

Turner Engine Control Solutions Retrofit Project Experience List

Customer	Site	Application	Prime Mover	OEM	Units	Description
Acergy	Osprey	Diving Support Vessel	Diesel Engine	Crepele	6	Replaced load sharing, synchronisation system, speed controls and actuators with Atlas SC and UG actuators.
Acergy	Discovery	Diving Support Vessel	Diesel Engine	Wartsila R32	4	Install and commissioning speed control cabinets
Adgas	Das Island	Gas Liquefaction Plant	Steam Turbine	GE Oil & Gas	6	Redundant 505 control systems for six pump drive steam turbines
Adma Opco	Umm Shaif	Offshore Oil & Gas	Gas Turbine	General Electric	3	Installed new vibration systems and HMI stations. Modified Netcon Frame 5 turbine control systems.
Adma Opco	Umm Shaif	Offshore Oil & Gas	Gas Turbine	General Electric	3	Upgrade and expansion of power management system
Adma Opco	Umm Shaif	Offshore Oil & Gas	Gas Turbine	General Electric	1	Air dryer controller
Adma Opco	Zakum West	Offshore Oil & Gas	Gas Turbine	General Electric	3	Installed new vibration systems and HMI stations. Modified Netcon Frame 5 turbine control systems.
Adma Opco	Zakum West	Offshore Oil & Gas	Gas Turbine	GE & Rolls Royce	5	Upgrade and expansion of power management system
Albayroni	Al Jubail	Fertilizer Plant	Steam Turbine		1	Replacement of TS110 by Peak 150 control system on steam turbine driving pump.
Albayroni	Al Jubail	Fertilizer Plant	Steam Turbine	General Electric	1	Upgrade of 3 process compressor steam turbines with local analog simplex controls to remote 5009C TMR digital control systems with HMI operator interface stations and local control panels.
Alstom	Bingo IV	Drilling Rig	Diesel Engine	CAT 3161B	8	Supplied 828/LinkNet Redundant Isoch Load Sharing Speed Control System and SPM-A Auto Synchronisers for eight CAT 3616B 4.6MW Generators
Alstom	Danny Adkins	Drilling Rig	Diesel Engine	CAT 3161B	8	Supplied 828/LinkNet Redundant Isoch Load Sharing Speed Control System and SPM-A Auto Synchronisers for eight CAT 3616B 4.6MW Generators
Alstom	Dave Beard	Drilling Rig	Diesel Engine	CAT 3161B	8	Supplied 828/LinkNet Redundant Isoch Load Sharing Speed Control System and SPM-A Auto Synchronisers for eight CAT 3616B 4.6MW Generators

RETROFITS & UPGRADES

Arcelor Sidmar	Gent	Steel Mill	Diesel Engine	Cockerill	1	Diesel engine cabinet, Atlas SC control
ARN	Nijmegen	Waste Disposal Station	Steam Turbine	Allen Steam Turbine	1	Replaced Allen steam turbine control system by 505 control
Atlas Copco	Antwerpen	Compressor	Steam Turbine		1	ATLAS SC steam turbine control, 3 critical speed bands
BMW	Regensburg	Car Factory	Gas Turbine	Solar	1	Upgrade of old 2301 to 2301D on Solar Centaur gas turbine generator
Boskalis		Pomp	Diesel Engine	MAN G9V 30/45 ATL	2	Upgrade Ug8D with UG25plus pump
BP Shipping	British Willow	Tanker	Diesel Engine	Wartsila 4L20	3	retrofit 3161 governors with UG25+
British Energy	Heysham 2 Nuclear	Nuclear Power Station	Diesel Engine	Mirrlees Blackstone	8	Retrofit of 8 x 6.75W diesel generators used for backup power at the Nuclear site. These were upgraded to 2301A LSSC + DRU controls driving EGB-50P Governor/Actuators.
British Energy	Hunterston B	Nuclear Power Station	Diesel Engine	Mirrlees Blackstone	4	Upgrade of old 2301 to new 2301A with EGB actuator/governor on four 2.35MW diesel generators used for backup power at the nuclear site.
CalMac Ferries	Loch Nevis	Ferry	Diesel Engine	Cummins KTA 38M2	1	retrofit BC governor system with Heinzmann actuator and 2300 controller
Carsid	Charleroi	Steel Factory	Steam Turbine	AEG	1	Upgrade of 1x steam turbine control to 505 + PLC + EHPC + operator panel.
Converteam	STX drillship	Drill Ship	Diesel Engine		8	828,linknet module UGA actuator and system consultation
Converteam	DSME	Drill Rig	Diesel Engine	Caterpillar 3616	8	828,linknet module UGA actuator and system consultation
Converteam	Noble Leo Segerius	Drill Ship	Diesel Engine	EMD 20-710G7C-T2	7	828,linknet module UGA actuator and system consultation
Converteam	Noble Muralenko	Drill Ship	Diesel Engine	Caterpillar C280	7	828,linknet module UGA actuator and system consultation
Converteam	Noble Roger Eason	Drill Ship	Diesel Engine	EMD 20-710G7C-T2	7	828,linknet module UGA actuator and system consultation
Converteam	Aban Abraham	Drilling Vessel	Diesel Engine	EMD	6	Supplied 828/LinkNet Redundant Isoch Load Sharing Speed Control System and SPM-A Auto Synchronisers for six EMD Generators

