

Rex Webb of Wilkins and Davies M.C.E. the joint venture building the 105-metre high natural draught cooling tower, the first such structure in New Zealand which, equivalent to an office block 30 storeys high, will dominate the surrounding countryside.

Rex is holding a 100:1 scale balsa wood model of the tower, which will sit in the large circular excavation in the background.

As its name implies, the tower will process the station's circulating cooling water, instead of it being discharged into the Waikato River.

The turbines will be driven by a mixture of steam delivered by pipeline from separation plants, which are themselves each fed by an average of five bores sunk into the ground.

The separators will remove the hot water, which will be at about 150 deg C, and reinject it into bores identified for this purpose. About 1800 tonnes per hour will go back into the field.

A massive cooling tower, equivalent to a building about 30 storeys high, will be a feature of the station and will be the first time such a structure has been used in New Zealand. A common sight in thermal and nuclear power stations overseas, the tower will be 70 metres across at the base.

The tower will be used to cool the steam after it has passed through the turbines, condensing the steam into water at a rate of up to 700 tonnes an hour. The natural draught tower will remove about 420 megawatts an hour of heat from the water, which will be circulated by large pumps at a rate of up to 20,000 tonnes each hour.

The gas content of the steam is another problem. Its potentially damaging hydrogen sulphide will be discharged into the cooling tower and then dispersed harmlessly into the atmosphere.

Yet another remarkable feature of the station is that it is planned to be an unmanned "satellite" station of Wairakei, to which electricity will actually be sent for onward distribution through the national grid.

Fail-safe shut down procedures in the event of any failure will be incorporated into the \$280 million plant.

As well as leasing their land, the Ngati Tahu people hope the station will benefit them in other ways, by attracting some of their people back from other areas. They are to build further houses on their land, and there are prospects of a horticultural industry there, using steam-heated greenhouses.

Ohaaki may well prove to be the perfect energy source — clean, non-pollutant, and a development that offers more than just power for far-away places.



Energy Ministry responds to Maori call

The Ministry of Energy is working with Maori people of the Waikato to plan best use of land and water resources in the region.

This follows the construction of the Huntly Power Station in recent years and Maori dissatisfaction with its effect on the community.

The Ministry of Energy had its first meeting with the Maori community at Waahi Marae, Huntly in 1983. At this hui the need for a Maori perspective on the development of coal-fired power stations in the Waikato was accepted and a report was commissioned.

After a series of meetings between ministry officials and tribal representatives, it became obvious that not only would the brief have to be expanded, but also a much larger research team would have to be involved to meet the agreed deadline.

This team was assembled from four sources: The Maori community, staff of the Waikato Museum of Art and His-

tory, technical consultants from the private sector and staff from the Centre for Maori Studies and Research at the University of Waikato.

The brief for the study was firstly to outline the reasons for a Maori (people) perspective and secondly the justification for a Tainui (tribal) perspective. Issues to be covered included land, education, housing, employment, land confiscation (raupatu), the Maori King movement (Kīngitanga), the Waikato River and its importance to the Tainui people (te awa o Waikato) and tribal unity (kotahitanga).

The resulting report concluded with 11 recommendations on these issues, and these were discussed at another hui, held last year at the Waahi Marae. The purpose of the hui was to explore ways of incorporating Maori views into the energy development process. Besides several Tainui elders and local authority people, the hui was also attended by State Coal Mines, and representatives of the Ministry of Energy and