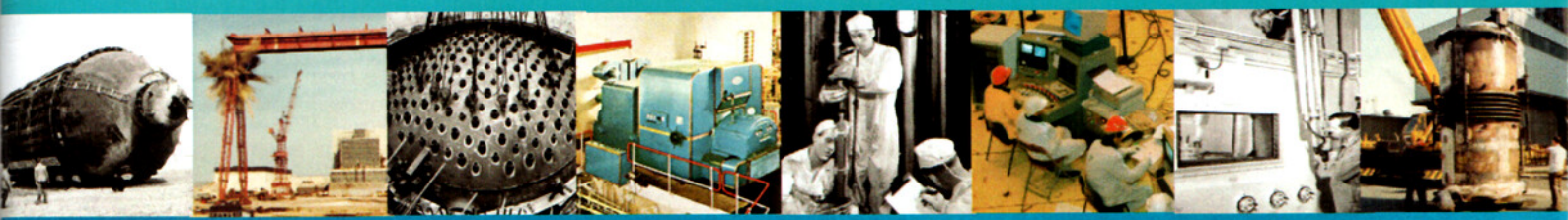
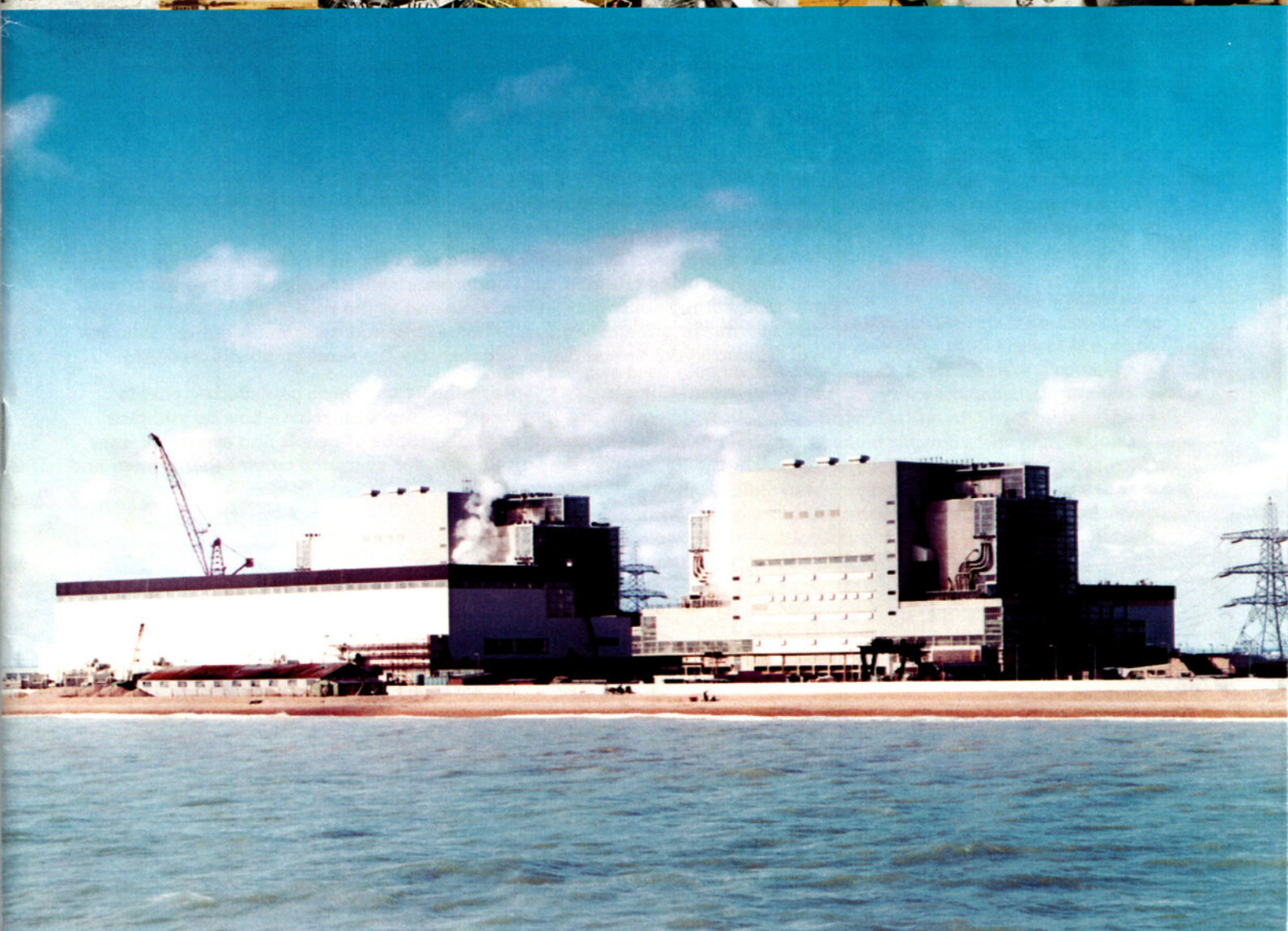
DUNGENESS A

40 YEARS OF POWER





INTRODUCTION

When the foundations were first being dug in preparation for the birth of Dungeness A Power Station in 1960, as part of the introduction of the UK's civil nuclear programme, I was just six years old.

42 years later in 2002, I found myself being announced as the Station Manager. I recall being interviewed by the local media when I made it clear that my aim was to take Dungeness A up to its 40th birthday. We've done that and along the way Dungeness A has chalked up a highly impressive list of achievements:

- We've supplied the National Grid with **120 billion units of electricity** – that's more than enough to meet the entire needs of all the UK's domestic consumers for twelve months
- The electricity generated would be worth about **£6 billion** at today's prices
- Safety has always been our watchword – we've never had an event or incident on site that has put our neighbours at risk and, as at November 2006, staff and contractors have accumulated more than **5.5 million working hours** without a lost time accident!
- We've employed thousands of staff and contractors over the years and we've seen millions of pounds invested into the Kent economy both near and far.
- Over the **40 years** one of the top priorities has been our responsibility, both to staff and to our neighbours.

The industry was in its infancy when we started down the long road of electricity generation and people have tended to forget over the years that the Magnox stations were the trailblazers for nuclear power. No one will ever be able to take away from the station's roll of honour the fact that we led the way for the others and all the people who have worked here were, and are the leaders.

The station was designed to operate for 25 years and it's down to the dedication, experience and commitment of our staff that we have achieved 40 years.

So as we shut down Dungeness A's two reactors on 31 December 2006, there will be great pride mingled with understandable nostalgic sadness for myself and many of my colleagues. It isn't the end of the road for the station, we are now moving into the new phase of defuelling and decommissioning. That job will, I assure you, be completed with exactly the same emphasis on safety.

Finally, I would like to pay tribute to the Team whose painstaking efforts at compiling this quite excellent brochure are admirable – how do you pick and choose from the thousands of photographs of people and events we have amassed over the years? I'm sure I speak for everyone when I thank them and hope that you enjoy their choice.

Nick Gore Site Director
Dungeness A Power Station

PREFACE

Left to right

Dave Anstock, Frank Baker, Jan Turner, Richard Linkins, Alan Green, Doug Green, Will Richardson, Les Carter, Sally Tallis, John Webb, Mike Pollard

LES CARTER
PUBLICATION TEAM LEADER

Being involved in putting together this booklet has been a pleasure. As with virtually all of my work at Dungeness 'A', this has been achieved by a number of people using individual skills and making their contribution whilst working as part of a team.

The team which has met on various occasions are pictured above, however, this is only part of the story. Much of the material has come from the archives, existing staff, staff that have moved on, retired staff and local residents. The contributors are too many to mention but you know who you are, so thank you.

The area of Dungeness is unique and has a rich history, and a short section dealing with this has been included. Dungeness 'A' Power Station is also unique, not only in its plant design, but also the uniqueness of the team of people who have been responsible for the safe generation of electricity from this plant over the past 40 years. Over the years the members of staff, along with support from other parts of the organisation and contractors, have done their bit. Now the station has reached the end of its generation phase, we should all feel proud of what has been achieved. Whatever your role is or was, we hope there is something here to remind you of the various events and characters which have been part of the interesting history of Dungeness 'A' both in work and play. There is a lot left out, there is just not enough room, or in some cases it would just be too difficult to get permission from the individuals to print!

On behalf of the team, I hope you find it as enjoyable and interesting to read as we did compiling it.

DUNGENESS HISTORY

Dungeness has the largest surface area of shingle in Europe and probably the world, approximately 12 km in one direction and 6 km in the other. The whole area has been recognised as a National Nature Reserve and from 2006 will be designated as a Special Area of Conservation (SAC).

Chalk was formed more than 90 million years ago and once covered Southern England. During the Ice Ages of the last 2 to 3 million years, vast quantities of the softer chalk weathered away and the harder flint was washed down to the floor of the English Channel. Gradually the sea level rose as the ice melted, waves carried the flint eastwards along the Channel until it piled up ridge after ridge at Dungeness. The shingle ridge system, on which the power station is built, is part of the mass of some 600 ridges which has taken 5,000 years to develop.

Matthew Poker's (1617) map of Romney Marsh depicts 'the cabins' at Dungeness which were used by the local fishermen, probably Lydd men, in the herring season. The cabins are shown on the east side of the peninsular which gradually built up owing to the movement of the shingle around the "Ness", referred to as long shore drift. Archaeologists have calculated how far inland these buildings could have been and have made a great effort to trace them with no success, this is probably because 'the cabins' would have been of temporary nature using materials to hand, such as flotsam and jetsam and easily transported light materials from local areas. It must be remembered that carrying anything substantial or permanent, like stone and brick, across loose shingle would not have been viable. In fact simply walking across loose shingle is quite difficult. The buildings only needed to last a few years as the shoreline could have grown away from them so new ones could be constructed nearer the sea, using probably what was serviceable of the older cabins. It is difficult to put a date on when Dungeness was inhabited on a permanent basis, but even when that did occur, the buildings were still of this semi-permanent nature as the shoreline kept growing further away and the new ones continued to be built from the east.

