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DEPARTMENT OF STATE  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
Washington, D. C. 20523

CAPITAL ASSISTANCE PAPER

Proposal and Recommendations  
For the Review of the  
Development Loan Committee

TURKEY - CENTRAL TRAFFIC CONTROL AND COMMUNICATIONS  
SYSTEM

277-H-054  
277-389

AID-DLC/P-260

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Reference Center  
Room 1656 NS

DEPARTMENT OF STATE  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
Washington, D.C. 20523

AID-DLC/P-260  
June 12, 1964

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Turkey: Central Traffic Control and Communications System

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed \$4,400,000 to the Government of Turkey to assist in financing the foreign exchange costs of installing a Central Traffic Control and Communications System between Istanbul and Ankara and a Communications System between Zonguldak and Ankara in order to increase the traffic capacity of the railroad lines between Istanbul, Ankara, and Zonguldak.

This loan proposal is scheduled for consideration by the Development Loan Staff Committee at its meeting on June 17, 1964 and a telephone poll of DLC members will be conducted to determine whether the DLC members approve without a DLC meeting or request a DLC meeting for the consideration of this proposal.

Rachel C. Rogers  
Assistant Secretary  
Development Loan Committee

Attachments:

Summary and Recommendations  
Project Analysis  
Annexes I-IV

TURKISH STATE RAILWAYS (TCDD)  
CENTRAL TRAFFIC CONTROL AND COMMUNICATIONS SYSTEMS

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TURKISH STATE RAILWAYS (TCDD)  
CENTRAL TRAFFIC CONTROL AND COMMUNICATIONS SYSTEMS

SUMMARY AND RECOMMENDATIONS

1. BORROWER: The Government of Turkey for relending to Türkiye Cumhuriyeti Devlet Demiryolları İşletmesi Umum Müdürlüğü (General Directorate of Turkish State Railways) (TCDD), a government-owned enterprise which manages and operates railway facilities in Turkey.
2. AMOUNT OF REQUESTED LOAN: U. S. \$4,400,000.
3. THE PROJECT: The project consists of procurement and installation of a Central Traffic Control system and Communications System on the railroad line between Istanbul and Ankara and a Communications system on the line between Ankara and Zonguldak.
4. TOTAL COST OF PROJECT: Total U. S. \$9,656,000 equivalent. Estimated local currency costs total TL 31 million\* (U. S. \$3,556,000) and will be met by the GOT. U. S. procurement of \$4,400,000 will be provided by the loan, and European procurement in the amount of U. S. \$1,700,000 equivalent will be met from the Government of Turkey's foreign exchange and/or supplier credits.
5. PURPOSE: To assist TCDD in meeting increased rail traffic demands in the affected area.
6. BACKGROUND: In approving a loan for financing procurement of diesel locomotives in 1962, AID included a covenant in the Loan Agreement requiring TCDD to complete firm plans for installation of CTC between Ankara and Istanbul. A transportation consulting engineering firm was retained by AID to assist in determining the most feasible method by which the loan covenant could be met. As recommended by the consultant, TCDD and a U. S. supplier of CTC equipment (Westinghouse Air Brake) resolved differences outstanding since 1959, and entered into a new contract. This loan will finance U. S. costs of completing installation of the system.
7. EX-IM BANK CLEARANCE: June 12, 1964.

\* U. S. \$1.00 = TL 9.00

8. VIEWS OF THE COUNTRY TEAM: The Country Team recommends approval of the requested loan.
  9. STATUTORY CRITERIA: All applicable statutory criteria have been met. (See Annex 1.
  10. ISSUES: None.
  11. RECOMMENDATIONS: Authorization of a loan to the Government of Turkey not to exceed Four Million Four Hundred Thousand Dollars (\$4,400,000) subject to the following terms and conditions:
    - a. ECDD shall repay the loan to the Government of Turkey within twenty (20) years after first disbursement, including a grace period of not to exceed five (5) years, and shall pay interest to the GOT of three and one half per cent (3½%) per annum on the outstanding balance of the loan. Repayment and payment of interest to the GOT will be in local currency;
    - b. The Government of Turkey shall repay the loan to AID within forty (40) years after first disbursement, including a grace period of not to exceed ten (10) years, and shall pay AID interest at a rate of three fourths of one per cent (¾ of 1%) per annum for the first ten (10) years and at a rate of two per cent (2%) per annum thereafter on the outstanding balance of the loan. Repayment and payment of interest to AID will be in U. S. dollars;
    - c. Procurement under the loan will be from U. S. sources;
    - d. Such other conditions as AID may deem advisable.
  12. PROJECT COMMITTEE - AID/WASHINGTON:

Loan Officer	:	VDMcCutcheon, NESA/CDF
Counsel	:	HFMartin, NESA/GC
Engineer	:	TEMacMannis, NESA/TECH
Desk Officer	:	RFitzmaurice, NESA/GTIC
  13. PROJECT COMMITTEE - USAID/ANKARA:

Loan Officer	:	JMcGraw
Counsel	:	DWallace, Jr.
Engineer	:	JHall
- Drafting Officers: TEMacMannis, NESA/TECH - JMcGraw, USAID/Turkey - JEHall, USAID/Turkey - VDMcCutcheon, NESA/CDF:jj

TURKEYTURKISH STATE RAILWAYS (TCDD)  
CENTRAL TRAFFIC CONTROL AND COMMUNICATIONS SYSTEMSI. BACKGROUNDA. Railroad Transportation in Turkey

The Turkish State Railways (Türkiye Cumhuriyeti Devlet Demir) otherwise known as "TCDD" was organized in 1954 as a government corporation under the Minister of Communications, and classed as a State Economic Enterprise. At the present time, it has approximately 4900 miles of trackage, including a section in European Turkey that is part of the transcontinental railroad system; also TCDD lines connect with the railroad systems of Russia and Iraq.

