JPS

Jamaica Public Service Company Limited

CHANGING LIVES WITH OUR ENERGY

An Overview

CONTENTS

INTRODUCTION

The Jamaica Public Service Company Limited (JPS) is engaged in the generation, transmission and distribution of electricity, and serves its customers through a workforce of approximately 1,600 employees and a network of offices throughout the island. The Company owns and operates 27 generating plants, 54 substations, and approximately 14,000 kilometres of distribution and transmission lines.

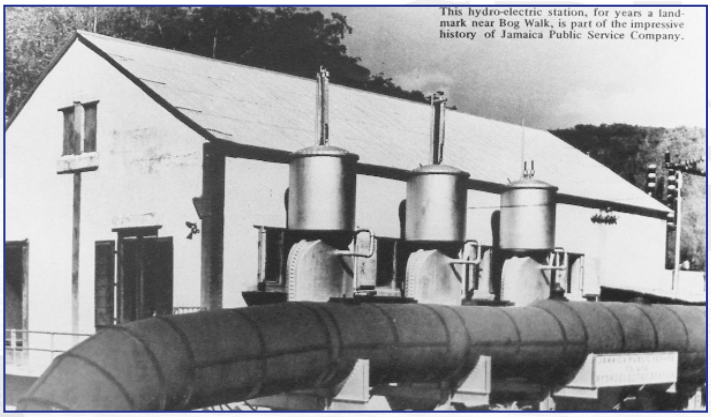
JPS is committed to the long-term development of Jamaica - a commitment that goes beyond the provision of electricity, to include investment in programmes for sustainable development in the communities which it serves. In keeping with this objective, the Company plays a major role as a corporate sponsor of educational programmes, community projects and sports initiatives across the island.

This handbook was developed with CXC students in mind, as part of the Company's effort to provide support for those who are doing CXC School Based Assessment projects focusing on JPS. It also supports other initiatives such as JPS annual Science Fairs, tours of the power plants, and school outreach activities.

A BRIEF HISTORY OF JPS

JPS is the sole distributor of electricity in Jamaica. The company has inherited a proud tradition, dating back to 1892 when Jamaica first received electricity. This placed Jamaica in the forefront of technological advancement, as it was only thirteen years after the American scientist Thomas Edison had invented the electric lamp. In that year, the first electricity service in the island was supplied by the Jamaica Electric Light Company which eventually became The Jamaica Light & Power Company.

Head Office on Orange Street, Down Town, Kingston.



This hydro-electric station was, for years, a landmark near Bog Walk.

In 1897, another company, the West India Electric Company, established an office at 151 Orange Street. West India Electric Company built the hydroelectric plant on the Rio Cobre River at Bog Walk. The system consisted of three machines, each with the capacity to deliver over 300 kilowatts of energy. West India Electric not only extended electricity service to other areas, but also introduced a new element to the city scene - electric tramcars. Tramcars replaced the horse drawn cabs, which had been providing public transport until then. The electric tramcars remained in service until 1948.

Early in 1907, a severe earthquake destroyed a section of Kingston, disrupting city life and public services. Following this, West India Electric leased the property and businesses of Jamaica Light & Power Company Ltd, and integrated the Gold Street station into the Bog Walk Supply system. This resulted in a significant improvement in the service available to customers.

In the early days, several towns had their own electric companies, but through a process of consolidation, buy-outs and amalgamations, Jamaica Public Service Company Limited emerged and was registered in 1923.

At that time, Jamaica Public Service Company had 3,928 customers, a far cry from today's customer base of over 570,000. In 1966, JPS was granted an all-island franchise and today remains the sole public supplier of electricity.

The nature of the ownership of JPS has changed several times throughout its history. The company started out as a private company, owned by foreign shareholders. In 1970, the Government of Jamaica acquired controlling interest. In 2001, its ownership returned to private hands when Mirant Corporation, a US-based energy service provider acquired 80% of the company, with the Government retaining almost 20%. The remainder, amounting to less than 1%, is owned by a small group of shareholders.

In 2007, Mirant sold its majority shares to Marubeni Caribbean Power Holdings, Inc., a subsidiary of Marubeni Corporation of Japan.

THE PRIVATIZATION OF JPS

Why did the Government decide to privatize JPS?
The privatization of JPS forms part of the Government's thrust to involve more private sector interests in the development of the power sector and, by extension, the development of the country's economy. The power sector is a highly capital intensive industry. This means it requires massive injections of capital on an ongoing basis to meet the ever-expanding demand for electricity. In an economy such as ours, there is considerable competition among the various sectors (electricity, water, health, education, etc.) for the limited resources available to the Government for capital investment. Therefore, the privatization of the electric utility has the benefit of freeing up some of the scarce resources available to the government, for investment in other critical sectors.

JPS Head Office - 6 Knutsford Boulevard, New Kingston.

The privatized model explained

The electric utility industry is an extremely capital intensive business, requiring in the case of JPS, annual capital expenditure in excess of J$3 billion on average (and annual operating costs in excess of J$9 billion, excluding fuel and IPP costs), to provide reliable service to customers. The recovery of capital is typically over a 20 to 30 year period and the utility must be funded by a combination of equity investment and long-term loan financing. In order for any utility to be able to raise this necessary equity or loan funding, it must be operating a viable business.

Rockfort Power Station.

Governments world-wide have moved away from operating such capital intensive businesses as the government typically lacks the expertise to operate such operations efficiently and choose to avoid the high level of long-term financing required to operate such businesses (JPS currently operates with approximately $14 billion worth of long-term debt). Additionally, the privatized models utilized today are much more transparent in their application, and usually operate within an established regulatory environment.

