“The Developer of the 2x700 MW Coal Fired Power Plant Project at Mukim Jimah, Negeri Sembilan, Malaysia & Provision of Project Development and Operations & Maintenance (O&M) Services for the Electricity Supply Industry”
The Company

Jimah Energy Ventures Sdn Bhd ("JEV") is the Owner of the 2 x 700MW Coal Fired Power Plant at Mukim Jimah, Port Dickson in Negeri Sembilan. JEV is a private limited company incorporated in Malaysia on 2nd October 2003.

JEV is one of the major Independent Power Producers (IPPs) in Malaysia.

JEV originates from a diverse background of skills, talent, experience and industry knowledge. The directors and key personnel of JEV have established themselves in the Malaysian Electricity Supply Industry with their vast talents and distinct approach in developing the industry.
The 2 x 700 MW JEV Power Plant
The 2 x 700MW JEV Power Plant Project

The 2 x 700MW Jimah Coal Fired Power Plant ("JEV Power Plant") is located in Mukim Jimah, District of Port Dickson, Negeri Sembilan Darul Khusus.

The JEV Power Plant Project consists of the construction and commissioning of two (2) coal-fired thermal generating units with net capacity of 700 MW each, based on proven sub-critical technology and a 500kV transmission system ("Project"). The Project includes ancillary infrastructure such as a coal handling system, coal yard, ash pond and dedicated coal jetty.

The RM6.1 billion JEV Power Plant Project has been financed through Islamic Financing instrument arranged by local Malaysian financial institutions.

The Project has been successfully completed and achieved its commercial operations in January 2009 (Unit 1) and July 2009 (Unit 2), respectively, as per schedule within the projected cost.

The Joint Venture (JV)

Jimah O&M Sdn Bhd ("JOM") is an engineering based service company which specializes in the provision of professional advisory services for the electricity supply industry namely in the field of power project development and operation and maintenance (O&M) services. JOM is also one of the shareholder of Jimah Energy Ventures Sdn Bhd.

Together with Jimah Teknik Sdn Bhd ("JT"), the JOM-JT Joint Venture partnership ("JOM-JT JV") has developed the JEV Power Plant which has successfully achieved its Commercial Operation Dates as scheduled.

JOM-JT JV offers advisory and implementation services in the area of Project Management and Operation and Maintenance Services for JEV Power Plan.

JEV’s Shareholder Structure
Upon issuance of the concession letter, JEV conducted a market study and developed the overall master plan and strategy for the project implementation. These include a comprehensive project risks assessment and development of suitable mitigation strategies.

Development of an IPP is all about allocating the project risks to the party(ies) that can best manage it. The basket of risks in such development can be classified under four main clusters namely; Government Policy, Development Risks, Construction Risks and Operational Risks. With this concept in mind, JEV had successfully steered the achievement of Financial Close for the JEV Power Plant with all the issuance achieving the required ratings by the Rating Agency of Malaysia (RAM).

The project development activities were executed based on the above formulated strategies and with the primary objective of obtaining all necessary project needs as listed;

- Site Selection, land surveying and preliminary soil investigation
- Evaluation and assessment of plant technologies, preparation of plant technical specifications and development of operations and maintenance strategy
- Contract negotiations of the main Project Documents;
  - Power Purchase Agreement (PPA)
  - Coal Supply and Transportation Agreement (CSTA)
  - Transmission Works Agreement (TWA)
  - Engineering, Procurement and Construction Contract (EPPC)
- Regulatory approvals and compliance
  - Land Approval from State Government
  - Detailed Environmental Impacts Assessment (EIA) approval
  - Planning Approval
- Financial documentation
- Financial modeling and evaluation
- Execution of the above Project Documents
- Securing the project rating needed for the financing

Upon the Financial Close of the Project, JEV roles and responsibilities were expanded into project and contract management, ensuring project compliance to the regulatory approval and monitoring the design and construction of the Project.
JEV Power Plant Project Stakeholders & Contractual Structure

JEV Power Plant Overview

**Type**
Type: Conventional Thermal/Sub-critical Boiler
Main Fuel: Coal (Pulverized)
Startup Fuel: Diesel

**Power Plant Location**
Mukim Jimah, Daerah Port Dickson

**Project Cost**
Approximately RM 6.1 billion

**Capacity**
Net Output: 1400 MW (2 x 700MW)

**Commercial Operation Dates**
Unit 1 (700MW) 1st January 2009
Unit 2 (700MW) 1st July 2009

**500kV Transmission Work**
Jimah Plant to Lenggeng 51km
Lenggeng to Olak Lempit 50.4km
Lenggeng & Olak Lempit Substations by TNB

