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5-4451

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8 August 1972

MEMORANDUM FOR THE RECORD

SUBJECT : Cost of Soviet SRF Communications
Facilities

REFERENCE: OSR/SF/A Memo, 28 April 1972
Cost Estimate of SRF Communications
Satellite Ground Stations

1. The cost estimates requested by OSR (see Reference) are provided below. These estimates have been supplied orally to OSR at their request because of an urgent need.

2. The costs for SRF comsat terminals are estimated in 1970 US dollars. They have been estimated on the basis of system parameters supplied by OSI. The parameters, are themselves, educated guesses. Hence, dollar estimates are tentative and confidence limits cannot be determined.

3. Two categories of facilities have been costed: 1) comsat terminals at missile facilities; and 2) comsat terminals at the headquarters facility. Costing was accomplished with the help of a large US manufacturer of comsat terminals.

4. Estimates are initial unit investment costs and represent the cost in US dollars if the equipment were manufactured in the US using current US technology. The costs include:

a. Transportation, installation, and site check-out charges. (These are average figures and would be subject to some variation from site-to-site.)

b. Initial spares. (Additional costs for annual spares are listed separately.)

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c. Directly related non-electronic costs for such items as equipment racks, cabling, and power generators.

The costs do not include:

d. Research and development outlays.

e. Non-recurring pre-production costs such as special tooling, and engineering drawings. (In any large deployment (25 or more units) these costs would be incurred on pro-rata basis and would not significantly change the estimates.)

f. Construction (brick and mortar) or site preparation costs.

5. Costs of Facilities at Missile Sites

The estimated initial unit cost for the comsat electronics is:

	<u>Thousand \$US</u>
antenna system	250.0
transmitter	57.5
receiver	187.5
control equipment	103.5
multiplex equipment	45.0
initial spares	<u>96.5</u>
Total hardware	740.0
installation	<u>75.0</u>
Total cost	815.0
annual spares	10% of hardware

6. Costs of Facilities at Headquarters

The estimated initial unit cost for the electronics associated with one large antenna is:

	<u>Thousand \$US</u>
antenna system	648.0
transmitter	293.0
receiver	333.0
control equipment	361.0
multiplex equipment	115.0
initial spares	<u>263.0</u>
Total hardware	2,013.0
installation	<u>267.0</u>
Total cost	2,280.0
annual spares	10% of hardware