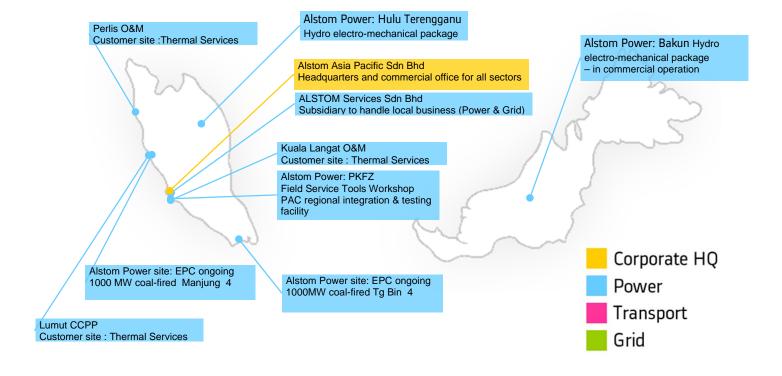


References and Ongoing Projects



Alstom's Presence



Key Data:

- Alstom Asia Pacific Sdn. Bhd.
- Alstom Services Sdn. Bhd. (Subsidiary)
- 6 Power sites
- >800 employees

Note:

Grid team integrated into HQ location (Chulan Tower) in 2010.



References and Ongoing Projects

History

- 1969: Supplied 3 x 30 MW steam turbine & generator for the Sultan Ismail Power Station, Johor Bahru
- 1983: Establishment of ALSTOM Export Sdn Bhd (Now known as Alstom Services Sdn Bhd)
- **1984:** EPC for the first Combined Cycle Power Plant by Alstom, the 3 x 300 MW CCP blocks at Paka, the largest in SEA at that time
- 1991: Supplied the first Hydro Turbines to Malaysia for the 4 x 150 MW Hydro Plant at Pergau
- **1992:** Establishment of ALSTOM Asia Pacific Sdn Bhd to undertake Power Plant EPC & Operation/Maintenance scope in the region
- 1993: The first IPP for Alstom in Malaysia as EPC for the 670 MW CCPP, Kuala Langat IPP
- **1994:** EPC for the 1300 MW CCPP Lumut IPP that contains the largest number of GT13E2 (6nos) on one site. Eventually added 3more GT13E2 for total of 2000MW in 2000.
- **1999:** EPC for the first and the then largest clean coal plant in Malaysia, the 2100 MW coal fired plant at Manjung. Established Customer Service NEA/SEA Regional HQ in Malaysia.
- 2000: Received Operational Headquarters status (OHQ) from the Malaysian Government
- 2001: Established the Field Service Regional Unit in Malaysia
- 2003: Order for 4x300 MW hydro electro mechanical package to Bakun, the then largest hydro plant in SEA
- 2002: Conducted the Kuala Langat (fleet leader for M technology) GT upgrade with the first M version and subsequently MXL of the GT13E2 in Alstom
- 2005: Established the GPS ROA office in Malaysia
- 2006: ALSTOM Hydro Sdn Bhd was established
- 2007: Established the Thermal Services ROA HQ office in Malaysia.
- 2009: Alstom Malaysia became the P&L hub for Gas Turbine Combined Cycle EPC business for the region
- 2009: Established the Regional PAC office, Regional Audit, regional ITSSC and GTCC Hub in Malaysia
- 2010: Established Alstom Grid in Malaysia
- **2012:** Established Thermal Services Gas Turbine Execution Centre KL for Asia Pacific (one of Alstom's 5 global GTECs for CCPP after sales services and operation & maintenance).
- 2012: Established Renewable Steam Plants EPC office for East Asia & Oceania in Malaysia.

Corporate Social Responsibility

2009-2013: Alstom Foundation: Rainforest to Reef Programme (R2R) + 2 year extension.

Reef Check Malaysia is part of the Reef Check Foundation, an international non-profit organization, dedicated to conservation of coral reefs. Reef Check Malaysia, upon the request of the Marine Parks Department, developed an outreach programme for the Marine Park Island schools to educate and increase the awareness of coral reef conservation on three islands, Tioman, Redang and Perhentian. Alstom's participation included funding and manpower for the implementation of the programme on three Marine Park Island schools from 2009 to 2011. Under the programme, 269 Alstom employees volunteered and contributed to R2R activities for 1,355 school children on the said islands.

Alstom Foundation awarded a 2-year extension to continue R2R programme which now includes Pangkor Island schools in West Malaysia too. The R2R extension activities resumed in March 2012.