RETROFITS & UPGRADES

Converteam	Peregrine	Vessel	Diesel Engine	-	6	828,linknet module UGA actuator and system consultation
D.H. Marine	Antares	Fishing Vessel	Diesel Engine	CAT	3	Replaced 2301A SC with 2301D LSSC and SPM-A Auto Synchronisers on 3 off CAT 3508 Generators.
DH Marine	Antares & Zephyre	trawlers	Diesel Engine	various	8	Upgrade PMS system to incorporate load share with shaft generators, and auxiliary generators. Easygen 3200 and 2300 controller
Diamond Offshore	Ocean Vanguard	Drill Support Vessel	Diesel Engine	Hedemora	4	The four 1500kW diesel generators on the drilling vessel were upgraded to a 2301D and UG-actuator control system.
Dredging International	Pearl River	Dredger	Diesel Engine	Sulzer	2	Main engines 723 upgrade
Dubai Petroleum Company	Rashid Platforms Offshore	Oil Production Platform	Gas Turbine	Solar	3	Upgrade of 3 Solar Saturn gas turbine generator sets with EG-A and 2301 controls and EGB-2C actuators to 2301A-LSSC with EGB-2P proportional actuators.
Electrabel	-	Power station	Gas turbine	Pratt and Whitney FT4	2	Control cabinet, ATLAS II profibus remote I/O (AB) modules
EON	Maasvlakte Power Station	Power Station	Diesel Engine	MTU	4	Upgrade of emergency diesel generator set analog control to Atlas with ProAct, AVR, batteries, cabinet, MFR generator protection
EPE	Israfil Guseinov	Pipe Laying Vessel	Diesel Engine	Gorky	5	Replaced UG-40D Mech Governors with UG-40 Actuators and 2301A Speed Controls
EPE	Stena Dee Rig	Oil Rig	Diesel Engine	Nohab	4	Offshore drilling installation utilises two Nohab 316 16V engines rated at 3000 kW and two 312 12V engines rated at 2250 kW for power generation. The new Woodward speed control system comprises of four 828 Digital Controls, operating in Isochronous load sharing mode, with primary load sharing achieved via load sharing lines.
EPE	Tofic Ismailov	Dive Support Vessel	Diesel Engine	Wartsila	4	Replaced RE Mech Governors with UG Actuators, SPM-A Auto Synchronisers and 828 Redundant Isoch Load Sharing systems.

