

XII-2 Recommendation

This renovation project is to be implemented at the existing cement plant. Therefore in order to implement this renovation satisfactorily, it is necessary to make a detailed plan and sufficient preparation.

It is recommended that immediate attention should be paid to the following items.

(1) Capital requirement

This renovation requires considerable amount of capital requirement. In this report this amount is to be mainly supplied by long term loan.

It is, therefore, desirable that the loan is prepared in early stage on as favourable conditions as possible.

(2) Construction cost of the renovation

(i) Plant facilities

Since the renovation is fairly big works including the conversion to dry process NSP kiln system, it is necessary to take the firm estimate of the renovation cost from a reliable supplier in early stage to consolidate the financing plan of the renovation.

(ii) Conversion of electric power source

For this conversion the installation of a power transmission line is required.

The construction cost of the transmission line largely depends on the condition of installation route.

It is recommended that the site survey is conducted beforehand to estimate firm budget.

(3) Conversion of electric power source

In case of the conversion of electric power source, the conference among the Governmental offices concerned, MERALCO and NPC is required.

It is recommended to hold such conference in early stage.

(4) Appointment of technical consultant

In order to execute the renovation project favourably, it is necessary to get the advice of the foreign technical consultants who are well experienced in the consulting services of the construction and renovation of cement plant.

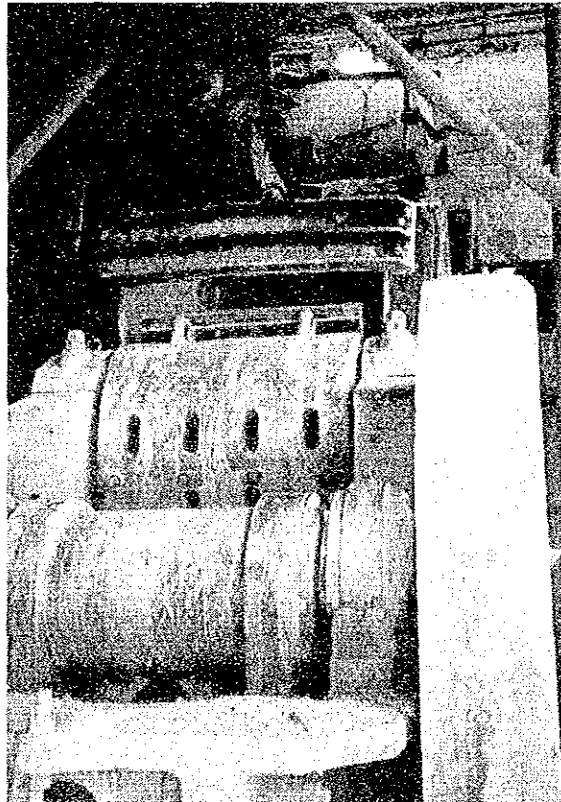
(5) Training of operation staff

As stated in IX-6 through the renovation, the process is converted to dry process with NSP system.

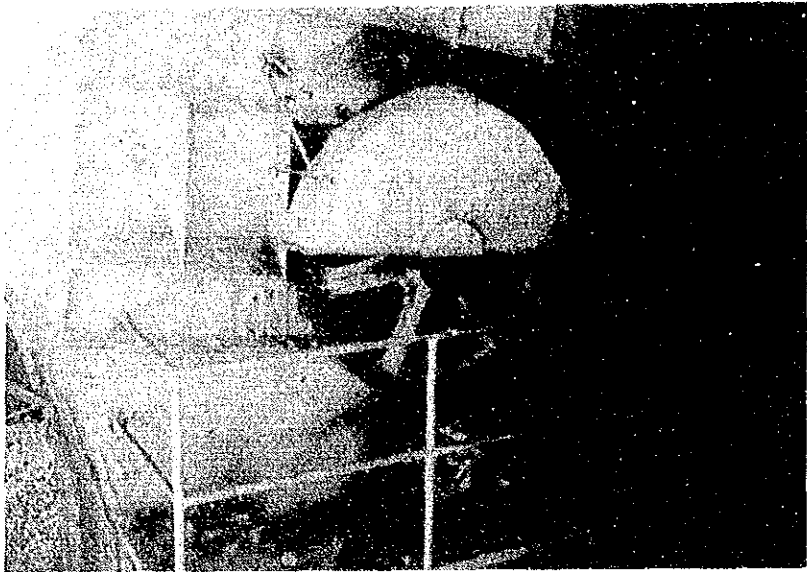
It is necessary to prepare the operation manual and conduct the training of operation staff beforehand.



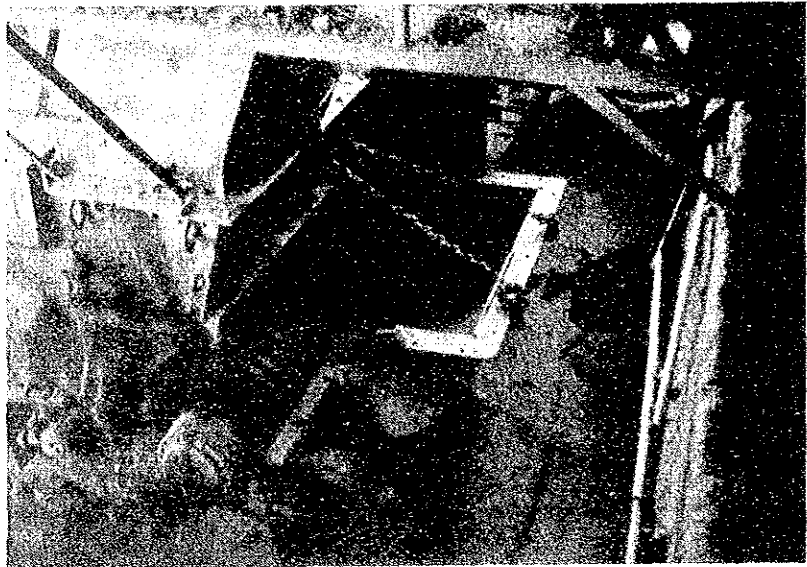
1. ICC cement plant



2. Raw material crushing department
Jaw crusher



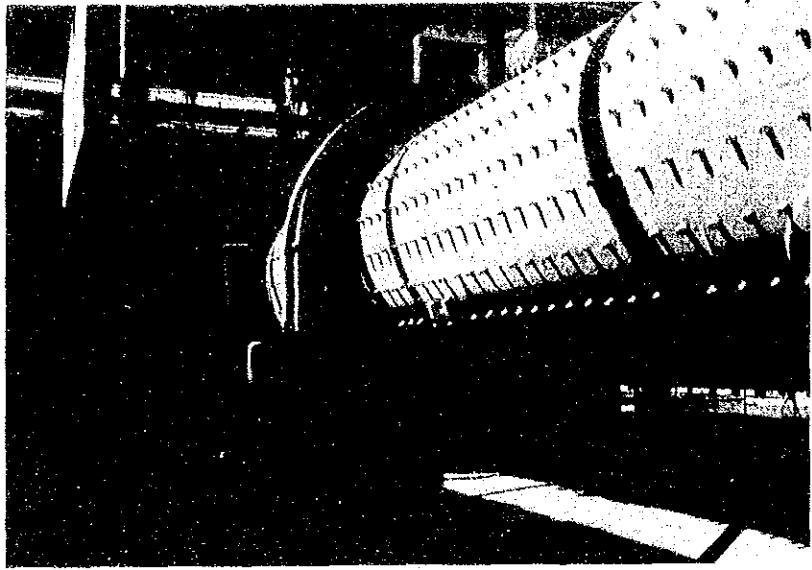
3. Raw material crushing department
Apron feeder for limestone receiving