The typical electric utility model

Many countries in the world have adopted a model that provides an operating licence for a particular utility to operate within a specific geographic boundary (free of competition or with limited competition) either as an Independent Power Producer (IPP), or as a fully integrated utility. This economic model is necessary to provide a predictable source of revenue to investors who are typically being asked to build power plants and operate businesses under economic models where they obtain their return over a very long period of time (20 to 30 years). This licensing model allows utility operators to function using much lower returns than would otherwise be possible and to be able to attract necessary equity and loan funding.

Regulatory framework

The regulatory framework is described in detail in the JPS All-Island Electricity Licence 2001 which can be found on the Office of Utilities Regulation's (OUR) website. This sets out the operational terms and conditions for JPS, and these are monitored by the OUR. The OUR's broad objectives include promoting efficiency, improved customer service and service reliability; protecting the interests of customers; and providing a reasonable opportunity (and not a guarantee) for JPS to earn a fair return on its investment.

JPS Linemen working together as a team.

How do you determine what the fair return should be for a utility company?

In 2004, at the last comprehensive rate review, the OUR determined the fair return for JPS to be 14.85% (refer to the OUR's June 25, 2004 Determination Notice for complete details), being the allowed Return On Equity (ROE). This ROE was determined after giving due consideration to ROE's of comparable regulated utility companies, the risk free rate of return, the country risk premium, the business risk premium and various methods used to estimate the cost of capital (the average ROE of a U.S. regulated utility at the time was approximately 12%). Note that at the time of the determination, JPS had a weighted average cost of debt of 12.56%, which means the approved ROE allows investors to earn 2.29% points more than the debt financiers.

JPS' BUSINESS PHILOSOPHY

Vision

Our vision is to become a world-class energy service organization, providing superior customer service while achieving financial viability.

Mission Statement

Through a highly motivated staff, provide first-class energy service, which is safe, reliable and reasonably priced, thereby achieving a high level of customer satisfaction; supporting the preservation of the environment; making a reasonable rate of return for shareholders, while being good corporate citizens.

Objectives

- *To provide and supply electricity to meet the growing demands of Jamaican consumers;*
- *To conduct our operations in a manner that contributes to sustainable development, ensuring that the Company meets the needs of the present generation without compromising the quality of life for future generations;*
- *To be a key partner in Jamaica's long-term development.*

