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INFO.	Chief of Station,		NO INDEXING REQUIRED)
FROM	Chief, Far East D	ivision	ONLY QUALIFIED DESK CAN JUDGE INDEXING	
SUBJECT		& Construction Division,	MICROFILM	
ACTION REQUIRED		Logistics Replacing Oil He Ly Quarters	eating with Electric Hestin	g
	(a) (b)			
	s approved, provi	ogram to convert oil heate arters as indicated in ref ded money is available in the considered as a "mai e meaning of reference (b)	ntenance and venete	
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CROSS REFERENCE TO		DISPATCH SYMBOL AND NUMBER	DATE	
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1 3 JUN 1967

MEMORANDUM FOR THE RECORD

SUBJECT :

Technical Comments Concerning the Advisability of

Replacing Oil-Fired Units With Electric Heaters

25X1A

REFERENCE:

Memo for the Record dtd 2 June 67 fr EO/RECD/OL,

subject: Installation of Electric Heat in

Quarters

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- a critical load during cold weather. As the power is in question, both as to capacity and reliability, and the emergency power generating capacity is presently inadequate, it does not appear to be desirable to have the housing area as a critical load.
- 2. Electric heat is competitive with oil heat when the following conditions are fulfilled:
 - a. The structure to be heated is well insulated.
 - b. Competition between the various energy sources ensure low competitive electric power rates. This usually entails a special rate for customers with electric heat.
- 3. The concrete structures in intended to be heated certainly do not fulfill the requirement in paragraph a, and I understand the commercial power rate is high, thus the requirement in paragraph b is not fulfilled. Acknowledging some savings in maintaining electric heaters, the overall effect would be a tremendously expensive burden.

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OL/RECD/D&CB/UES

Distribution:

Original - OL/RECD Project

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OL/RECD/D&CB/UES/COMPACE ded (13 June 1967)

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2 JUN 1967

MEMORANDUM FOR THE RECORD

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SUBJECT: Installation of Electric Heat in

Quarters

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Reference A.

в.

C.

D.

25X1A

1. Project Authority - COS/

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Para 3 and 3a of reference A gives COS. authority to approve new construction, alterations and modifications to existing buildings if cost does not exceed \$1,000 per project and a total of \$20,000 per fiscal year. The other limitations on housing are (1) no increase in the overall usable area (2) within limits available funds and (3) technical approval by FE Engineer.

- 2. This project (ref D) in para 9 is said to cost about \$10,000. There is no indication as to whether all costs, including labor, are included in this figure. In any event, the project exceeds his authority of \$1,000 per project (para 3a ref A).
- 3. Ref B attached para B gives some indication that he may be over his overall approval authority of \$20,000 per fiscal year. It is noted that some of the listed projects were "in planning" and were not necessarily started. No requirement from Headquarters is placed on COS/ to report costs on locally approved projects and hence we have no positive indicator as to whether or not approval authority has been exceeded.
- 4. By para 2 ref C, we requested "close scrutiny" as to the advisability of replacing oil-fired units with electric heaters. Mr. will submit his comments concerning technical adequacy of this project.

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Approved For Release 2000/06/14 : CIA-RDP78-06505A000700040015-0 CLASSIFICATION PROCESSING ACTION C-O-N-F-I-D-E-N-T-I-A-L MARKED FOR INDEXING Director of Logistics Attn: Chief, RE&CD NO INDEXING REQUIRED INFO. Chief. Far East Division ONLY QUALIFIED DESK CAN JUDGE INDEXING FROM Chief of Station, MICROFILM SUBJECT SUPPORT/ENGINEERING Survey Results: Oil versus electric heat in family quarters ACTION REQUIRED - REFERENCES RE dtd March 1967 Subsequent to receipt of reference a survey of the heating problem as it pertains to 70 additional sets of dependent quarters has been completed. It has been determined that conversion of these quarters from oil fired warm air heaters to electric baseboard heat would result in lower maintenance cost, provide greater safety, be cleaner, provide additional space in the furnace room and eliminate flue through roof that is a possible source of leakage. Inasmuch as all quarters are now wired to accommodate air conditioning, the only additional wiring and switching required will be that necessary to actually connect the baseboard heaters and to connect a double throw seasonal changeover switch. The average three-bedroom house has three each 12,000 BTU government units @ 1400 watts for a total of 4200 watts and provision for two personal air conditioners of about 2000 watts each. This is a total of 8200 The proposed baseboard heating system will be as follows: Half Porch 3 bedrooms @ 1250 watts 3750 25X1A 1 living room 3000 RECD 1 converted porch 1250 Seer 1 bathroom **750** C Total 8750 watts DC Full Porch 4 bedrooms @ 1250 watts 5000 l living room 3000 C/Acq 1 bathroom 750 $1 \frac{1}{2}$ of porch 1000 9750 watts Tota1 Distribution: ✓ Orig & 1 - Addressee 1 - C/FE dies 22MAY 1967 . CROSS REFERENCE TO DISPATCH SYMBOL AND NUMBER DATE