AID has made three loans to assist the development of the railroads, two of them totaling \$16.5 million for parts of the Turkey-Iran Railroad and one of \$10 million for procurement of diesel locomotives to be used on the Ankara-Haydarpasa (Istanbul) line.

The rail line between Istanbul, Ankara and Zonguldak represents 14% of the TCDD's route miles and carries approximately 30% of the total freight and passenger traffic of the TCDD system. The line handles most of Turkey's imports and exports from the port at Istanbul, a large volume of coal and steel products and has a heavy commuter traffic for both Istanbul and Ankara. Traffic on the line cannot be appreciably increased under existing conditions.

Haydarpasa (Istanbul) is the Bosphorus terminus of TCDD's Asiatic lines; Ankara is the Country's capital and the hub of the rail traffic to and from Central Anatolia; Zonguldak is a major Black Sea port and the center of a coal field.

B. Central Traffic Control System

The need for increasing the capacity of the Haydarpasa-Ankara line has been obvious for some years. TCDD has considered various ways to increase the line capacity. They found double tracking to be far too expensive; the operation of fewer but longer and more heavily loaded trains is not possible due primarily to the lack of adequate brakes and to the very limited draw bar strength of the railway cars in service.

TCDD concluded that installation of a Centralized Traffic Control (CTC) system with a modern Communication system was one method which could be employed economically on the Haydarpasa-Ankara line.

In June of 1955, TCDD entered into a contract with Westinghouse Air Brake International Corporation (WABIC), a subsidiary of Westinghouse Air Brake Company, for the installation of a CTC system and a communication system on the Haydarpasa-Ankara-Zonguldak line.

WABIC proceeded with procurement and work under the contract. Payments and other disputes between the parties led to a total suspension of work in June, 1959. Court suits were initiated by both parties, but sporadic negotiations continued in an attempt to find a basis for completion of the project.

In 1960, the Development Loan Fund (DLF) received a loan application from TCDD requesting assistance in financing foreign exchange costs of diesel locomotives for operations between Ankara and Istanbul. DLF retained a railroad operations consultant to report on the operations of TCDD in the Ankara-Istanbul area. In his report to the DLF, the consultant indicated that, among other things, completion of the CTC system between Ankara and Istanbul was an important means of improving operations and affording relief to this congested traffic area. Consequently, in approving a loan for procurement of the diesels in late 1962, AID stipulated that TCDD should submit "firm plans for the completion within a reasonable period of time of a Central Traffic Control system between Ankara and Istanbul". A special covenant to this effect was included in the Loan Agreement.

TCDD and WABIC made little, if any, progress in settling their dispute. In February, 1963 AID entered into a contract with the consulting firm of Wyer-Dick and Company, specialists in railroad management and operations, under which Wyer-Dick undertook, among other duties,

"To advise and render technical assistance to TCDD concerning the most efficient, expeditious and economical method of completing the installation of "CTC" on the rail lines which connect Ankara with Istanbul and Zonguldak, giving due consideration to the contract which TCDD entered into with Westinghouse Air Brake Company in 1955."

To accomplish this purpose, Wyer-Dick and Company was required to prepare an inventory of major items of equipment delivered to Turkey under the 1955 contract and to indicate the present condition of such equipment; describe the additional equipment and services needed to complete installation of the CTC system, including cost estimates, describe

possible arrangements which could be made by TCDD to complete the contemplated CTC, outline the modification of the CTC required to accommodate the proposed electrification in the Haydarpara-Arifiye-Adapazari territory, and evaluate the economic benefit to TCDD reasonably expected to result from the contemplated installation of CTC.

Wyer-Dick suggested to both parties a means of solving their dispute and assisted in the negotiations between the parties. TCDD and WABIC agreed on a contract in February, 1964 for the installation of a CTC and Communication system on the Ankara-Haydarpara line and a Communication system on the Ankara-Zonguldak line. A loan application was submitted to AID requesting financing for the U. S. dollar cost of the contract.

## II. THE PROJECT

The Project consists of:

(A) A CTC system for the territory Arifiye - Adapazari - Ankara consisting of -

1. A wayside system for electrified traction in the Haydarpara - Arifiye - Adapazari territory and for non-electrified traction in the Arifiye - Ankara territory;
2. Control machines; and
3. A code control and indication system.

(B) A Communications system consisting of -

1. Dispatcher's phone, station to station block phone, maintenance phone including portable telephone, and high frequency carrier system for the territory Haydarpara - Arifiye - Adapazari - Ankara;
2. Dispatcher's phone and station to station block phone in the territory Ankara - Irmak; and
3. High frequency carrier system in the territory Ankara - Irmak - Catalagzi (Zonguldak).

Items (A) and (B) are discussed separately.

A. CTC System

The arrangement of main tracks from Haydarpara to Ankara is indicated in Table 1.

TABLE 1

Km 0 + 0 (Haydarpara)	to Km 141 + 199 (Gebze)	Double Track
(1) Km 141 + 199 (Gebze)	to Km 131 + 544 (Arifiye)	Single Track
(2) Km 0 + 0 (Arifiye)	to Km 8 + 491 (Adapazari)	Single Track
Km 131 + 544 (Arifiye)	to Km 313 + 395 (Eskisehir)	Single Track
Km 551 + 419 (Cincan)	to Km 576 + 633 (Ankara)	Double Track

Note (1) - This section planned to be double tracked by 1967.

Note (2) - Arifiye is the junction point for the Branch Line to Adapazari.

Note (3) - The entire section from Haydarpara to Arifiye and Adapazari is to be electrified.

Note (4) - The CTC system will be designed to function on the planned electrified and double track territory. It can be modified, if necessary, to meet actual conditions at the time the system is to be installed.

