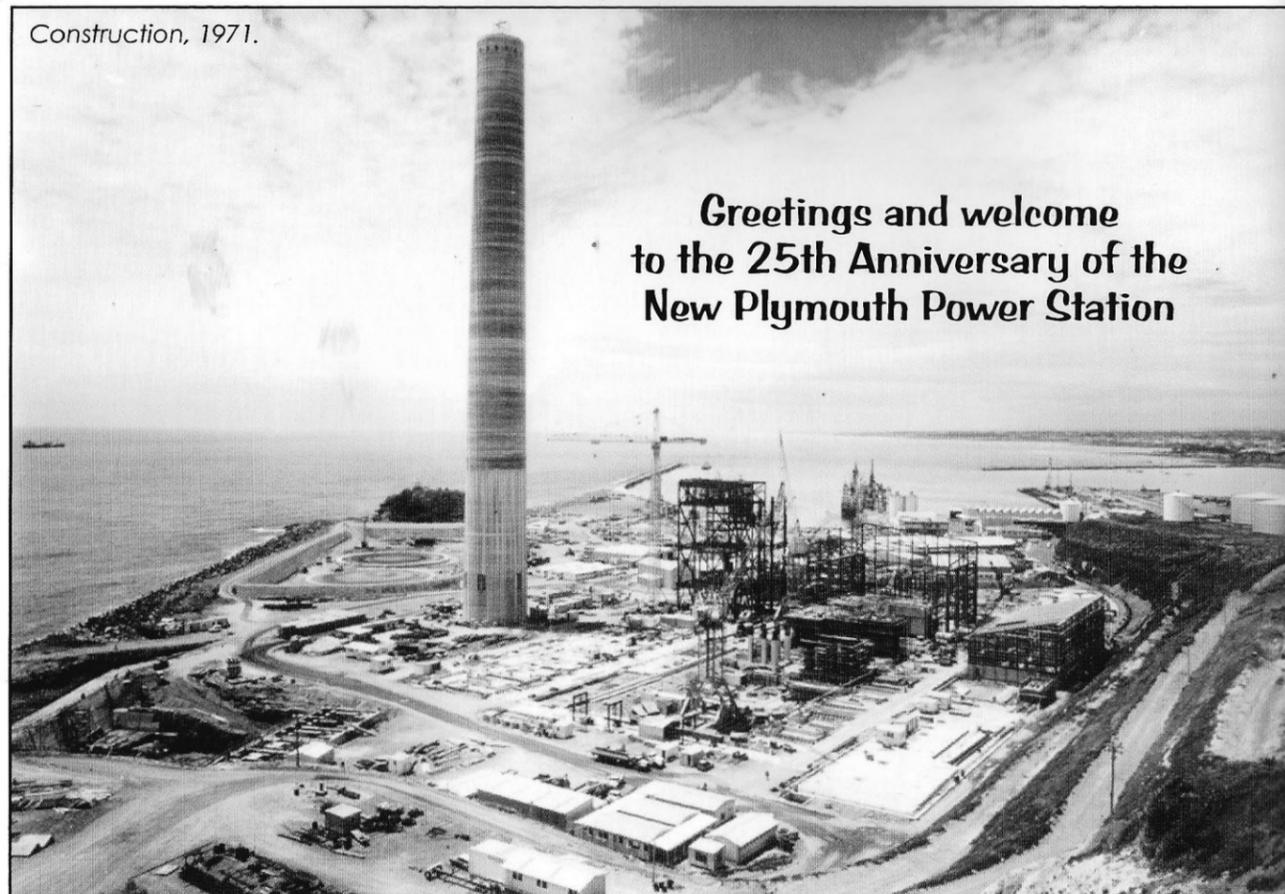


Construction, 1971.



Greetings and welcome to the 25th Anniversary of the New Plymouth Power Station

Contact Energy has been the proud owner of the New Plymouth Power Station since 1996. However, the station's heritage goes back much further than that.

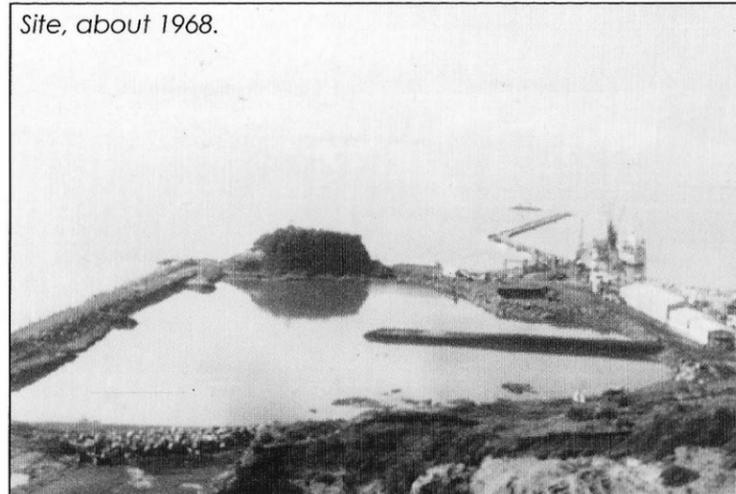
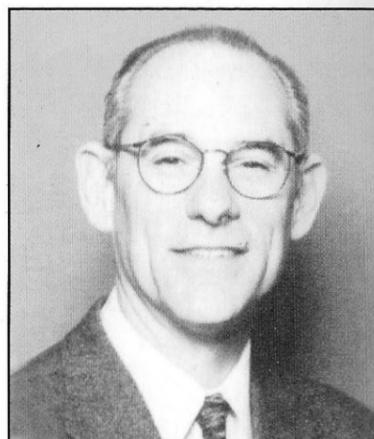
As soon as construction of the station was completed, the 198 metre high chimney became a Taranaki landscape icon. Many New Plymouth residents have had an association of some sort with the site and since the station began operation more than 1200 employees have worked there.

New Plymouth is New Zealand's second largest thermal power station and it continues to play an important role in the generation of power in this country. Last year the station swung into action to help ease the winter power shortage, and had a central role in keeping the nation's lights on.

Congratulations to everyone who is participating in the New Plymouth Power Station's 25th Year Anniversary. This is an important milestone and one of which we can all be proud. I hope you all enjoy the reunion and the activities that have been planned for it.

Yours sincerely,

Stephen Barrett, Chief Executive Contact Energy



Site, about 1968.

A 25 year reunion history between 1977 and 2002 would not be complete without mention of the years prior to the official opening ceremony.

An announcement following feasibility studies carried out in the mid 1960s was made by the late Mr Shand, Minister of Electricity in December 1967, to build a station in New Plymouth. Construction began in 1968 and the first unit was commissioned and running by 1974, with subsequent units running over the next few years.

The official ministerial opening was in 1977, so there were a lot of events in those subsequent years.

The pages of this reunion book are a small snippet of stories, events and people over the 25 years. A compact disk with several hundred images has been compiled with more details of other station happenings.

1974-75

FUEL - our life line...

...without it, we are nothing. Fuel for our generating purposes is our life-line.

Buller coal, fuel oil, Maui, Kapuni and now a plethora of other Taranaki gases have all featured in the fuel story, and at one time there was mention of using bitumen as an emergency fuel if the Maui supply stopped unexpectedly.

The changes in fuel were dictated by a variety of rapidly altering circumstances which began in the early 1960s with the search for the best site for a new base-load thermal station and ended with the decision to use gas from the Kapuni Field and subsequently Maui and TAW gases.

Because the available hydroelectric resources of the North Island were reaching their limit, it was decided in the early 1960s to build a new station to feed into the grid system in the lower half of the North Island.

We have seen this story repeated many times around New Zealand over the years and New Plymouth's role and fuel may yet change again.

With commissioning of Unit 1 completed, the unit is handed over to Operations and our first power is generated.

1975 ...and as reported by the Daily News:

"POWER FROM GAS MONTHS AWAY"

The New Plymouth Power Station chief engineer, Mr John Dykes is "fairly confident" the station will be ready to receive Kapuni natural gas by mid June.

The first half of this station is the responsibility of the Natural Gas Corporation and it is here that metering and other controls and checks will be made by the corporation on the gas. Progress on this section of the receiving station has nothing to do with the power station engineering, Mr Dykes emphasised.

Once the gas has been processed by the NGC it will cross an imaginary point from which its treatment and reticulation is the power station's responsibility.

