The Tasks of Preparation of Commercial Oil and Gas Reserves and of Increasing the Effectiveness of Geologic Exploration in the RSFSR

A. N. Mustafinov

The control figures of development of the natural resources of the USSR for 1959-65 accepted by the XXI session of the KPSS set the task for increasing oil production from 113 million tons in 1958 to 230-240 million tons in 1965 and the production of gas at 150 billion m$^3$ as against 30 billion m$^3$ in 1958. The average yearly increase in yield of oil is to be 16.7-18.1 million tons. This is quite realistic if it is taken into account that the yearly increase in the yield of oil was 6.6 million tons for 1951-55 and was 14.1 million tons for 1956-58.

The RSFSR will occupy the main position in the development of oil and gas production. Oil production is to increase 2.1 to 2.3 times, and the gas production by 6 times.

Connected with fulfilling the task for further development of oil and gas yield is the accomplishment of the important decision of the government for development of the chemical industry and for change of the structure of the heat balance of the national economy for the purpose of maximum use of oil and natural gas as the most economic forms of fuel.

In order to fulfill these goals, the problem of proving the necessary reserves stands first. In 1958, 69% of the prospecting drilling and 64.5% of the geologic exploration of the USSR was in the RSFSR. According to plans for 1959-65, more than 63% of the total prospecting drilling for the country and 61% of the expenditures on geologic exploration will be in the RSFSR.

The plan for geologic exploration provides for an increase in proved reserves, which should provide a base for a further stepping up of oil and gas production in subsequent years. For the RSFSR as a whole the plan calls for an increase of commercial oil reserves by 1.7 times at the end of 1965 in comparison with the status at the beginning of 1958; the commercial reserves of natural gas are to increase 3.4 times. For accomplishment of this planned growth of oil and gas reserves, the volume of prospecting drilling is to be increased 2.4 times, and the expenditures on geologic exploration by 2.1 times including a 2.8 fold increase in geophysical work. The allotment for field geophysical operations (largely seismic) for the period 1951-55 was 13.7 percent of that of exploration drilling, whereas in 1961-65 it will be 27 percent.

A very large volume of prospecting drilling (about 35% of the total volume for the RSFSR) is planned for the Volga area, and first place with respect to the volume of the work and planned increase in reserves is occupied by the Kuybyshev district, where a three fold increase by the beginning of 1960 in comparison with 1958 is expected. In this same period the oil reserves of the Saratov district should increase 4.2 times and those of Stalingrad 2.2 times. Still larger increases are expected for natural gas: 4.4 times for Saratov and 4.5 times for Stalingrad.

A large volume of prospecting drilling (22.7%) is planned in the region of the Ural River. The main task here is the exploration of deposits of sulphur-free and low-sulphur oils and the preparation for prospecting of the large known deposits of high quality oils in the northwest regions of Bashkir. As a result of completing the planned volume of prospecting drilling, the proved oil reserves for the Ural River region ought to increase almost 2 times and that of Bashkir by more than 2 times.

In the Orenburg and Perm districts large increases in oil reserves are expected, and gas reserves are slated for an increase in Orenburg.

Intensive increases of gas and oil reserves are contemplated for the oil-gas-bearing regions of the North Caucasus and the Astrakhan district. The planned volume of deep prospecting for this region is more than 26% of the total volume for the RSFSR, and a large part of it will be directed toward exploration of gas fields and their preparation for prospecting. For the Stavropol area the oil reserves are expected to increase 4 times and the gas reserves 1.2 times. For the Krasnodar area the gas reserves are expected to increase 3.5 times and the oil reserves 2 times.

The regions of Siberia, the Far East, and the north of the European part of the USSR are to share about 15% of the volume of the prospecting drilling. A large increase in prospecting drilling is contemplated in the Komi ASSR for the preparation of oil and particularly of gas resources.

A large increase of gas reserves is planned for Siberia as well as large oil reserves. The northern regions of West Siberia and Yakutiya already present interest for development of a gas industry. The difficult geographic conditions require great effort and material. The volume of prospecting drilling in Siberia is slated to be increased more than 3 times.