The interlocking plant at Haydarpara handles all rail traffic - freight, passenger and commuter - that moves to or from this terminal and the entire TCDD system. The CTC plans provide for installation at Haydarpara of a "Uit" type machine for control of the interlocking and a "TCC" machine for control of the 140 Km section from Haydarpara to Arifiye and Adapazari. Within the interlocking there will be 29 power operated switches and 21 signals. In the outlying territory the average daily traffic amounts to 42 commuter trains and 56 passenger and freight trains. There will be 26 CTC controlled passing sidings in this territory.

The 182 kilometer single track territory from Arifiye to Eskisehir will be controlled by a third control machine located at Ankara. The traffic on this territory averages 38 trains per day and there will be 20 CTC controlled passing sidings.

A fourth control machine located in Ankara will control the 263 kilometers of trackage between Eskisehir and Ankara; this is a single track line except for about 25 kilometers westward from Ankara. The traffic outside the commuting territory averages 34 trains per day and within the Ankara commuting area it averages 36 local and 54 other trains daily. There will be 18 CTC controlled passing sidings in the outlying

territory and six in the commuting area. This same control machine will operate 28 power switches and thirty signals in the Ankara interlocking.

### B. Communications System

A modern communication system is essential to the successful operation of a CTC system. A dispatcher's phone line and portable maintenance phones are essential and a station to station phone line is highly desirable. All these facilities are to be provided only for the Haydarpasa - Ankara line. However, a dispatcher's phone line and a station to station phone line is to be provided between Ankara and Irmak, a junction station 70 kilometers east of Ankara. Also, a high frequency carrier system is to be installed for the entire line from Haydarpasa to Ankara, Irmak and Zonguldak.

Aluminum sheathed armoured cable, procured from European sources, will be used in the electrified territory. The cable will be buried and provide a system relatively free of trouble from the elements and otherwise minimize the risk of interruptions to operations of both the CTC and communication system. An overhead pole and wire system will be provided for the non-electrified territory. Installation of the high frequency carrier system, to be done by the German firm Telefunken, will improve train operations along the entire route by permitting use of the automatic dialing telephones already in use in Turkey but not on the TCDD.

### C. Design

The CTC system will be designed by Union Switch and Signal Division of Westinghouse Air Brake Company. It is one of the two U. S. firms that are acknowledged by U. S. Railroad companies as thoroughly qualified in the science of railroad signaling. Their experience at the end of 1963 includes installation of CTC systems covering 23,854 route miles on railroads in the U. S., Canada and South America.

The system to be used on the TCDD is the same as used on U. S. railroads with the exception of about 84 kilometers in the territory between Eskisehir and Polatli where steel ties are in the track. Steel ties preclude the use of track circuits so in this territory "axle counter" machines will be used to count the axles entering and leaving the blocks; if the same number leave the block as enter it the signals will automatically clear themselves. Track circuits are preferable because they will cause signals to display restrictive or stop signal in case something occupies the track or a rail breaks, etc. However, the use of axle counter machines, manufactured by a Swiss firm, is considered satisfactory.

### III. BORROWER

The Borrower will be the Türkiye Cumhuriyeti Devlet Demiryolları İşletmesi Umum Müdürlüğü (General Directorate of Turkish State Railways, abbreviated as TCDD). It is an autonomous entity under the jurisdiction of the Ministry of Transportation.

TCDD began operations in 1954 and is assigned certain obligatory functions:

1. To operate the railway lines made available by the State;
2. To operate the ports, quays, and wharfs assigned by the State which are connected with the railway;
3. To improve, enlarge, and replace the railways and port facilities in accordance with operational requirements.

A Board of Directors, normally composed of seven members, is responsible for the management and control of TCDD operations. The President of the Board, two other members of the Board, and the General Manager are nominated by the Minister of Transportation. One Board Member each is nominated by the Ministers of Finance, Commerce and Public Works. All Board Members are appointed by the Council of Ministers.

There are currently five Assistant General Managers, appointed by the General Manager and approved by the Ministry of Transportation and the Council of Ministers.

### IV. ECONOMIC AND FINANCIAL ANALYSIS

#### A. General

In the Turkish Five Year Plan (1963-1967), investment in the Transportation and Communications Sector is estimated at TL 8,159 million (\$906 million) during the plan period. This represents 13.7 per cent of gross investment projected for 1963-1967, and indicates the importance attributed to this broad sector by the GOT.

DEPARTMENT OF STATE  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
Washington, D.C. 20523

July 28, 1964  
(Ref. AID-DLC/P-250)

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: TURKEY - Central Traffic Control and Communications System

Please make the following correction in subject Capital Assistance Paper:

Page 6, Para. III, first sentence should read: "The Borrower will be the Government of Turkey for relending to Türkiye Cumhuriyeti Devlet Demiryolları İşletmesi Umum Müdürlüğü (General Directorate of Turkish State Railways, abbreviated as TCDD)."

Helen E. Nelson  
Secretary  
Development Loan Committee

Estimated demand for rail transportation over the plan period is as follows:

Year	Million ton-km		Million Passenger-km	
	Freight	Index?	Passengers	Index
1962	4,091.9	100.0	4,166.5	100.0
1963	5,076.1	125.2	4,605.6	110.5
1967	7,147.9	176.4	6,912.8	165.9

To meet this estimated demand, investment in railways is projected as TL 2,067 million (\$230 million) including maintenance costs of TL 906 million (\$100 million). The following table shows details of these projections as given in the Five Year Plan:

	Million TL					Total
	1963	1964	1965	1966	1967	
Maintenance	100.2	120.4	150.6	251.4	283.4	906.0
Continuing Works	42.8	18.8	18.9	6.7	---	87.2
New Works	16.5	23.0	54.0	73.7	229.5	296.7
SUB-TOTAL	159.5	162.2	223.5	331.8	512.9	1389.9
Rolling Stock	77.6	105.8	129.9	149.5	213.9	676.7
TOTAL	237.1	268.0	353.4	481.3	726.8	2066.6

Of the funds to be expended for maintenance, continuing works, and new works, some TL 273 million (\$30 million), or about 20 per cent, will be in foreign exchange. No foreign exchange estimate is given for investment in rolling stock. The GOT states that at the present time virtually all types of passenger and freight cars required by TCDD can be manufactured in Turkey.