ORGANIZATIONAL PRINCIPLES

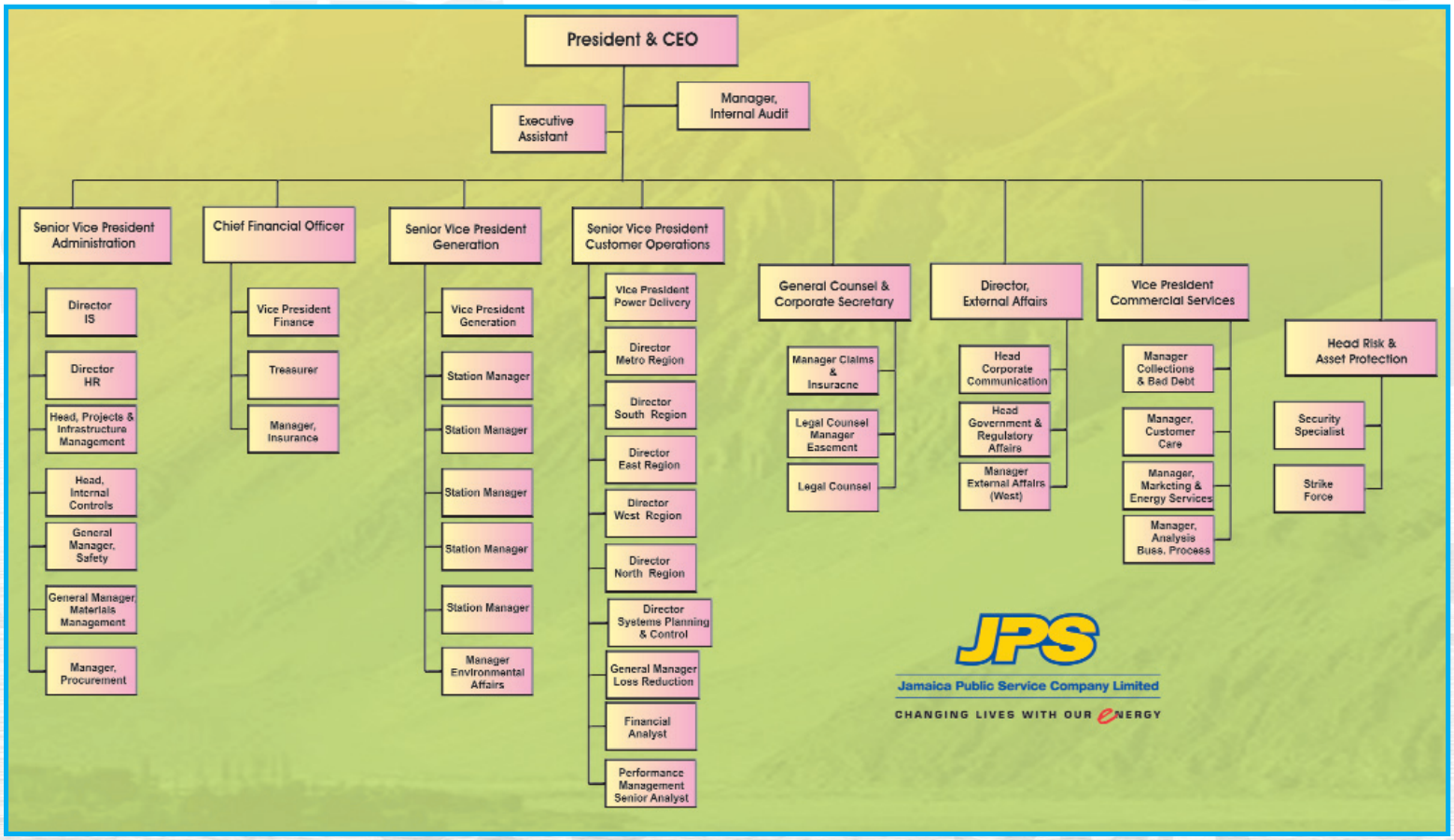
Organizational Structure

JPS is in an ongoing process of examining its operations and making the necessary changes to keep the company on the path to becoming a world-class energy service provider. This process has seen a gradual reshaping of the JPS landscape. The changes are driven by a renewed commitment to delivering the best customer service possible, supported by a commitment to improving its core business.

Employees assisting each other, one with preform, the other with D Iron creating a Spool Insulator for the Power Lines.

The current organizational structure is as follows:

JPS' Organizational Structure



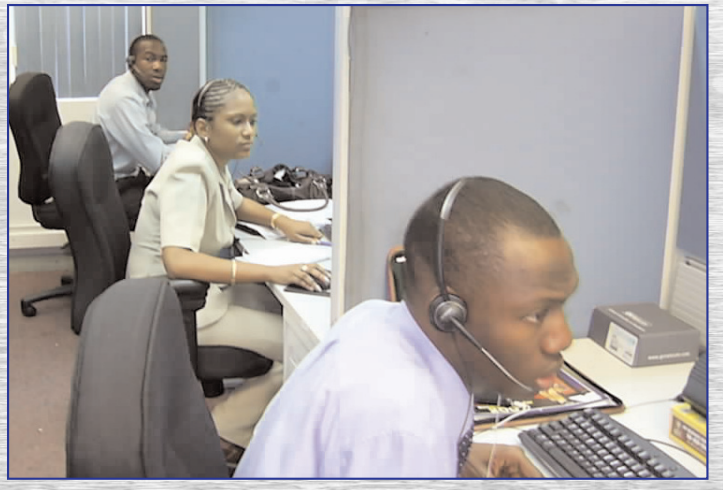
The Company's approximately 1,600 employees serve customers through the following main operational areas:

MAJOR DIVISIONS OF JPS

- **Generation**
- **Customer Operations**
  - ✓ *Region Operations*
  - ✓ *Power Delivery Services*
- **Commercial Services**
- **Administration**
  - ✓ *Human Resources Services*
  - ✓ *Information Systems*
  - ✓ *Materials Management*
- **General Administration**
  - ✓ *External Affairs*
  - ✓ *Legal*
  - ✓ *Internal Audit*
- **Finance**

Hours of Work

JPS has a statutory obligation to provide electricity to its customers around the clock. To do this, the Company has to operate a twenty-four hour shift system in the Power Stations, its Customer Care Centre and in certain other operational areas.



Employees at work in our 24 hour Customer Care Centre.

The standard workday of the Company consists of 8 hours and the normal workweek for all employees, except shift employees, is Monday to Friday, with the hours being from 8:00 a.m. to 5:00 p.m., Monday to Thursday and from 8:00 a.m. to 4:30 p.m. on Friday. Employees are allowed a 1-hour lunch break.

Additionally, non-shift employees may be required to work longer weekday hours for temporary periods, or to work on weekends and public holidays when necessary. Employees required to work in such circumstances are given advance notice. Payment for the additional hours is made in accordance to the Collective Labour Agreements.

There are three standard shifts, that is, day shift or first shift, an evening shift or second shift and a night or third shift. A shift employee will generally work for approximately five shifts within a payroll week. For these employees, all days of the week including weekends and public holidays are considered as normal working days, subject to payment in accordance with the Collective Labour Agreements.

All employees are entitled to leave,eg. vacation leave, sick leave.

System of payment

JPS has a well-defined salary policy, and is recognized as one of the best-paying companies in Jamaica. Jobs are classified and graded so that there can be fair compensation based on relative responsibility, knowledge, skill requirements and working conditions. Unionized employees receive pay and increments covered by their union contracts. Employees not covered by collective labour agreements are paid in accordance with the pay structure currently existing in the company.

Salaries at JPS are paid weekly, fortnightly and monthly. In addition, staff is eligible for a range of allowances including meal and taxi allowances, uniform allowances and vehicle upkeep.

Uniform Allowances

The Company provides uniforms to some categories of employees and pays an allowance in lieu of the provision of uniforms to the remainder of employees. In addition, female employees are given a contribution towards the cost of accessories, which are considered to be a part of their uniforms.

Taxi Allowance

This is paid to certain employees who either work overtime between 7:00 p.m. and 6:00 a.m. or complete their shift between 10:00 p.m. and 6:00 a.m., or for those that work on their rest day or for whom no transport has been provided by the Company.

Types of Insurance

Group Life Insurance: JPS, at its sole expense, provides employees with life insurance under a Group Life Insurance Benefit Policy. This covers death and disability. All permanent employees and employees on contract for one year or more are eligible for this benefit.