RETROFITS & UPGRADES

EPZ	Borssele	Nuclear Power Station	Diesel Engine	-	2	2x emergency diesel generator sets
EPZ	Borssele	Nuclear Power Station	Steam Turbine	-	1	1x steam turbine, ATLAS SC + Protech 203 overspeed protection module
Essent	Wijster	Power Station	Steam Turbine	Delaval Stork	1	Upgraded old style 505 and DRFD by 505 and SPCs
Fatima Fertilizer	-	Fertilizer Plant	Steam Turbine	-	2	Upgrading mechanical to electronic governor system. 505, PG-PL actuator and overspeed protection module.
Fenice	Fiat Mirafiori	Power Station	Steam Turbine	Franco Tosi	1	Upgrade of 43027+509 steam turbine generator controls to Micronet Plus + BN vibration system.
Gemco	-	-	Steam turbine	-	1	Steam turbine control ATLAS II
GPIC	Bahrain	Methanol Plant	Steam Turbine	Nuovo Pignone	1	Upgrade of hydro-mechanical controls on a single automatic extraction steam turbine to 505E with I/H converters.
GPIC	Bahrain	Ammonia Plant	Steam Turbine	Nuovo Pignone	1	Upgrade of hydro-mechanical controls on a single automatic extraction steam turbine to 505E with I/H converters.
Green Dome Petrochemicals	Sharjah	Ammonia Plant	Steam Turbine	De Laval	1	Upgrade of hydro-mechanical governor on steam turbine driving syngas compressor to Peak 150 with CPC-II.
Green Dome Petrochemicals	Sharjah	Ammonia Plant	Steam Turbine	Coppus	1	Replacement of TS110 by Peak 150 control system on steam turbine driving lube oil pump.
Holland America Line	Noordam	Cruise ship	Diesel Engine	Sulzer	2	Replacement of 43027 systems with 828 Propulsion & Propeller Synchronphaser systems on two Sulzer Main Engines.
Ibn Sina	Al Jubail	Methanol Plant	Steam Turbine	Elliott	1	Upgrade of MTBE compressor steam turbine with 509 control to Micronet TMR digital control system with site-specific control software application.
Ibn Sina	Al Jubail	Methanol Plant	Steam Turbine	-	10	Upgrade of ten old type 505 steam turbine controls to latest 505 Enhanced

RETROFITS & UPGRADES

Indalbi Sur	La Gomera	Power Station	Diesel Engine	Caterpillar	2	Replacement of 2310A LSSC & CAT Engine Control Systems with Woodward Atlas-SC digital control on two diesel generators at island power station. System supplied with new control cabinets complete with InnoScan HMI plus local and remote mounted Citect SCADA systems.
IYS	-	Yacht	Diesel Engine	MAN20/27	2	Upgrade UG8L with UG25plus propulsion
Marine	Den Helder	MOS	Diesel Engine	Wartsila 26	1	Trainings simulator, ST cabinet
Marine	Den Helder	Power station	Diesel Engine	Pielstick Dual Fuel	3	ATLAS II including HMI
Lyondell	Lyondell Rotterdam	Pressure reducer & Power	Steam Turbine	Stork	1	Upgrade PG-PL Governor with 2301D-ST, PG-PL actuator and EGCP-2 synchronizer load control
Manchester Airport plc	Manchester Airport	Power Station	Dual Fuel Engine	Mirrlees Blackstone	2	Replacement of Woodward 501DCS with Atlas SC and Touch Screen HMI on two Mirrlees Blackstone 4.5MW Dual Fuel CHP generators at airport power station.
MoD	HMS Endurance	Artic Survey Vessel	Diesel Engine	Mitsubishi	2	Replacement of PSG Governor with EG-3P Actuator, 2301A SC and DRU on two Auxiliary Generators
NMDC	Dredge-2	Dredger	Diesel Engine	Caterpillar	2	Replacement of Barber-Colman DYNA by 828 tandem engine control system
Nobel Drilling	Rotterdam	Drilling Rig	Diesel Engine	Caterpillar	4	Upgrade to EGCP-3
Samsung		FPSO	Diesel & gas turbine	Mitsubishi-Solar	9	Delivered synchronisation cabinet
OMIFCO	Sur	Fertilizer Plant	Compressor	General Electric	6	Micronet compressor controls and HMI improvements.
ORPC Sohar Refinery	Sohar	Refinery	Compressor	Elliott	1	Replaced simplex 505 by dual redundant 505-Enhanced system
P&O	Arcadia	Cruise Ship	Diesel Engine	MAN B&W	4	Replacement of 43027 systems with 828 DCS on four 9.5MW Diesel Generators.
QAFCO	Mesaieed	Fertilizer Plant	Steam Turbine	-	1	Upgrade of old to new type 505 + retrofit kit.
QAFCO	Mesaieed	Fertilizer Plant	Steam Turbine	Nuovo Pignone	3	Upgrade of three 505(E) with CPCs to 5009 TMR with redundant I/H converters.

