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## MEMORANDUM FOR THE RECORD

SUBJECT: OSI Assessment of Progress in the S&T Bilateral Agreement Project on Energy: Geothermal

- 1. While the US-USSR exchange in geothermal energy has not produced much in the way of technical information about the Soviet programs to date, it has produced some information on facilities, personnel and research plans which is new or more detailed than we had before. This new knowledge has not altered our initial assessment of Soviet capabilities but it has helped to increase our confidence in some of our previous judgments.
- 2. The disparity in the size of the efforts of the US and the USSR makes a balanced exchange difficult. The US has a thriving growing program whereas the Soviet program is relatively static. The Soviets probably hope to gain both in the area of US technology and by saving a significant amount in developmental cost by learning from the US program, making use of known successful techniques and avoiding blind alleys. In addition there is some question about how cooperative the Soviets really intend to be in this area.

3. Areas the US side might propose that would make the activity of greater benefit to the US: The US should insist on seeing the activity going on and being planned in Kamchatka since this region is by far the most active area in the USSR. In addition, the US side should be sure to see the Soviet technology related to their development of binary systems for geothermal electric power generation. The Soviets also seem to be relatively active in the area of underground rock fracturing. As a part of the latter program they apparently are seriously considering using underground nuclear detonations.

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