#### B. The Project

Projected increases in railway traffic demand are particularly heavy in the Istanbul-Ankara-Zonguldak areas covered by this project. Istanbul is the largest industrial center in Turkey and requirements for movement of raw materials and manufactured goods on the route to and from Ankara are the result of expanding industrial activity in both public and private sectors. The Ankara-Zonguldak line will have to meet increased demands stemming from industrial growth and particularly for the transportation of Zonguldak coal and steel products from the mills at Eregli and Karabuk. The advantages of CTC derive primarily from the centralized control of train operations over long distances and the remote operation of switches and signals. The system results in improved

train performances, increases the track capacity and permits safer train operations. The reduction in train schedules permits a shorter turn-around of equipment and minimizes need for additional equipment. The increase in line capacity often will eliminate need for a second track and save the expense of construction and maintenance, which usually is far greater than the cost of a CTC system.

The benefit of improved train operations should be achieved on the entire Haydarpasa - Ankara line. Installation of CTC on the existing 44 Kms double track line eastward from Haydarpasa, which is to be extended 87 Kms further to Arifiye, will increase the double track capacity by 50% or more. The proposed electrification of this same territory will not affect the benefits of the CTC system. Installation of CTC on the 420 kilometers of single track will increase the line capacity by 75% to 80% and eliminate need for a second track. The increase in line capacity in both territories should provide ample capacity for many years.

#### C. Cost Estimates

Table 2 on the next page indicates the estimated cost for completing installation of the CTC and Communications systems. Although the work done and the goods provided under the 1955 WABIC-TCDD contract will be utilized to the fullest extent possible, the expense of such goods and services are not included in the cost of the current project. The GOT has agreed to obtain the required European financing.

The WABIC-TCDD contract provides for the equipment and materials to be supplied at the lower of two prices: (1) the unit price in effect at the date the order is placed, less 8.1% for commodities, furnished by U. S. & S., or (2) the maximum net unit price specified in the several "lists" included in the contract. The 8.1% reduction offered by WABIC eliminates the profit earned by that corporation in 1962 and was included as part of the settlement of the dispute. The maximum prices listed are based on prices that are firm until August 14, 1964, except as adjusted under a provision for escalation. The cost of services to be provided by U. S. & S. are based on U. S. & S. established rates in effect as of August 15, 1963; however, TCDD will be billed for the services at the cited rates, less 8.1%. Similarly, rates have been established for services to be provided by Telefunken on the communications system.

AID considers the basic price for the systems, as offered by WABIC, to be fair and the overall cost of the project as indicated by Table 2 to be reasonably firm. Wyer-Dick and Company has indicated that it believes the cost estimates are reasonable.

TABLE 2

TURKISH STATE RAILWAYS  
CENTRALIZED TRAFFIC CONTROL & COMMUNICATIONS SYSTEMS  
Estimated Costs (expressed in thousands of U.S. Dollars)

<u>Item No.</u>	<u>Activities</u>	<u>U. S. Curr. Cost</u>	<u>European Curr. Cost</u>	<u>Foreign Curr. Cost</u>	<u>Local Curr. Cost</u>	<u>Total Cost</u>
1.	Engineering Services	234		234		
2.	Signal & Communication Equip.	2,083	906 <sup>a/</sup>	2,989		
3.	Installation Material	818		818		
4.	Construction Equipment	8		8		
5.	Shipping Cost-U.S. Suppliers	158		158		
6.	Technical Services in Turkey	282	38	320		
7.	Supervision & Administration	70		70		
<hr/>						
8.	Sub-Total - "WABIC" Contract	3,653	944	4,597		
<hr/>						
9.	Shipping Cost-European Suppliers		28 <sup>b/</sup>	28		
10.	Aluminum Sheathed Armoured Cable		650	650		
11.	"WABIC" Tech Services and A.S.A. Cable	14		14		
12.	Maintenance Materials	300		300		
13.	Training in U. S.	25		25		
14.	Contingencies	208	78	286		
15.	Possible Escalation	200		200		
<hr/>						
16.	Sub-Total - Other Costs	747	750	1,503		
<hr/>						
17.	Total - Foreign Curr. Costs	4,400	1,700	6,100		6,100
18.	Total - Local Currency Costs	--	--	--	3,556	3,556
<hr/>						
19.	Grand Total Cost	4,400	1,700	6,100	3,556	9,656

Note <sup>a/</sup> Swedish Kroner Equivalent of \$440,747 + German D.M. Equivalent of \$465,377  
<sup>b/</sup> Swedish Kroner Equivalent of \$8,650 + German D.M. Equivalent of \$19,744  
<sup>c/</sup> Dollar Equivalent of 32,000,000 Turkish Lira

D. Benefits of the System

To expand and improve service on this line, TCDD is substituting diesel power for the more inefficient steam power, replacing light rail with heavier rail and installing CTC and a communications system. Together these will have a material effect upon the service that TCDD can provide.

Both the railroad operations consultant and Wyer-Dick have confirmed the need for additional capacity on this line and have recommended installation of CTC as an economic means of accomplishing this. CTC will permit an increase of 75-80% in traffic capacity at one-fourth or one-fifth the cost of double tracking the entire line. This increase in capacity alone will be sufficient to handle growth of traffic on the system for many years.

Added traffic potential of the line can provide additional revenues to TCDD of approximately TL 125,000,000 per year. Reduction of operating personnel and of train and engine operating costs will permit a direct saving of approximately TL 3,600,000 per year.