4. Raw material crushing department
Hammer crusher for silica



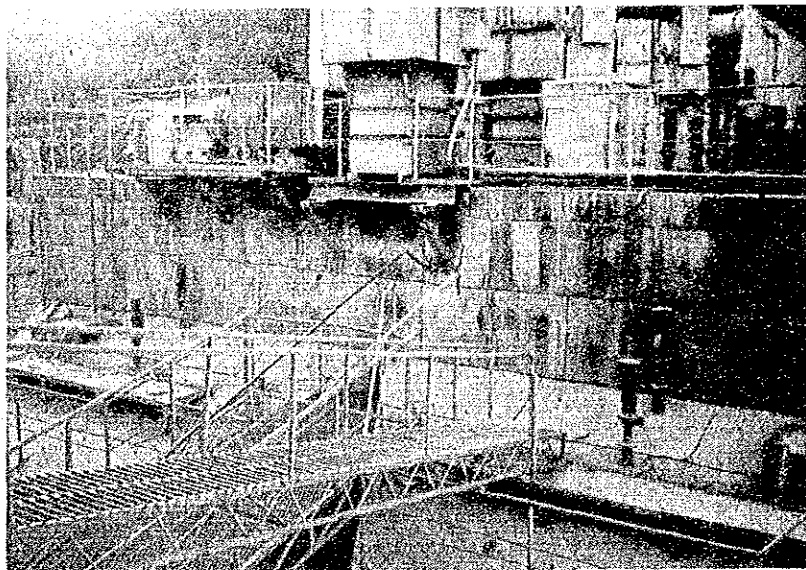
5. Raw material grinding department
Limestone weighing feeder



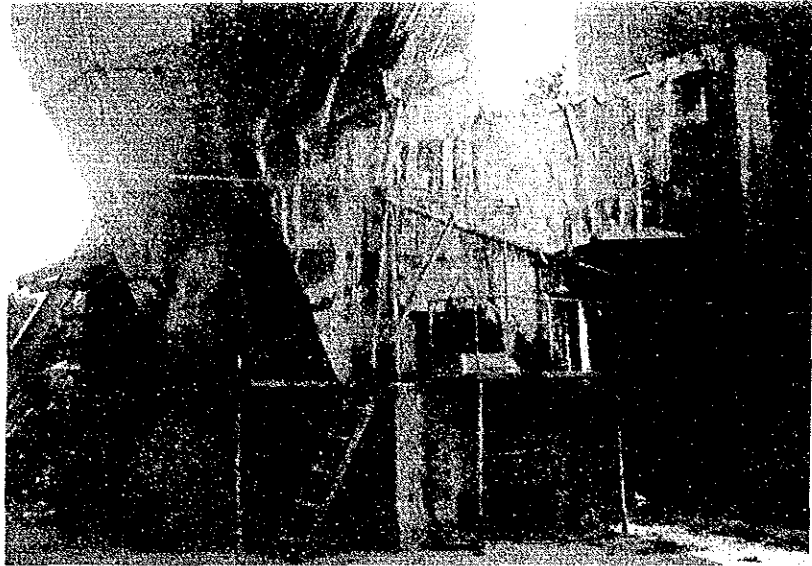
6. Raw material grinding department
Raw mill of wet system



7. Raw material grinding department
Slurry basin

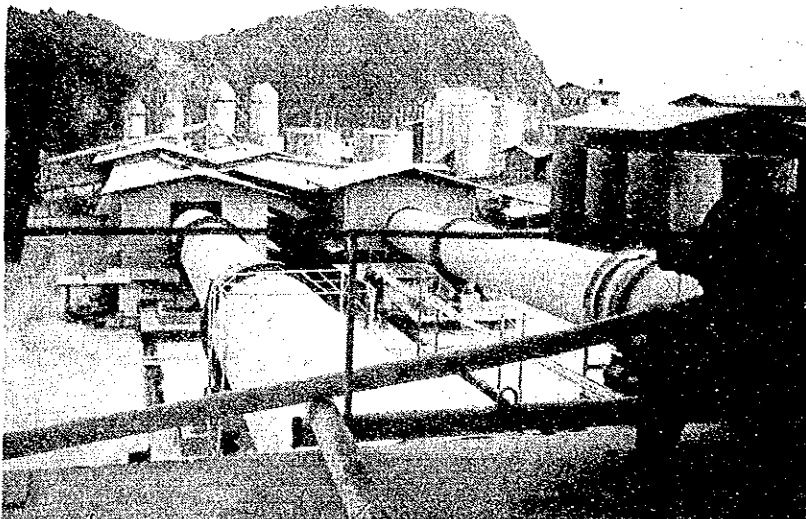


8. Burning department
Electrostatic precipitator for kiln



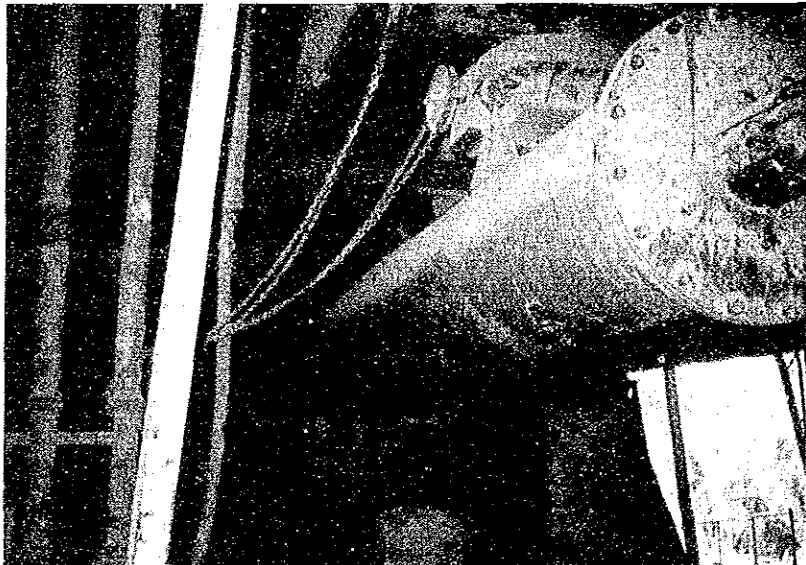
9. Burning department

Induced draft fan for kiln



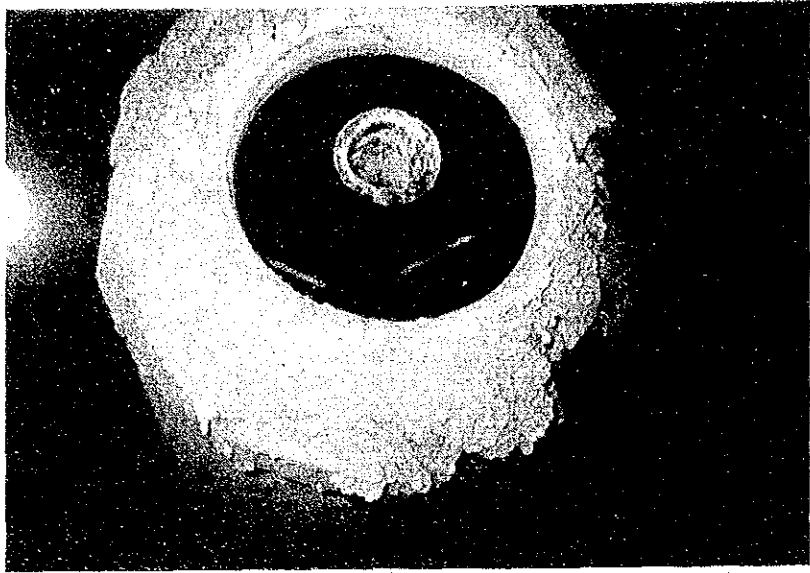
10. Burning department

No. 1 kiln (right side) No. 2 kiln (left side)