Safety first is our policy. - Some employees are required to wear Personal Protective Equipment while at work

Personal Accident Insurance: The Company has an Insurance Policy to cover employees on a twenty-four hour basis worldwide, against the risk of death, permanent or temporary total disablement as a result of bodily injury.

Group Health Insurance:

Permanent employees are eligible for group membership in the Company's medical scheme. Membership is free to employees, but payments are required of the member for coverage of his or her dependents. This scheme provides for comprehensive health care, diagnostic and laboratory investigations, hospitalization, optical and dental services, and for the purchase of prescription drugs.

Diverse Workforce

The Jamaica Public Service Company is considered an essential service. The fulfillment of its responsibilities in this regard is dependent on the effective contribution of employees at all levels, whose roles must be carried out with efficiency, courtesy, and diligence at all times.

Like any other organization the Jamaica Public Service Company (JPS) requires effective labour to efficiently fulfill its vision. The Company operates across the three divisions of labour, namely:

- *Semi-skilled - These jobs require minimal training and are usually accomplished by hand. For example, drivers and ancillary staff.*
- *Skilled workers - These include engineers, mechanics, electricians, trained machine operators, clerks and junior supervisors.*
- *Managerial and Professional - which includes executives, architects, directors and senior supervisors.*

JPS continuously seeks to enhance the quality of its workforce by continuous in-service training. The Company has a Training and Development Policy, the main objective of which is to have a well-trained and highly motivated staff capable of meeting the needs of the organization both now and in the future.

Employee from the Information Systems Department

Statutory salary deductions

In Jamaica certain deductions from wages and salaries are required by law, and do not require the permission of employees. Such deductions presently include the following:

1. Income Tax (P.A.Y.E - Pay As You Earn)
2. National Insurance Scheme (N.I.S.)
3. National Housing Trust (N.H.T.)
4. Education Tax.

Grievance Procedure

All employees are guided by the principles outlined in the Personnel Policies & Procedures Manual. From time to time, employees may have a complaint pertaining to their job, conditions of work or other employees. When problems do arise, our employees are encouraged to work them out amicably with their immediate supervisor.

Construction Engineers discuss a project.

Where necessary, employees can request that the matter be considered at a more senior level. If the matter remains unsettled, employees are required to write to the Industrial Relations Department and, if necessary, arrange a meeting, at which a Union Delegate or a Company Officer can be present to support the employee.

If the matter is of such technicality and is not settled at this stage, then either party can submit a request in writing to the Ministry of Labour for determination.

The precise procedure is set out in the respective Collective Labour Agreements.

Trade Unions

JPS employees are represented by four bargaining units:

- ***National Workers Union (NWU)** - represents all clerical staff.*
- ***Bustamante Industrial Trade Union (BITU) / NWU** - represents all hourly paid employees.*

- ***Union of Clerical Administration and Supervisory Employment (UCASE)*** *- represents all employees in administrative, technical and supervisory positions.*

- ***Management Bargaining Union (MBU)*** *represents JPS managers*

GOVERNMENT POLICY AND REGULATION

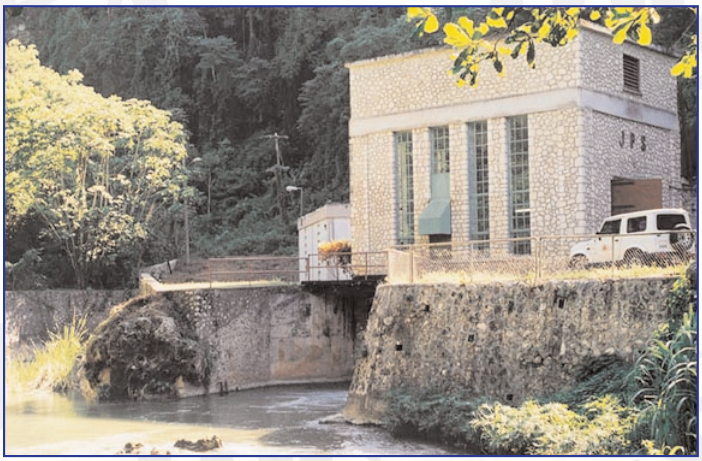
In 2001, the Office of Utility Regulations (OUR) granted the Jamaica Public Service Company Limited the right to generate, transmit, distribute and supply electricity for public and private purposes to all parts of the Island for a period of 20 years. Under this policy, JPS is obligated to provide an adequate, safe and efficient service based on modern standards, to all parts of Jamaica at reasonable rates to meet demand and to contribute to economic development. By law, any company granted such rights has to be incorporated in Jamaica.

City Lights

Electric Licence. Some of the key elements of the regulatory framework within which JPS operates are:

- JPS should not show any undue preference to or unduly discriminate against any person (including businesses) or class of persons with regards to the sale or purchase of any goods (including electricity) or service (including connections and use of system). Thus everyone is entitled by law to acquire electricity from the Company.

- JPS is prohibited from taking any action that may have the effect of restricting, distorting or preventing competition in the procurement of generation capacity. This means that the Company cannot prevent others from generating electricity.



Hydro Plant at White River, St. Ann

- The addition of new generating capacity is now done on a competitive basis, and is no longer the sole purview of JPS. Any company capable of doing so can now add generating capacity for sale to the national grid, subject to the approval of the OUR, and the requirements of the National Energy Policy. This ensures that all new generation expansion is done in the most cost-effective manner, which will be in the best interest of consumers.