Other benefits of the system cannot be estimated in monetary terms, although they are real. These would include savings from not having to purchase additional equipment, better utilization of track forces and equipment, improvement in safety and the major benefit to the Turkish economy of having sufficient capacity to move the increasing quantity of goods necessary to its industrial development.

Annual costs of the system, including interest, amortization, maintenance, repair and operation are estimated at approximately \$1,200,000.

E. Financial Considerations

TCDD is not a profit earning organization at present, nor has it been historically. The GOT has viewed it as an infrastructure operation, designed to support other elements of the economy. No serious efforts to place TCDD on a profit-making basis have yet been taken. Studies of TCDD management and operations have been undertaken by the former General Director of the German Federal Railroads, Dr. Edmund Frohne, who refers to three major factors adversely affecting the financial soundness of TCDD. They are: (1) the tendency of the GOT to require subsidized rates for certain consumers, (2) over-employment, and (3) the existing transportation tax. Based on his findings, Dr. Frohne

has drafted new legislation giving TCDD additional freedom to establish rates and otherwise manage its affairs. The draft legislation is still under study within the GOT.

In recognition of the weak financial condition of TCDD, AID has included special provisions in two previous loans. In the loan for diesel locomotives (277-H-033), the applicable section provided that TCDD must take measures acceptable to AID to place its operations on a sound financial basis. In the loan for the Turkey-Iran Railroad (290-K-002) provision was made for accounting assistance to improve financial and operating management of TCDD.

AID believes that these requirements are sufficient to provide for the development of procedures to improve TCDD's financial condition and no additional financial covenants are required. It should be recognized that the end-result at which existing covenants are directed will have to be achieved over a period of several years and by methods to be determined and agreed upon.

#### F. Terms

It is recommended that the loan be made to the GOT at the usual rate for Turkey of  $\frac{3}{4}$  of 1% for the first ten years and 2% for the next thirty years, with a grace period of ten years. The GOT would relend to TCDD at  $3\frac{1}{2}$ % for twenty years with a five year grace period. The twenty-year period would be shorter than the expected life of the equipment.

#### V. IMPLEMENTATION PLAN:

WABIC and TCDD have signed a contract for the project covering both the CTC and communication systems. The contract will become effective when U. S. and foreign financing is firmly committed for its payment. The GOT will make firm arrangements for the necessary European financing.

AID will review and approve this contract prior to committing funds. TCDD and WABIC will jointly work out a work program. Both systems will be installed by TCDD with the assistance of WABIC. Installation will require an expected two years. One WABIC representative, qualified in CTC and signalling practices, will remain for approximately one and one-half year after completion of the system to assure its satisfactory operation.

WABIC is satisfied that TCDD is capable of installing the systems with the assistance of WABIC and Telefunken. A considerable number of signal maintainers and signal helpers have already received

training from WABIC and will form a nucleus of installation and maintenance personnel. WABIC will provide limited training for TCDD personnel in this country and Turkey.

VI. PROCUREMENT

Most goods and services for the CTC system will be procured from the United States. Most goods and services for the communications system will be procured from European sources. AID would finance only goods and services of U. S. source and origin.

Certain goods have been delivered and installed under the 1955 contract between WABIC and TCDD. The system which was, and is, to be installed employs circuits and equipment designed and built either by the Westinghouse Air Brake organization or its licensees. Wyer-Dick has stated that no other company, either American or European, could successfully complete the installation. The other leading American signal firm has informally declined even to consider finishing the installation.

AID believes that the project should be completed by WABIC and TCDD. The concerned parties and Wyer-Dick agree with this conclusion. It is therefore proposed that Westinghouse complete the job without requirement for competitive bidding.

June 12, 1964

ANNEX I, Page 1 of 6 pages

TURKEY - CENTRAL TRAFFIC CONTROL AND COMMUNICATIONS  
SYSTEM

## CHECK LIST OF STATUTORY CRITERIA

1. FA Sec. 102. Precautions have been or are being taken to assure loan proceeds are not diverted to short-term emergency purposes (such as budgetary, balance of payments, or military purposes) or any other purpose not essential to the country's long-range economic development. -- The Loan Agreement will provide that the loan funds be used only for the Central Traffic Control and Communications System now necessary to provide for required increased traffic on certain lines of the Turkish Railway System (hereinafter "CTS"). The Turkish Railway system provides an important part of the transportation requirements of Turkey's five year plan and the CTS is specifically included in such plan. (See pp. 107 and 108).
2. FA Sec. 201(b). Manner in which loan will promote country's economic development emphasizing help for long-range plans and programs designed to develop economic resources and increase productive capacities. -- See item 1 above, also Section I B, Section IV A, B and D.
3. FA Sec. 201(b)(1). Information and conclusion on availability of financing from other free-world sources, including private sources within the United States. -- Eximbank has cleared the loan application for A.I.D. consideration. Private sources of financing in the U.S. would not be willing to provide the loan funds under the recommended terms and conditions.
4. FA Sec. 201(b)(2). Information and conclusion on activity's economic and technical soundness, including the capacity of the recipient country to repay the loan at a reasonable rate of interest. -- A.I.D. has determined that Turkey can repay loans at the rate of interest to be charged herein. For economic and technical soundness see Section IV.
5. FA Sec. 201(b)(3). Information and conclusion on existence of reasonable promise activity will contribute to development of economic resources or increase of productive capacities. -- Considered in Sections I B and Section IV.
6. FA Sec. 201(b)(4). Information and conclusion on activity's relationship to other development activities, and its contribution to realizable long-range objectives. -- Also Section I B, Section IV A, B and D.

The following abbreviations are used:

FA Foreign Assistance Act of 1961, as amended by the Foreign Assistance Act of 1963.

