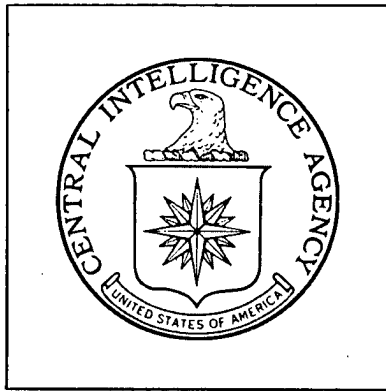


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**Industrial Facilities
(Non-Military)**

**DIRECTORATE OF
INTELLIGENCE**

Basic Imagery Interpretation Report

Kuei-yang Thermal Power Plant

Kuei-yang, China



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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
Imagery Analysis Service

INSTALLATION OR ACTIVITY NAME		COUNTRY
Kuei-yang Thermal Power Plant		CH
UTM COORDINATES	GEOGRAPHIC COORDINATES	WAC-PIC N
48RXE683377	26-32-44N 106-41-12E	0496-10J
MAP REFERENCE		
15th RTS. USATC, Series 200, Sheet M0496-10HL, 2nd edition, Oct 65, Scale 1:200,000 (SECRET)		
LATEST IMAGERY USED		NEGATION DATE (If required)
		Not Required

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ABSTRACT

Major construction has occurred at the Kuei-yang Thermal Power Plant since early 1966. Three boilers and probably three generators, additional cooling facilities, switching yard equipment, and various support facilities have been added. The plant will include eight boilers and eight turbo-generators when all equipment is installed. The boilerhouse consists of three sections, and the generator hall consists of at least two sections. The increased requirements of the local power grid have been reflected in the larger sizes of the boilers and generators which have been installed.

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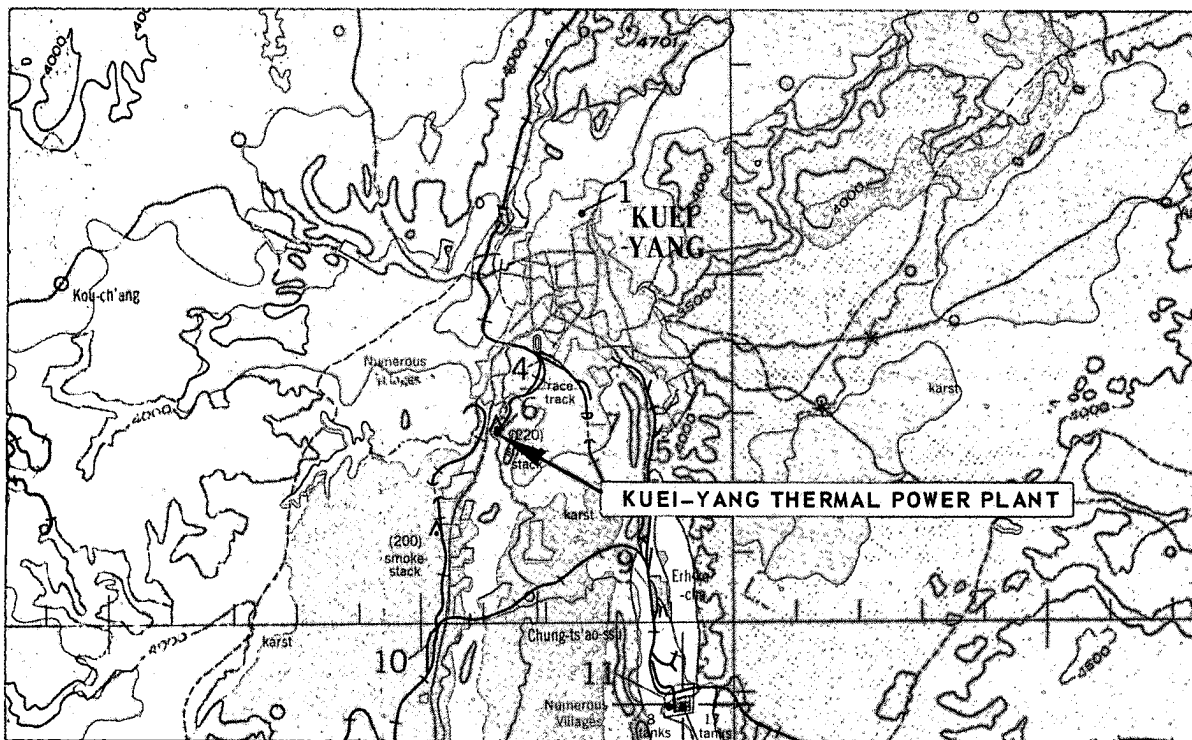


FIGURE 1. LOCATION MAP

INTRODUCTION

The Kuei-yang Thermal Power Plant is located in Kueichow Province on the southern outskirts of Kuei-yang, approximately 2 nautical miles (nm) from the center of town. The plant supplies electrical power to the local power grid. The Kuei-yang Railroad Yard and Station North [redacted] is located approximately 1 nm north-northeast of the plant.