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C-O-N-F-I-D-E-N-T-I-A-L

19 May 1967

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CLASSIFICATION CONTINUATION OF DISPATCH

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DISPATCH SYMBOL AND NUMBER

In both cases the anticipated demand is slightly higher for heat than for air conditioning. As many families prefer bedrooms cooler than living areas the individual control features of this type of heat will result in more economy. With the trend toward complete air conditioning and availability of larger air conditioning units it is anticipated that this will again be the higher load.

- 3. It should be noted that the electric rates on lacksquarelow and amount to \$.0106 for KWHR energy and \$1.74 per kilowatt demand. This is competitive with the \$.08 per gallon cost of fuel oil. The existing furnaces consume 3/4 gallon of oil per hour or \$.06 worth. The same amount of money will purchase 6000 watts of electric heating or about 70% of the required amount. Due to the zone control advantages of electric heat, areas that are not required to be heated may be turned off or turned down.
- 4. Many of the furnaces in the housing area are over ten (10) years old and in need of replacement. Parts are difficult to obtain and two of the companies that manufacture the existing units have gone out of business, further complicating the procurement of parts.
 The underground fuel tanks are badly corroded as are the cooper lines connecting the tanks to the furnaces.
- It now requires four men full time during the heating season to maintain the existing furnaces. A fuel distributing truck is also required to service the fuel tanks during the heating season. With the conversion to electric baseboard heat, the maintenance crew as well as the fuel truck could be diverted to other uses or the engineer T/O reduced.
- 6. The safety factor is especially critical as we have experienced fires being started by these furnaces and on two occasions possible asphyxiation, fortunately the Security guards noticed the smoke and awakened the occupants.
- 7. The electrical system is adequate except in a few isolated instances as this system was reinforced to handle the air conditioning program about a year ago. This program would be spread over a three year period and applies particularly to the since these furnaces are the oldest and require constant repairs 25X1A and maintenance, AZhouset -
- The cost for replacing the fuel tanks and lines is estimated to be \$11,500 for materials only. Fifteen furnaces are in need of immediate replacement at a cost of \$176 each or \$2,640 total. This amounts to \$14,140 and does not include labor and miscellaneous fittings. The grand total is estimated to be in excess of \$20,000.
- The cost for installing baseboard heat is about \$10,000 or. about half the price of oil fired furnaces. The maintenance is negligible as is experienced by the quarters that are now electrically heated. It should be noted housing are all heated by electrical quarters recently constructed resistance heaters.
- The installation of baseboard heat is expected to increase the cost of electricity by 25% during the three month heating season. However, the savings that can be anticipated from maintenance and operating costs of the existing system of oil fired furnaces is expected to more than compensate for the increased electrical costs.
- In connection with this program of conversion to electric Power System will not be experiencing power shortages during normal heating seasons. They anticipate shortages during

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CONTINUATION OF DISPATCH

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the summer months (cooling season) between May 1967 until about 1970.

12. Based on the above findings, review and concurrence by the F. E. Engineer, this Station is proceeding with this conversion program using Station maintenance forces. Procurement of new furnaces and fuel oil tanks will be reduced to practically zero in view of this decision and maintenance monies budgeted for heating system replacements and spare parts will be shifted to procurement of electric baseboard heating elements and materials.



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