This map is held at The Centre for Kentish Studies (Ref U1823P2) Tel: 01622 694363

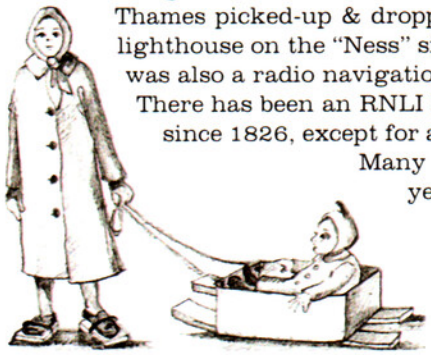
Dungeness low light and fog horn

Important beer delivery on shingle

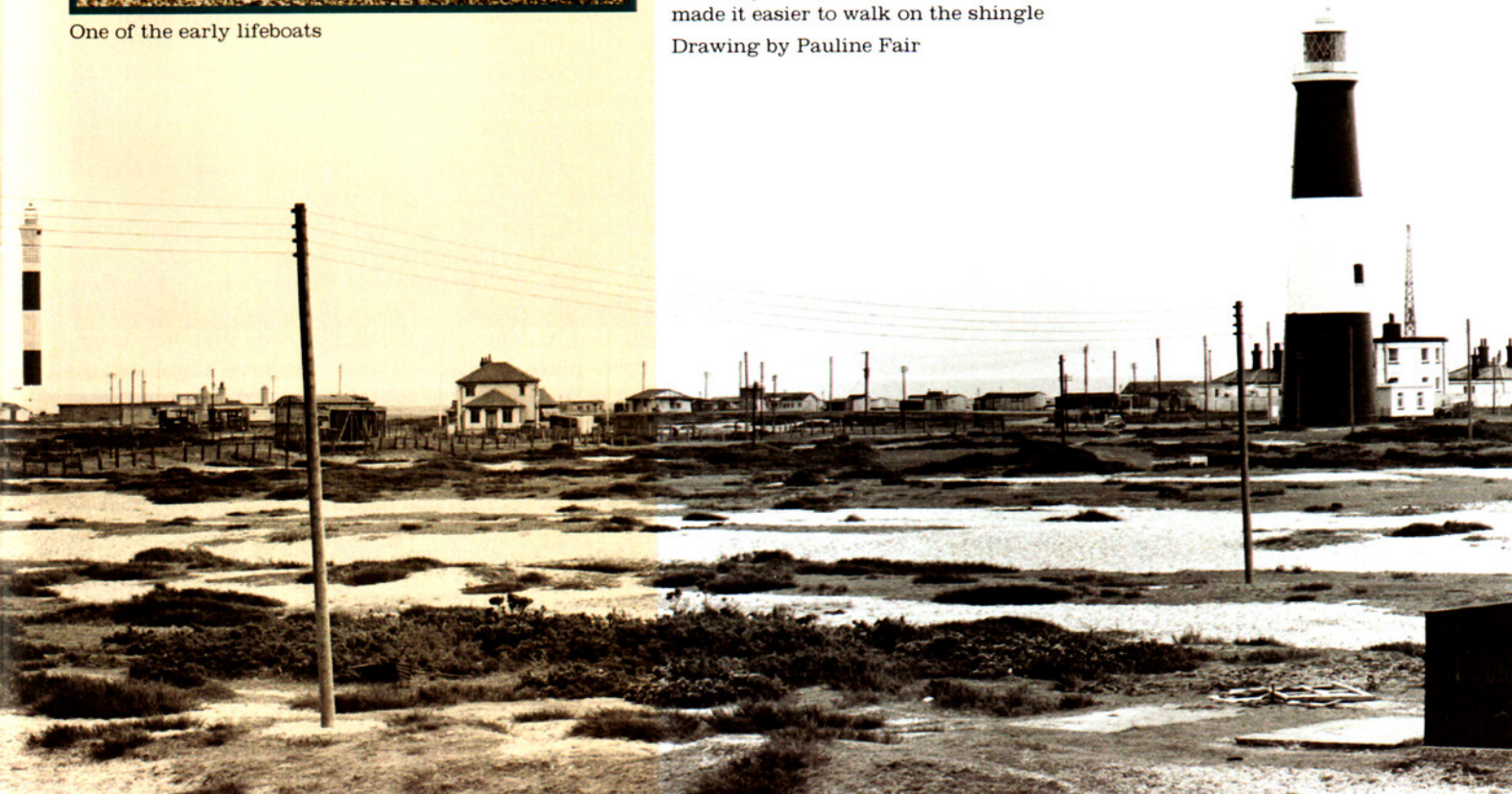
Construction team for the 1904 lighthouse

One of the early lifeboats

Dungeness was also where shipping to and from the Thames picked-up & dropped-off pilots. There has been a lighthouse on the "Ness" since 1615 (coal fired!) and there was also a radio navigation station and development site. There has been an RNLI lifeboat stationed at Dungeness since 1826, except for a break between 1861 and 1874. Many lives have been saved over the years and several gold, silver and bronze medals awarded to members of the crew. The station was also the last in the UK to have lady launchers.



Backstays worn over footwear
made it easier to walk on the shingle
Drawing by Pauline Fair



HISTORY
LIGHT RAILWAY & LIGHTHOUSES

Main line railway

Romney, Hythe & Dymchurch light railway

The standard gauge railway was opened in 1883 but this had little impact on the inhabitants of the area. The successive railway companies extracted shingle from the pits to the East of the approach road and used the area as a waste tip, which encouraged the growth of plants. The line closed for passengers in the 1960's, but is still used to transport used nuclear fuel for reprocessing.

The light railway was opened from New Romney in 1928. This brought more tourists but most only came for a ride and a cup of tea in the café. The tea sold well even though it was made with the slightly brackish water pumped from a well on site. The brackish nature was caused by the mixing of the sea water with the fresh water flowing out from the marsh through the beach.

The character of the area started to change when the road was constructed in 1938, up to that date there had only been a track. Usually settlements have a framework from their inception which includes a main street and other track ways, with boundaries delineated in some way or another. All these rules were broken at Dungeness as the inhabitants made their own tracks with backstays over their footwear, moving from place to place at will. The dwellings had no boundaries as the beach was valueless regarding crops, etc., so the whole hamlet was mobile. When the permanent road was in place, forward movement of the dwellings halted, so what can be seen now is a frozen mobile settlement. In 1945 the population of Dungeness was 121, almost all families were connected with fishing. The population remains similar nowadays due to no new development being allowed.

The existing "old lighthouse" was opened in 1904 to replace one on top of the "Round House" but this in turn had to be replaced by a new one as the power station would obstruct the light from the west.

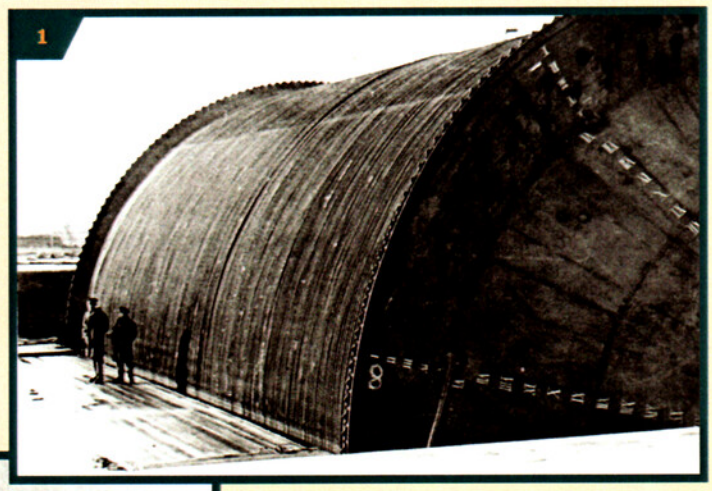
1942:1945

TOP SECRET

During the latter part of the Second World War the Dungeness area played host to a most secret plan known as PLUTO (Pipe Line Under The Ocean). This was a project to pump fuel to our armies in Europe via a pipeline on the seabed.

Huts, evacuated bungalows, shingle works – all these were utilised to house the tanks and pumps. No new buildings attracted the eye of the enemy who flew over regularly to photograph the coastal area, looking for changes. The pipes were wound round enormous Conun drums (looking like giant cotton reels) which were towed across the channel at night and the pipe unwound. No secret was better kept and eventually 17 pipes had been laid to Boulogne and millions of gallons of fuel were pumped across to our invading armies.

By the end of the war in Europe fuel from Dungeness was being pumped as far as the Rhine.


1


2


3


4

1 Conun drum weighing in at 250 tons

2 Bungalows housed reciprocating pumps

3 Fuel tank inside a house – level gauge on show in doorway

4 More pumps hidden under the shingle at Dungeness

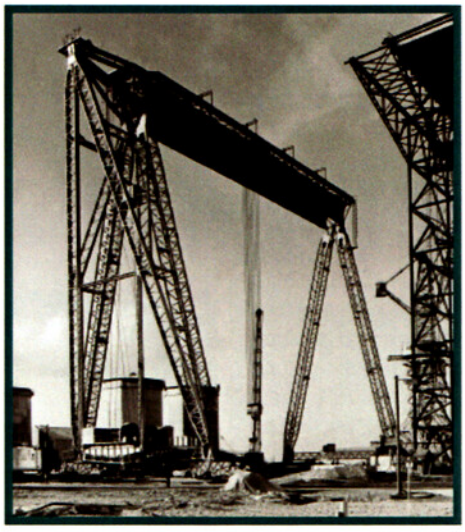
CONSTRUCTION 1960:1965

Construction of Dungeness A power station began in 1960 and saw the start of electricity generation in 1965. It was one of eleven Magnox nuclear power stations commissioned in the United Kingdom between 1956 and 1971. The two reactors have a graphite core housed in a steel pressure vessel. The core is cooled by carbon dioxide gas circulated by four blowers located at the bottom of the boilers.