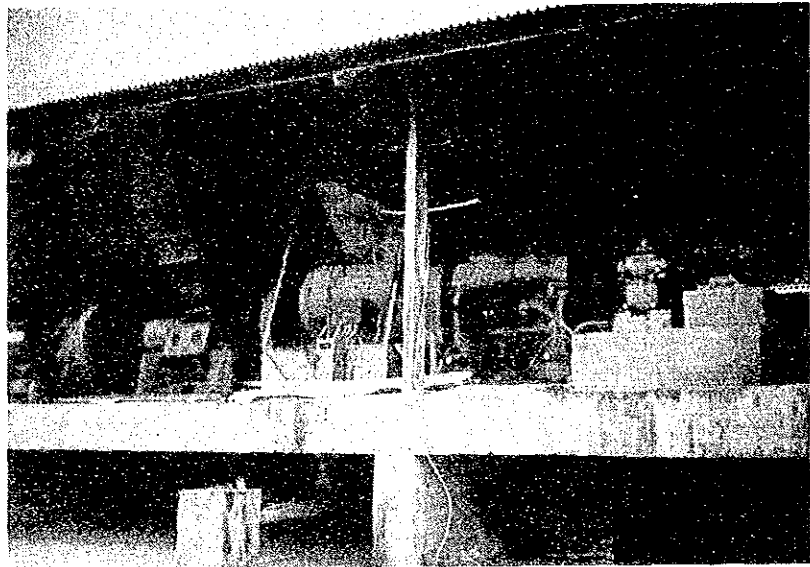
11. Burning department

Kiln burner (No. 2 kiln)



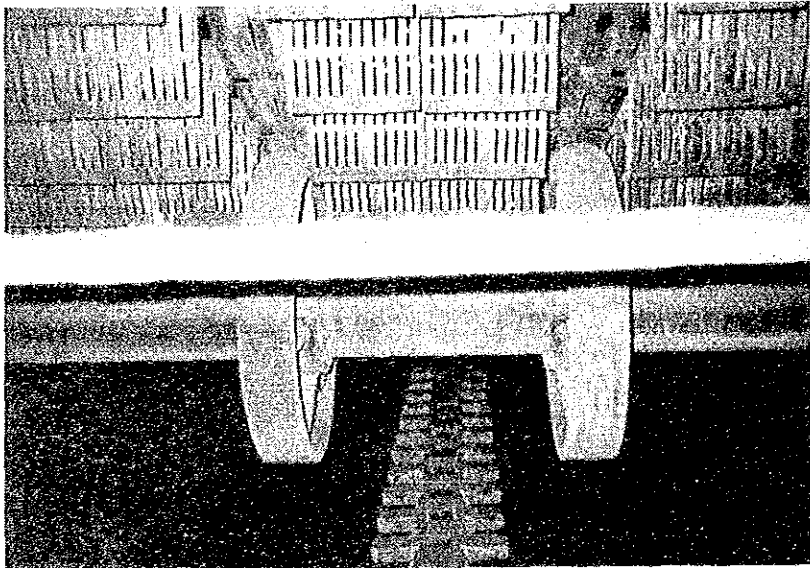
12. Burning department

End nozzle of kiln burner (No.1 kiln)