App. Foreign Assistance and Related Agencies Appropriation Act, 1964.

7. FA Sec. 201(b)(5). Country's self-help measures, including institution of Investment Guaranty programs. -- The Investment Guaranty Program is in effect in Turkey. Turkey has initiated significant self-help measures in her current 5 year plan (1963-1967).
8. FA Sec. 201(b)(6). Information and conclusion on possible effects on U.S. economy, with special reference to areas of substantial labor surplus. -- All purchases financed from the A.I.D. loan would have their source and origin in the U.S. Areas of substantial labor surplus in the U.S. might benefit. No adverse effects on U.S. economy known.
9. FA Sec. 201(b). Information and conclusion on reasonable prospects of repayment. -- A.I.D. has determined that there are reasonable prospects of repayment.
10. FA Sec. 201(d). Information and conclusion on legality (under laws of the country and the U.S.) and reasonableness of lending and relending terms. -- Considered in Section E. The funds would be lent and relent in compliance with the laws of the U.S. and Turkey.
11. FA Sec. 201(e). Information and conclusion on availability of an application together with sufficient information and assurances to indicate reasonably that funds will be used in an economically and technically sound manner. -- Such an application has been received.
12. FA Sec. 201(f). If a project, information and conclusion whether it will promote the economic development of the requesting country, taking into account the country's human and material resource requirements and the relationship between the ultimate objectives of the project and the country's over-all economic development. -- See Section I A and B, Section IV.
13. FA Sec. 201(g). If a project, information and conclusion whether it specifically provides for appropriate participation by private enterprise. -- This is a public sector project. Purchases financed from the A.I.D. loan would be from private U.S. firms. U.S. shipping companies would participate in transporting the equipment financed by the loan. Improved railroad facilities from the project would be used to transport goods used and produced by private Turkish firms.
14. FA Sec. 202(a). Extent to which loan will encourage economic development through private enterprise and how. -- See Section IV B; the loan will provide needed increased traffic capacity of a portion of railway line over which a substantial amount of goods used and produced by private industry is transported.
15. FA Sec. 601. Information and conclusions whether loan will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage

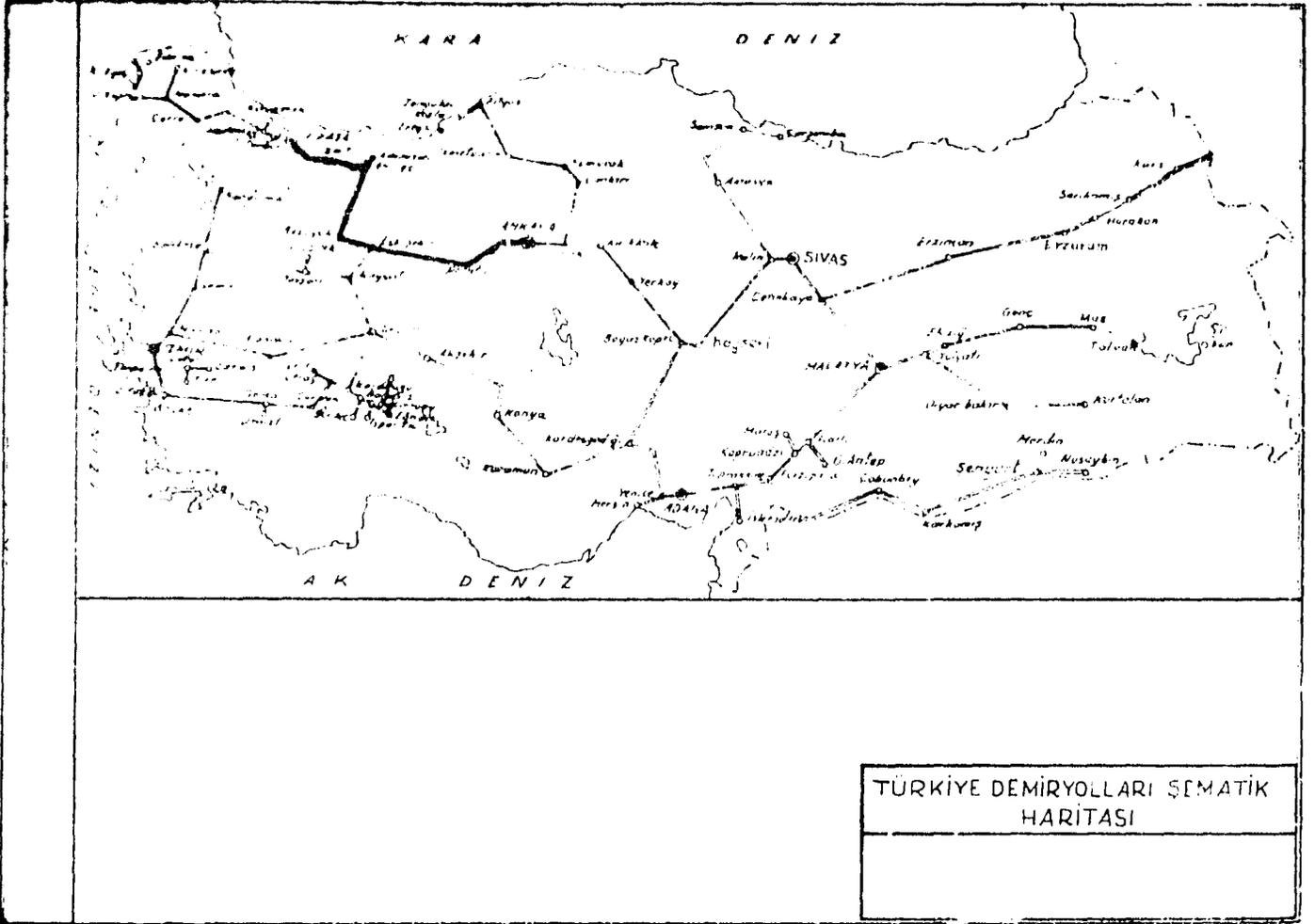
monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions. -- (a) Trade would take place between the U.S. and Turkey since all purchases financed from the loan would have their source and origin in the U.S. The loan otherwise would have no direct effect in increasing the flow of international trade. (b) A substantial element of Turkish private sector firms will benefit from the improved transportation facilities made available by the CTS. (c) The loan would not necessarily have any direct effect on the development and use of cooperatives, credit unions, and savings and loan associations. (d) It is unlikely that the loan would have any direct effect in discouraging monopolistic practices. (e) The project should increase the efficiency of above transportation service and therefore indirectly improve such efficiency. (f) The loan would not necessarily have any direct effect in strengthening free labor unions.