- It is illegal for any other Company or individual to distribute electricity, as JPS remains the sole distributor by law. Anyone who wishes to dispose of excess electricity must sell this to JPS for distribution via the national grid.

- The Office of Utilities Regulation has the responsibility of setting and approving the rates charged by JPS.

- A price cap regime imposes a five-year limit on rate increases above inflation rates, based on efficiency and quality of service targets to which JPS is held. The price cap regime seeks to ensure that consumers pay fair prices for electricity, by simulating a competitive market environment. This is done by the introduction of penalties and incentives to ensure that JPS operates as efficiently as possible, taking into consideration the constraints of the macroeconomic environment within which the company operates. JPS faces penalties for poor performance, while the benefits of any efficiency improvement are shared with consumers.

JPS & THE ENVIRONMENT

Jamaica's South Coast

JPS is committed to being a good steward of the environment. The Company has made environmental management one of its highest priorities, with a commitment to comply with all applicable environmental laws and regulations and to promote cost-effective energy management programmes among employees and customers.

JPS' environmental policy is based on the principle of responsible business practices. The Company's primary objective is to conduct its operations in a manner contributing to sustainable development, ensuring that it meets the needs of the present generation without compromising the quality of life for future generations.

Recycled Water for Generation at Bogue

The most recent addition to JPS' generating fleet is its 120-megawatt generating unit at the Bogue Plant in Montego Bay. This is the company's flagship unit, which demonstrates its commitment to responsible environmental performance. As part of this commitment, the Company has entered a partnership with the National Water Commission (NWC) to use wastewater, which is the outflow from its Bogue sewage treatment plant, for cooling and other purposes in the electricity generation process. This type of recycling is unprecedented in Jamaica. Underground pipes were specially installed to transport the water between the NWC and JPS sites. To facilitate the recycling process, JPS also built its own facilities to treat and purify the grey water from the NWC effluent plants to potable standards. The water is used for various processes in the plant, including water injection for Nitrogen Oxide emission control and cooling.

Employees observe the operations at the Rockfort Plant.in Kingston

Given that the Bogue plant utilizes up to one million gallons of water per day, the use of wastewater represents a significant saving on the demand for clean water, and reduces the demand on the environment for this precious natural resource.

Renewable Energy

Renewable energy is also high on JPS' agenda. There are eight hydroelectric plants within the mix of generating units. The Company recently implemented a comprehensive rehabilitation programme to ensure that these hydroelectric units operate at optimum levels, and contribute their full capacity of 21 megawatts to the grid. JPS is also working with the Government to identify other renewable energy sources for the cost-effective generation of electricity.

A section of a hydro-elecrtric facility.

Environmental Remediation

To meet its environmental objectives, JPS is taking steps to ensure that current operations as well as its expansion plans are in keeping with, or surpass, the applicable standards. In fact, the Company is now implementing an Environmental Management System (EMS), which is a comprehensive approach to managing environmental issues affecting JPS operations. The implementation of the EMS has already begun to yield positive results. The successful elements of the EMS so far include:

- *the cleaning up of Polychlorinated Byphenyls (PCBs) from retired transformers;*
- *the cleaning up of accumulated waste and soil contamination in the Company's generating plants;*
- *the introduction of a wastewater usage programme;*
- *the monitoring of ambient air quality standards; and*
- *increased utilisation of renewable energy.*

PCB Management

PCBs are found in the oil used in transformers, capacitors and oil circuit breakers and may be carcinogenic. Without proper treatment, PCB leakage from retired transformers can be hazardous. In October 2002, JPS started a programme to dechlorinate and remove retired transformers from storage. By the end of May 2003 and after an expenditure of US$2.531 million, 5,781 transformers had been dechlorinated such that their PCB concentration fell to 2 parts per million (ppm) compared to the National Environment and Plannining Agency (NEPA) recommended standard of 50 ppm. The dechlorinated transformers' carcasses were scrapped and shipped off the island for appropriate disposal, while arrangements are being made with the local environmental regulatory agency to have the pure PCB waste shipped to Tredi, France.

JPS continues the removal and disposal of PCBs in all oil-based transformers and capacitors

Oil Spill & Industrial Waste Management

JPS' improvement efforts include the upgrading and construction of facilities to reduce and eliminate soil contamination resulting from oil and chemical spills. Walls have been constructed around spill-prone areas to ensure that, if spills occur, they are contained in those areas. The Company also removes contaminated soil from various sites to landfills. Contaminated soil is treated and replaced with clean soil.

Significant effort has also been made to remove solid and industrial waste that accumulates from time to time on the company's operational facilities. With the availability of improved landfill facilities by the National Solid Waste Management Authority (NSWMA), JPS has been able to remove industrial waste from its key locations. A system of ongoing solid waste management has been instituted to prevent massive accumulation.

A Section Bogue Power Station

Emissions Management

Bogue Power Station in Montego Bay was the first to have an online air quality monitoring station installed in 2003 as part of JPS' overall Environmental Management System. The station currently monitors ambient levels of sulphuric oxide and nitrous oxide. It allows the monitoring of air quality standards so that, if there is any indication that air quality is threatened, JPS can reassess the environmental performance of the respective areas within the plants and undertake remedial action if necessary. More recently, an air quality monitoring station was also built to monitor the Old Harbour Power Station in St Catherine.

JPS' SAFETY & HEALTH POLICY

Safety and health practices are incorporated into JPS' business every day. The company's policy is to provide a safe work environment, to apply a set of rules and procedure to promote the accident-free performance of duties. The company's policy also seeks to make employees conscious of their responsibility to integrate safety and health in their activities.