The station was built on the largest area of open shingle in Europe by a consortium called The Nuclear Power Group (TNPG).

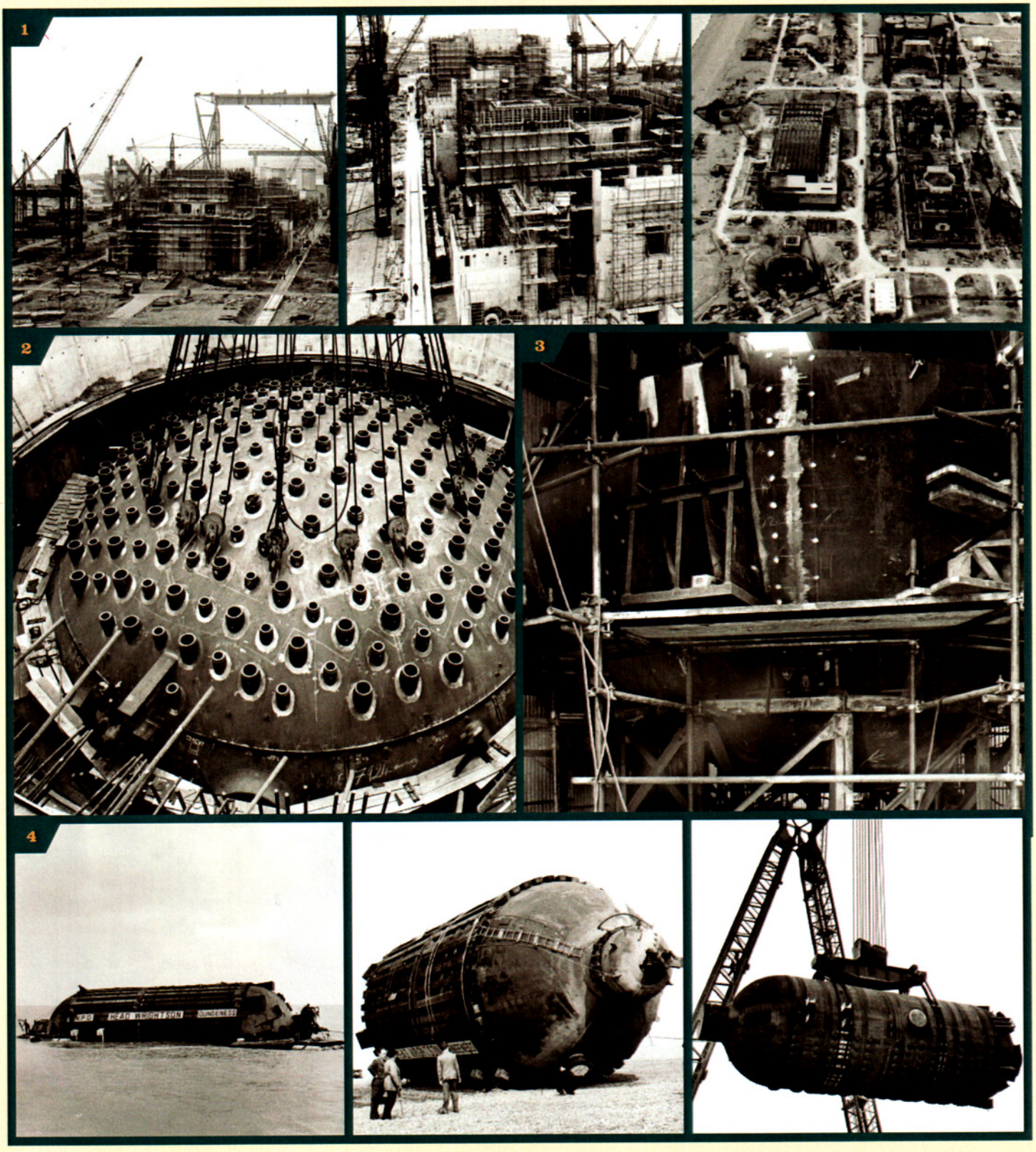
The shingle presented some unique problems. It was some 40-50 metres deep with the water table 3-4 metres below the surface. With foundation work required 10 metres below ground, a sheet steel piling "skirt" was placed around the site and wells sunk to de-water the area.

The shingle also made mobility very difficult so both temporary and permanent access roads were laid early in the construction.



Many large prefabricated components had to be lifted in position. Here the "Goliath" crane was being load tested prior to use during construction.

Not everything was done on site. An offshore platform to go over the sea water inlet was constructed in Folkestone Harbour before being floated to Dungeness in August 1961.



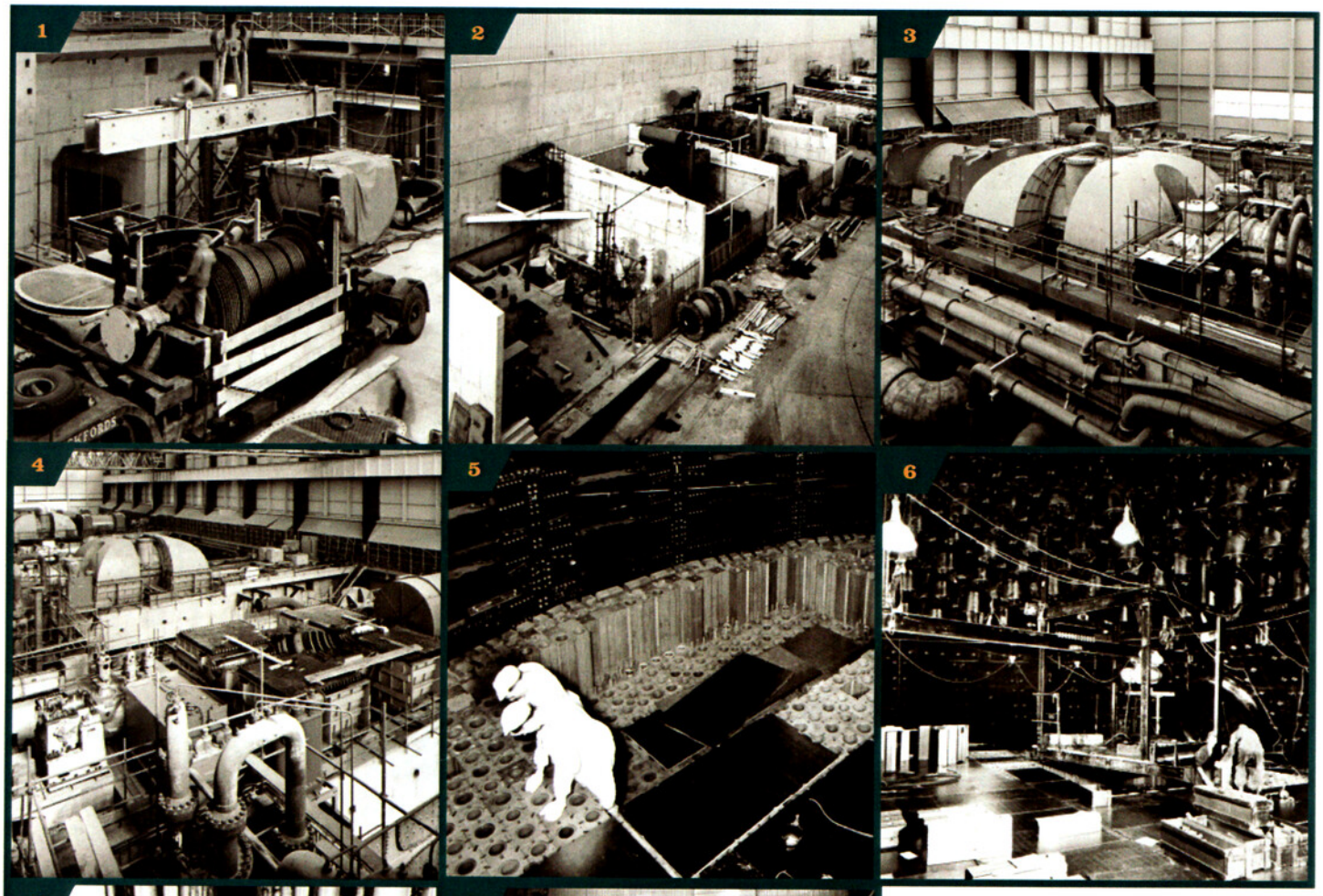
1 How the site looked in early 1962.

2 Reactor One Pressure Vessel top section being winched into position in May 1962

3 View showing welds on the bottom dome of No. 2 Boiler in January 1961

4 The first boiler "landed" on site after delivery by sea from Teeside and was then lifted into place by the Goliath crane in July 1962.

CONSTRUCTION 1960:1965



1 Main turbine HP Rotor arrived on site in February 1963

2 The transformer bays on the south side of the turbine hall in July 1964.

3 The Turbine House in May 1964.

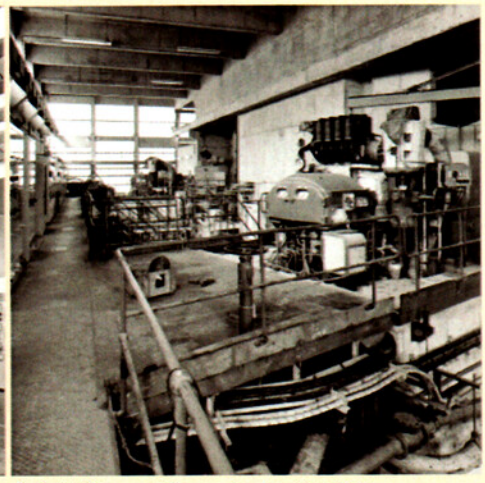
4 A view of T/A 3 and 4 six months later.