RETROFITS & UPGRADES

QAFCO	Mesaieed	Fertilizer Plant	Gas Turbine	Rolls-Royce	3	Upgrade of gas fuel systems on three Avon gas turbine compressor drives
QAFCO	Mesaieed	Fertilizer Plant	Gas Turbine	Rolls-Royce	2	Upgrade of gas fuel systems on two Avon gas turbine compressor drives
QAPCO	Mesaieed	Petrochemical Plant	Steam Turbine	Elliott	3	Micronet control system modifications
RFA	Fort George	Military Support Vessel	Diesel Engine	Pielstick	2	Upgrade of old 507DMC to Atlas-SC governor control system.
RFA	Fort Victoria	Military Support Vessel	Diesel Engine	Pielstick	2	Upgrade of old 507DMC to Atlas-SC governor control system.
Rousselot	Gent	Gelatine Factory	Steam Turbine	Blohm and Voss	1	CPC II, 505 and TUG unit
SAFCO Ibn Al Baytar	Al Jubail	Fertilizer Plant	Steam Turbine	Shinkokinzoku	1	Upgrade of reformer draft fan steam turbine UG-governor to UG-actuator with Peak150 digital control.
SAFCO Ibn Al Baytar	Al Jubail	Fertilizer Plant	Steam Turbine	GE Nuovo Pignone	1	Retrofit of extraction steam turbine and CO2 compressor control system to 505E, 505CC-2, 2300 controls with CPC I/H converters.
Saipem	Bar Protector	Diving Support Vessel, DP2	Diesel Engine	Nohab	5	Replaced load sharing, synchronisation system, speed controls and actuators with Atlas SC and ProAct actuators.
Saipem	Bar Protector	Diving Support Vessel, DP2	Diesel Engine	Nohab	5	After first project, execution of our recommendations.
Saudi Aramco	Ras Tanura	Refinery	Steam Turbine	-	1	Upgrade of refinery crude oil pump steam turbine's old to new type 505 digital control system.
Saudi Aramco	Abqaiq	Oil Processing Plant	Steam Turbine	-	7	ProTech-GII SIL-3 overspeed protection for steam turbines
Saudi Aramco	Ras Tanura	Refinery	Steam Turbine	Nuovo Pignone	1	Upgrade of recycle compressor steam turbine 509 to 5009 digital TMR control system.
Saudi Aramco	Riyadh	Refinery	Steam Turbine	Niigata Worthington	3	Upgrade of 3 pump drive steam turbines with mechanical governors to Peak150 electronic control systems with pneumatic actuators.

RETROFITS & UPGRADES

Saudi Aramco Mobil Refinery	Yanbu	Refinery	Steam Turbine	Shin Nippon	3	Upgrade of 3 boiler forced draft fan steam turbines with PG-D governors to 505 electronic control systems with pneumatic actuators.
Saudi Aramco Mobil Refinery	Yanbu	Refinery	N/A	N/A	1	Supply of MicroNet TMR training cabinet.
Saudi Aramco Mobil Refinery	Al Jubail	Refinery	Steam Turbine	Alstom	2	Upgrade of 2 steam turbine generator sets with analog controls to 505 digital control systems with EGCP-3 power management and synchronizing, EHPC servo actuator assemblies and HMI operator interfaces.
Seatrade	Bremerhaven	Reefer	Diesel Engine	Wartsila L20	8	Upgraded on 2 vessels 3161 governors by 2301D and UG actuators. Power management system has not been changed. Engine running in droop.
Sharq	Al Jubail	Petrochemical Plant	Steam Turbine	Shin Nippon	2	Upgrade mechanical governors to Peak 150 digital control systems with Valtek actuators
Shell	-	LNG Carrier Bonny	Steam Turbine	Stal-Laval	2	Upgrade old Bosch-Rexroth converter plus old speed control for Peak 150 and CPC II
Shell	-	LNG Carrier Bonny	Steam Turbine	Stal-Laval	2	Upgrade old Bosch-Rexroth converter plus old speed control for Peak 150 and CPC
Shell	Moerdijk	Refinery	Steam Turbine	Siemens	4	Human Machine Interface upgrade
Shell	Pernis	Refinery	Steam Turbine	Nuovo Pignone	1	HMI upgrade, Citect and Advantech TPC
Shell	Pernis	Refinery	Steam Turbine	Nuovo Pignone	1	HMI upgrade, Citect and Advantech TPC
Specialist Marine Services	Ocean Boomer	Geographic Survey Vessel	Diesel Engine	Ruston Diesel	2	Upgrade of Governor system on two Ruston Diesel Engines driving both AC and DC Generators. Original Mech. Governors replaced with ProAct IV Digital + Actuators and 2301D LSSC.
Stena Line	Jutlandica	RoRo	Diesel Engine	MAN 40/54	4	Upgrade 527 main engine control by 828 control
Svendborg AS	West Sund	Tug	Diesel Engine	Ruston RK	2	UG actuator, 2300 control mounted in cabinet