16. FA Secs. 601, 602. Information and conclusions whether loan will (a) encourage U.S. private trade and investment abroad; (b) encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise); and (c) permit American small business to participate equitably in the furnishing of goods and services financed by it. -- (a) All purchases financed from the loan would have their source and origin in the U.S. and would be from private U.S. firms. (b) All purchases financed from the loan would have their source and origin in the U.S. and would be from private U.S. firms. Transactions would take place through private trade channels. (c) It will be necessary to waive application of the Small Business notification procedure. See Section VI.
17. FA Sec. 604(a). Compliance with restriction of commodity procurement to U.S. except as otherwise determined by the President and subject to statutory reporting requirements. -- All goods and services financed by the loan would have their source and origin in the U.S.
18. FA Sec. 604(b). Compliance with bulk commodity procurement restriction to prices no higher than the market price prevailing in the U.S. at the time of purchase. -- The Loan Agreement would contain a provision covering this point.
19. FA Sec. 604(d). Compliance with requirement that marine insurance be purchased on commodities if the participating country discriminates, and that such insurance be placed in the U.S. -- The Loan Agreement would contain a provision covering this point.
20. FA Sec. 611(a)(1). Information and conclusion on availability of engineering, financial, and other plans necessary to carry out the assistance and of a reasonably firm estimate of the cost of the assistance to the U.S. -- Sufficient information furnished to reach the requested conclusion. See Sections II and IV.

21. FA Sec. 611 (a)(2). Necessary legislative action required with recipient country and basis for reasonable anticipation such action will be completed in time to permit orderly accomplishment of purposes of loan. -- No legislative action is necessary to carry out the project.
22. FA Sec. 611 (a)(3); App. Sec. 101. If water or water-related land resource construction project or program, introduction and conclusion on benefit-cost computation. -- This is not a water or water-related land resource construction project or program.
23. FA Sec. 611(e). Compliance with requirement that contracts for construction be made on competitive basis to maximum extent practicable. -- This is a situation where proprietary procurement is justified, see Section VI. A determination to that effect will be made within A.I.D. This is also not a construction contract which is being financed.
24. FA Sec. 619. Compliance with requirement that assistance to newly independent countries be furnished through multilateral organizations or plans to maximum extent appropriate. -- Turkey is not a newly independent country.
25. FA Sec. 620(a); App. Sec. 107. Compliance with prohibitions against assistance to Cuba and any country (a) which furnishes assistance to Cuba or fails take appropriate steps by February 14, 1964, to prevent ships or aircraft under its registry from carrying equipment, materials or supplies from or to Cuba; or (b) which sells, furnishes or permits any ships under its registry from carrying items on the Battle Act List, or other items of primary strategic significance, or items of economic assistance. -- Turkey is not currently in violation of this section.
26. FA Sec. 620(b). If assistance to the government of a country, existence of determination it is not controlled by the international Communist movement. -- Turkey is not controlled by the international Communist movement.
27. FA Sec. 620(c). If assistance to the government of a country, existence of indebtedness to a U.S. citizen for goods or services furnished or ordered where such citizen has exhausted available legal remedies or where the debt is not denied or contested by such government or the indebtedness arises under an unconditional guaranty of payment given by such government. -- Turkey is not ineligible under this section.
28. FA Sec. 620(d). If assistance for any productive enterprise which will compete with U.S. enterprise, existence or agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan. -- The Turkish Railway System is not a productive enterprise.

29. FA Sec. 620(e). If assistance to the government of a country, extent to which it (including government agencies or subdivisions) has, after January 1, 1962, taken steps to repudiate or nullify contracts or taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking appropriate steps to discharge its obligations. -- Turkey is not ineligible under this section.
30. FA Sec. 620(f); App. Sec. 109. Compliance with prohibitions against assistance to any Communist country. -- Turkey is not a Communist country.
31. FA Sec. 620(g). Compliance with prohibition against use of assistance to compensate owners for expropriated or nationalized property. -- Neither the Turkish government nor any political subdivision or agency thereof is ineligible under this section.
32. FA Sec. 620(h). Compliance with regulations and procedures adopted to insure against use of assistance in a manner which, contrary to the best interests of the U.S., promotes or assists the foreign aid projects or activities of the Communist-bloc countries. -- The Loan Agreement would contain a provision covering this point.
33. FA Sec. 620(i). Existence of a determination that the country is engaging in or preparing for aggressive military efforts. -- Turkey is not ineligible under this section.
34. FA Sec. 620(k). If construction of productive enterprise where aggregate value of assistance to be furnished by U.S. will exceed \$100 million, identification of statutory authority. -- U.S. assistance to this project will not exceed \$100 million in U.S. Dollars.
35. FA Sec. 620(l). Compliance with prohibition against assistance after December 31, 1965, for the government of a country which fails to institute investment guaranty program. -- The Investment Guaranty Program is in effect in Turkey.
36. FA Sec. 636(h). Appropriate steps that have been taken to assure that, to maximum extent possible, country is contributing local currencies to meet the cost of contractual and other services and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services. -- Turkey is contributing the local currency required for this project.
37. App. . Use of funds to carry out FA Sec. 205, which pertains to IDA. -- No contribution to IDA is involved in this project.
38. App. Sec. 102. Compliance with requirements that payments in excess of \$25,000 for architectural and engineering services on any one project be reported to Congress. -- Any such payments will be reported.