5-7 Laying the graphite bricks in Reactor Two and a view of the chargepan of Reactor One. Spring 1964.

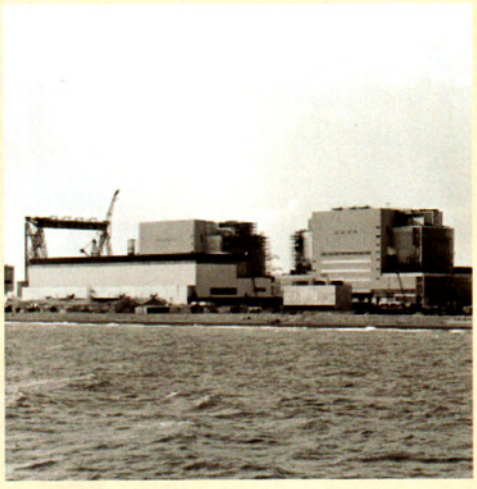
8 Reactor One pile cap showing a charge machine under construction on the gantry. May 1964.

Admin Block General Office in January 1964.

Reactor Two control panel in a strangely deserted Central Control Room. March 1964.



3 & 4 Blower House in April 1964.



General view of the site taken from the intake structure in August 1964. Look at the massive size of the Goliath crane.

It's needed no more! The crane was brought down by a strategically placed explosive charge.

CW Pumphouse and bandscreens in November 1964.

Fuel loading on Reactor One in June 1965.

Reactor Two Fuel Preparation area showing Fuel Element inspection benches and an overhead conveyor to the reactor. September 1965.

OPENING DAY 1966

Power generation commenced from Reactor One in September 1965 and from Reactor Two in December of the same year. Dungeness "A" was officially opened by Lord Hinton on 26th May 1966. Lord Hinton was one of the 20th century's most eminent engineers and made an enormous contribution to energy generation technology.

1

2

3

4

1-2 The Mayor of Lydd, Councillor Doris Mittell, was one of the dignitaries assembled for the opening ceremony. This included unveiling the plaque that is still on display in the Admin Block in 2006.

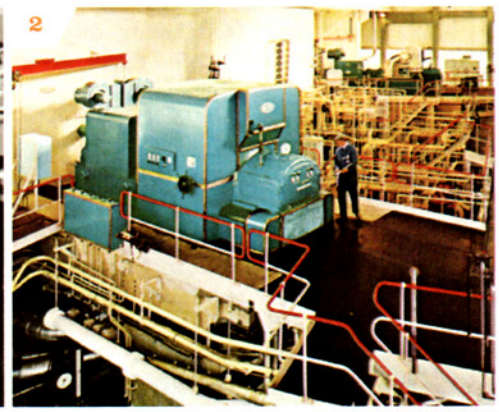
3 The Control Room Supervisor, Brian Smith, carries out his duties while the Shift Charge Engineer, Alan Green (in the white coat), keeps the VIP's under control!

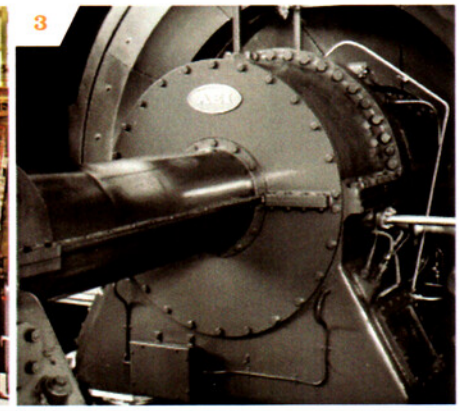
4 Station Superintendent Doug Heath with Lord Hinton.

GENERATION
THE NEW PLANT

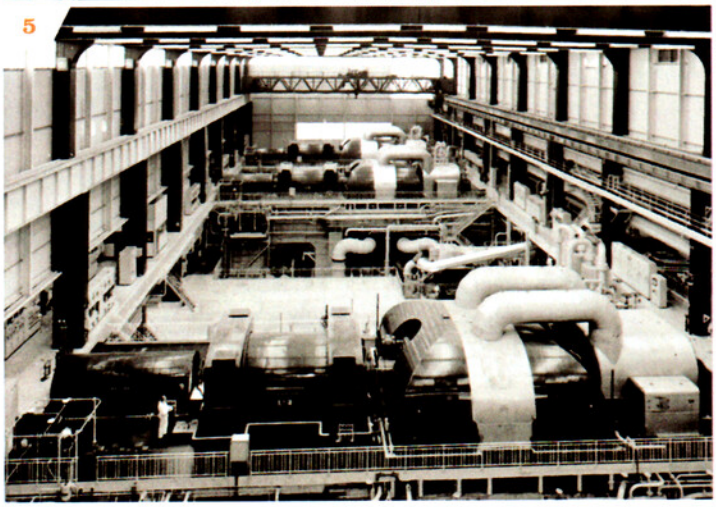
1 R1 Lower Maintenance Cell
2 Blower Hall
3 Blower viewed through Shield Doors
4 1 & 2 HP Steam Drums
5 Turbine Hall
6 Re-fuelling Machine on it's gantry