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**Environmental Control Systems**

- **Emission limits**
  - NOx 500mg/m³
  - SOx 500mg/m³
  - CO 500mg/m³
  - Total particles 50mg/m³
- Low NOx burner
- Flue Gas Desulphurization (FGD)
- Electrostatic Precipitator (ESP)

**Coal**
Annual Consumption 4.3 mil ton
Coal Yard Storage Capacity 60 days
Coal Live Stock 45 days

**Coal Unloading Jetty**
Designed for coal vessels of between 35,000 DWT to 150,000 DWT (Handimax, Panamax and Cape-size)
Trestle length: 1.3km
Jetty Head length: 309m
Project Milestones

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.07.2003</td>
<td>Mandate for IPP JEV Power Plant Project from EPU JPM</td>
</tr>
<tr>
<td>02.03.2004</td>
<td>Land Approval by State Government</td>
</tr>
<tr>
<td>10.08.2004</td>
<td>PPA and CSTA with TNB</td>
</tr>
<tr>
<td>23.09.2004</td>
<td>EPC Contract with SSC</td>
</tr>
<tr>
<td>31.01.2005</td>
<td>EIA Approval from DOE</td>
</tr>
<tr>
<td>31.01.2005</td>
<td>Planning Approval from JPBD NS</td>
</tr>
<tr>
<td>14.03.2005</td>
<td>TWA with TNB</td>
</tr>
<tr>
<td>08.04.2005</td>
<td>Supplemental EPC with SSC incorporating TWA</td>
</tr>
<tr>
<td>19.05.2005</td>
<td>Financial Close</td>
</tr>
<tr>
<td>02.03.2006</td>
<td>PPA Commencement Date</td>
</tr>
<tr>
<td>01.12.2007</td>
<td>Completion of 500kV Transmission Line Works</td>
</tr>
<tr>
<td>03.01.2008</td>
<td>Backfeed of Power Supply</td>
</tr>
<tr>
<td>01.07.2008</td>
<td>Unit 1 Initial Operation Date (IOD)</td>
</tr>
<tr>
<td>01.01.2009</td>
<td>Unit 2 Initial Operation Date (IOD)</td>
</tr>
<tr>
<td>01.01.2009</td>
<td>Unit 1 Commercial Operation Date (COD)</td>
</tr>
<tr>
<td>01.07.2009</td>
<td>Unit 2 Commercial Operation Date (COD)</td>
</tr>
</tbody>
</table>

The Project Financing for Jimah

The JEV Power Plant Project concluded its RM 6.1 billion of Islamic financing in May 2005. The Jimah Bond received an overwhelming response when it was issued and won “Best Bond Transaction Asia Pacific” from PFI International, “Best Bond Transaction Malaysia” from the Asset and Asia Pacific Deal of the Year 2005 from Euromoney.

<table>
<thead>
<tr>
<th>Project</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Issue Size</td>
<td>RM6.1 billion</td>
</tr>
<tr>
<td>Joint Lead Arrangers</td>
<td>Am Merchant Bank, RHB Sakura Merchant Bankers, Malaysian International Merchant Bankers and Bank Muamalat Malaysia</td>
</tr>
<tr>
<td>Tenor</td>
<td>Maturities ranging from 1.5 years to 16.5 years</td>
</tr>
<tr>
<td>Financial Initiatives</td>
<td>Issue of the first Syariah-compliant floating-rate instrument; issued over a period of four years the longest deferred issuance Islamic debt instrument</td>
</tr>
</tbody>
</table>
The Project Management Activities

JEV is responsible for overseeing and managing the project engineering and construction progress which include commissioning activities up to commercial operation dates.

The Operation & Maintenance Activities

The 25-year O&M Agreement for the 2 x 700MW JEV Power Plant was entered between the Owner, Jimah Energy Ventures Sdn Bhd and JOM-JT JV. The O&M Agreement is on a Lump-sum basis where JOM-JT JV provides guarantee on plant performance backed with Liquidated Damages.

Once operational, JOM-JT JV shall carry out day to day management, operation and maintenance of the plant. It will also be responsible for the nominations and scheduling of fuel including diesel fuel during start-up. In particular, it shall plan and manage various coals as the main fuel that include the coal handling facilities.