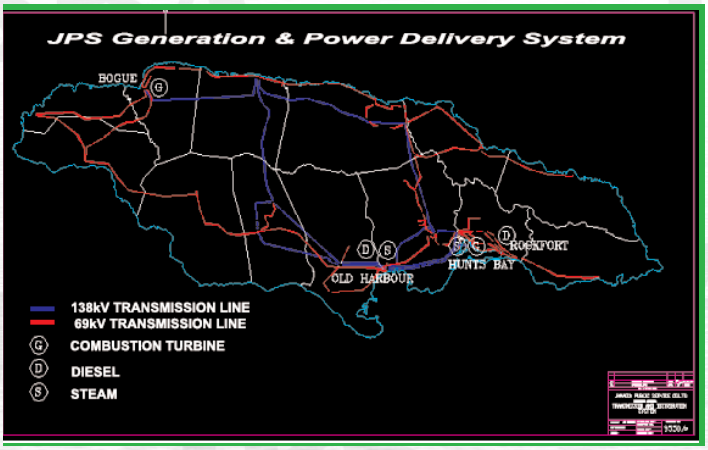
JPS defines its commitment to safety and health by the following principles:

- ✓ *·We manage our business with an active commitment to safety and health excellence.*
- ✓ *We integrate safety and health into our business strategies to enhance our competitive advantage.*
- ✓ *We comply with applicable safety and health laws and regulations and implement prudent standards where none exists.*
- ✓ *We hold each employee and contractor accountable for integrating safety and health into their work activities. We encourage our business partners to adopt this same accountability.*
- ✓ *We strive for continuous improvement in our safety and health programmes by setting challenging goals, measuring and evaluating performance, and learning from our experiences.*

PRODUCTION AND MARKETING

Electricity Generation

JPS produces electricity using the following technologies: steam (oil-fired), combustion gas turbines, combined cycle, diesel, hydroelectric, and wind. The Company has four main power plants: Rockfort and Hunts Bay in Kingston, Old Harbour Bay in St. Catherine, and Bogue in St. James.



Map of Major Generating Systems & Power Delivery Network.

JPS currently has access to approximately 820 megawatts (MW) of total installed generation capacity. This includes close to 197 MW from the following Independent Power Producers (IPPs): Jamaica Energy Partners (JEP); Jamaica Private Power Company (JPPC); Jamalco; and Wigton Wind Farm.

Steam Generation: The steam generating units are the foundation units of JPS' generating system, and are often referred to as the "base load" units. The process of electricity generation via the steam generating units is as follows:

- Heavy-duty oil is taken from a bulk storage tank (typically 25,000 barrel capacity) and is supplied to a fuel pumping and heating set.
- At the pumping and heating set, this fuel oil is heated to approximately 220°F in order to reduce its viscosity, and to enable it to burn easily.
- The heated fuel oil is pumped under pressure (approximately 250 psig) to the furnace of a steam generator (boiler) where it mixes with a large volume of air and is burnt.
- After combustion takes place a large volume of high temperature gas (approximately 2400°F) is released. The heat, which is now available, is transferred to very high purity demineralized water contained in hundreds of tubes, which form part of the construction of the boiler.
- The water is converted into high temperature and high-pressure steam through different stages of boiling and super heating within the confines of the boiler tubes. This high pressure, high temperature steam then passes through a main steam pipe to the turbine. (The turbine is a device used to convert the heat energy contained in the high pressure temperature steam into mechanical energy.)
- The turbine shaft is connected to the rotor of an electric generator and causes this rotor to rotate at high speeds.
- Coils of wire (field windings) are embedded into the rotor of the generator through which direct electrical current is allowed to flow. As this current flows, a strong magnetic field is formed.
- This rotating magnetic field is allowed to interact with another set of wires (stator coil) which are in this case is stationary. It is this interaction of the magnetic field with the stationary wires that produce electricity.

Hunts Bay Power Station in Kingston

Hydro Power: Renewable energy is high on JPS' agenda. The Company boasts eight hydroelectric plants among its mix of generating units, which contribute approximately 21 megawatts to the grid. The hydro plants are: Upper White River, Lower White River and Roaring River in St. Ann, Rio Bueno A and Rio Bueno B in Trelawny, Maggotty in St. Elizabeth, and Rams Horn and Constant Spring in St. Andrew.

Power is generated by harnessing the stream flow of a river and using its Potential Energy due to the difference in height between its level and the center of the turbine. A hydro-turbine converts the Potential Energy of the water to Mechanical Energy

Hydroelectric generation is an inexpensive and environmentally friendly way of producing electricity. Hydro power plants do not burn fuel to produce electricity; therefore, the associated costs are not subject to increases resulting from rising fuel prices. However, the effectiveness of hydro units depends largely on the availability of water and the quality of the stream flow.

Wind Power: JPS has a Power Purchase Agreement with Wigton Wind Farm Limited, as part of its commitment to support the development of renewable energy. Electricity is purchased from the wind farm, which is located at Wigton, Manchester. The wind farm consists of twenty-three 900-kilowatt strategically placed wind turbines with an estimated capacity of 20.7 Megawatts (MW) of power.

A section of the Wigton Wind Farm - Manchester.

Power is generated as the wind turns windmills that are advantageously placed on the Manchester hills.

This too is an inexpensive and environmentally friendly way of producing electricity. However, the effectiveness of these units depends on the consistency of the wind flow.