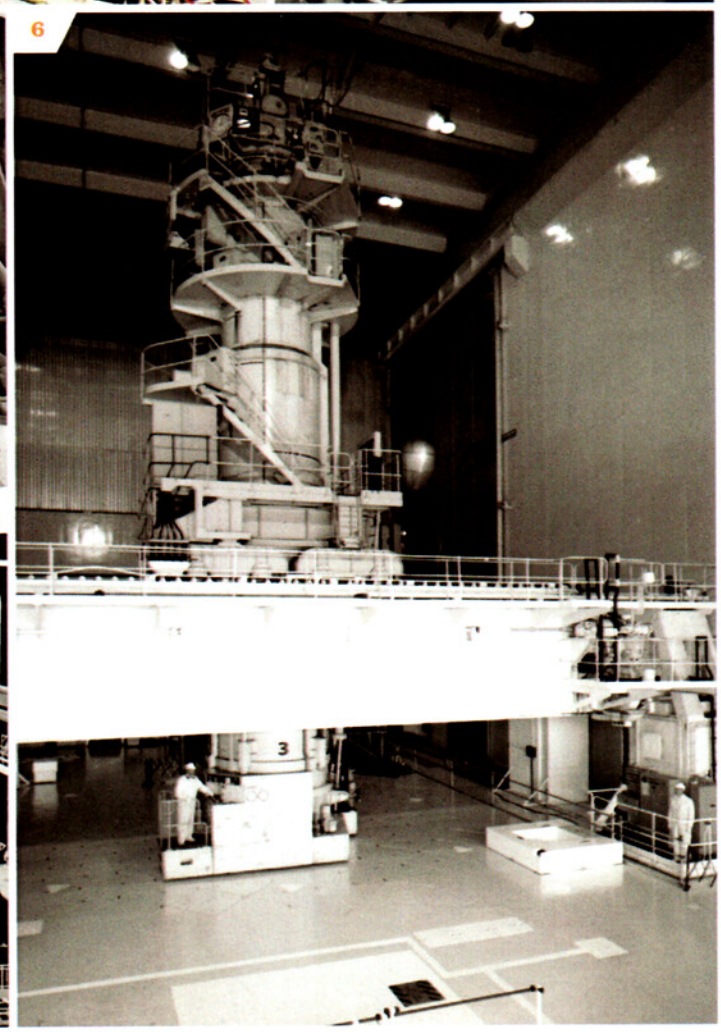

1


2


3


4

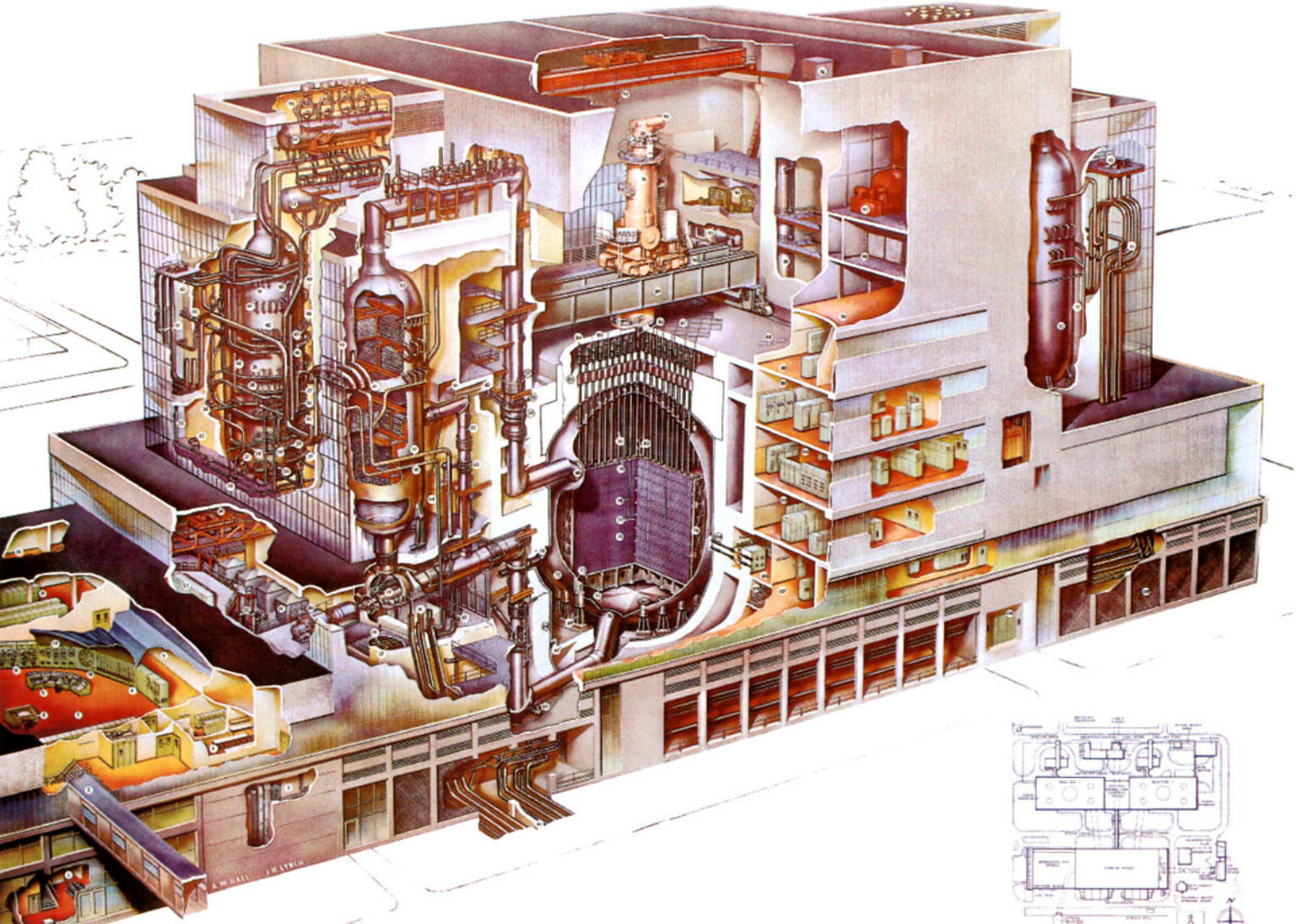

5

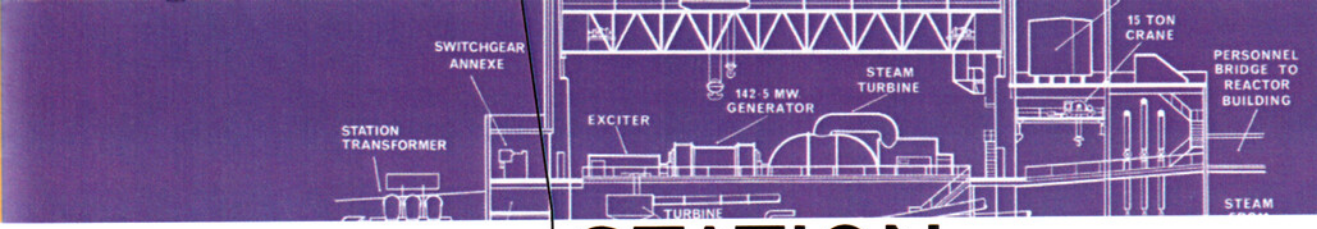

6

ENGINEERING OPERATIONAL FEATURES

Magnox reactors were designed for continuous generation over a 2 year period. The Nuclear Site Licence required the reactors to be shut down for comprehensive tests and inspections before certification for continued operation. To achieve this, all main plant had to be capable of this continuous operation at full load, auxiliary plant being duplicated or triplicated so that maintenance can be done more frequently.

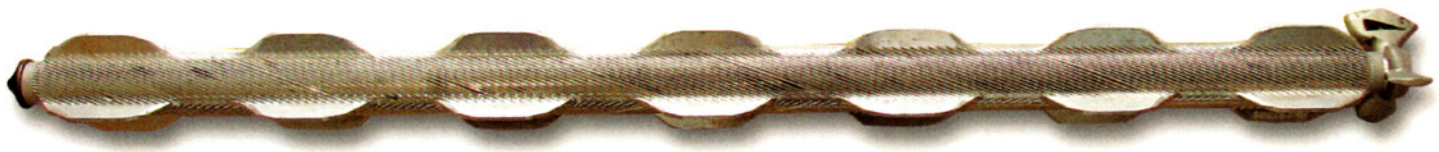
On-load refuelling was carried out to achieved maximum efficiency and output. Safety systems monitored the reactors and would automatically warn operations personnel of abnormalities and shutdown if necessary. Electrical output was supplied to the National Grid, but if this connection was lost the reactors were automatically shutdown and standby generators were available to supply power for essential plant and services.





STATION PERFORMANCE

Original Fuel Element - Helical design



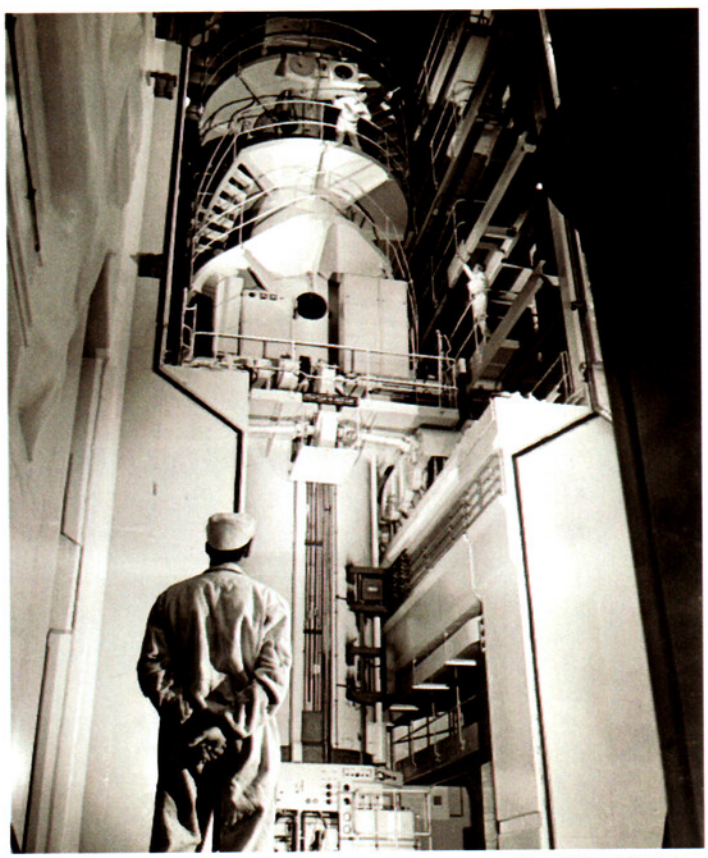
Replacement Fuel Element - Herringbone design

Dungeness A was a development of the Atomic Energy Authority reactors at Calder Hall, Chapelcross and the first two CEGB stations at Bradwell and Berkeley. At each step, output was improved by increased size and higher efficiency by higher temperatures (Dungeness was unique in the use of steam turbine driven gas circulators with a steam cycle including reheat).

Although engineered for these operating conditions, an unexpected problem was identified when after 3/4 years internal steel structures of the reactor and boilers were subject to oxidation (corrosion) identified at Bradwell and Sizewell but not at Calder and Chapelcross. The phenomenon described as "Breakaway Corrosion" had not been anticipated in the hot, dry, CO2 atmosphere inside the Dungeness reactor gas circuit. Research identified that this oxidation was occurring at the higher operating temperature of these reactors and could cause structural failure of bolted assemblies if allowed to continue. In addition problems with the initial fuel cans required a reduction in Fuel Element temperature. At Dungeness it was decided to reduce the gas temperature from 410 C to 360 C (later increased to 375 C), this resulted in a reduction of electrical output from 550 MW to 420 MW (later increased to 440 MW).

The temperature reduction was successful in controlling the oxidation. Herringbone fuel cans, better gas purity control, thorough biennial inspections, system upgrades and other improvements enabled safe generation to continue well beyond the original design life.

The Magnox Reactors were designed for refuelling while operating at full power (unlike most other reactor types which are shut down periodically for refuelling). The Fuel Elements remained in the reactor for several years and were replaced at a rate of about 20 channels per week. The fuel channels were monitored by a Burst Can Detection (BCD) system, as it was essential that any defective fuel was removed quickly or the reactor would have to be shut down. There was a problem with the initial fuel loaded into the reactors, and there were a significant number of can failures and heat transfer fins were becoming distorted. Later modified cans with herringbone fins and integral lugs replaced axial splitters, resulting in much improved performance.



Fuelling Machine

ENGINEERING CHALLENGES

Apart from statutory outages, several unscheduled shut-downs resulted from circumstances outside station control such as a loss of grid connection (the 1987 hurricane caused one such disconnection). Shutdowns have also been caused by a loss of cooling sea water due to massive shoals of sprats blanketing filter screens on numerous occasions. There were other outages, some due to plant failures for example, but for all of these events the reactor design, safety systems and prompt action by operations staff prevented any hazardous outcome.

Overall the plant at Dungeness has performed extremely well, however, as might be expected, during the 40 years there have been a number of engineering opportunities.

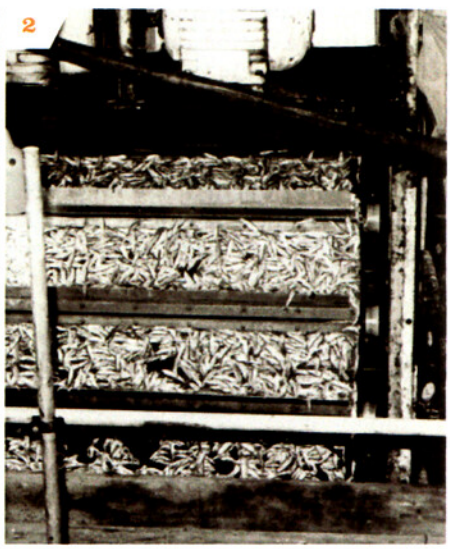
It is a requirement of the Nuclear Site Licence, HSE Nuclear Inspectorate, and Insurance Regulators to undertake regular and thorough surveys of both nuclear and conventional power plant. Formal permission is issued to operate for a specified period, subject to review in the event of any abnormal occurrence or problem. This is a similar process to the one that requires a car to have an MOT and an aircraft a Certificate of Airworthiness.