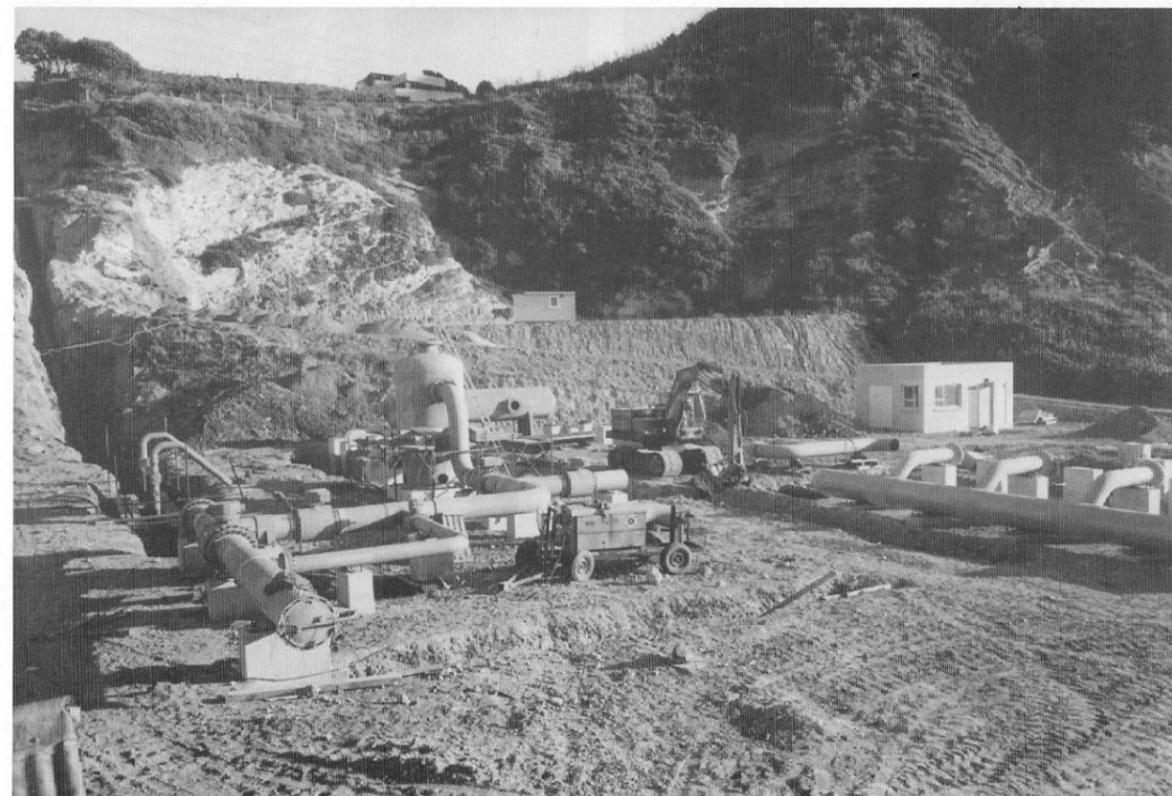
When the power station receives the gas it will be at a pressure of about 720 lb per square inch. It must first be heated so that when the pressure is dropped with a

subsequent cooling of the gas, there is no condensation. Gas pressure is then reduced to about 50 psi and fed via a 26 inch line to the boilers.

Incorporated on this line are four large relief valves which vent the gas to the atmosphere if pressure in the line reaches 100 psi. A 60 ft flare stack connected to the gas supply will be used to burn off small quantities of gas released while pressure reducing valves are in operation.

Check valves and other venting are also incorporated in the gas line so various sections can be isolated for maintenance work.

Most of the heavy pipeworks and valves needed for the gas conversion are already on the site and further smaller items are expected on three ships due in Port Taranaki over the next three weeks.



Construction of NGC compound at the station with gas pipe on left of picture coming down from road.

1976

PLANNING AT ITS BEST

Planning of work activities and operations has been and still is a key role of many staff over the years.

Many staff were enticed into the planning arena due to their skills as specialist tradespersons. Some stayed, others moved on to other roles. To attempt a complete list is difficult, but here are some that are remembered:

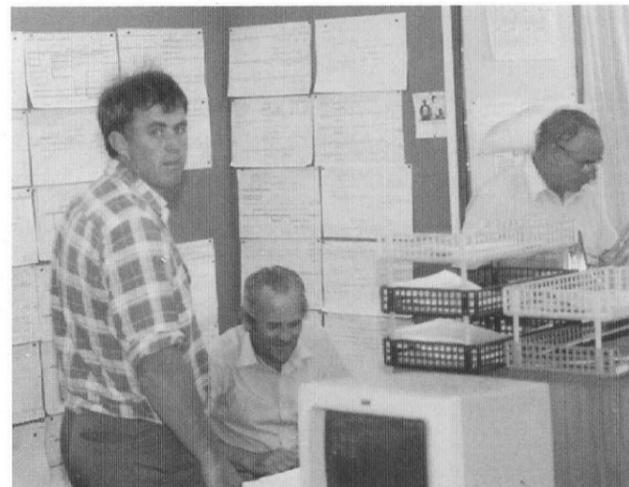
John Brian, Faye McGhee, Tony Burrell, Rex McCaffery, Keith Overton, Bruce Collier, Gary Steel, John Mew, Linley Ford, Claire Davies, Angela Hinz, Dan Waddington, Doug Reid, Brian O'Shea, Bernie Webb, Don Openshaw, Denise Lankshear, Carla Read, Neil Campbell, Adam Burt, Gaye Simpson, Peter Elston, Terry Bartlett, Grant Meir, Peter McKenzie, Bruce Raynor, Norm Stannard, Melva Rowan (Howard), Harry Sargent and Karl Madden.

In the early days there were up to 11 staff in the Planning Department and it transpired that so much planning was done that today, we only need one, due to the amount of things then planned but left over to do later...

(right): Linley Ford and Bruce Collier - Planning.



Simon Moutter discussing the project plan for battery replacement.



Don Openshaw (fitter), Doug Reid and Dan Waddington (planners).

Jugglers, conjurers and sometime planners. Team members Brian O'Shea, Tony Burrell, Neil Campbell and Bernie Webb deep in discussion with Neil indicating which unit is to be worked on!



1977

WE'RE OFFICIALLY OPENED

So after three years from the first unit being put into service we are now OFFICIAL! The station had it's ribbon-cutting ceremony and we are on our way.

OPERATORS AT WAIRAKEI TRAINING SCHOOL...

"The Motley Crew"

New Plymouth's Operating Staff came from near and far. The original 'breeding ground' Meremere Power Station, soon dried up and others were recruited to make up the numbers.

The need for skilled persons was recognised and a training school was set up at Wairakei, where over the years, hundreds of company staff were sent for various training modules.

The crew shown below are representative of the key personnel this company has placed its faith in over the last 25 years!



From left: Colin Walton, Rod Briggs, *, *, Murray Stanley, *, Dave Higgs, *, Richard Park. * = from other sites.

...and FIRST TECHNICIANS COMPLETE COURSE

The first two groups to complete New Zealand's first instrument technicians course finished their training in New Plymouth yesterday.

The 24 men were presented with their certificates by the course supervisor, Mr N. F. Beale, and the New Plymouth Power Station Superintendent, Mr B. S. Smith.

Mr Smith told the men they were 'pioneers' going through the first formally established training school in New Zealand.

The men went through a two week power plant familiarisation course, a six week full-time course at the Taranaki Polytechnic, a ten week period of alternating instruction and plant work and a nine week specialist course for their certificates.

An instrument technician looks after power plant instruments which measure pressure flows, temperature levels and automatic control systems. The original installation of Bailey (UK) instrumentation required regular maintenance and calibration to ensure reliability and accuracy were maintained.

Trained Instrument Technicians were hard to find so it became necessary to start up a training scheme to provide the necessary numbers.

The school was set up in the old project offices outside the station fence (where the WestGate offices are now). Work benches, tools, parts, and equipment of all sorts had to be purchased, "acquired", purloined, borrowed and...

Over 60 people worked their way through the school and the workshop, taking full advantage

of the mix of education in the classrooms, training in the labs and workshops, and supervised experience on the real plant. People from many backgrounds were recruited - electricians, office equipment servicemen, mechanics, aircraft industry people - a really wide range of backgrounds.

The material from the school was transferred with the building when it was re-located to the site seaward of the chimney and the substance of the equipment, tools and training aids remained there until the building was demolished.



Tony Vaughan explains the intricacies of burner management watched by Mike FitzPatrick and others. This photo was taken several years later when the Training School was relocated by chimney.

1978

LET THE GAMES BEGIN...

The station staff have always been active in the sports arena, both socially and professionally.

In the early days there was a great passion for soccer (mainly due to the number of Poms and the odd Englishman). Ranks were often drawn from the Operation, Engineering, Instrument and Mechanical Departments, with playoffs up at the Centennial Road field.

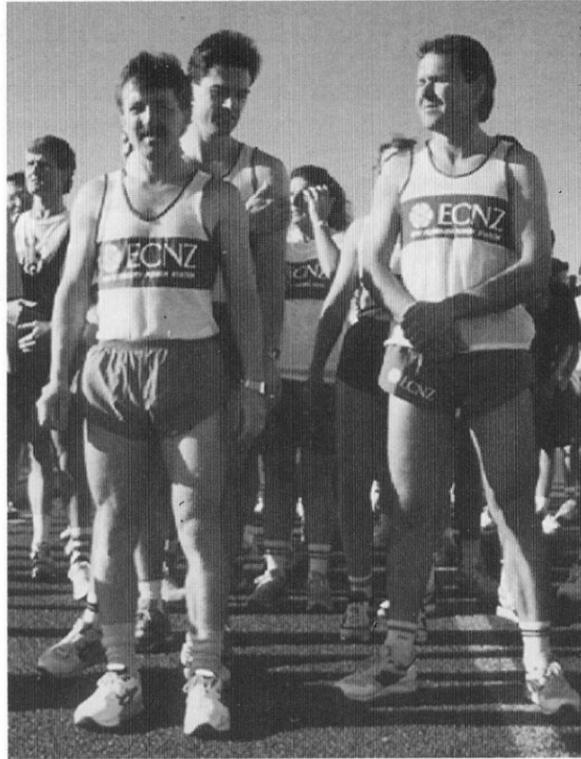
As more Kiwis came to the station, other sports were introduced and there were many an evening enjoyed in competition with other Taranaki social clubs.

On the professional side, we have seen many staff do well in kayaking, golf, running, diving, table tennis, fishing, cycling, race walking, martial arts, wind surfing, mountain biking, orienteering and trials riding.

Not to reflect too much on the aging remaining staff members, we no doubt will see future records attained in bowls, scrabble and croquet! Your turn to throw the dice...

The Powergames were an annual event enjoyed by all, and great rivalry developed between competing stations.

...the only "poms" going to Argentina in '78 (the England team failed to qualify!) with apologies to the Kiwis in the team.