Gas Turbines: JPS also produces additional energy through the use of gas turbines engines. These gas turbines, which utilise relatively expensive oil to produce electricity, are used primarily at those times in the day when energy demand is at its peak.

Gas Turbine (Bogue Power Plant Montego Bay)

Combined Cycle Technology: The newest addition to JPS' generating fleet is the 120-megawatt combined cycle plant at the Bogue Power Station in Montego Bay.

This plant consists of three individual units: two combustion turbine generating units with a total capacity of 80 megawatts and one 40-megawatt steam generating unit. The two combustion turbines operate on diesel fuel but are capable of converting to natural gas at any point in the future. Heat from the exhaust of both these combustion turbines is harnessed to produce steam by way of two heat recovery steam generators that are used to drive a steam turbine capable of producing an additional 40 MW.

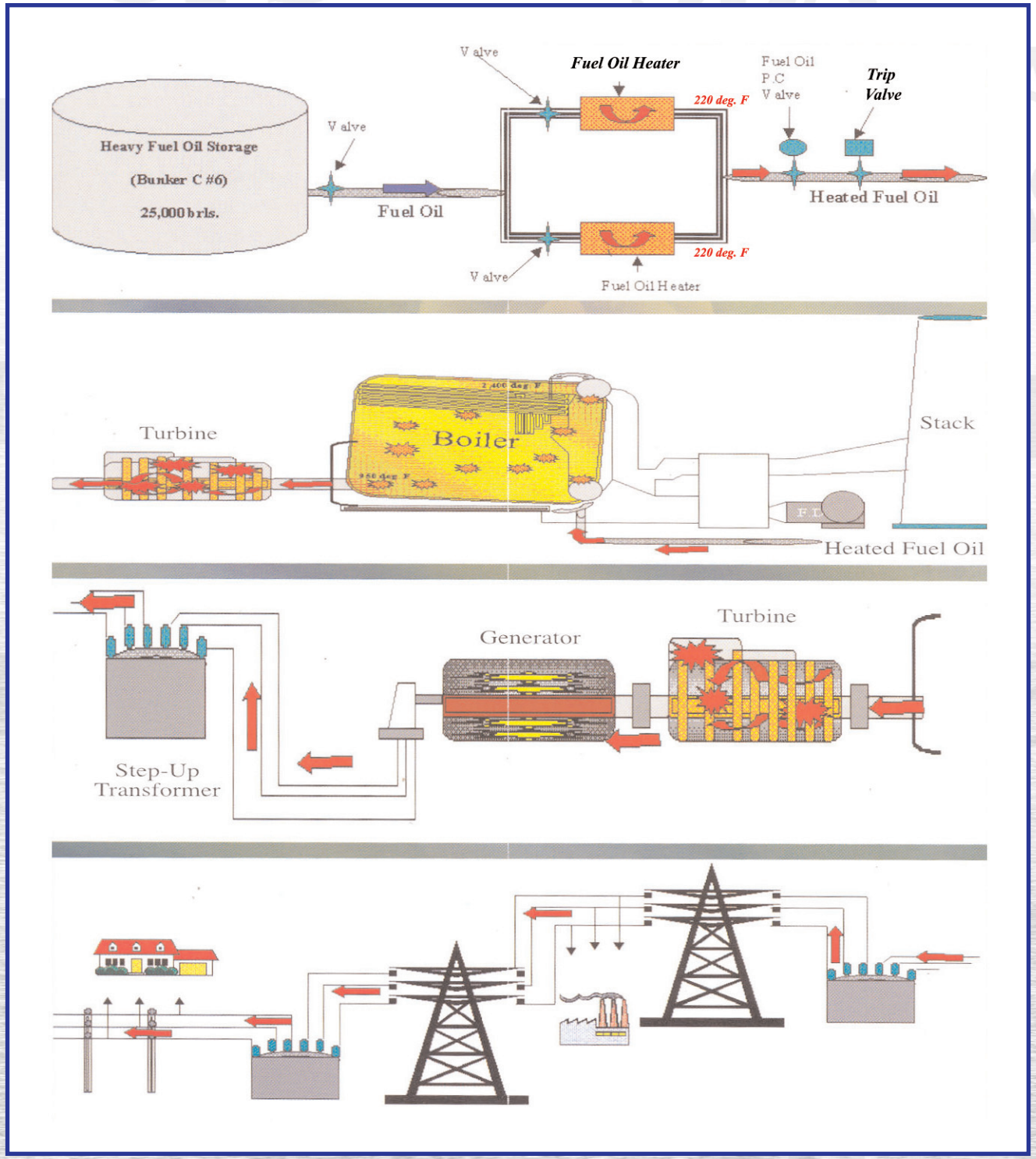
Section of Bogue Power Plant combined cycle.

Combined cycle technology is recognized internationally as one of the most advanced and efficient means of generating electricity. This technology allows for greater efficiency of conversion, that is, it utilizes less fuel to generate each unit of electricity relative to the Company's other generating units. This results in reduced fuel costs to JPS, and ultimately to customers.