The O&M Operator is required to conform with the requirements of the Power Purchase Agreement (PPA) and the Grid Code in the supply of electricity to the Electricity Grid and the requirements of the Coal Supply and Transportation Agreement (CSTA) for the management of coal supply.
JEV Power Plant Operational Highlights

JEV Power Plant has been in commercial operation since January 2009.

Our track record on O&M performance as of 1st July 2013 is reflected in the JEV Power Plant key performance parameters:

1. Plant Availability Target of 91.29% versus the Contractual Availability Target in the Power Purchase Agreement (“PPA”) of 91%;

2. Unplanned Outage Rate (“UOR”) of 3.81% versus the PPA contractual limit of 6%;

3. High plant efficiency with an average value of 37% for the facility;

4. Ability to comply with all Grid System Operation’s Despatch Instruction;

5. No deration in the plant capacity as both units have achieved higher than the contracted capacity of 700MW during the latest Tested Annual Available Capacity testing (“TAAC”);

6. Outstanding plant safety record of more than 3.5 million manhours work without Lost Time Incident (“LTI”);

7. Compliance to all environmental requirements;

8. Successful implementation of O&M Tools and Methodologies such as Computerized Maintenance Management System (“CMMS”), MAXIMO Computerized Maintenance Management System (“MAXIMO”), Reliable Centered Maintenance (“RCM”), Computerized Billing System (“CBS”), Environmental Monitoring System (“EMS”) and Permit to Work System (“PTW”); and

9. Commencement of 5S (Sort, set in Order, Shine, Standardize and Sustain) practice, a system focusing on having visual order, organization, cleanliness and standardization at workplace.
The O&M Methodologies & Management Systems
O&M is basically managing the risk – “Know the risks and manage them well”. A successful O&M is the organization that is commercially driven in optimizing the plant life cycle cost.

A key factor during the O&M of the power plant is the ability to sustain its generation capacity, availability, reliability, profitability and quality. We strive to achieve high operations efficiency and to maintain the power plant physical assets to its optimum level throughout its life-cycle.

JOM utilizes a prudent and professional management methodologies for the management of the O&M of the Plant. The methodologies that shall be established and applied during the operations and maintenance period are:

- Engineering Risk Assessment
- Plant Asset Management System
- Reliable Centered Maintenance
- Root Cause Analysis
- Combustion Technical Analysis
- Coal Technology
- Computerized Maintenance Management System

Continuous Maintenance Cycle Improvement
Our Team
Y.A.M. TUNKU NAQUIYUDDIN IBNI TUANKU JA’AFAR, born in 1947, has an honor degree in International Politics (BSC Econ. Hons) from University of Wales, Aberystwyth. After a 5 year career as a diplomat, Y.A.M Tunku joined Orix Leasing (Malaysia) Bhd. as an Executive Director in 1975. Y.A.M Tunku was subsequently became the Executive Chairman of Antah Holdings Bhd. since 1997 and the Executive Chairman of Jimah Energy Ventures Sdn. Bhd. from 2005. Y.A.M Tunku is also a Director in Jimah Teknik Sdn Bhd. Y.A.M Tunku is well regarded entrepreneur in the business circles having been the founding Chairman of the Federation of Public Listed Companies (FPLC), Chairman of the Equipment Leasing Association of Malaysia (ELAM) and Committee Member of the Kuala Lumpur Stock Exchange (now known as Bursa Malaysia).

YBhg. Dato’ Ir. ZULKIFLI IBRAHIM, born 1955, is a registered Professional Electrical Engineer with the Malaysian Board of Engineers and a Member of IEM and IEEE(UK). YBhg. Dato’ has over 30 years of experience in the electricity supply industry encompassing LLN/TNB (11,888 MW) and power plant installations and O&M service development in Malakoff Berhad (3,130 MW), Tanjung Bin Power Plant (2,100 MW) and Jimah Energy Ventures (1,400 MW). Pioneered the Segari Combined Cycle Power Plant and Teknik Janakuasa Sdn Bhd (TJSB), the first 100% local operations and maintenance company. YBhg. Dato’ was the former Chief Operating Officer of Malakoff Berhad and the former Managing Director of RPSB, the O&M company for the Tanjung Bin Power Plant. YBhg. Dato’ is currently the Managing Director of Jimah Energy Ventures Sdn Bhd and the Director of Jimah O&M Sdn Bhd.
**Key Personnel**

**KAMARUL ARIFFIN ZAINAL**, born 1964, is a Registered Accountant with the Malaysian Institute of Accountants and a Fellow Member of the UK Association of Chartered Certified Accountants. Started his career in KPMG, an international audit firm. He has successfully managed project financing totaling more than RM15 billion (8,000 MW) of power projects. Formerly the Chief Finance Officer of Malakoff Berhad. En. Kamarul is the Finance Director of Jimah Energy Ventures Sdn Bhd. The Jimah Energy Ventures’ RM 6.1 billion project financing had garnered various recognition and awards locally and internationally.

