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SCIENTIFIC  
INTELLIGENCE  
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OSI-Z-SD/60-11  
31 May 1960

APPROVED FOR RELEASE  
DATE: JUL 2006

CENTRAL INTELLIGENCE AGENCY

OFFICE OF SCIENTIFIC INTELLIGENCE

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~~SECRET~~ FAR EASTTHE CHINESE COMMUNIST AE PROGRAMSummary and Conclusions

The Chinese Communists are engaged in an atomic energy program of moderate size concerned chiefly with uranium mining, research, and possibly a weapons program. Evidence for the latter, however, is lacking. Uranium ore is mined in various parts of China. Sinkiang province is believed to be the greatest producer. Research is carried out in a number of laboratories throughout the country, and the Soviets have furnished the Chinese with a 7.5 - 10 megawatt research reactor.

Discussion

The Chinese Communists have made steady progress since 1950 in laying the foundation for a nuclear energy program. However, what progress they have attained has been due, in a large measure, to the guidance and assistance from the USSR. There was early evidence of joint Soviet-Chinese exploitation of Chinese uranium resources. Since 1954, there has been a heavy reliance upon the Soviet Union for support in developing a cadre of nuclear scientists and technicians as well as providing the laboratory and training facilities needed to expand the effort. An expansion of the program was noted during the period 1955 to 1957. A Sino-Soviet Nuclear Energy Agreement was signed in 1955. The Chinese Academy of Sciences was organized in 1955 resulting in increased emphasis being given to the study of nuclear physics. Active Chinese participation in the Joint Institute for Nuclear Research at Dubna, USSR, commenced in 1956. A considerable step-up in the program also occurred in mid-1958 when a Soviet-supplied research reactor and cyclotron began operation. In addition, the Soviets have continued to supply the Chinese with materials, assistance, training, equipment, other than that noted above, and scientific personnel.

Organization and Control of the Program

The present nuclear energy research and development program is controlled and directed by three main bodies:

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1. The Scientific Planning Committee, which, following its merger with the State Technological Commission in 1958, became known as the Scientific and Technological Commission. It is the most powerful element in the organization of scientific research in Communist China and supervises closely the cooperation and coordination of research between the Chinese Academy of Sciences and the Military Science Academy. The Commission has concentrated its efforts in building up existing organizations, increasing research, and training young scientists in atomic energy.

2. The Chinese Academy of Science is a government organization and is equivalent to provincial governments. It is vested with administrative power and has the authority to compile its own budget. The Academy is the chief organ for research in Communist China. It was reported that, as of March 1959, the Academy operated 41 nuclear energy laboratories, but this information has not been confirmed. Certainly, the most important research is carried out in the Institute of Atomic Energy.

3. The Military Science Academy is responsible for the planning and supervision of research in the military sciences. Its major work has been described as including research, manufacture, and utilization of modern weapons such as atomic bombs, hydrogen bombs, guided missiles, rockets, and chemical and biological weapons.

### Research

Because of the impetus provided by the Twelve-Year Plan for Science (1956-1967), and as a result of the Sino-Soviet Nuclear Energy Agreement of 1955, the Chinese Communists purchased a heavy water moderated, tank-type reactor with a thermal capacity of 7.5 - 10 megawatts, and a 25 million electron volt cyclotron from the USSR. Both the reactor and the cyclotron were constructed with Soviet assistance and were in operation by mid-1958 under the auspices of the Institute of Atomic Energy.

Various other

institutes and educational facilities have reported building small research reactors and cyclotrons, largely for the purpose of training young scientists, and for a limited amount of research.

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### Uranium Mining and Processing

There is firm evidence of joint Soviet-Chinese exploration of Chinese uranium resources since 1950. It is believed that the Chinese are now working two deposits in Manchuria. Several uranium deposits are also known in Kwangsi province, but the greatest uranium potential is believed to be in Sinkiang province where mining has been carried out for the past ten years. Information is insufficient to permit an accurate estimate of present production of uranium, but it is believed that sufficient ores are mined annually from which the Chinese can derive several hundred tons of uranium metal per year. It is likely that the Chinese are presently undertaking preliminary processing of the uranium ores.

### Application of Nuclear Energy

During the ceremony for the inauguration of China's first research reactor on 27 September 1958, KUO Mo-jo, president of the Academy of Sciences, stated that the 12-year Plan for Science would be fulfilled 5 to 7 years ahead of schedule. His statement gives at least some indication of the emphasis being given to nuclear energy application throughout China.

Directives for the Second Five Year Plan (1962-66) made no mention of nuclear power stations; but, in 1956 the Minister for Power declared that "atomic power stations would be built."

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