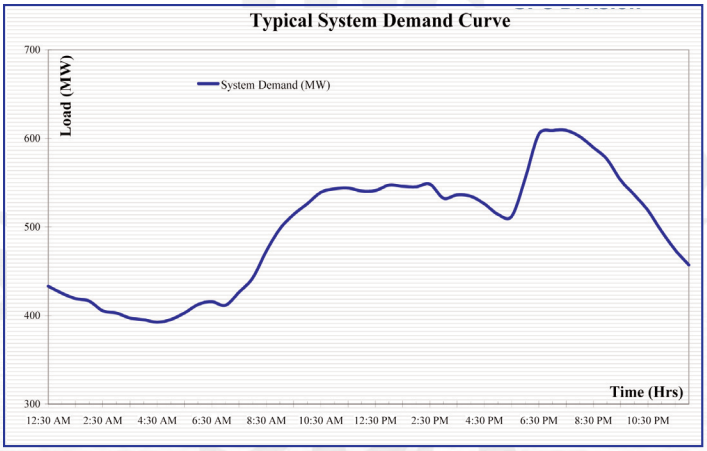
Factors Affecting Demand for Electricity

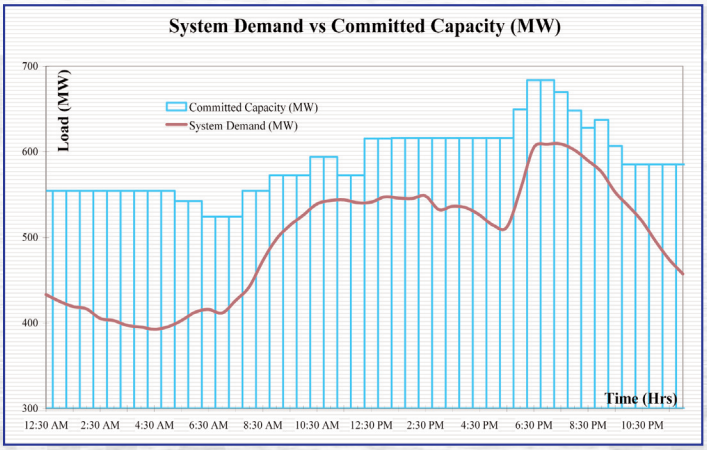
There are a number of factors that affect the demand for electricity. Demand refers to the power (or load) that is required of the system at any point in time. The factors affecting demand at any point in time include: population growth, weather conditions, activities of the productive sector, the state of the economy, and the lifestyle of consumers.

Steam Generation - how it works



The demand for electricity will vary at different times of the day. The typical demand curve for Jamaica is as follows:





Generation Expansion

The country must continuously evaluate the need for the addition of new generating capacity to meet the growing demand for electricity. Generating capacity is therefore added to the power grid in order to ensure an adequate and reliable supply of electricity. Plans must be made in advance to add new capacity gradually, to ensure that there is sufficient reserve to serve the demand, while allowing for planned maintenance on units, and also to allow for reasonable forced maintenance in situations where unexpected problems develop on units. The required minimum reserve is typically 25% for a utility like JPS, which operates on an island with no opportunity for interconnectivity with other electric utilities, as happens in countries like the USA.

Generation expansion in Jamaica is governed by the National Energy Policy, and is currently done through competitive bidding. This means an energy producer other than JPS, can be granted permission by the regulators to add new generation if their proposal is seen as the most competitive.

A section of the Jamaica Private Power Company (JPPC) plant in Kingston. JPPC is one of, four private power producers that sell electricity to JPS.

New generation capacity is now due in Jamaica, and as part of the process, the Government is exploring the use of other sources of energy, namely, coal and liquefied natural gas (LNG). JPS will be one of the entities that will be considered when approval is granted for the next phase of new generation.

JPS Power Stations

- Bogue
- Rockfort
- Old Harbour Bay
- Hunts Bay

Hydroelectric Facilities

1. Upper White River
2. Lower White River
3. Roaring River
4. Rio Bueno
5. Maggotty

Independent Power Producers (IPPs)

1. Jamaica Private Power Company
2. Jamaica Energy Partners
3. Jamalco
4. Wigton Windfarm

Sub-Stations

1. ANNOTTO BAY
2. BELLEVUE
3. BLACKSTONEDGE
4. BOGUE No. 2
5. CANE RIVER
6. CARDIFF HALL
7. CEMENT CO.
8. CONSTANT SPRING
9. DESNOES & GEDDES
10. DUHANEY
11. DUNCANS
12. GOOD YEAR
13. GREENWICH ROAD
14. GREENWOOD
15. HIGHGATE
16. HOPE
17. HUNTS BAY "B"
18. KENDAL
19. LOWER WHITE RIVER
20. LYSSONS
21. MAGGOTTY
22. MARTHA BRAE
23. MAY PEN
24. MICHELTON HALT
25. MONYMUSK
26. NAGGO'S HEAD
27. NEWPORT (PAJ)
28. OCHO RIOS
29. OLD HARBOUR
30. ORACABESSA
31. ORANGE BAY
32. PARADISE
33. PARNASSUS
34. PORT ANTONIO
35. PORUS
36. QUEENS DRIVE
37. RHODEN'S PEN
38. RIO BUENO
39. ROARING RIVER
40. ROCKFORT
41. ROSE HALL
42. SPUR TREE
43. THREE MILES
44. TREDEGAR
45. TWICKENHAM (New)
46. UP PARK CAMP
47. UPPER WHITE RIVER
48. WASHINGTON BOULEVARD
49. WEST KINGS HOUSE ROAD
50. ALCAN
51. SPUR TREE (New)
52. PANARSUS (New)
53. KENDAL (New)
54. PORT AUTHORITY OF JAMAICA (PAJ)

JPS

Jamaica Public Service Company Limited

CHANGING LIVES WITH OUR ENERGY

October 2007