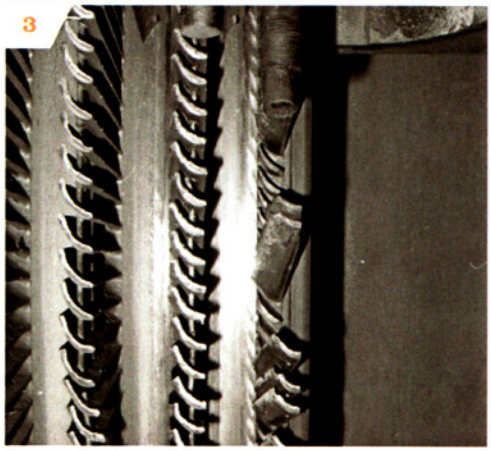
In the conventional plant area it was found necessary to refurbish a number of the turbine blades, rectify defects on the alternator rotor and to retube the condensers. The original condenser tubes were aluminium/brass and due to severe erosion caused by the sand in the circulating water these were changed to cupro/nickel and then to titanium. Prior to fitting of the titanium tubes, leaking condenser tubes were a regular event, and the much loved sawdust machine was often in use to temporarily plug the leaks.

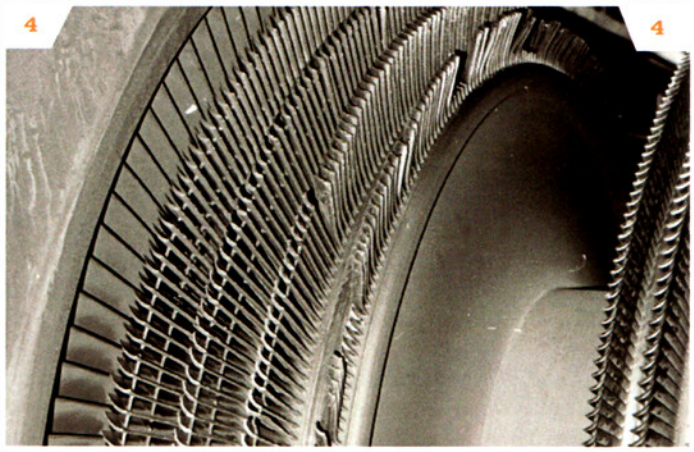
The offshore intake structure for the circulating water system suffered corrosion and it was decided to completely remove the structure as it had no function.

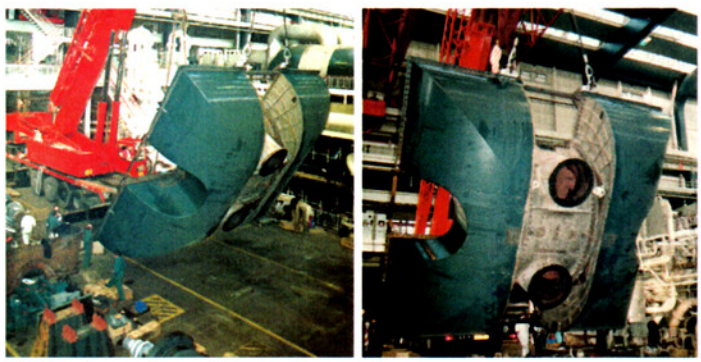
1-2 Sprats on the screens

3-4 Damaged turbine blades









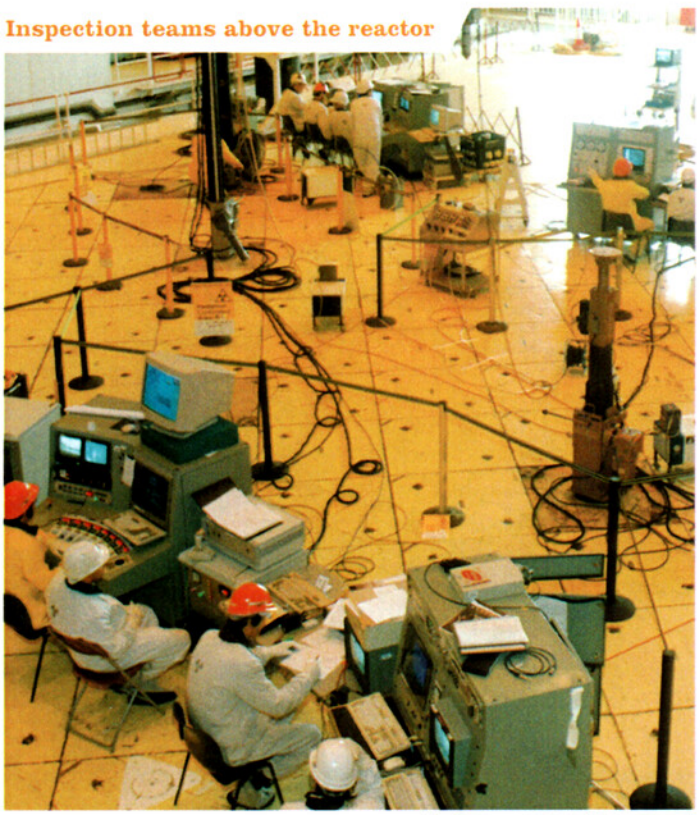
LP Hood overturned for blade maintenance

In addition to routine maintenance during biennial shutdowns, surveys are carried out by electrical, mechanical and non destructive examination using radiography, ultrasonic and visual methods and appropriate action taken to deal with faults or potential faults which may vcause failure.

A significant activity during the biennial inspections involves close inspection of reactor and boiler internal structures to monitor actual or potential oxidation defects and carrying out any repairs as necessary. All of the inspections and repairs within the reactor had to be carried out using remote viewing and handling equipment.

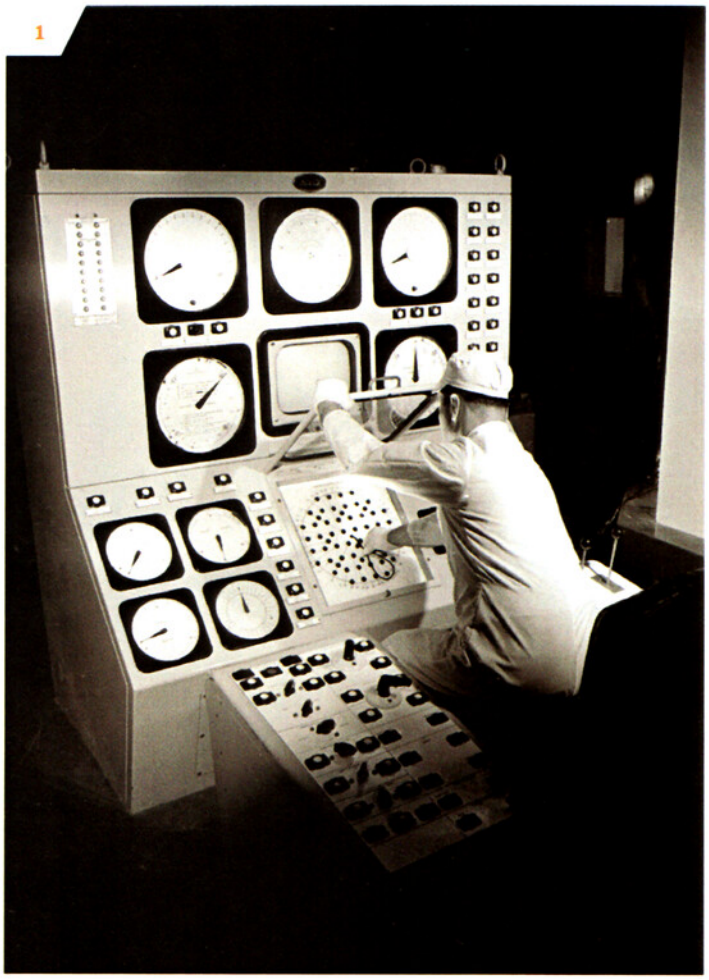
Steam safety lifting

Inspection teams above the reactor



Views from inside the reactor

ENGINEERING CHALLENGES

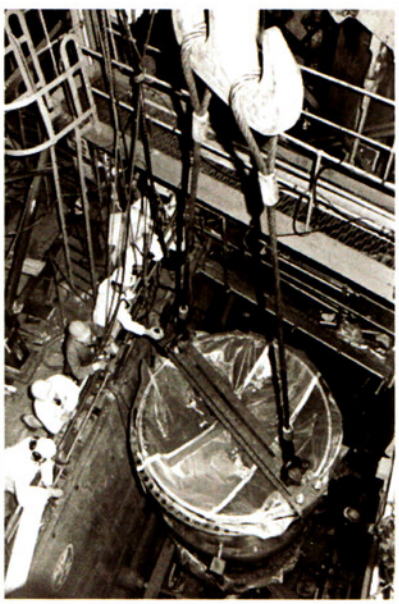


Concerns about the integrity of the gas ductwork bellows, resulting from non destructive examination led to prolonged outages between 1980 and 1982. These were only resolved after some bellows units were removed for material sampling and examination.

As the Bypass circuit ductwork was redundant it was isolated on all 8 circuits and one bellows unit was removed for destructive examination and testing. Others were removed from the Main Ducts and replacements installed. Some "defective" units were subject to load tests well in excess of any operational or fault conditions without failing!