2013-2014: Sustainable Waterfall Adoption Programme

Alstom Foundation awarded a 2 year CSR programme, Sustainable Waterfall Adoption Programme to NGO Persatuan Pencinta Air Terjun Selangor (PPATS) in support of their efforts to raise environmental public awareness, on nature preservation and respect for the environment, at the Sungai Liam Waterfall (Hulu Yam/2013) and Batu Berangkai Waterfall (Kampar/2014). Launched in January 2013, SWAP will engage school children in schools/colleges within the vicinity of the 2 waterfalls in "Save the Waterfall" activities (cleaning-up), and "We can make a difference" campaign (workshops).



References and Ongoing Projects

Empowering employees with CSR

All Alstom employees have the option to donate incentives received for employee referrals to pre-determined non-governmental organizations (NGOs).

Awards and Certification

Power:

- ISO 9001, OSHAS 18001 and ISO 14001 certification by LRQA (Lloyd's Registered Quality Assurance) for designing and
 providing project management for construction and for operation and maintenance, after-sales services and retrofitting services
 for power plants.
- Technology Business Review Award for Excellence in the Power Generation Sector (2006)
- PAC's integration and testing facility at PKFZ awarded ISO 9001:2008 certification by LRQA (Llyod's Register Quality Assurance).

Transport:

Technology Business Review Award for Excellence in Logistics for Rail Technology (2007)

Thermal & Renewable Power

Alstom has been a key player in the Malaysian economy with prominent presence and capabilities, serving the region. Alstom's business entity in Malaysia, ALSTOM Asia Pacific Sdn. Bhd was set up in early June 1992 in Kuala Lumpur as the regional centre for Power Plant Engineering and Support. It was formed to ensure Alstom's power generation products, engineering and services were readily accessible to all power plant owners and developers in the Asia Pacific region.

Today, the organization, which includes 100% subsidiary ALSTOM Services Sdn Bhd (formerly known as ALSTOM Export Sdn Bhd) has grown to more than 800 staff, mainly professionals who specialise in various highly technical fields of power plant turnkey solutions.

Amongst the activities that are carried out from the Malaysian hub are, Sales & Tendering, Engineering & Procurement, Project Management, Erection Supervision & Commissioning, Power Automation & Control, Service, Operation & Maintenance.

Alstom's focus is in supplying local and regional customers with cost effective solutions as well as finding optimum solutions that conform to Alstom's high quality standards.

References:

Malaysia

- Sultan Ismail Power Station 90 MW Steam Turbine & Generator
- Tuanku Jaafar Power Station 360 MW Steam Turbine & Generator
- Paka 954 MW Combine Cycle Power Plant
- Paka 180 MW Open Cycle Power Plant
- Pasir Gudang 180 MW Open Cycle Power Plant
- Connaught Bridge 516 MW Open Cycle Power Plant
- Pergau Hydro Plant 600 MW Generators
- Kuala Langat 670 MW Combined Cycle
- Lumut 1,300 MW Combined Cycle
- Manjung 2,100 MW Coal-Fired Plant for TNB Janamanjung
- Lumut GB3 650 MW Combined Cycle for Malakoff
- Perlis 650 MW Combined Cycle for TTPC
- Bakun Hydro Electro Mechanical package 4 x 300 MW for Sarawak Hidro (2003)



References and Ongoing Projects

- Tanjung Bin 3 x 700 MW, FGD and Electro Static Precipitators (ESP) (equipment only) for Malakoff (2004)
- Jimah 2 x 700 MW, FGD and ESP for Jimah Power Generation (2005)

Indonesia

- Sengkang 137MW Combined Cycle Power Plant (1998)
- Indonesia, Muara Tawar 5 260MW Combined Cycle Power Plant (2010)

Singapore

- Senoko Repowering 3x360 MW for PowerSenoko (Phase 1, 2001; Phase 2, 2004)
- Keppel 470 MW Combined Cycle for Keppel Energy Pte Ltd (2005)

Thailand

- IP Cogen 150 MW Combined Cycle for Industrial Power Company (1997)
- Bang Bo 350 MW Combined Cycle for GMS Power Company (2000)
- Bowin 700 MW Combined Cycle for H-Power (2001)
- Kaeng Khoi 2 1520 MW Combined Cycle Power Plant (2005)

Vietnam

- Phu My 2 300 MW Open Cycle for Electricity of Vietnam (1997)
- Phu My 2.1 extension add on 160 MW (2005)
- Nhon Trach 460 MW Combine Cycle Power Plant (2008)

Australia & New Zealand

- Collie Power Station 300MW Steam Power Plant (1999)
- Pelican Point 480 MW Combined Cycle for National Power (2000)
- Swanbank 400 MW Combined Cycle for CS Energy (2001)
- Cockburn 240 MW Combined Cycle for Western Power Corporation (2003)
- Braemer 450MW Open Cycle Power Plant (2006)
- Kwinana 310MW Open Cycle Power Plant (2008)
- Wagerup 340MW Open Cycle Power Plant (2008)
- Tallawara 400MW Open Cycle Power Plant (2009)
- Colongra 680MW Open Cycle Power Plant (2009)
- New Zealand, Taranaki 350 MW Combined Cycle for Stratford Power (1998)