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BASIC DESCRIPTION

Physical Features

The power plant encompasses an area approximately 1,500 by 1,150 feet and is rail served. It is located in the bend of a stream and is secured in part by a wall and some fencing.

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The boilerhouse and generator hall are located at the center of the plant complex. The roof of the generator hall has two levels, indicating that there are at least two different types or sizes of generators in the plant. On imagery of April 1968, there were at least four and probably six circuits between the lower section of the generator hall and the switching yard and control house. From the higher section of the generator hall, there was a single circuit to the switching yard. A support for a second circuit was observed, indicating that another generating unit was yet to be completed.

The boilerhouse has three sections, indicating that there are three different sizes or types of boilers. Coal, the primary boiler fuel, is stored in the open stockpile and in the coal processing and storage building.

The increased steam generation capacity of the plant has required a related increase in cooling facilities. Originally, the quantity of cooling water pumped from the adjacent river was sufficient to condense the boiler steam. However, as the boiler capacity increased with the addition of more and larger boilers, the requirement for cooling water increased and cooling towers were constructed. The boiler make-up water is diverted from the river southeast of the plant. The make-up water then flows in an open canal to the plant area where it is drawn as needed to the water treatment facility.

Various miscellaneous features within the plant area include a workshop, where ceramic insulators are probably made, and open storage of probable cable spools in the switching yard. A construction yard with a gantry crane, northeast of the boilerhouse, has been utilized during the construction of the plant additions and was probably used for the storage and assembly of boiler/generator sections.

Chronology of Plant Expansion

Since early 1966, the generator hall and boilerhouse have been enlarged to accommodate probably three additional generators and three additional boilers for a total of eight each. The boilerhouse expansion involved enlarging the center section and adding a new (north) section. On photography [redacted] the additions to the generator hall and center boilerhouse section were under way. By September 1966, the walls of the generator hall extension and the roof of the addition to the center boilerhouse section were complete. The boilerhouse addition encompassed one boiler. Additional cooling facilities including the pumphouse and western cooling tower were also under construction. By June of 1967, the generator hall addition, the roof of the northern boilerhouse section, the western cooling tower, and the pumphouse all appeared complete. The framework of the center cooling tower was evident on the June imagery and appeared complete in August.

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The obliquity of the August 1967 imagery provided a view of the end of the northern boilerhouse section. To facilitate the installation of the boilers, the northern wall had not been installed. Also at that time, the installation of additional equipment in the switching yard appeared complete. Two additional concrete transformer bases were evident, and the footings of the eastern cooling tower had been started.

Between December 1967 and April 1968, one additional three-phase transformer was placed in the switching yard, leaving one yet to be installed. The workshop was constructed, and the probable cable spools were put in open storage. Activity at the northern end of the boilerhouse and generator hall in April 1968 indicated that the last turbogenerator and possibly the associated boiler had not yet been completed.

Operational Status

The boilers within the northern boiler section have probably not been in operation as no smoke has been observed emanating from the associated stack.

Evidence of operation at the other two boiler sections was observed as follows:

- September 1966 - Light smoke was emanating from the two southern stacks.
- June 1967 - Heavy smoke emanating from the southern stack obscured the other stacks.
- August 1967 - Heavy smoke from the center stack obscured the southern stack. Vapor was emanating from twelve of the fourteen throats of the western cooling tower.
- September 1967 - Heavy smoke was coming from the center stack.
- December 1967 - Moderate smoke was observed at both southern stacks, and the western cooling tower was operating.
- April 1968 - Moderate smoke was coming from the center stack. The cooling towers were not operating.

Water turbulence was observed at the condenser water discharge on all referenced imagery.

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REFERENCES

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Maps

15th RTS. US Air Target Chart, Series 200, Sheet M0496-10HL, October 1965, Scale 1:200,000 (SECRET [redacted])

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Documents

1. CIA/IAD. PIR 75004, Chinese Power Plants, Kueichow Province, July 1966, [redacted] (TOP SECRET RUFF)

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Requirement

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