Ir. **JOHARI KAMIL IBRAHIM**, born 1960, is a registered Professional Mechanical Engineer with the Malaysian Board of Engineers with over 25 years of experience which includes LLN/TNB (11,888 MW), Malakoff Berhad (3,130 MW), Tanjung Bin Power (2,100 MW) and Jimah Energy Ventures (1,400 MW). Formerly the Chief Executive Officer of Tanjung Bin Power Sdn Bhd. Ir. Johari is the Managing Director of Jimah O&M Sdn Bhd and Chief Executive Officer of JOM-JT JV.

Ir. **MEOR HALIL MEOR NAZRI**, born 1958, is a registered Professional Electrical Engineer with the Malaysian Board of Engineers with over 30 years experience in both oil and gas and electricity supply industry. Formerly Chief Operating Officer of TJSB, Chief Executive Officer of Rentak Jitu Project Management Sdn Bhd, the Project Management company responsible for the Tanjung Bin Power Plant Project (2,100 MW) and currently the Technical Director of Jimah O&M Sdn Bhd. He assumes overall responsibility in the development, construction, commissioning and testing works for the successful completion of Tanjung Bin Power Plant project.

**Our Strength**

The company’s unique strength lies from the fact that its team key members have worked together for over 20 years in the same industry.

Professionalism, objective driven and experience in the key role for various types of power related projects in:

- Project Development
- Project Financing
- Engineering Services
- Construction and Commissioning Management
- Operation and Maintenance
Our Credentials

Together, the principals and key personnel of JEV were instrumental in various type of power related projects from the early stage of development, negotiation of major project document, project financing, technical evaluation, due diligence, project management, supervisory works, commissioning works, operation and maintenance works.

The projects are amongst others:

Evaluation Works Experience

- Feasibility Studies of Quadripur IPP in Pakistan
- Proposal for AMOCO Chemical Plant Cogeneration Project at Gebeng
- Proposal for 1,873 MW Vembar IPP Project in India
- Development of 280 MW Combined Power and Desalination Plant in Bahrain
- Due-Diligence Exercise on 2,100 MW Janamanjung Coal Fired Power Plant at Manjung
- Due-Diligence Exercise on Ras Abu Fontas Desalination Plant in Qatar
- Exploratory Power Projects in Brunei, India, Philippines and Bosnia Herzegovina
- Study of two-shifting operation Technique which was carried out for Kapar Power Plant
- Technical and commercial comparison of gas turbine cogeneration with internal combustion cogeneration coupled with tail-gas boiler for Cabot Tail-Gas Fired Cogeneration Facility at Port Dickson
- TNB task force reviewing the Malaysian Grid Code
- Electrical Portal, Esi-X.com, for Malakoff Berhad
- Establishment of Reliability Centered Maintenance (RCM) and Failure Mode and Effect Analysis (FMEA)
- Coordinating with DOE on Legal Compliance with Environmental Issues and EIA Matters

Development Works Experience

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>SEV Combined Cycle Power Plant</td>
<td>1,303 MW</td>
</tr>
<tr>
<td>1996</td>
<td>Wirazone KLSentral District Cooling System</td>
<td>15,000 RT</td>
</tr>
<tr>
<td>1996</td>
<td>Wirazone KLSentral Electrical Distribution</td>
<td>60 MW</td>
</tr>
<tr>
<td>1997</td>
<td>Malaysian Newsprint Industry Cogeneration Plant</td>
<td>75 MW</td>
</tr>
<tr>
<td>2000</td>
<td>GB3 Combined Cycle Power Plant</td>
<td>640 MW</td>
</tr>
<tr>
<td>2002</td>
<td>Tanjung Bin Coal Fired Power Plant</td>
<td>2,100 MW</td>
</tr>
<tr>
<td>2004</td>
<td>Jimah Coal Fired Power Plant</td>
<td>1,400 MW</td>
</tr>
</tbody>
</table>
Our Credentials