RETROFITS & UPGRADES

Technip Offshore UK Ltd	CSO Venturer	Drill Support Vessel	Diesel Engine	MAK	5	Upgrade of five generators to 2301A controls with ProAct III Digital + Actuators and DSLC synchronizing and load share modules on drill support vessel.
Technip Offshore UK Ltd	CSO Apache	Container ship	Diesel Engine	CAT	9	Commissioning of Three 1.5MW & Six 900kW CAT gensets running EGCP-3 controls.
Tecto/Exmar	Donau	LPG Tanker	Diesel Engine	Sulzer 6/8RTA38	2	Upgrade of 537 control system on main engine by ATLAS SC controller.
Teekay	Foinaven	FPSO	Diesel Engine	Wartsila R32GD	8	Replace main engine control and gas injection driver control
Teekay	Foiaven	FPSO	Diesel Engine	Wartsila R32 Dual Fuel	8	Upgrade old Netcon and multi point driver include safety system
Transocean	Sedco 700 Rig	Oil Rig	Diesel Engine	EMD	3	Upgrade of three diesel generators on oil rig to 2301D LSSC controls, SPM-A Auto Synchronisers and EGB-13P Gov/Actuators The three units can be monitored and configured through one PC running a multidrop ServLink connection.
Transocean	Sedco 704 Rig	Oil Rig	Diesel Engine	EMD	4	Replaced EGM Govern System on four 2.1MW Generators with 723+ and DSLC units
Transocean	Sedco 709 Rig	Oil Rig	Diesel Engine	EMD	8	Upgrade of eight diesel generators on oil rig to 2301D LSSC controls, SPM-A Auto Synchronisers and EGB-13P Gov/Actuators
Uzbeknestegaz	Uzbekistan	Onshore Oil & Gas	Gas Turbine	General Electric	4	Upgrade of 511 controls on 4x GE LM2500 gas turbines driving gas re-injection compressors to GTC250 + 3103 gas valves with EM35MR all-electric actuators.
Volvo Penta	-	Crane Vessel	Diesel Engine	Mitsubishi	18	New building. 6 cabinets 828 controllers & ProAct actuators.
Wagenborg	Sier	Ferry	Diesel Engine	Caterpillar	4	Replaced mechanical 3161 governor with UG actuator and speed control
WightLink	St Clare	Ferry	Diesel Engine	Wartsila 5L20	1	retrofit 3161 governors with UG25+
Wintershall	P12-SW & P6	Platform	Diesel Engine	Perkins	2	Replaced complete power management system by EGCP-3 and Siemens S7 PLC

RETROFITS & UPGRADES

Wintershall	North Sea P6A	Oil Rig	Gas Engine	-	3	Upgrade of three gas engines on oil rig to 2301D electronic controls and a SPM-D synchroniser and EG-3P actuator.
Wintershall	North Sea P6A	Oil Rig	Diesel Engine	-	1	Upgrade of one diesel engine on oil rig to 2301D electronic controls and a SPM-D synchroniser and EG-3P actuator.
Wintershall	Logger	Platform	Diesel Engine	Cummins KTA		Complete cabinet, load sharing, synchronisation, AVR, first failure indication an generator protection
Woodward	India	Power plant		-	1	New cabinet, Micronet plus and HMI
Yanpet	Yanbu	Petrochemical Plant	Steam Turbine	-	4	Addition of triple redundant ProTech203 overspeed protection systems to 4 process gas compressor steam turbines.
Yara Sluiskil	Sluiskil	Fertilizer Plant	Steam Turbine	NP	1	Cabinet with MicroNet and HMI
Yara Sluiskil	Sluiskil	Fertilizer Plant	Steam Turbine	MAN GHH	1	Upgrade of GHH control compressor application cabinet incl. 505CC-2
ZADCO	Zakum	Offshore Oil & Gas	Gas Turbine	General Electric	1	Upgrade of 511 control on GE LM2500 gas turbine driving water injection pump to GTC250.