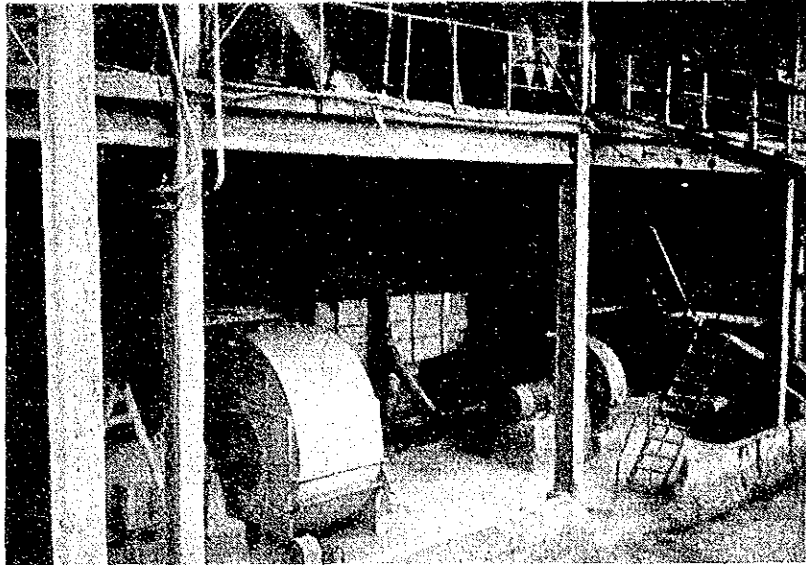
13. Burning department

Kiln driving equipment

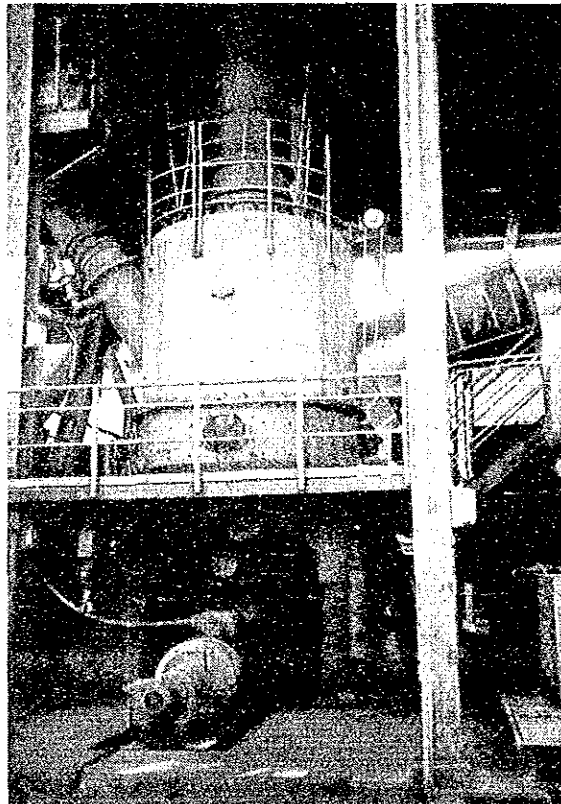


14. Burning department

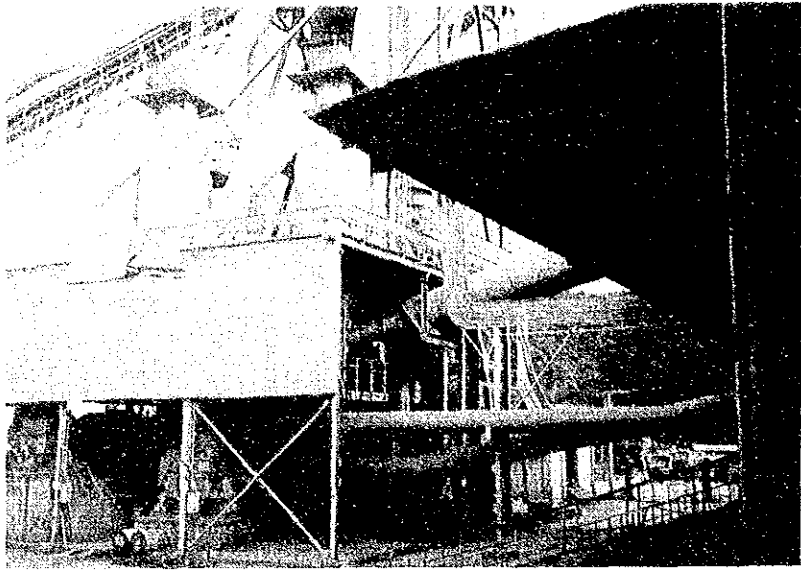
No. 1 Cooler grate



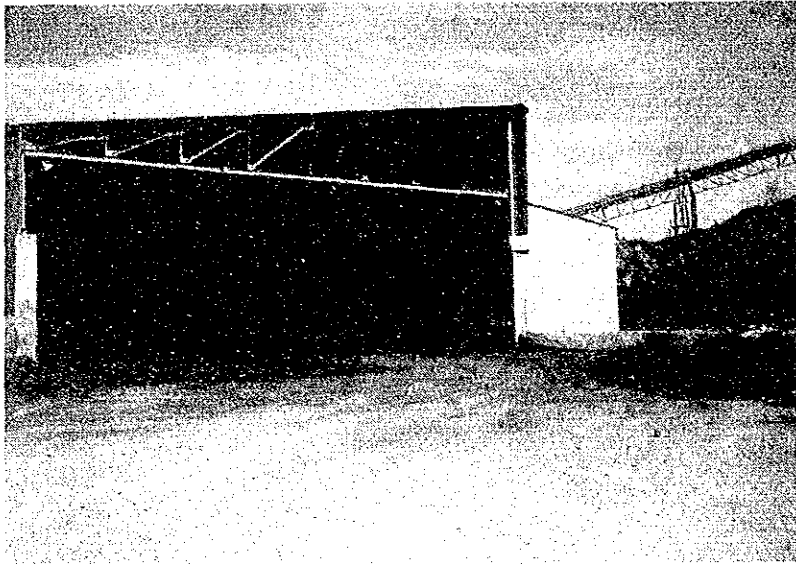
15. Burning department
Cooler fan (No.2 kiln)