Ongoing Projects:

- Thailand, 850 MW North Bangkok Combined Cycle Power Plant for EGAT (2013)
- Malaysia, Tanjung Bin 1000 MW Coal Fired Plant for Tanjung Bin Energy Insurers (2012) Consortium leader
- Malaysia, Manjung 1000 MW Coal Fired Plant for TNB Janamanjung (2011)
- Malaysia, Hulu Terengganu 2 x 125 MW Electro Mechanical Package for TNB (2010)
- Malaysia, Kuala Langat 720 MW CCPP Operation & Maintenance
- Malaysia, Perlis CCPP 650 MW Operation & Maintenance
- Malaysia, Lumut CCPP 1,300 MW & GB3 CCPP 650 MW Long Term Parts & Reconditioning Agreement
- Singapore, Tuas 400 MW CCP5 Combined Cycle Power Plant for Tuas Power Generation Pte Ltd (2010)
- Singapore, Keppel 800 MW Gas Fired Combined Cycle Power Plant for Keppel Energy Pte Ltd (2010)
- Singapore, Banyan 800 MW Gas Fired Combined Cycle Power Plant for Sembcorp (2011)



References and Ongoing Projects

Transport

In the rail sector, Alstom has provided key rail transport equipment and services to the main rail operator in Peninsular Malaysia, Keratapi Tanah Melayu Berhad (KTMB) or Malayan Railways Limited and Rapid KL's Light Rail Transit (LRT) Star and Putra lines.

References:

- 53 engines for diesel electric locomotives for KTMB (1981)
- Onix drive for Putra LRT 2 in Kuala Lumpur (1994)
- Signalling for Star LRT (phases 1 and 2) in Kuala Lumpur (1994 & 1997)
- Automatic fare collection system for Star LRT (1998)

Grid

Malaysia, with the support from Grid regional office in Singapore, is made up of a team comprising the Sales Function and Automation Business Unit. Transmission activities in Malaysia began since the formation of AEG Corporation (M) Sdn Bhd in 1991. Over the years, Alstom has successfully delivered 275 & 132kV GIS substations, 500, 275 & 132kV AIS substations, 500, 275 & 132kV HV Equipment, Power transformers up to 900MVA, Substation Automation Solutions and Network Management Solutions.

References:

- PMU Ulu Melaka and PMU Bukit Mertajam Bulk supply of 145kV switchgears turnkey (1995)
- Tenaga National Berhad Bulk supply of 45MVA to 90MVA power transformers (1996)
- Petronals CUF Supply and delivery of 9 x 52MVA power transformers (1997)
- PMU Melaka and PMU Skudai Rehabilitaiton of 275kV GIS substations (1999)
- Segari 275kV Substation Block 3 Extension Turnkey 275kV, 7 bays switchyard (2001)
- Perlis 275/132kV Substation Turnkey 275kV, 10 bays and 132kV bays switchyard with civil works (2001)
- Tenaga Nasional Berhad Supply of 275kV GIS strategic spare parts (2003)
- Jimah Energy Ventures Sdn Bhd Supply of 275kV switchgears, control relay panels and substation control system (2005)
- Tenaga Nasional Berhad Lenggeng 500/275kV substation, full turnkey (2005)
- Nilai and Semambu Substations Rehabilitation of 132kV substation (2006)
- POIC Lahad Datu POIC 132/33/11kV substation (2007)
- Sabah Electricity Sdn Bhd Alam Mesra and UMS 132/33kV compact substations (2007)
- Tenaga Nasional Berhad Replacement project for National Load Despatch Centre (NLDC) SCADA/EMS System (2007)
- PMU Melaka Maintenance of 275kV GIS substation (2009)
- Sarawak Energy Engineering Sdn Bhd Supply of 275kV & 132kV circuit breakers and disconnectors for Engkilili / Entinggan / Muara Tabuan substations (2009)
- Sarawak Energy Engineering Sdn Bhd Supply of 275kV circuit breakers and disconnectors, current transformers and capacitive
 voltage transformers for Similajau substation (2009)
- Sabah Electricity S/B Supply and Delivery of 132/33kV and 33/11kV Mobile Transformer Substation (awarded in Aug 2011 and expected to complete by June 2012).

Ongoing projects:

- Sarawak Energy Bhd Lachau 275/33kV Substation (full turnkey including civil works) awarded in April 2011 and expected completion in 2013.
- Pertama Forroalloys, Samalaju/ Sarawak 275/33/6.6 kV switchyard turnkey (without civil). Awarded in July 2012, expected completion in Oct 2013.
- Tanjung Bin Switchyard extension 500 kV switchyard. Awarded in May 2012, expected completion in May 2014.



References and Ongoing Projects

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