Each reactor has 2 re-fuelling machines to handle the new and old fuel, and to facilitate the overhaul of the reactor control rods. Altogether the two reactors have approximately 56,000 Fuel Elements and each of these elements have been changed several times in the life of the station.

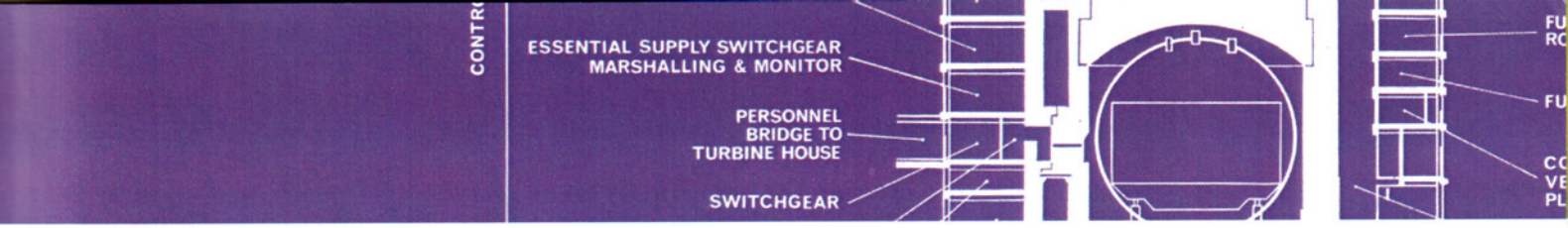
Once the fuelling machines are connected to the reactor the operations are carried out from a remote control room. The control room was significantly improved in line with the needs of the operator.



1 Charge machine control room - original layout

2 Charge machine control room - present layout

3 Main gas duct bellows units being replaced



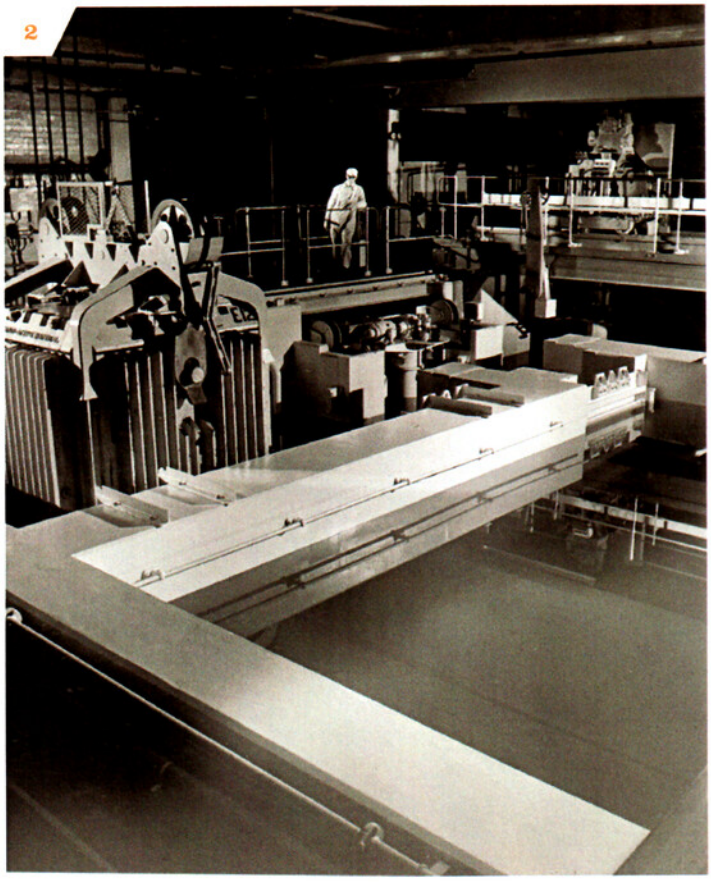
1

Used fuel is discharged to cooling ponds where it is stored prior to being loaded into transport flasks and taken off site for reprocessing.

After removal from the reactor, the Fuel Elements were stripped of lugs (originally splitters) to improve "packing factor" for storage and transport. These splitters and lugs were stored on site until the 1990's when a Magnox Dissolution (MXD) plant was installed. This plant has successfully operated to chemically process the stored magnox waste and produce a liquid effluent which can be safely discharged to sea. Lord Marshall and Michael Howard MP at the opening of the plant are seen in the photograph drinking the discharge water.

Despite what may appear to have been a catalogue of problems, they were no more than would be expected for any major industrial plant. Dungeness A has achieved high load factors and equalled or surpassed the electrical generation of its contemporaries. At no time has there been a nuclear incident which has caused risk to staff or public on or off site.

2



3

1 Lord Marshall and Michael Howard MP drinking discharge water from the MXD plant

2 Fuel Ponds and Road Transport Flask

3 Road Transport Flask at railhead

DUNGENESS ENVIRONMENT

Dungeness is an area of outstanding natural beauty with national and international environmental and geomorphologic importance. It boasts many rare species of both flora and fauna. In many ways Dungeness is special because of its sensitivity and vulnerability to human activity; this in turn brings with it a huge responsibility to protect it.

Over many years the management and staff at Dungeness have recognised the importance of safeguarding the fragile local environment during their activities and have worked closely with the various government agencies, interested organisations, conservation groups, experts and local people. Mans activities do have an affect, however these have been carried out in a sensitive, informed and controlled manner and we are proud to note that the environment has been positively managed. There are various varieties of plant in the area which can be easily destroyed, however, these plants have continued to thrive throughout the 45 years of construction and generation at our site.

In the area we have three protected species namely:

Sussex Emerald Moth (Thalera fimbrialis)

Black Red Start (Phoenicurus ochruros)

Red Hemp Nettle (Galeopsis angustifolia)

As well as the protected species there are 40 breeding birds particularly associated with Dungeness and named in a Site of Special Scientific Interest (SSSI) notification, and these include the Wheat Ear, Linnet and Stone Chat. Basically the law associated with these protected species makes it an offence to damage or kill the species or their habitat.

In addition to the individual species the area is recognised and particularly valued for its natural plant communities which have not been significantly modified by mans activities. The area supports a range of habitats including grassland, extensive vegetated shingle habitats, saltmarsh, grazing marsh, reedbeds and open water. In recognition of the importance of the site and its surrounding area various controls are enacted by an impressive list of national and international designations such as Site of Special Scientific Interest, National Nature Reserve, Special Area of Conservation, Special Protection Area, Comprehensive Shoreland Protection Act, and a proposed RAMSAR Site (Ramsar sites are wetlands of international importance designated under the Ramsar Convention).

The shingle from the shoreland immediately in front of the station is eroded by the wave action, and this is regularly replaced by bringing back the shingle which has been deposited on the east face of the peninsular. In an average year 30,000 cubic metres/year of shingle is eroded, during a stormy year the volume can increase to 100,000 cubic metres/year.

TEAM SPIRIT

1 Fixed and ready to run

2 Station stand-down and briefing

3 Union and Management in Partnership

4 Shift maintenance team ready for the next job

5 Engineering Group reporting for duty

6 Canteen staff ready for anything

7 Team of station guides

8 Time for some fuelling machine maintenance

9-10 Maintenance staff in electrical shop

It takes a huge range of expertise and services to run a power station. The pictures on these pages show people with diverse skills and talents working together to help achieve safe and reliable generation. Teamwork has always been a feature at Dungeness 'A' in creating a friendly and efficient working environment even when the physical conditions were sometimes quite hostile (for example after a sprat invasion).

Everybody on site has contributed to the teamwork ethic. For example, there are Operations teams, Maintenance teams, Fire & Rescue teams and Administration teams. There were teams at Dungeness 'A' even before they were trendy.


4


5


6


7


8


9


10

TEAM SPIRIT

1 The Admin Team
2 Instrument Workshop Team
1 Shift Team
4 20 years and more...
5 Day Maintenance Group with sleeves rolled up
6 Together we can conquer

Day Maintenance Teams

OPEN DAY!

1 Family fun
2 Viewing main turbine internals
3 How to get a good view
4 What we do in the control room
5 Balloon goes up in the workshop
6 Alternative power

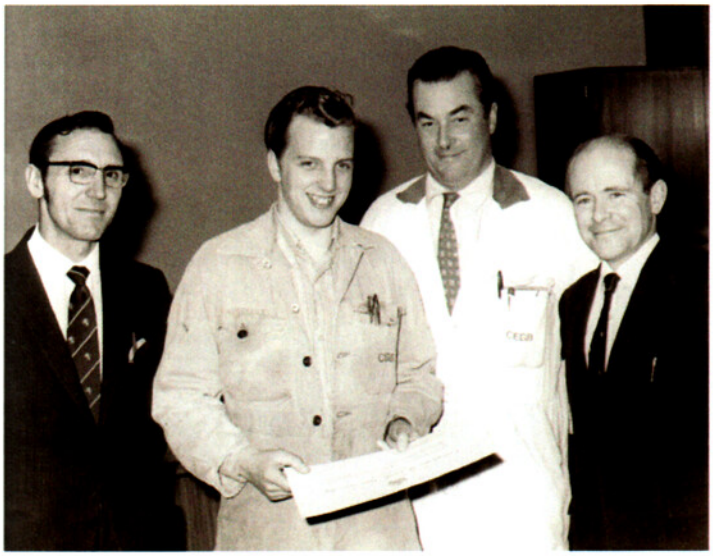
One weekend in 1986 the station celebrated 20 years of operations by throwing open its doors to all the station staff, their relatives and their friends. Many areas like the pile cap and ponds, normally barred to visitors, were made available for our guests to walk round and examine.

It was a special occasion with entertainment for all the family. One workshop challenge involving a bike and a dynamo demonstrated that power generation wasn't easy!