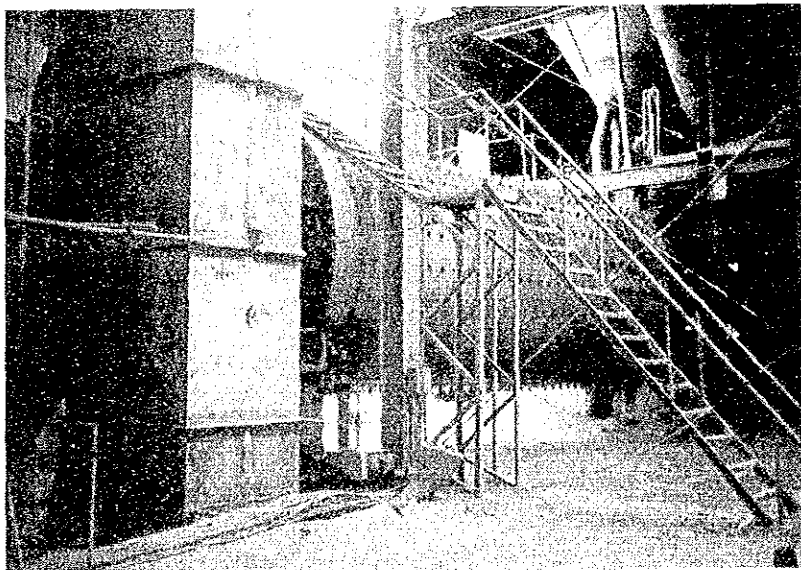
16. Burning department
Coal mill



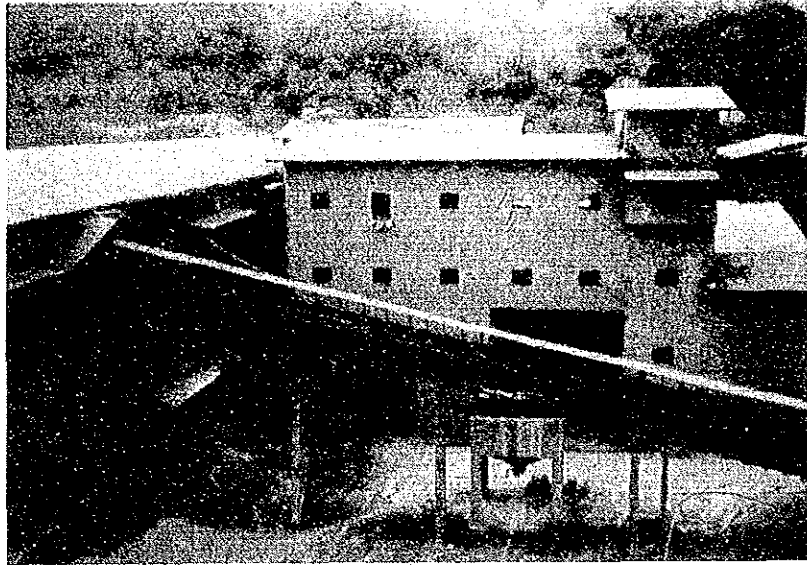
17. Burning department
Coal mill house



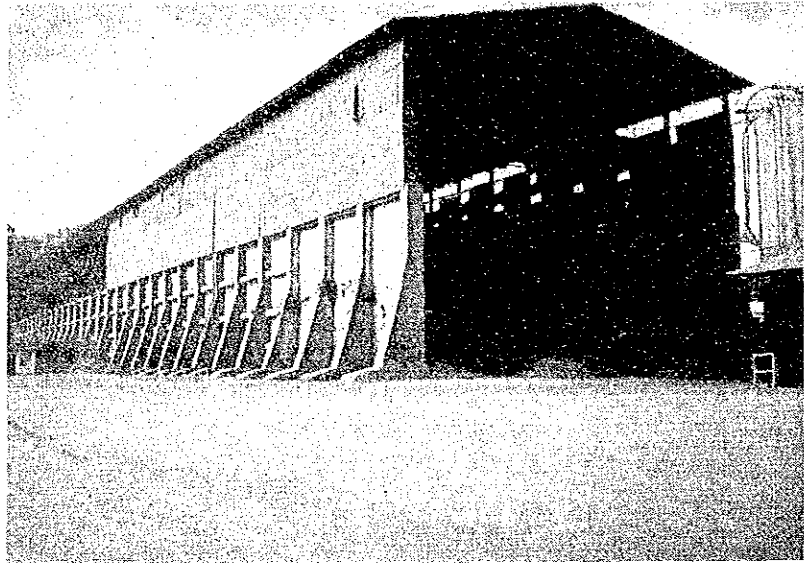
18. Burning department
Coal storage



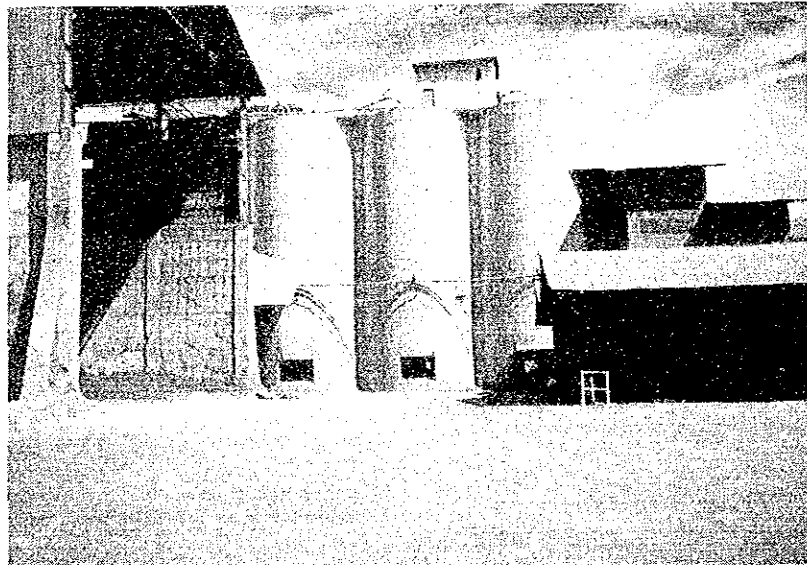
19. Cement grinding department
Cement mill



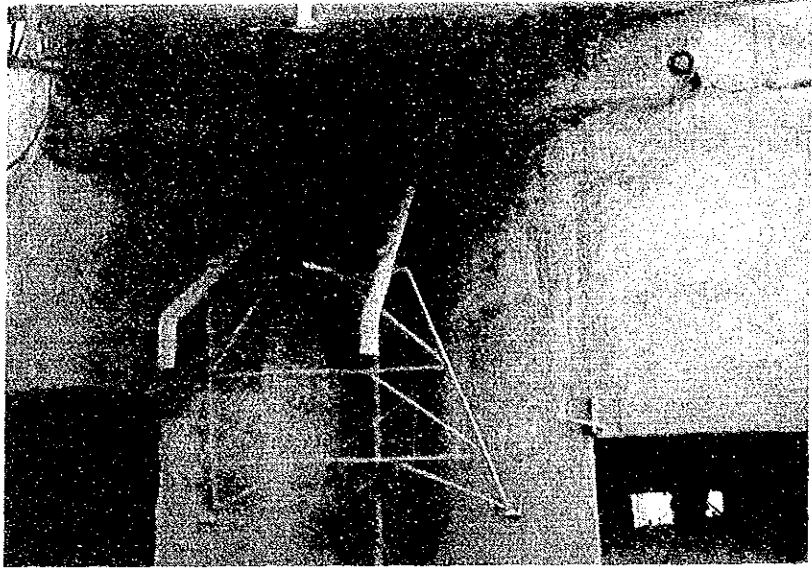
20. Cement grinding department
Cement mill house



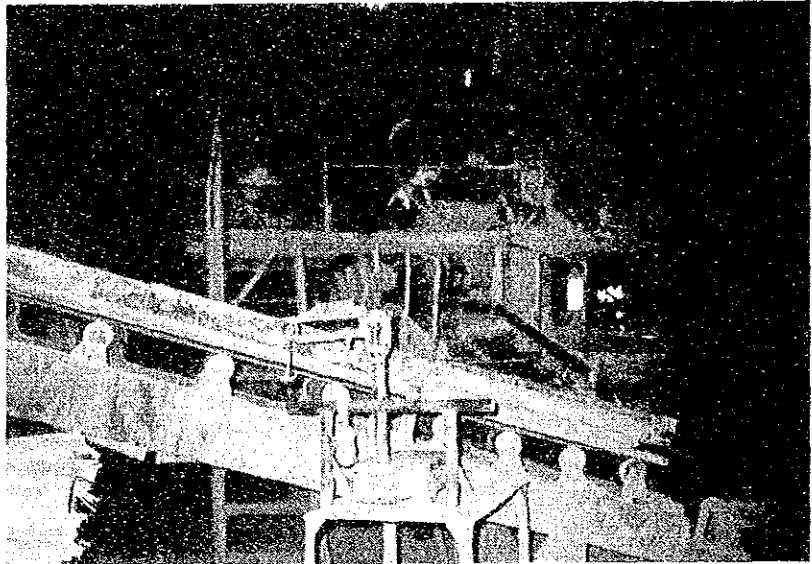
21. Cement grinding department
Clinker storage



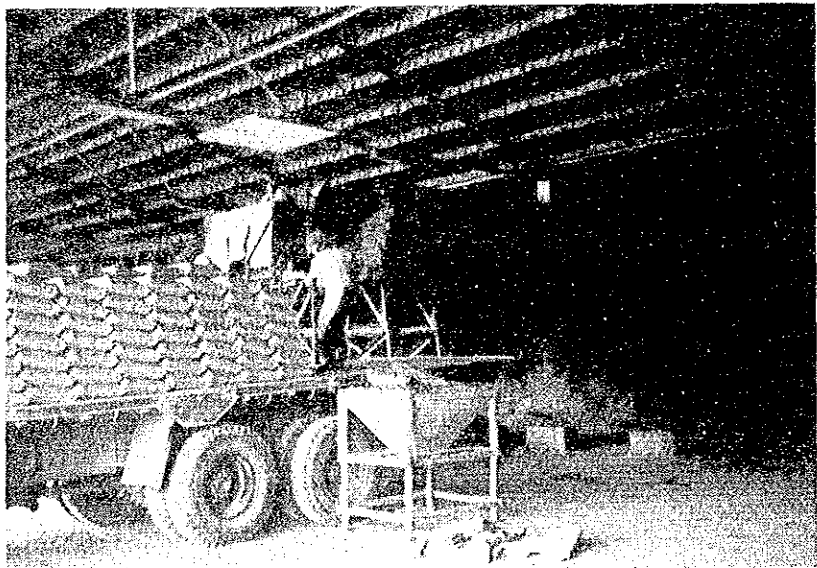
22. Packing department
Cement silo



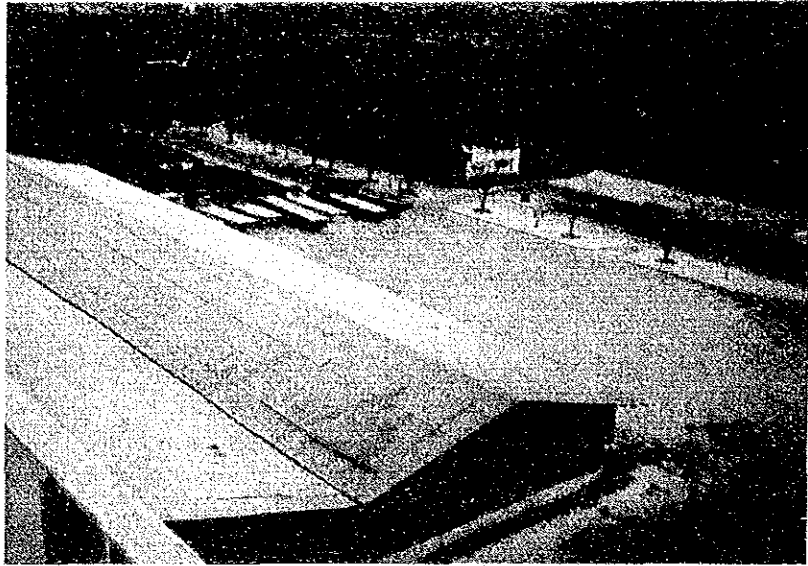
23. Packing department
Bulk cement loading device