Brian Hall, Tony Vaughan, Tony McCormick and Murray Bryant waiting for the start of a local Taranaki event.



Back row: Brian Russell, Eddie Long, Wayne Gardiner, Barry Meehan, Dick Winter, Warren Hullah, Les Hart, Ian Sanderson. Front row: Jim Donnelly, Colin Walton, Dave Maxwell, Phil Larkin, Alan Campbell, Peter Elston.

1979

NOT QUITE THE FISHING STORY

The station has had a close association with marine related events over the years. Many a strange creature has appeared on our doorstep, usually uninvited but none-the-less interesting.

We have had giant squid, oar fish, a poisonous snake, sunfish and sperm whale components. Not to mention the odd mussel, sea horse, sea anemone, crayfish, seal, stingray and plastic bag.

Freshly caught octopus and squid has frequented a few plates and provided fishing bait for weekend sport.

And how many truckloads of decaying fish, seaweed and plastic bags found their way to local gardens?

Various organisations have been associated with us from Auckland University with crayfish attraction phenomena, DOC with marine mammals, museums with strange species and Hapu with whale bone cleansing.

Not to mention some other government department investigating blobs of oil at our outlet weir! With an awesome marine park as our neighbour, no doubt our association will grow as time goes by.

New Plymouth Power Station Foreman, Mr Norm Turner pictured with a young ocean sunfish which was trapped in the power station's cooling water inlet screens.



OYSTER MEN EYE TARANAKI

Northland oyster fishermen were interested in fattening their stocks at a possible future shellfish farm in Taranaki before selling them.

Ms Liz Jones, biologist with the Electricity Division of the Energy Ministry in Wellington says this was one idea for a possible shellfish farm at the New Plymouth Power Station. Shellfish would live in warm water expelled from the station.

The experiments began in mid 1978 and were conducted by the Electricity Division with the help of the Ministry of Agriculture and Fisheries. However shellfish in the weir suffered from a sand build-up and initial trials were abandoned.

Further trials began in October but the growing oysters and mussels went missing over the Christmas break, presumably eaten. However Ms Jones did not expect that to happen to the shellfish she placed in the weir for the third series of experiments.

Initially 1,200 oyster spats were put in the weir together with scallops and mussels. She was hopeful of the chances of a commercial shellfish farm at the station. The shellfish grown in October flourished and the experiments showed it was worth establishing a pilot farm.

"The last lot were very good. There's plenty of food in the water for them."

One problem was that oysters grew so well in natural sea water in Northland that there was no advantage in sending them to New Plymouth.

"The growers thought the water from the station would be good for fattening the oysters though."

The shellfish grow well in the warm water, which is heated 10C above normal sea temperature in passing through the station.

...and many years later all plans to grow anything had been abandoned due to problems with temperature fluctuations and chlorine dosing.



Duncan Martin, Wayne Gardner, Captain and John McCredy - all likely suspects associated with the missing shellfish.

PSA: Station Gear Unsafe

Basic equipment at the New Plymouth Power Station was yesterday called unsafe, with low reliability.

This was claimed yesterday by the Chairman of the New Plymouth Power Station Section of the New Zealand Public Service Association, Mr A. P. Dennehy.

Mr Dennehy was replying to statements last week by a spokesman for the New Zealand Electricity Department who said there was practically no chance of another explosion at the power station. The spokesman was himself commenting on an Audit Department Report which blamed poor staff training and defective equipment for the explosion in 1976 which caused \$600,000 worth of damage.

The spokesman said staff training techniques and equipment has improved since 1976. In addition, flame monitoring equipment which had been criticised at the time of the explosion had been improved and was about to be tested. This, with some new equipment, should give better performance with less maintenance.

Testing the equipment would be the first step towards returning the station to full firing on natural gas, he said. The explosion in 1976 happened during a start-up on gas and since then the station had been operating on oil start-up, with gas switched in later.

However, Mr Dennehy labelled the statements as "ambitious to say the least. While we recognise that attempts have been made to improve the performance of the burner management, the basic equipment is inherently unsafe, with reliability of a low order," he said.

"Divisional engineers are making the same reassuring statements they made before the 1976 explosion, but their enthusiasm to use gas for start-up and at low firing rates is not shared by those of us who operate and service the equipment. Indeed, apprehension would better describe our feelings," he said.



Alan Miller, Bill Birch (MP), Perry Foreman.

Safety a Priority, vows NZED

Stringent safety precautions would be taken at the New Plymouth Power Station during the transfer to natural gas firing, a New Zealand Electricity Department spokesman said yesterday.

The senior generator engineer, Mr P. J. Hales, Wellington, says "Having done a demonstration and provided it was safe to proceed, we would move to the next boiler and then the next one. It would be the middle of next year before all the boilers had been tested," he said.

If any abnormalities showed up during testing, Mr Hales said the cause would be determined and rectified before any further demonstrations were carried out.

"I would never state that a boiler cannot have an explosion. These unfortunate incidents do occur and we can't safeguard against every eventuality."



The 1980s, always food for thought. Trials and tribulations with management and union issues, lots of modifications to make things safer, and the canteen ladies to keep up topped up!

Mary Lamb (left), Maxine Winter (till), Val Fox (front) and Betty Reid (right).

"OPERATION AT NPPS SAVES CASH AND ENERGY"

A significant contribution towards keeping costs down in the generation of electricity may be achieved by two-shifting units at large thermal power stations.

Well ahead in experience in this technically and operationally difficult exercise in New Zealand is New Plymouth Power Station.

1981 saw a significant increase in the use of natural gas during unit start-ups which has been the major contributing factor in the large savings in costs achieved by the station.

All units were designed to achieve a relatively high thermal efficiency and, as they were brought into service, they displaced higher fuel cost plant and have been used for base load duties.

During the last year New Plymouth supplied to the national grid an average of 6.6% of the national demand, reaching a maximum of just over 11%. This was just under half the power supplied by all thermal stations. Flexible operation at New Plymouth now means that power is either available to satisfy peak demand or energy may be produced in order that hydro station lake levels may be restored.

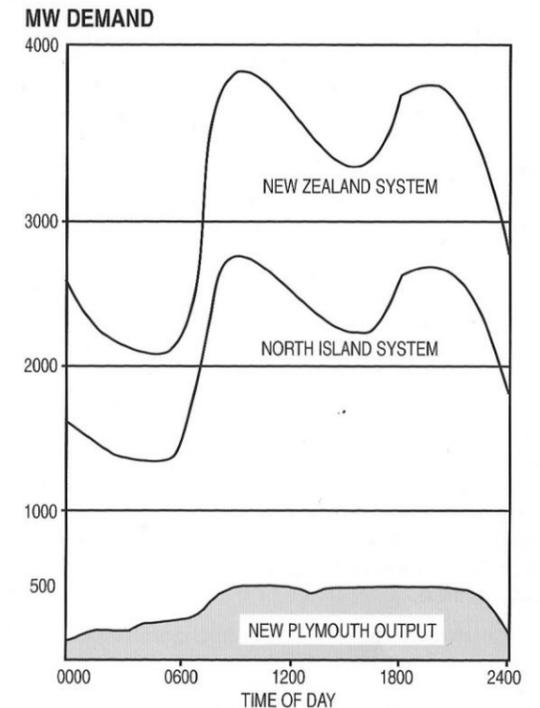
This year, and more particularly this last winter, has seen a requirement for a considerable amount of two-shifting from units at New Plymouth.

Very recently the following message was received from our System Operations Branch in Wellington:

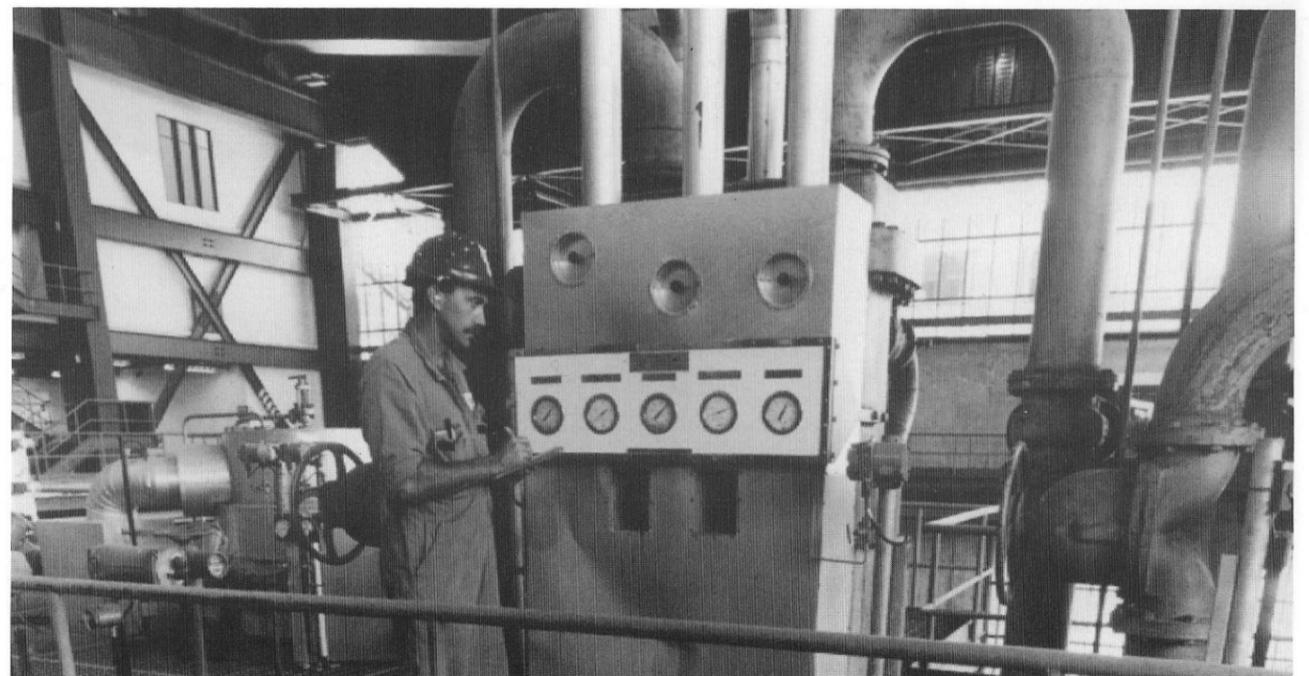
"Station staff are commended on their recent ability to respond promptly and successfully to requests for generation which have often been made at fairly short notice. This has enabled System Control to successfully call on the station to meet both morning and evening peak load periods and this has been achieved with notable regularity. The success in flexible operation using gas fuel with no significant use of expensive oil has provided a substantial cost saving in the operation of the New Zealand power system."