STAFF TRAINING

The greatest asset Dungeness A has had over the years has been the staff working at the site. Everyone who has been on site through the 40 year period has received training to ensure that they are suitably qualified and experienced persons. The training has been directed at maintaining a safe environment, protecting the environment and being ready for the unplanned, including Emergency Scheme, First Aid and Fire Fighting capabilities.

The training has been extremely varied and covered among other things induction training, on-job training, simulator training, apprenticeships, continual professional development and formal college training for recognised qualifications such as ONC's, HNC's, Degrees etc. This involved a lot of hard work by both trainees and trainers and quite a lot of fun along the way!



JUST VISITING


SOUTH EASTERN POWER

SOUTH EASTERN POWER, FEBRUARY 1971

SPACE MONSTERS AT DUNGENESS— BUT DR WHO WILL SORT 'EM OUT

WHEN monsters from outer space are found buried in the shingle outside Dungeness nuclear power station one might expect that not far away is a squad from UNIT and Dr Who. And of course the creepy creatures were brought under control without interrupting the efficient running of the power station.

Barry Letts, producing a new episode of Dr Who called "A Vampire From Space," was looking for an area where it is rather bleak and there is a power station in the background. Dungeness was an ideal location and the BBC TV team spent a day at the power station filming sequences.

There were 50 artists and technicians in the group and they were looked after during their time at the station by one of the guides, Mrs Barbara Palmer. Among the actors she met were Jon Pertwee as Dr Who, Katy Manning, Nicholas Courtney, Peter Bathurst and Roger Delgado.

"A Vampire From Space" will be transmitted on BBC 1 on Saturday afternoons from March 13 to April 3.

● Pictures show Jon Pertwee accepting a welcome cuppa from Barbara Palmer (right) and a monster being "shot".

Many thousands of visitors have been shown round the station since it started generating in 1965. In those early years the general public could turn up on a Wednesday for a conducted tour of the site. Despite not knowing how many would present themselves our team of Guides always coped - however much their legs were aching!

As well as these visitors, and many "booked" tours, we have entertained a number of more familiar faces. See how many you can identify in these pictures. Some are easy but can you identify the King of Tonga?

STAFF R&R

1 Previous staff member
Mayor of New Romney

2 Previous staff member
Mayor of Hythe

3 Previous staff member
Mayor of Lydd

4 Playing for Charity

5 Pensioners Christmas diner

6 Staff Christmas dinner

7 "Have you heard this one"

8 Meet the lads

STAFF R&R

1 Dungeness golfers in action
2 Where is that milkman?
3 The fastest walker on site
4 I'm sure we were supposed to turn left back there
5 A team to be reckoned with

1 Papier Maché skills utilised for Venetian fete

2 Staff fund raising for local hospital

3 Support to local charities

4 Canteen staff supporting Children in Need

5 Skilled Nuclear Power Station staff in disguise

6 Support to local charities

7 Staff giving their time to courageously man the Littlestone Lifeboat

TIMELINE

1960's

1960
- Dungeness A Construction starts
- JFK elected President of the US

1961
- First man in space

1962
- Doug Heath put in charge of station
- Ringo Starr joins the Beatles
- Beach Boys release Surfin' Safari

1963
- Last national Serviceman leaves British Army

1964
- Top of the Pops starts

1965
- First electricity produced from the station
- Miniskirts first seen

1966
- England win football world cup
- Star Trek begins

1967
- Harry Simons put in charge of station
- Reactor fuel temperature reduction (because of fin waving) applied reducing output slightly
- Colour TV broadcasting starts
- Flower power at its height
- First heart transplant

1968
- First ever sprat invasion restricts cooling water flow and causes station to shut down
- All Stand Pipe Assemblies replaced
- Victoria Tube Line Opened

1969
- Reactor gas temperatures reduced because of oxidation problem
- Neil Armstrong walks the moon
- Concorde flies for the first time
- QE2 maiden voyage

1970's

1970
- Those sprats again cause station shut down
- Heathrow welcomes first Jumbo Jet

1971
- David Gledhill put in charge of station
- Doctor Who stars in "The Claws of Axos" using the station as a location
- Electronic calculator starts to appear
- North Sea Oil comes on line
- Decimal currency introduced

1972
- Ian Carmichael put in charge of station
- Fuel element de-lugging equipment installed

1973
- Britain joins the EEC

1976
- Neil Owens put in charge of station
- First Mars Lander

1977
- Punk Rock hits Britain

1978
- Site division splits the "A" and "B" stations
- First test tube baby
- First ascent of Everest without oxygen

1979
- R1 long shutdown for gas circuit bellows work
- Margaret Thatcher comes to power
- Sony Walkman goes on sale

1980's

1980
- R2 long shutdown for gas circuit bellows work
- Bellows leakage equipment installed

1981
- R2 back at power after 2 year shutdown
- First IBM personal computer appears

1982
- R1 back at power after 3 year shutdown
- Turbine sea water evaporators phased out

- The Falklands war
- ET film released
- Mary Rose raised from the Solent

1983

- Ronald Reagan starts Star Wars defence programme

1984

- TA1 alternator hydrogen fire

1985

- George Jenkins put in charge of station
- New Oil Conditioners installed on Turbine and blower oil systems
- Programme started to re-tube all condensers with titanium tubes
- New Reactor Gas Recombination units fitted (leading to an output increase)
- Electro-chlorination plant installed
- Mobile Phones (complete with massive batteries) introduced
- Live Aid

1986

- Sprats shut the station down again
- Main turbine LP blade failure due to crossover liner deterioration
- Chernobyl disaster occurs

1987

- Peter Welsh put in charge of station
- 1A Essential Diesel Generator replaced
- Stock market crashes

1989

- New reactor Temperature Monitoring System installed
- New Pond Chiller System installed
- Berlin Wall falls

1990's-2000's

1990

- Loss of Grid connection causes station shut down
- Nelson Mandela is freed
- Polaroid Camera patented

1990/91

- CEGB privatised (but not its nuclear stations)

1991

- Norman Callaghan put in charge of station
- Loss of 275KV Grid sub station connection causes station shut down
- New Patrol fire detection systems fitted
- Gulf War ends and Kuwait liberated

1992

- New BCD monitoring system fitted
- Church of England allows women priests

1993

- Blower condition monitoring system fitted
- Passport work control system introduced
- It's those sprats again

1994

- And again
- Andy Spur put in charge of station
- Solid state regulating control rod drive system installed
- Channel Tunnel opened
- Tour de France runs two stages in England
- SMS text messaging launches

1995

- Sprats again shut the station down and later in the year massive weed ingress has same outcome

1996

- Bill Root put in charge of station
- AGR's privatised (but not Magnox Stations)

1997

- Weed ingress causes station shutdown
- Hong Kong transferred to Chinese control
- Harry Potter appears in print

1998

- Instrument and Safety inverters installed

2000

- Sprats

2001

- Sprats

2002

- Nick Gore put in charge of station
- Millennium Bridge finally opened
- Euro notes and coins accepted in 12 European Countries

2003

- Replacement Essential Diesel Generators installed
- New Water Treatment Plant comes online
- Concorde makes last flight
- London Congestion Charge Applied
- England wins Rugby World Cup

2005

- Nuclear Decommissioning Authority (NDA) takes over ownership
- England wins Ashes Cricket test Series
- London wins the rights to host 2012 Olympics

2006

- Generation ceases, both reactors shut down. 120 billion units supplied over lifetime, saving 100 million tons of greenhouse gases
- Top of the Pops ends

THANKYOU OLD FRIEND

DUN A

Was back in 1960
When the old C.E.G.B.
Started to build a Power Station
At Dungeness by the sea

It was a perfect site for them
The sort of site they seek
Good drainage and deep water
Though it was rather bleak

The building work went smoothly
Men working day and night
Working well together
A busy happy site

In September 1965
Reactor One came on-line
A really great achievement
A Station built on time

The Nuclear Inspectorate
Were pleased how things were done
And granted them a licence
For 25 years to come

Things did not always go right
With staff put to the test
Always got the problems sorted
They always did their best

Problems with corrosion
Problems with the sprats
Problems with the weather
And then with bellows cracks

The weather could be vicious
And if you wanted proof
One day the Radar Scanner
Was blown right off the roof

The Station kept on working well
And when 25 years had ended
A good case was put forward
To have its life extended

The extension was granted
The staff all gave three cheers
And set about working hard
For another 15 years

We had visitors from near and far
Many engineers and V.I.Ps
They came to look at Dungeness 'A'
And observe our expertise

For the workers and the area
It's been good it must be said
For the standard of our living
And the lives that we have led

40 years of generation
Let's sing its praises loud
For everyone who's worked here
Has good reason to be proud

All throughout its lifetime
We've had some fun and games
Wondering who we worked for
With all the different names

Now in December 2006
Its life is at an end
We are sad the time has
come to close
Thank you 'DUN.A' Old Friend

Joe Barnes

INTO THE... FUTURE

There is still a big job left to do and many of the staff will be thinking about the challenges ahead. To de-fuel and decommission the plant will require many of those skills and qualities people have shown in keeping it running safely for forty years. We wish them well.


1

1 C Shift Operations
2 ???
3 ???
4 E Shift Operations
5 ???
6 Chemists


2


3


4


5


6


7

Grateful thanks to all those who have helped and contributed to the production of this forty year retrospective and in particular:

Alice Boxall, Ted Carpenter, Lydd Museum,
Dave Walker, Martin and Joshua Jones, Dorothy and Sally Beck

Designed and published by kdesigngroup Ashford 01233 625095

British Nuclear Group

Magnox Electric Limited
Dungeness A Power Station
Romney Marsh
Kent
TN29 9PP
Tel: 01797 343100