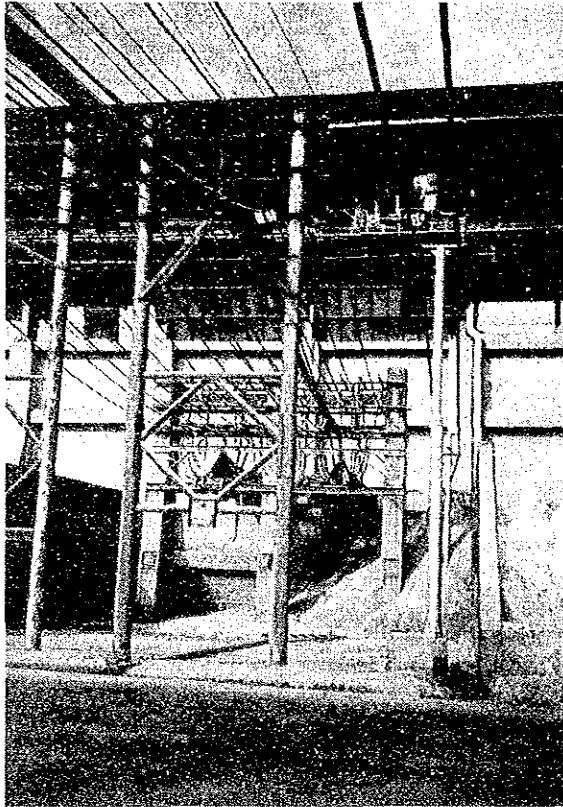
24. Packing department
Packer



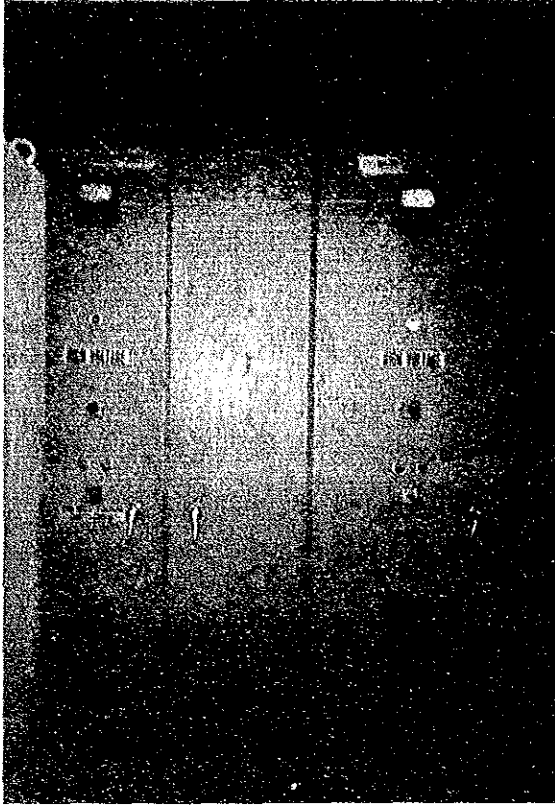
25. Packing department
Bagged cement loading to truck



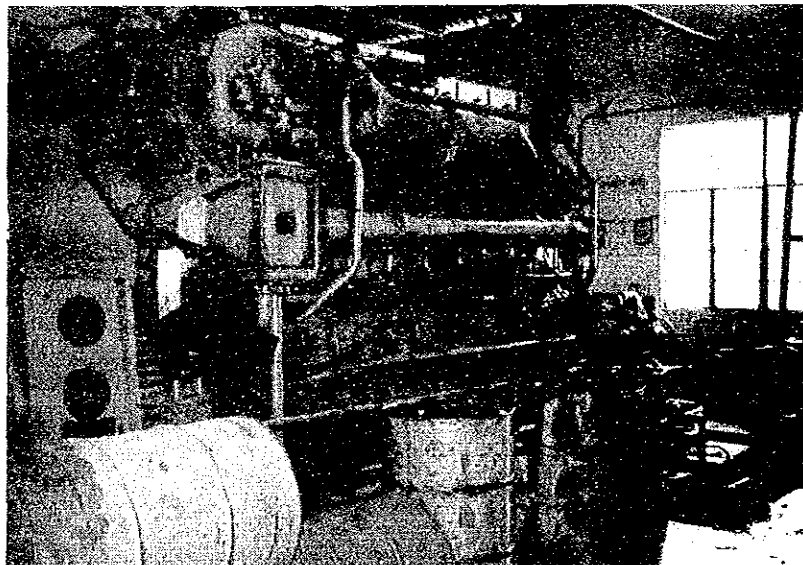
26. Packing department
Truck yard



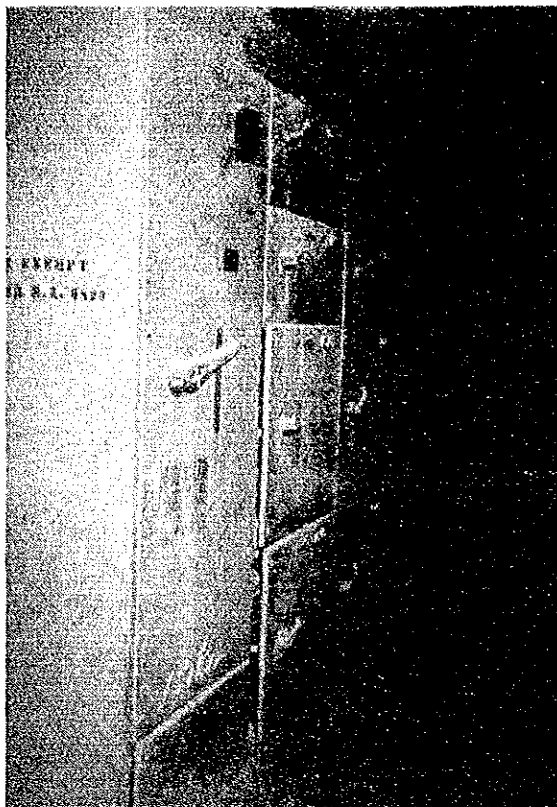
27. Aerial wire way in the plant (4.16 kV)