The availability of generating units at New Plymouth has steadily increased throughout this year, reaching 65% in July, 63% in August and 66% in September. This is our best quarterly performance for three years (1981 figures).

Our contribution to the supply of power to the New Zealand power system on the winter day of peak loading this year can be seen from the diagram.



OUTLINE SHOWING OUTPUT FROM NEW PLYMOUTH ON 5TH AUGUST THIS YEAR WHEN DEMAND FOR POWER REACHED A MAXIMUM.



Steve Linn at the workplace.

MAORI CARVING TAKING SHAPE

Since the opening of the New Plymouth Power Station in 1977, more than 16,000 people have visited it on guided tours. In view of this, Station Manager John O'Sullivan felt that some type of community art on display in the foyer would be appropriate.



Maurice Whitehead & Brian Topless work on the impressive carving.

The Division has commissioned a Maori carving to be done by people on the Work Skills Development Scheme at the Rangimarie Maori Arts and Crafts Centre, New Plymouth. It was designed by Greg Keenan, rigger on the station staff. Also assisting and playing an important part in the carving is Maurice Whitehead, our assistant storekeeper.

The log being used is a five metre long piece of Totara weighing 1½ tonnes.



Greg Keenan displays his superb craftmanship.

A SUCCESSFUL GAS PLANT MODIFICATION PROGRAMME

The equipment associated with the Station's main gas fuel supply has been fully modified. Installation of equipment commenced in September 1981, with items initially being installed with the plant still operating. Final installation occurred during the Station three week shutdown earlier this year. This extensive programme of work was completed exactly on time.

The successful supply, installation and commissioning of the equipment was a direct result of the close liaison with overseas equipment suppliers, New Zealand companies, Head Office Staff, Ministry of Works and many branches of New Plymouth's staff. Special mention should be made of Maintenance and Engineering Sections who worked extended hours over a long period of time to enable the targeted return to service date to be met.

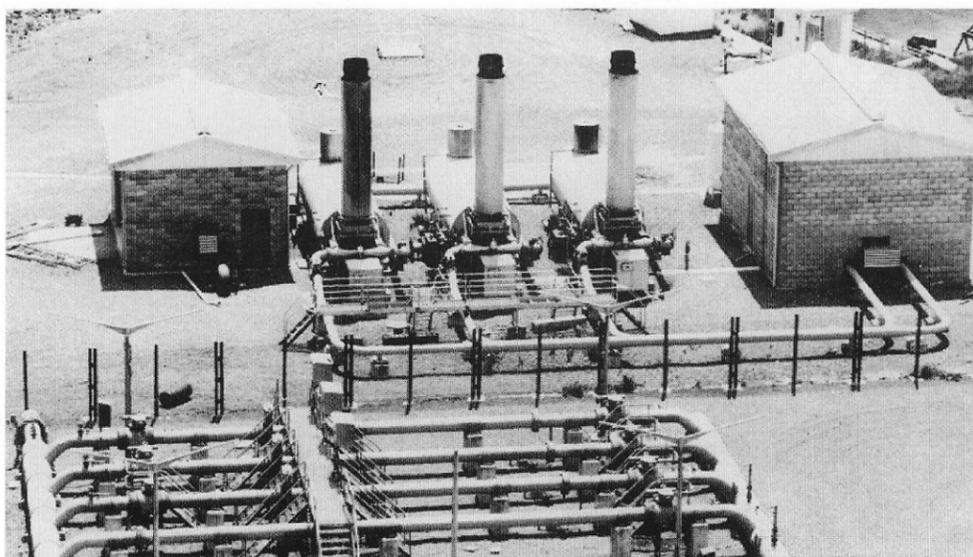
Significant design changes which occurred included:

- Installation of a single pass pressure reducing valve system designed to operate with tight pressure control at reduced noise levels.

- Fitting of a micro-processor based control system.

- Installation of a globe type, quick shut-off double block and vent valve arrangement, duplicated in order to provide bypass facilities.

- Replacement of all plug type isolating valves with ball valves, improving isolation characteristics.



This aerial view shows the 'new look' gas plant complete with buildings. NGC pipeline work is in the foreground.

- Housing of strategic equipment inside a weatherproof building, minimising corrosion problems.

After initial "teething" problems, the equipment has been extremely reliable in service. Both operating and maintenance flexibility has been improved since testing and servicing may now be carried out without the resulting loss of gas supplies to the Station.

On the experience of previous years, where total station shutdowns were organised in order to test the gas trips valves, the modifications have already achieved an approximate savings of \$170,000.

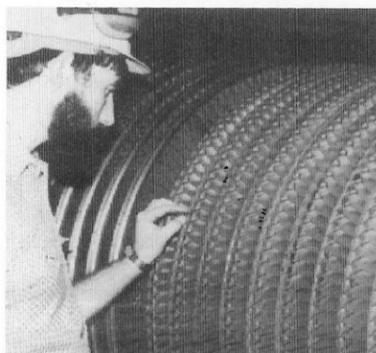
It is, therefore, believed that the modifications have proven to be a worthwhile and valuable contribution to the overall availability of New Plymouth.

A FRACTION TOO MUCH FRICTION

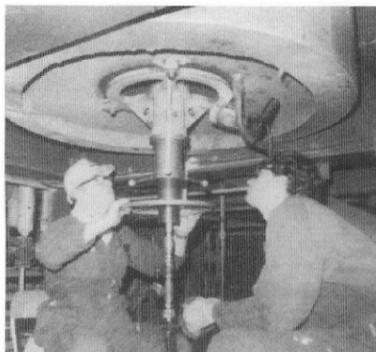
A loss of gas supplies on April 8th tripped all generating units at New Plymouth. Not a common occurrence but one which would not normally present difficulties to Station staff.

However, when Unit 1 shut down there were indications of serious problems with high vibrations and difficulties in barring the turbine.

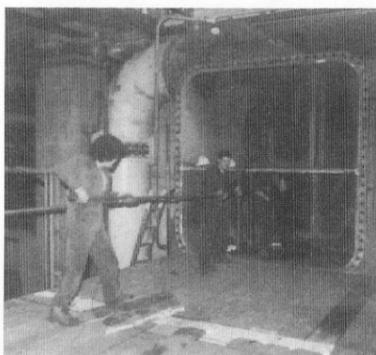
Inspection showed significant damage to the intermediate pressure (IP) stage of the turbine which ultimately required the majority of blades to be replaced and severe distortion to be rectified.



Mechanical Engineer (Turbines) Peter Doidge, examines the damage to the IP turbine rotor before removal of the blades commenced.



Mechanical Fitter Alan Acott (left) carrying out work associated with repairs to one of the high pressure heater manhole door joints.



Retubing the air extraction zone of the condenser gets underway. Tubes in this section of the condenser had need seriously affected by ammonia attack.



Mechanical Fitter Ron Brown shown fitting new arched cover bands to the LP turbine last stage blading.

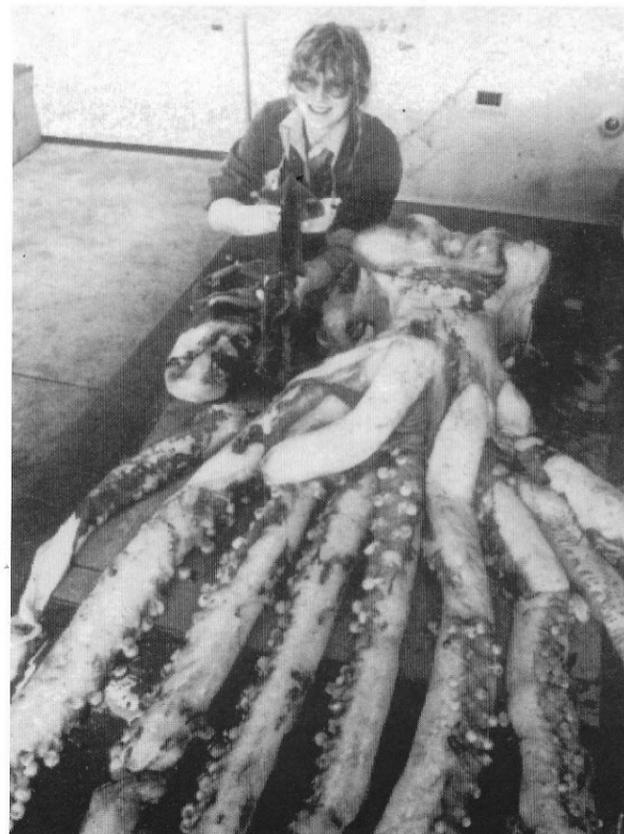
NEW PLYMOUTH'S GIANT SQUID

Fisheries Research Division staff recently had a rare opportunity to examine a giant squid discovered in the New Plymouth Power Station cooling water intake.

