

AS Applied Science
Unit 1 and 2
Littlebrook Part 2

Littlebrook is an oil-fired power station, which uses oil to produce electricity. The oil is transported by the sea. It is powered by heavy fuel oil this means it has to bring tonnes of oil from other countries. Littlebrook is located on the banks of the river Thames in Dartford. In the 1990s the CEBG was privatised from that came out npower RWE Innogy from that two companies came out international power. RWE then took over which made RWE npower.

There has to be lots of work done in the power station like:

Finance – the finance department is probably the most important in the power station.
Marketing Team – this would include a team which goes to the market to buy and sell the electricity on the market. The company has to also buy electricity from other companies at a cheaper rate so they don't lose profit. The marketing team also have to buy supplies from other countries i.e. at the moment most of the oil in the world is in the Middle East and in Latin America. The company don't have to pay that much for transportation because there are next to the River Thames.

In the power station there are about 120 people working this includes the workers the receptionists, catering, security and also the actual worker who are in the power station.

In a power station all kinds of people work there. One of the main ones is people like:

Security – are there to protect the worker and also the visitors from other people who trespass the property they also look at the CCTV to check for people who are not meant to be there.

Receptionist – they greet the people who come to see the power station visitors or the workers they all.

Caters – they provide food and drink for everybody who visits or works there.

Touring staff – are the people who help the visitors to go around the power station safely.

Including these there are people like scientist and engineers who work here. These people are set into departments like:

- Operations – the operation departments is divided into two one is no specific skills and also Engineers

1. Engineers – to work as an engineer in a power station you will have to have GCSE, A levels and also a good degree to work in the power station
2. No specific skills – This job requires you to have GCSE's and A levels, also you do not need a specific skills i.e. engineer this came means you can do more than one job.



- Maintenance – the maintenance departments is divided into two as well, which consist of Fitter and Apprentices.

1. Fitter – For you to work as a fitter you need to have a NVQ qualification to get this you need to do practices and then when you

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pass your exam you can get this qualification and work at the power station. Apprentices – For you to be an apprentice at the power station you need to have good GCSE results and met the requirement they ask for.

- Engineering – is also divided into two different paths this consist of a degree and a good degree.
 1. Degree – in engineering you can get a degree in Mechanical, Electrical, Computing & Control this might be getting a bachelor of engineering degree or other degrees.
 2. Good Degree – to get this job you will need to have a master degree in engineering this involves a more skilled and a person which has more knowledge about engineering.
- Chemistry & Environment – to do this job you simply need to get a standard degree in engineering to do this work.
- Administration and Finance/Procurement & Commercial – to be able to do this work you need to have a wide range of knowledge and skills to do it. To do this job you need to have good GCSE results and also a good degree.
- Managers – to work as the manger of the power station you need to have a good degree.

All of these people including the caters, security etc... Added will be about 120 people and these are how these people jobs are set out.

When the oil has been transported form other countries to the power station it is then transferred this to the 4 tanks near the bank, where the oil is filtered then because the oil is heavy and thick it has to be pushed at a high pressure to move it the oil preparation to the boiler. Then in the boiler chamber it has 3 boilers in there and each boiler can burn up to 4,500 tonnes of oil each day. Then when oil is heated then it will create heat and then this heat would be able to heat the water and then change it to steam, this would be able to turn the turbines to make this efficient the steam will be going through the turbines twice. After the turbine is moving the generator starts to move the rotor then takes affect and then creates an electric current. Then after the steam has finished it moves in to the condenser which turns the steam into water where there are pipes with cold water from the river Thames to condense the steam. After all of this electric current is made at a voltage of 23,500. To make this more efficient the voltage has been increased when it is sent into the National Grid system.



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ICT in the power station is used a lot, when I first visited Littlebrook Power Station I thought there would be more than a thousand workers then when I heard they were only 120 I was shocked. So ICT in the power plant is very important. First of all ICT is used for communication from the main room to the lower rooms. The machines in the big hall have to also be computerised because the things you have to do are lots that humans can do.