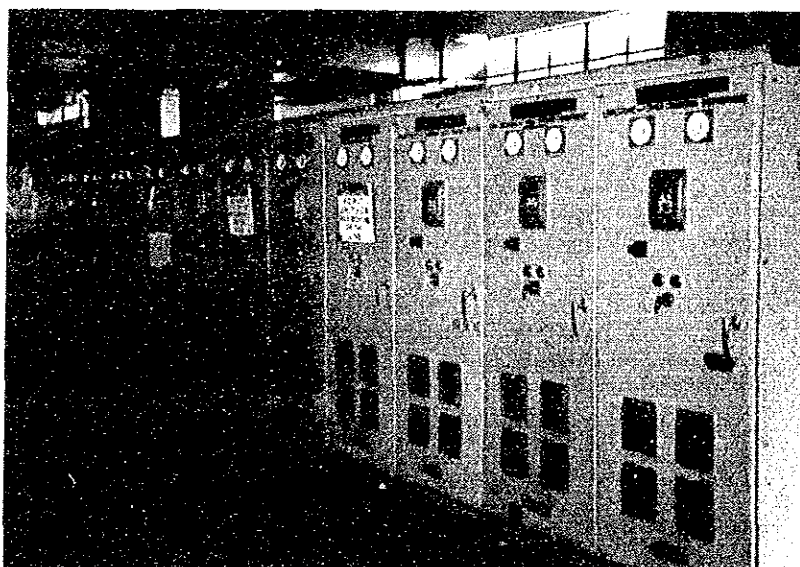
28. High voltage switch gear installed in electric room (4.16 kV)



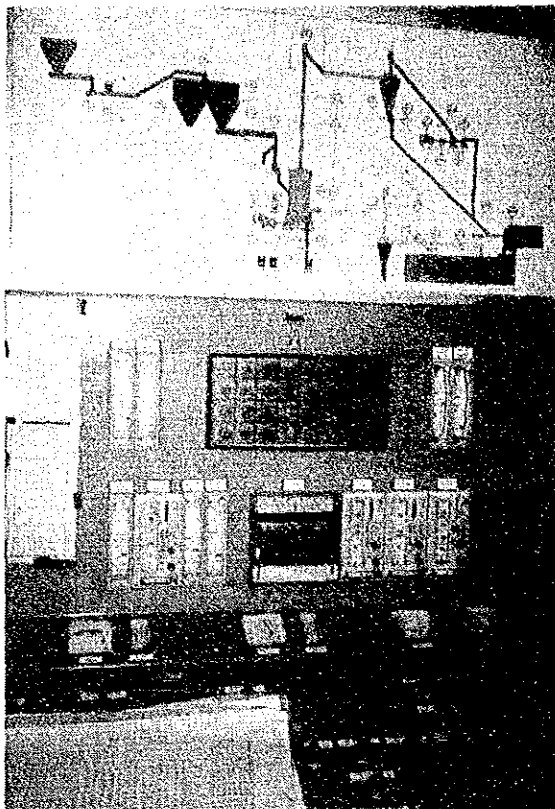
29. Diesel generator for emergency



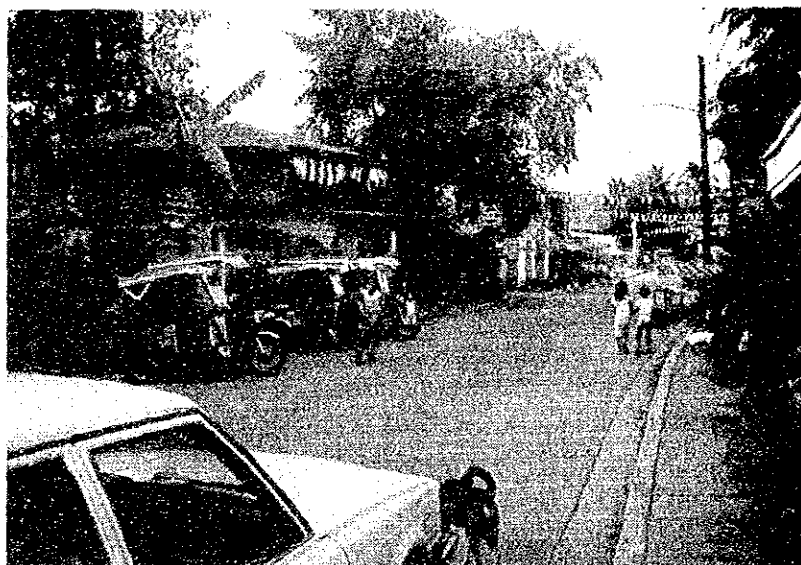
30. Low voltage motor control center (440 V)



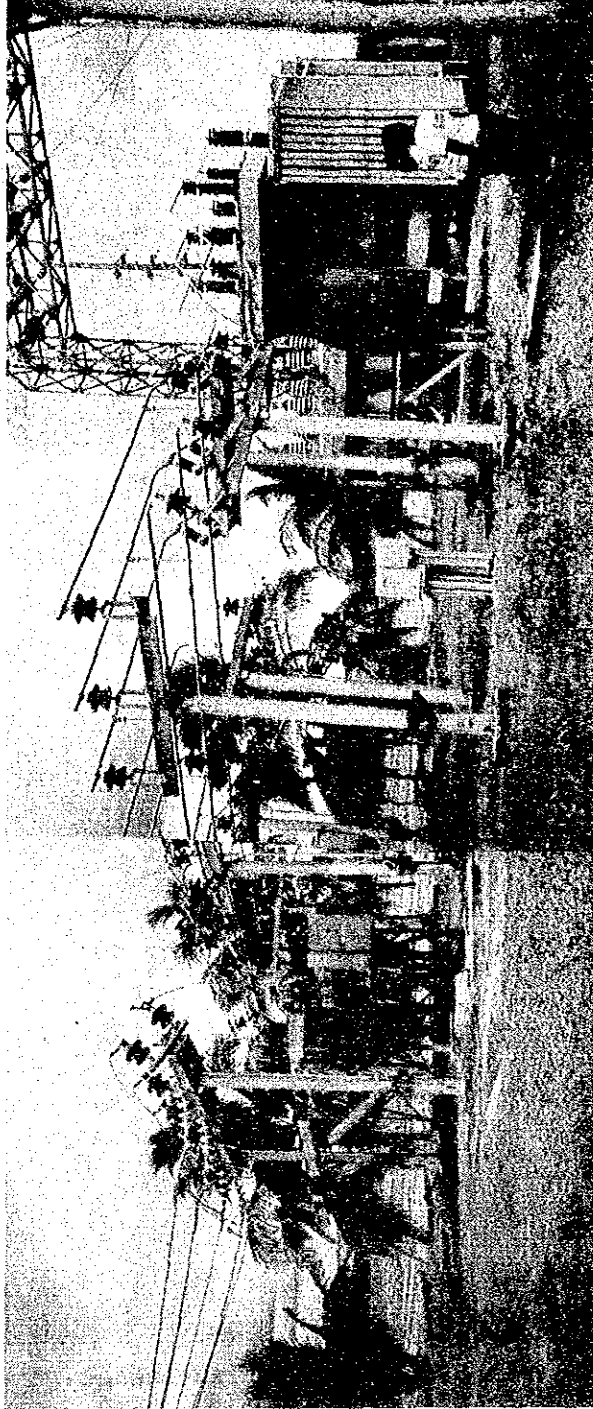
31. High voltage feeder cubicle in the power house (4.16 kV)