Implementation Works Experience

<table>
<thead>
<tr>
<th>Year</th>
<th>Project Description</th>
<th>Capacity</th>
<th>Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>LLN Kapar Phase 1 Thermal Oil/Gas Fired Power Plant</td>
<td>600 MW</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>LLN Kapar Phase 2 Thermal Coal Fired Power Plant</td>
<td>600 MW</td>
<td>RM 2.4 billion</td>
</tr>
<tr>
<td>1993</td>
<td>SEV Combined Cycle Gas Turbine Power Plant</td>
<td>1,303 MW</td>
<td>RM 3.8 billion</td>
</tr>
<tr>
<td>1993</td>
<td>TNB Kapar Open Cycle Gas Turbine Power Plant</td>
<td>220 MW</td>
<td>RM 380 million</td>
</tr>
<tr>
<td>1994</td>
<td>TNB Kapar Phase 3 Coal Fired Power Plant</td>
<td>1,000 MW</td>
<td>RM 3.9 billion</td>
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<tr>
<td>1996</td>
<td>Wirazone KLSentral District Cooling System</td>
<td>15,000 RT</td>
<td>RM 20 million</td>
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<tr>
<td>1996</td>
<td>Wirazone KLSentral Electrical Distribution</td>
<td>60 MW</td>
<td>RM 20 million</td>
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<tr>
<td>1997</td>
<td>Malaysian Newsprint Industry Cogeneration Plant</td>
<td>75 MW</td>
<td>RM 220 million</td>
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<tr>
<td>1998</td>
<td>KLSentral Station Construction</td>
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<td>RM 2.8 billion</td>
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<tr>
<td>2000</td>
<td>GB3 Combined Cycle Gas Turbine Power Plant</td>
<td>640 MW</td>
<td>RM 1.4 billion</td>
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<td>2002</td>
<td>Tanjung Bin Coal Fired Power Plant</td>
<td>2,100 MW</td>
<td>RM 7.9 billion</td>
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<td>2004</td>
<td>JEV Power Plant</td>
<td>1,400 MW</td>
<td>RM 6.1 billion</td>
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Operation & Maintenance Works Experience

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<th>Year</th>
<th>Plant Description</th>
<th>Capacity</th>
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<tbody>
<tr>
<td>1984</td>
<td>LLN Pasir Gudang Combined Cycle Gas Turbine Power Plant</td>
<td>797 MW</td>
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<tr>
<td>1986</td>
<td>LLN Paka Combined Cycle Gas Turbine Power Plant</td>
<td>1,121 MW</td>
</tr>
<tr>
<td>1986</td>
<td>LLN Kapar Phase 1 Thermal Power Plant</td>
<td>600 MW</td>
</tr>
<tr>
<td>1989</td>
<td>LLN Kapar Phase 2 Thermal Power Plant</td>
<td>600 MW</td>
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<td>1993</td>
<td>TNB Kapar Open Cycle Gas Turbine Power Plant</td>
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<tr>
<td>1996</td>
<td>Segari Combined Cycle Gas Turbine Power Plant</td>
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<td>2001</td>
<td>TNB Kapar Phase 3 Thermal Power Plant</td>
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<td>2009</td>
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<td>1,400 MW</td>
</tr>
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</table>

Setting up of O&M Company Experience

- 1993 Teknik Janakuasa Sdn Bhd - O&M for Malakoff’s Segari and Prai
- 2002 Rangkai Positif Sdn Bhd - O&M for Petronas’s CUF Kerteh & Gebeng
- 2004 JOM-JT JV - O&M for Jimah Power Plant

Successful O&M Contract Negotiation Experience

SEV Segari Combined Cycle Gas Turbine Power Plant
Petronas Centralised Utility Facility in Kerteh
Petronas Centralised Utility Facility in Gebeng
Wirazone KLSentral District Cooling System
Wirazone KLSentral Electrical Distribution
GB3 Segari Combined Cycle Gas Turbine Power Plant
Prai Combined Cycle Gas Turbine Power Plant
Tanjung Bin Coal Fired Power Plant
Jimah Coal Fired Power Plant

Power Plant Acquisition Experience

- 2000 Malakoff Berhad’s 40% acquisition of TNB’s Kapar Power Plant
- 2003 Malakoff Berhad’s acquisition of 350 MW Prai Power Station
“We look forward in assisting you to cater for your power plant’s operation and maintenance needs.”