Remains of early specimens have not survived well, if at all, making it impossible to compare new finds with previously named species. The resulting confusion has meant that there are now up to 20 described "species" when there may in fact be as few as three types of giant squid.

This time we will not attempt to name the squid beyond its generic name *Architeuthis*. After detailed description, relevant diagnostic parts will be preserved and kept in the National Museum.

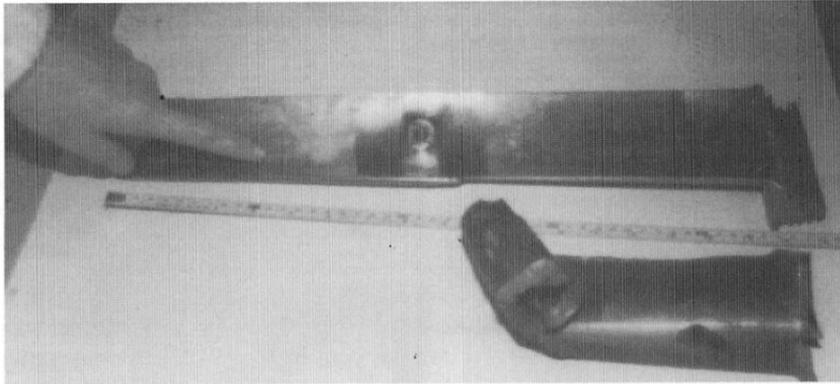
The reported original length of the present squid was 6.4 metres. However the tentacles are notably elastic and the total length measurement is normally reserved for giant squids. The mantle (body) of our specimen was little over 2 metres long and the head about 0.5 metres long. The largest squid on record was stranded on Lyall Bay, Wellington, in 1880 and measured a little under 20 metres. The largest sucker measured on the present specimen was 23mm. These are relatively small compared with reports for similar sized *Architeuthis* overseas. The largest recorded sucker diameter has been 52mm on the club of the tentacles (missing in our specimen).



Ellen Forch compares an arrow squid with the giant squid's head and shoulders.

UNIT ONE - Something which went bump in the night

Late in the night of 14th August 1984, Operations staff were performing physical overspeed tests on Unit 1 when at 3200 rpm there was a bang and the unit started to vibrate severely. The unit was immediately tripped and high condensate conductivity was observed indicating condenser tube leaks. All the signs were that something had come adrift from the LP spindle and ruptured some condenser tubes, and this was quickly confirmed by the recovery of blade debris from the condenser.



A blade sample shown alongside failed 5th stage blade.

It was found that one blade of the 5th row alternator end had fractured just above the root and pieces of that had got past the 6th row to damage the condenser whilst the bulk of the blade was trapped by the following stationary blades.

At the time Unit 2 and Unit 5 were both out of service and a rapid return to service was highly desirable. The first proposal was simply to cut off the diagonally opposite blade for balance, sort out the lacing wire and then run, but a careful NDT of the remaining blades soon eliminated that idea. Two other blades were found to have small cracks of a similar type. Hence it was decided that the whole row had to be replaced. Replacement of the blades would take months at best but we could run without them. NEI Parsons point out that running without the 5th row would damage the 6th row by buffeting so they also had to come out. Removal of two rows of blades from one end of the LP would upset the thrust on the shaft and so the 5th and 6th rows had to be removed from the Governor end as well!

The machine was restored and run with a load limit of 95MW which was imposed to limit the stresses in the 4th stage LP row of blades to design stresses even though at full boiler pressure the machine could generate more load (for a while).

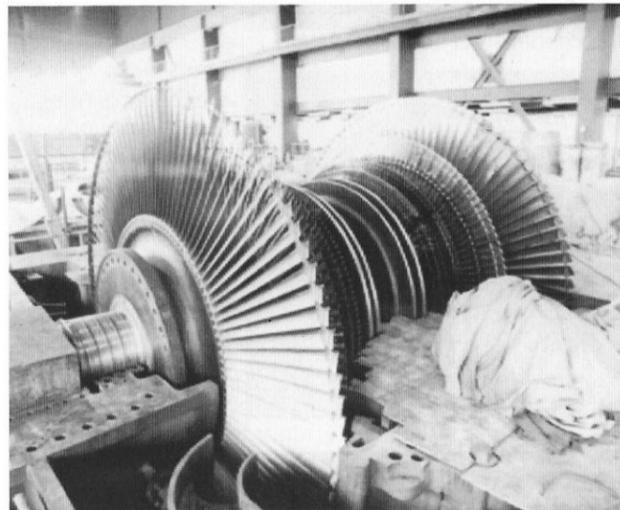
COLD START TRIALS

In 1976 Unit 4 suffered a furnace explosion when burning gas during commissioning. One result of this was strict controls on gas firing being imposed by the Marine Division of the Ministry of Transport. Various recommendations were made as a result of the enquiry including burner management changes and furnace viewing TV.



Richard Turnhout during a commissioning phase.

The cause of the failures in both 1976 and 1984 was the high cycle fatigue of a crack originating at machining marks at the locking strip groove. NEI Parsons current design does not need a locking strip groove and new blades will be of this type.



LP turbine before blades removed.

Since that time, modifications have been made and as the units have been brought up to standard, the Marine Division have allowed us to do trials to prove each relaxation in firing conditions.

Initially all firing under 60MW (including of course all starts) had to be on oil which was expensive. The improvements in burners and burner management allowed hot trials to be done and finally the last unit was cleared to do hot starts on gas in 1982 which with out two-shifting resulted in a big saving in oil.

The advent of furnace viewing TV allowed the final phase of trials, cold starting on gas. The Marine Division realises that cold starts are not common or easy to arrange so they have allowed the "trials" to be in fact routine cold starts monitored by Station staff and written up as evidence of adequate performance. The number of trials required on each unit depends on how well the units performed but about four good starts will be sufficient to gain clearance.

THE TIMES THEY ARE A' CHANGING

The year of 1985 will long be remembered as a time when significant developments affected the electricity supply industry in New Zealand. In fact there were times when it was clear that there was nothing permanent except change.

Important features of the change and challenge in the year's activities included:

- an ever growing indication that the Electricity Division will become a Corporation. Steps have already been taken to set up an Advisory Board under the Chairmanship of the Secretary of Energy;
- continued progress in the implementation of a major reorganisation within the Division although uncertainty and a certain amount of "fine tuning" still leave much work to be undertaken;
- the introduction of corporate planning procedures into the Division's activities;
- considerable activity on the industrial scene with an important range of issues assuming prominence;
- valuable progress was made in the implementation of the restructuring of New Plymouth affecting both the Maintenance and Operations departments.

"If the art of progress is to preserve order amid change and to preserve change amid order..." then Station Manager John O'Sullivan is full of praise for the staff at New Plymouth Power Station.

He says that while progress is a nice word, change has to be seen as its motivator and change has its opponents.

"We here at New Plymouth have had a difficult year under any circumstances with other peripheral activities adding to the challenge faced by our staff."

The station faced another huge task of achieving maximum plant availability from all five of its generating units when the major overhaul outage on Unit 5 turned into a significant turbine repair exercise. Further milestones were reached when a further two units, 3 and 4, passed the tenth anniversaries of their initial synchronisation and

Unit 2 has now exceeded 50,000 service hours since it was first commissioned. An important stage of the Station's life is now being reached which will further emphasise the manner in which the management and staff approach this "middle age" of the plant and equipment.

With other major consumers of natural gas now operating large process industries, the importance of the Station's standby fuel oil system has increased. Previous Station policy was to minimise oil usage to an absolute minimum but now changing times mean that the fuel system must be available at very short notice.

Changing consumer patterns also saw the maximum power demand slightly down on the high record peak of last year. This year the New Zealand system peak demand occurred on 24th June which was much earlier than the July dates of previous years.

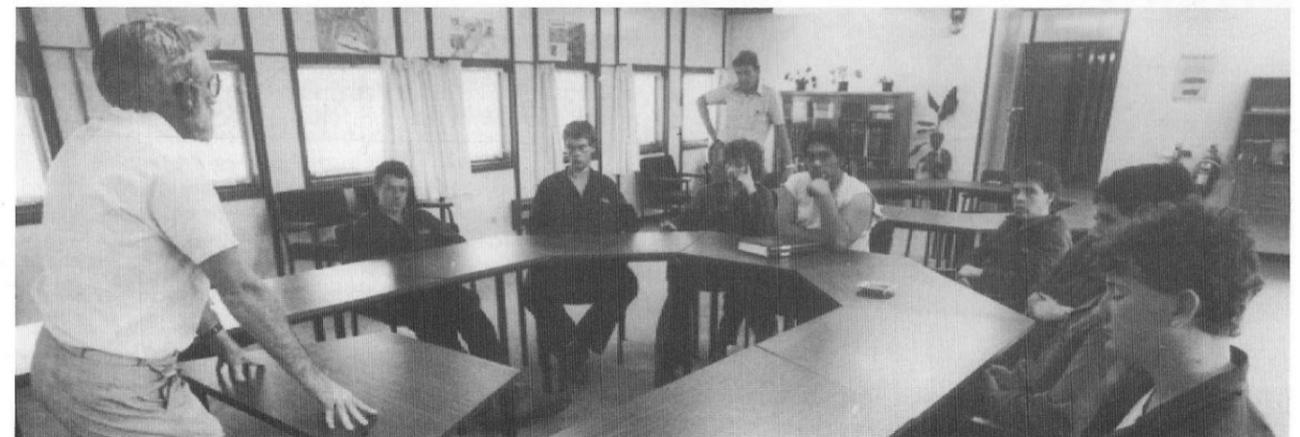
Amid the change the Station has struggled to achieve an improvement in availability in the face of the extensive programme for Unit 5 and the reduction in output from Unit 1 due to the removal of four rows of LP turbine blades.