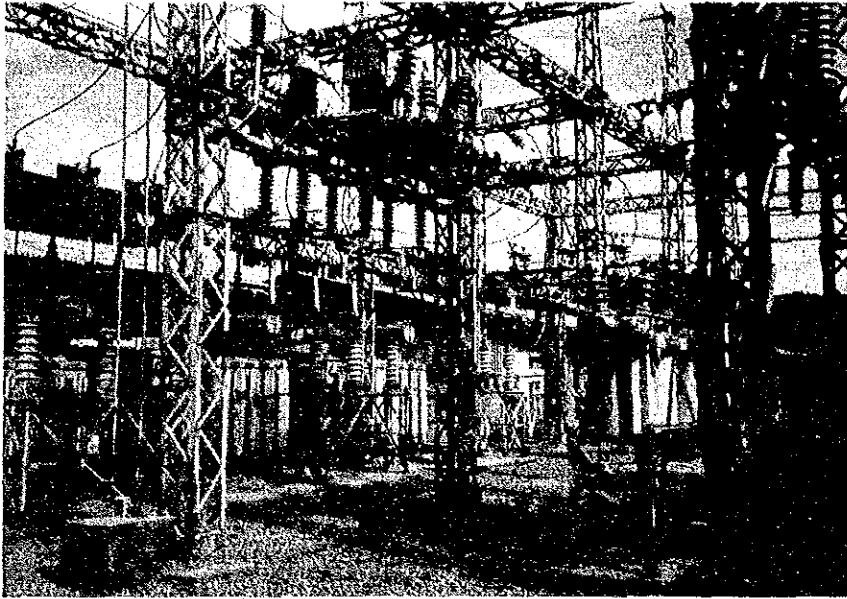
32. Control panel for coal mill



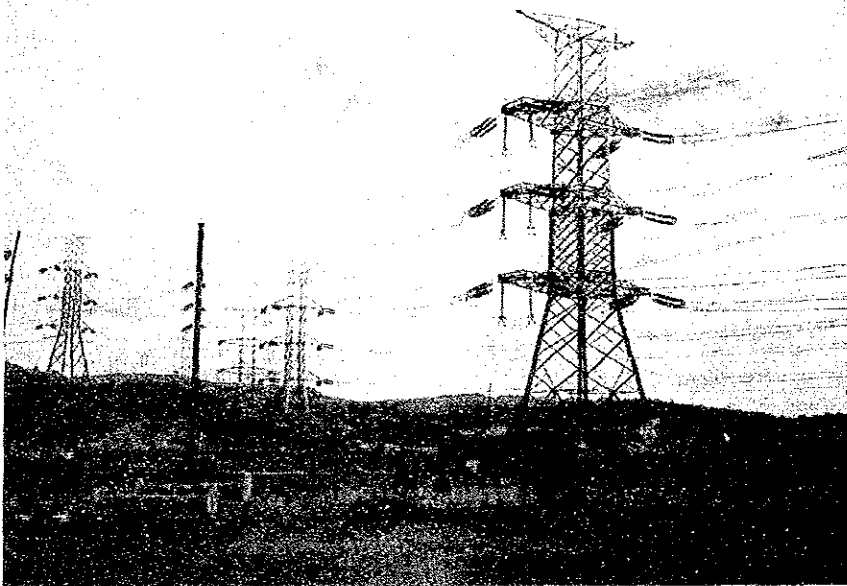
33. Street of Antipolo City



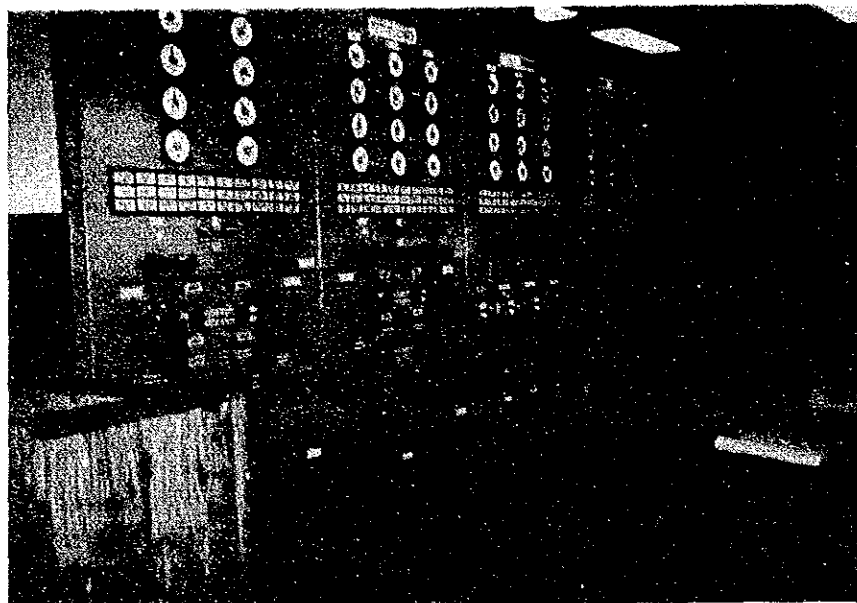
34. Transformer and switches at MERALCO's existing Teresa substation



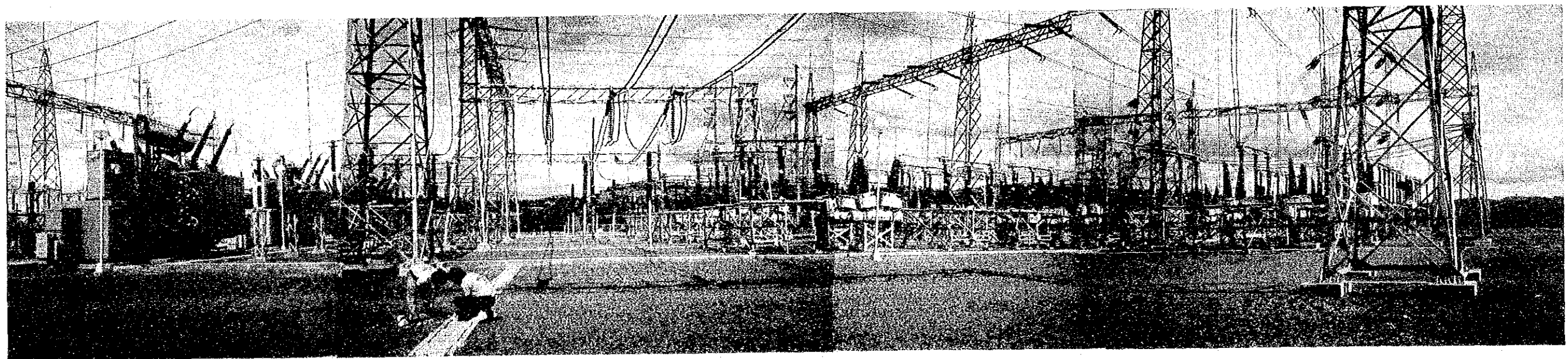
35. ICC's Antipolo substation



36. 230 kV transmission line connected to NPC's Dolores substation



37. Control panel of NPC's Dolores substation



38. Panoramic view of NPC's Dolores substation

