Brotherhood	Fuel Gas Compression, Shell Auk, North Sea, UK	Brown and Root (UK) Ltd
Shell UK/LMF/Thomassen Compression Systems	CO Recovery Unit, Stanlow Refinery, UK	Linde AG
Sinopec/ABC Compressors	Ningxia, China	SNEC
Sinopec/Peter Brotherhood	Yanshan Refinery, China	-
Ssang Yong/Thomassen Compression Systems	Make-up Gas Compressor, Korea	Toyo
Statoil/Dresser Rand	Fuel Gas Export Plant, Kalundborg, Denmark	Statoil/Exxon
Statoil/Peter Brotherhood	Kalundborg Condensate Project, Denmark	Ralph M Parsons
Sumitomo Chemical/Mikuni Engineering Co	Sumitomo Chemical Refinery Development Project	Sumitomo Chemical Engineering Co.
Thai Oil/ Thomassen Compression Systems	Sriracha Refinery, Chonburi, Thailand	Thai Oil Public Company Ltd
Total Fina Elf/Peter Brotherhood	Total Fina Elf Unifier 2 Revamp, Lindsey Oil Refinery, UK	Foster Wheeler
Volgograd Refinery/Peter Brotherhood	Volgograd Refinery Expansion Project, Russia	SNC Lavalin
Yangzi/Thomassen Compression Systems	Yangzi II Aromatics Complex, China	The Sixth Design Institute
YPF S.A/ Thomassen Compression Systems	YPF CILP Refinery, Argentina	Techint S.A