The plant limitations have not restrained the optimism that we have yet another year's experience from which to learn and adapt new approaches. The significant increase in two-shift operation further added to the demands on staff.



'The good news is that we've got an exciting management team in place. The bad news is we're not it.'

...and hopes that training will ease a skills shortage.



Station Training Officer, Neil Gronert, shown talking to a group of apprentices with Assistant Mechanical Maintenance Superintendent, Fred Way, looking on.

ACCOMMODATION SHUFFLE

In 1975 the Ministry of Works handed over a magnificent concrete building that was especially built for us and intended to last 100 years (at least). Within five years it was full and after 10 years it was crowded.

Improvements such as the roof garden had been put in, but it was not until 1986 that things changed.

The biggest change was the extra floor on top of the admin block that housed the mechanical and electrical technical staff.

There were lots of other changes in the wake of the "big shift" in June.

Performance section moved to permanent quarters in the old downstairs cafe area where they had room for all their computers and the expansion into the field of vibration diagnostics.

IMD Engineering have been able to move out of the windowless store room into the old performance area.

The entrance to the fire pump house was converted into a proper B.A. room with space to store and kit up with the sets. This released space in the Occupational Health Nurses' room for more appropriate use.

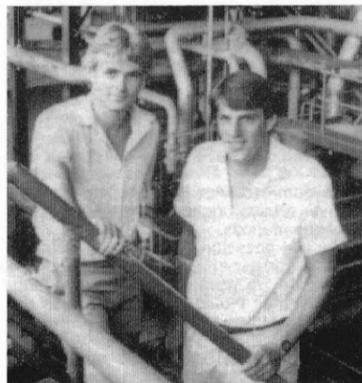
Ops were not left out and they had much improved offices for the Plant Super up in the control room.

The rooms that were used by the Ops cleaning gang were being converted into toilets to save the "long walk" and also provide dedicated asbestos decontamination facilities. The cleaning gang were assigned temporary cabins.

Other changes have occurred in many areas and still others came, including a rearrangement of walls in admin to better use the space available, for despite all these changes and the temporary appearance of some empty areas, there is no space to waste.

TECHNICAL PAPER EARNS PRESTIGIOUS AWARD

The Electrical Maintenance Superintendent, Gary Campbell and Assistant Engineer, Simon Mouter, won the Fulton Downer Gold Medal following presentation of a technical paper at the 1986 Institute of Professional Engineers Conference in Auckland.



Simon Mouter & Gary Campbell.



Other improvements in 1986 included:

- new sandblasting and painting booths;
- quality circle meeting place converted from old canteen kitchen;
- transportable office for the Turbine Supervisor on Turbine Operating Floor for use during survey periods;
- new sheetmetal and ladders workshop;
- changes to the chemical laboratory entrance;
- refurbishment of the EMD workshop and access to it.

A recurring theme seen many times since this article was written!

...and since then we now see all staff except Projects, IT and Chem Lab staff on the ground floor. The only ones not changed in all these 28 years has been the Chem Lab with even Operations staff now occupying ground floor chairs from time to time.

The paper entitled 'Prevention of Homopolar Generation in Steam Turbines by the Reduction of Residual Magnetism' was based on investigative and practical work involved in curing a problem Unit 5 in 1984 that led to the HP turbine rotor rubbing.

The Fulton Downer Gold Medal is the Institute's top award which was established following a bequest from J. E. Fulton and added to by a donation from A. F. Downer. The award provides a gold medal, certificate and money for technical books. Only two other divisional staff have won the award since it was established in 1929.

They went on to their next technical paper for the IPENZ Conference in 1988 in New Plymouth. The conference there is 'The Power of Engineering' which takes account of the centenary of power generation in New Zealand.

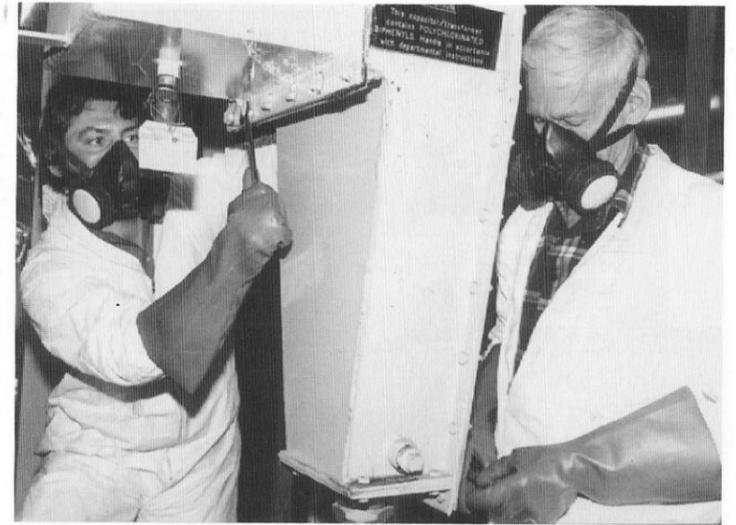
REMOVAL OF PCB TRANSFORMERS FROM NPPS

As part of its original plant, New Plymouth Power Station has eight PCB filled 6.6Kv to 400V transformers. Their original selection in the early 1970s was partly based on the non-flammable nature of Polychlorinated Biphenyls. However, in recent years evidence has accumulated that PCB's are an environmental hazard. If leaked into a waterway they do not break down through biological action. They accumulate in water life and pass up the food chain to higher animals, such as humans.

"If subjected to high temperatures, PCBs will emit dioxin. This poisonous chemical is known to cause many severe problems in humans, including birth defects," explained Assistant Engineer Rob Jamieson.

It was therefore decided that upon weight of evidence gathered, Electricorp should remove from its sites all PCB filled equipment. The eight transformers at New Plymouth made up a major proportion of Electricorp's PCB stock.

Six of the eight transformers have been removed from service and the majority of PCB removed from the station. These transformers are being replaced with modern dry type transformers.



Electrician Con Anagnostou (left) and handyman Sid Balson removing oil from bottom of transformer.

"The PCB oil and transformers are being shipped to Great Britain for disposal. There they are incinerated in a specially constructed kiln which is designed to prevent the production of dioxin," said Mr Jamieson.

OIL INTERCEPTOR TANKS FOR NPPS

In December 1986, NPPS discharged a large volume of heavy oil in the Marine Park. This oil spill was due to the rupture of the steam heating coil in storage tank No. 3.

Management then requested a complete review of possible areas that might in the future cause similar accidents. One area is the unit lubricating oil coolers.

Each unit's lubricating oil system is cooled by two sea water heat exchangers (flow rate 69 l/s) situated on the turbine floor underneath the unit lubricating oil storage tank.

"The problem was that if a tube in the cooler were to fail then the possible loss of 2500l of lubricating oil into the cooling sea water would result before any alarms are raised," explained Assistant Engineer, Julian Morris.

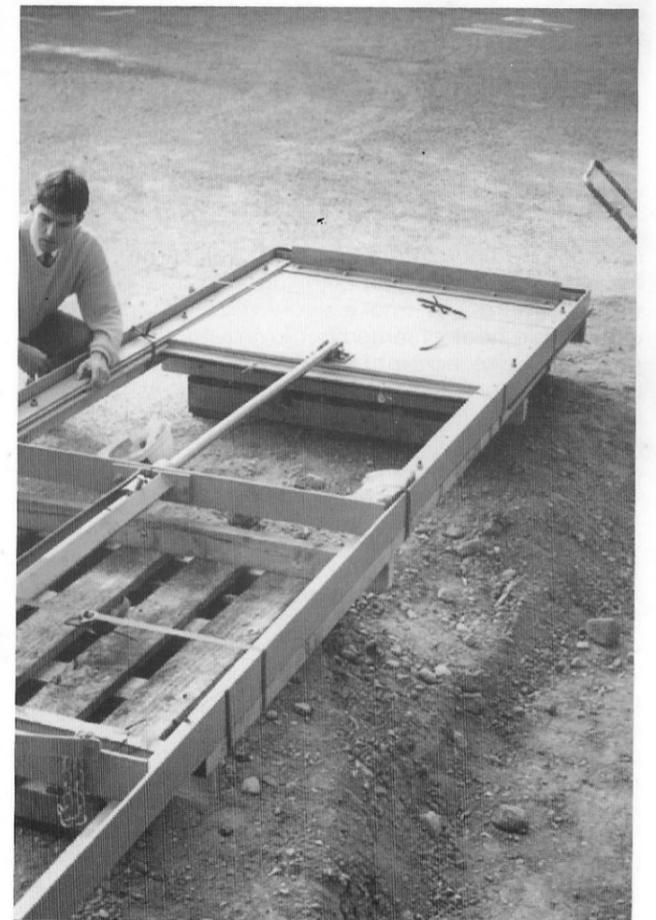
A space-efficient separation system using Tilted Plate Separator (TPS) packs was selected.

"The use of TPS packs was considered the most practicable to meet the constraints of space and cost," said Mr Morris.

The TPS packs sit inside a rectangular steel tank similar to that in Fig. 1. The packs consist of a stainless steel framework fitted with a multitude of filtered plastic corrugated sheets down which the sea water must flow.

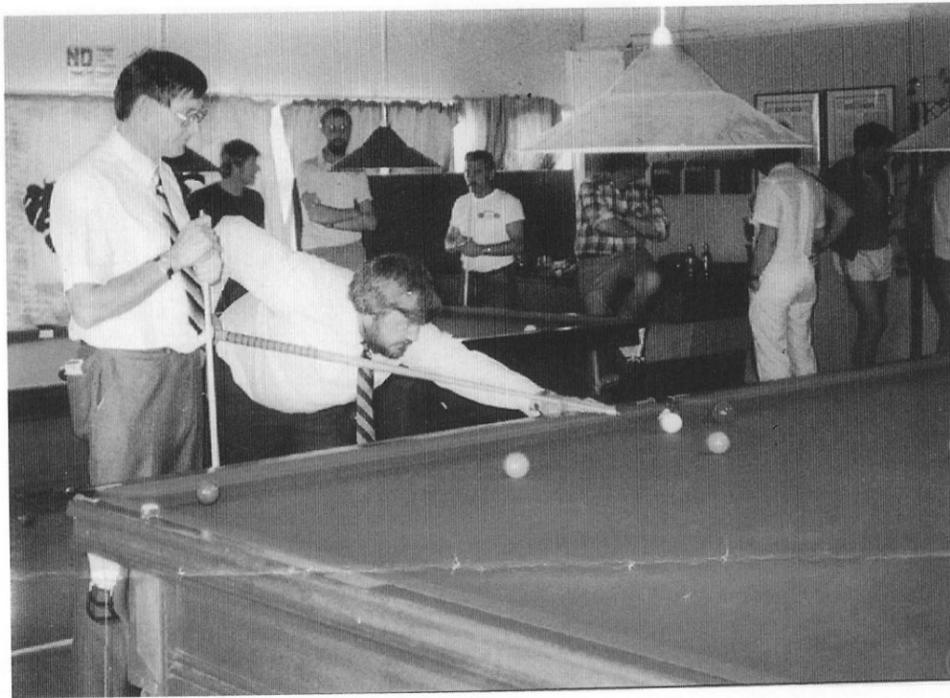
The design on the TPS pack ensures:

- a large flow surface area/volume ratio;
- low sea water flow rate through each pair of parallel sheets;
- with low flow rates, the oil (being lighter than water) will float to the surface where it is automatically skimmed off; and
- a simple cost-effective engineering solution.



Tony McCormick inspects new outfall chamber safety valve as part of oil containment system.

SOCIAL CLUB IS BIG BUSINESS



Chairman of the New Plymouth Power Station's Social Club, Alton Gibbs, on one of the club's three snooker tables with Secretary, Ian Carter watching every move.

TWILIGHTING MIKE

Regularly once per week (and sometimes more often - unexpectedly) New Plymouth Power Station's Engineering Officer (Performance) Mike Payne went to his "other job" - voluntarily.

Mike was a volunteer fireman with the Oakura Volunteer Fire Brigade and as such, was on call 24 hours a day, 7 days a week. "As soon as the siren sounds - we're up and off," he says.

His first fire after he joined was a big one - Newton King's building in New Plymouth where the new Centre City Shopping Complex now stands. "There was smoke everywhere and unbearable heat - I remember laying on the ground as we had not been issued with breathing apparatus - and it was the only way I could assist without choking. We had been instructed to knock a wall down, and knock it down we did, except that someone thought I was a victim and was dead."

Mike had undertaken a number of courses to compliment his training as a volunteer fireman, such as training on pump operations and breathing apparatus etc. Usually lasting two weekends, firemen are expected to attend at least two of these each year, in addition to their normal practise sessions. Firefighting and dress uniforms are provided, the latter being worn for official functions. Being close to New Plymouth, Mike was able to attend courses at Brigade Headquarters in the city. As a holder of a heavy traffic license, Mike was one of the 16 member brigade's three drivers. "Our clothing was kept adjacent to the engine in readiness," he explains.



Mike Payne, Engineering Officer NPPS and Fireman.

Mike was awarded a Five Year Service Medal recently, and while accidents, fires and disasters are not welcome, it is encouraging to know that men and women like Mike Payne exist, who, at the first sign of trouble, are on the spot to help.

Mike now works at Clyde.

New Plymouth Power Station Managers and Production Managers

Station Managers

Brian Smith	1974 - 1980
John O'Sullivan	1980 - 1986
Trevor Morgan	1986 - 1987
Gary Campbell	1987 - 1991
Simon Moutter	1991 - 1992 (March)

The key management "members club" has had a fair share of influencing and making a mark on the station over the years. Positions and titles changed over the times along with company names and logos. The older station staff have now outlasted some of these managers!

Production Managers

Fred Way	January 1992
Kevin Cruickshank	February 1992 - March 1992
Graham Quinn	April 1992
Andy Sommerville	April 1992 - April 1993
Kevin Cruickshank	April 1993 - August 1996

Generation Managers

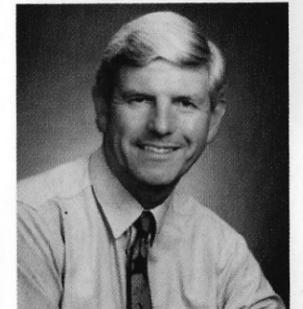
John O'Sullivan	1996 - 1998
David Hill	January 1998 - October 1998
Gary Robinson (acting)	October 1998 - December 1998
Tom Young	December 1998 - Current



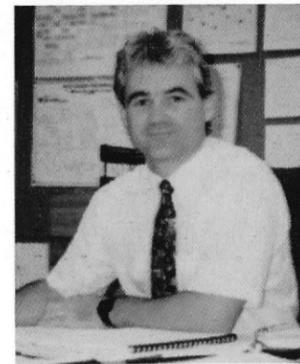
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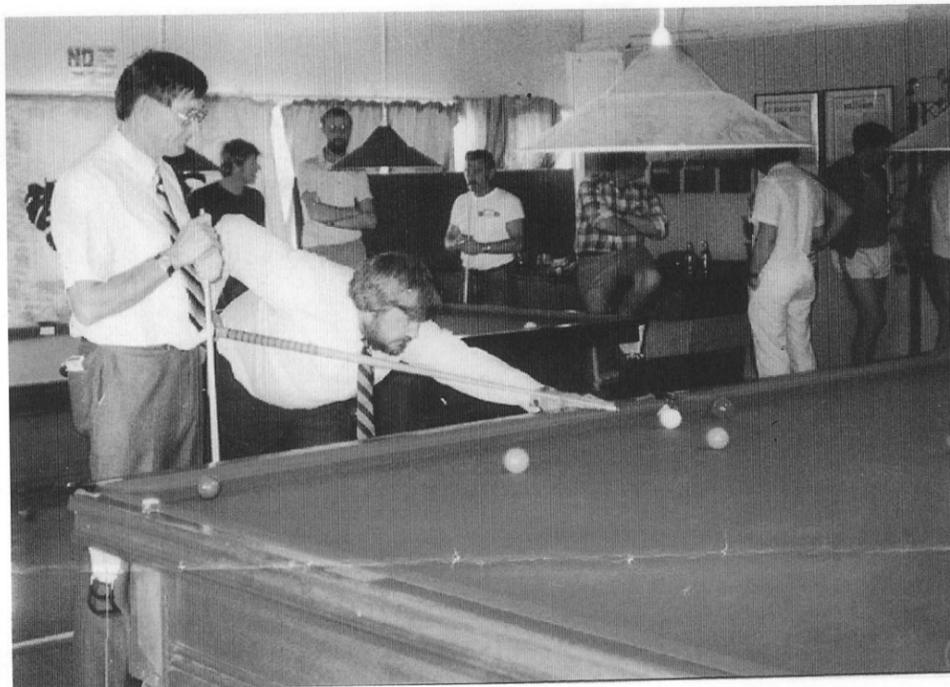


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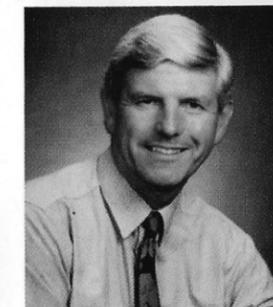
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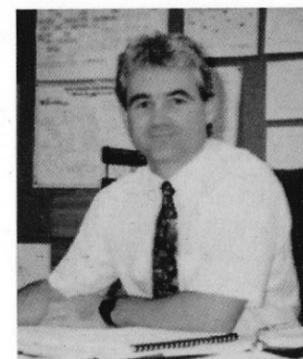
Brian Smith



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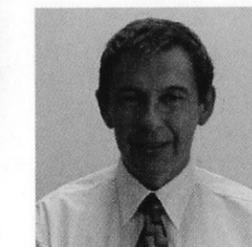
Fred Way



Kevin Cruickshank

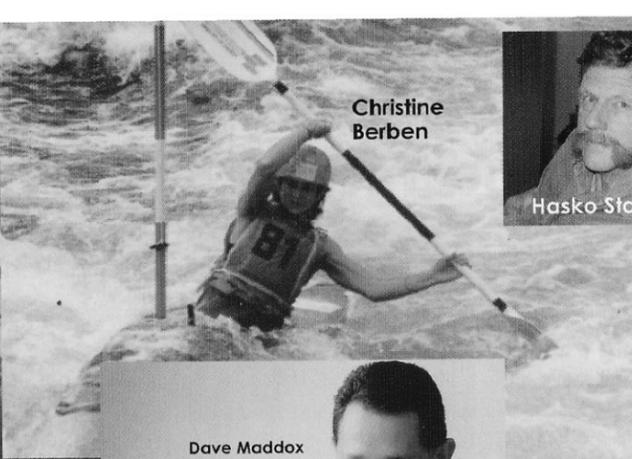


David Hill



Tom Young

From left: Mike Leighton, John Scalan, Paul Floyd, Dave Palmer, Terry Martin, Rob Nicol, Darryl Galvin, Jim Davison, Murray Bryant, Ray Fitness.



Christine Berben



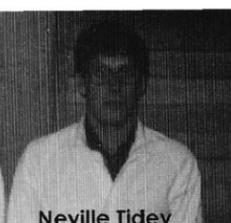
Hasko Starrenburg



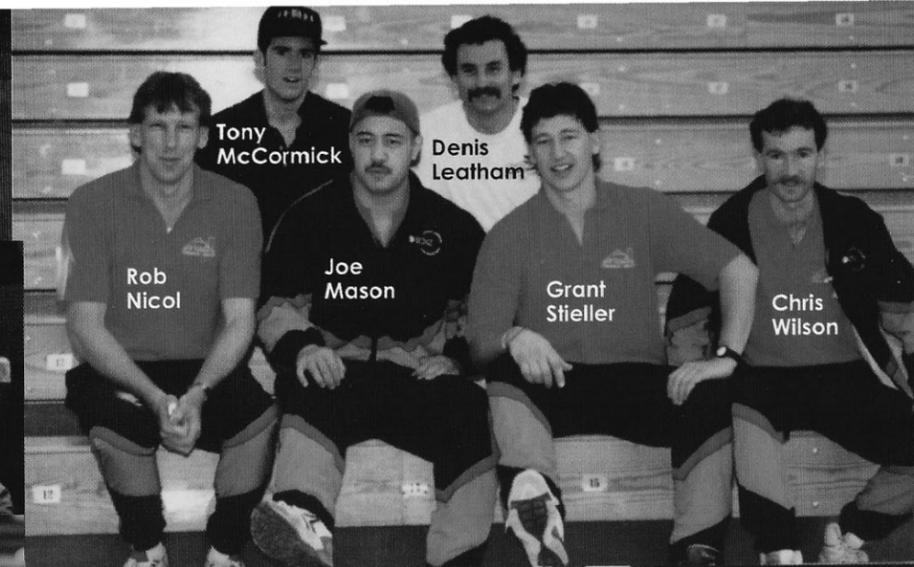
Steve Fisher



Martin Illing



Neville Tidey



Tony McCormick

Denis Leatham

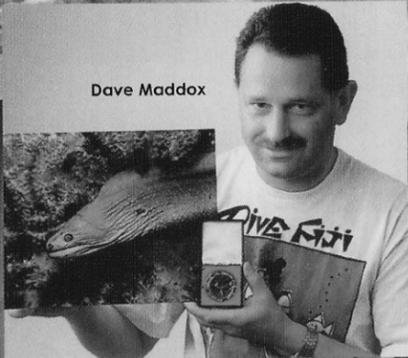
Rob Nicol

Joe Mason

Grant Stieller

Chris Wilson

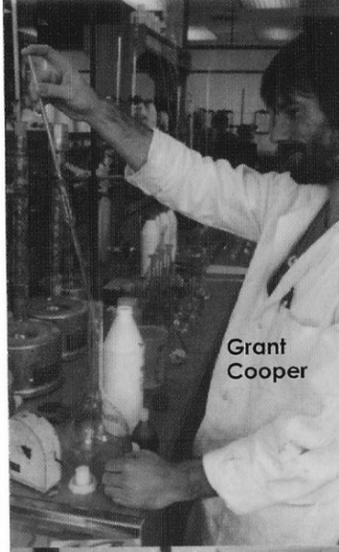
Dave Maddox



Andy Batchelor

Alan Jonker

David Jull



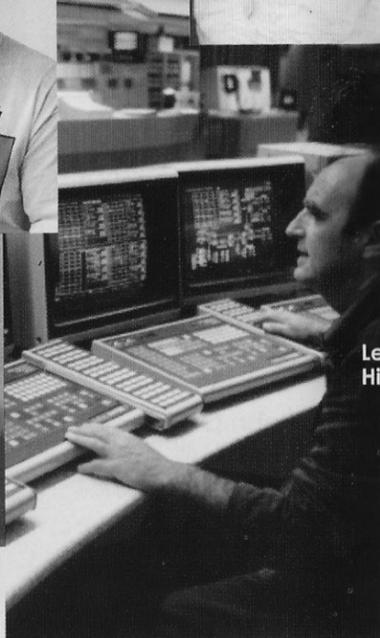
Grant Cooper



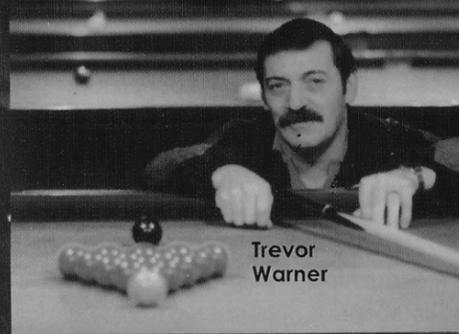
Irene Chapman



Ron Burton



Les Hill



Trevor Warner



Chris Little



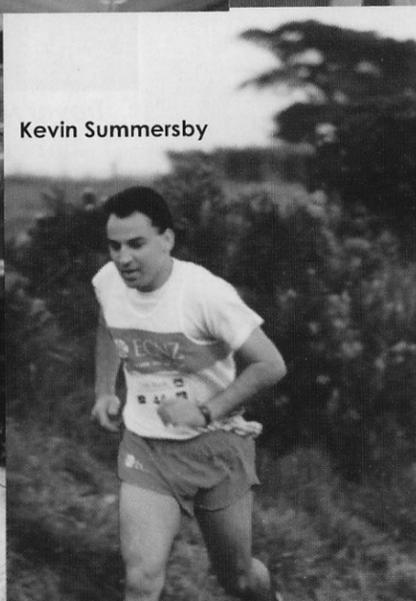
Dave Fennell

Errol Thompson

Gary Campbell



Vihn Nguyen



Kevin Summersby

From left: Dave Palmer, Murray Bryant, Brian Hall, Gutfi Gudjonsson, Elwyn Jones, Keith Webb, Dennis Gouch, Jacoba Johnson, Evan Hoskins, Chris Clarke, Joelle Openshaw, Vince Holub.

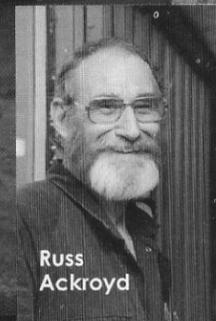


Rear from left: Brian Anderson, Raymond Johns, Ron Brown, Denis Leatham, Andy Wykes.

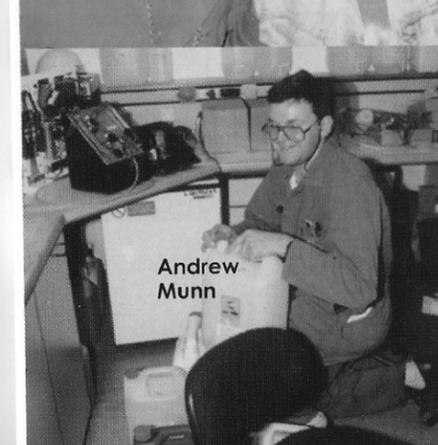
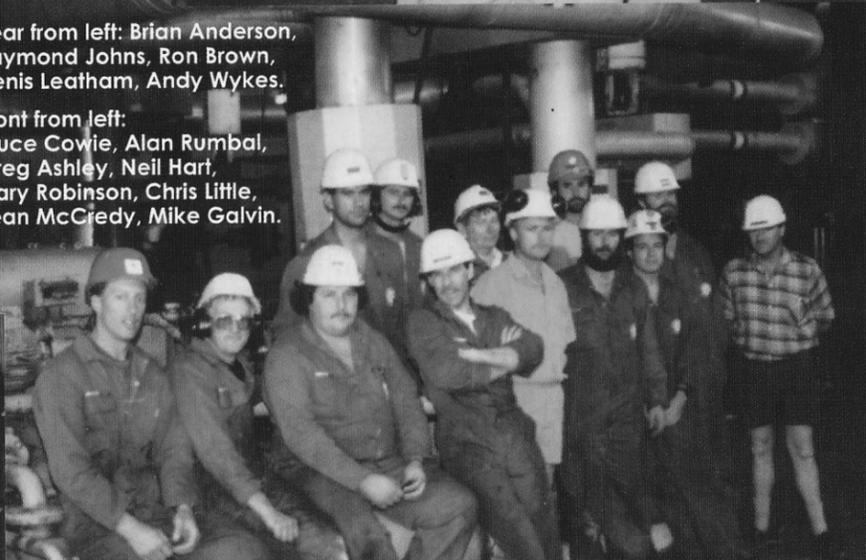
Front from left: Bruce Cowie, Alan Rumbal, Greg Ashley, Neil Hart, Gary Robinson, Chris Little, Sean McCleedy, Mike Galvin.



Dave Moore & John Winter.



Russ Ackroyd



Andrew Munn



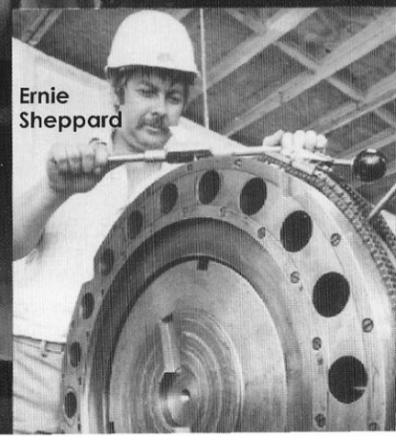
From left: Andy Sommerville, Bill Radford, Peter Hewett, Kevin Turner, Dave Fennell.



From left: Mike Owen, Grant Stieller, Kevin Cruickshank.



From left: Rachel Cowie, Gaylene Findlay, Marnie Jury.



Ernie Sheppard