39. App. Sec. 104. Compliance with bar against funds to pay pensions, etc. for military personnel. -- Loan funds would not be provided for any of the prohibited purposes.
40. App. Sec. 111. Compliance with requirement for security clearance of personnel under contracts for services. -- Appropriate provision for compliance with this requirement would be included in the implementing documentation.
41. App. Sec. 112. Compliance with requirement for approval of contractors and contract terms for capital projects. -- Contractor and contract terms financed by the A.I.D. loan would be approved by A.I.D.
42. App. Sec. 114. Compliance with bar against use of funds to pay assessments, etc., of UN member. -- No such payment would be made from a loan for this project.
43. App. Sec. 117. Availability of sufficient funds which have been appropriated or authorized for use by an appropriate Act. -- Funds are available.
44. App. Sec. 118. Compliance with regulations on employment of U.S. and local personnel for funds obligated after April 30, 1964. -- Appropriate provision for compliance with such regulations would be included in the implementing documentation.
45. App. Sec. 601. Compliance with bar against use of funds for publicity or propaganda purposes within U.S. not heretofore authorized by Congress. -- Funds loaned for this project would not be used for such purposes.



TÜRKİYE DEMİRYOLLARI ŞEMATİK HARİTASI



STATE RAILWAYS OF THE REPUBLIC OF TURKEY

PROFIT AND LOSS STATEMENT  
FOR THE YEAR OF 1968

LIST OF ACCOUNTS	DEBITS		LIST OF ACCOUNTS	CREDITS	
	IN BRESKION Turkish TL.	TOTAL Turkish TL.		IN BRESKION Turkish TL.	TOTAL Turkish TL.
<b>I - RAILWAY OPERATIONS - EXPENSES</b>		100.315.004,78	<b>I - RAILWAY OPERATIONS - REVENUES</b>		50.217.746,30
1- Management expenses (Ports inclusive)	105.003.052,14		1- Passenger and baggage revenues	157.245.000,34	
2- Employer's liabilities (ports " )	07.045.516,50		2- Freight revenue	50.2727.502,46	
3- Operation of permanent way and maintenance expenses	105.900.452,74		3- Other transportation revenues	23.100.702,17	
4- Operation of traction and maintenance expenses	515.001.500,00		4- Port and wharf revenue	42.115.000,13	
5- Traffic expenses	02.007.517,25				
6- Operation of ports and wharves	24.507.137,75				
<b>II- INTEREST AND COMMISSIONS PAID</b>		73.406.022,10	<b>II- REVENUES FROM OTHERS</b>		39.050,11
<b>III- RESERVES</b>		73.307.632,58	<b>III- INTERESTS AND COMMISSIONS COLLECTED</b>		7.84.113,56
<b>IV- OTHER EXPENDITURES AND LOSSES</b>		35.051.056,17	<b>IV- REFUNDS FROM DEPOSITS</b>		1000.070,32
1- Losses resulted from sales	203.045,77		<b>V- OTHER REVENUES AND PROFITS</b>		27.000.740,51
2- Losses resulted from act of god	04.104,46		1 - Profits resulted from sales	5.250.050,37	
3- Expenses incurred in connection with clearing of tracks from wrecks resulted from accidents	500.024,02		2 - Rents collected	3.084.000,01	
4- Various contributions	130.003,77		3 - Revenues and profits from the previous years accrued in the fiscal year	0.262.500,03	
5- Expenses and losses from the previous years accrued in the fiscal year	17.211.965,30		4 - Funds provided by treasury	40.331.000,76	
6- Destruction of fixed assets	2.709.144,95		5 - Other revenues and profits	24.210.000,34	
7- Enumeration and acceptance shortages	-				
8- Dismissal of claims	22.450,30				
9- Other expenses and losses	13.075.077,00				
<b>TOTAL</b>		<b>932.861.415,63</b>	<b>TOTAL</b>		<b>505.495.715,80</b>
<b>V - PROFIT :</b>		-	<b>VI - LOSS :</b>		247.011.000,03
<b>TOTAL</b>		<b>932.861.415,63</b>	<b>TOTAL</b>		<b>932.861.415,63</b>

DEPARTMENT OF STATE  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
Washington, D.C. 20523

AID-DLC/P-260

ANNEX IV

A.I.D. Loan No.

CAPITAL ASSISTANCE LOAN AUTHORIZATION  
(Provided from Development Loan Funds)

TURKEY: Central Traffic Control and Communications System

Pursuant to the authority vested in the Assistant Administrator, Bureau for Near East and South Asia, of the Agency for International Development (hereinafter called "AID") by the Foreign Assistance Act of 1961, as amended, and the Delegations of Authority issued thereunder, I hereby authorize the establishment of a loan pursuant to Part I, Chapter 2, Title I, the Development Loan Fund, to the Government of Turkey in the amount of not to exceed Four Million Four Hundred Thousand U.S. Dollars (\$4,400,000) to assist in financing the foreign exchange costs of installing a Central Traffic Control and Communications System between Istanbul and Ankara and a Communications System between Zonguldak and Ankara in order to increase the traffic capacity of the railroad lines between Istanbul, Ankara, and Zonguldak; this loan to be subject to the following terms and conditions:

1. Interest Rate and Terms of Repayment:

This loan shall be repaid within forty (40) years after the date of the first disbursement thereunder, including a grace period of not to exceed ten (10) years. The interest on the disbursed balance of the loan shall be three quarters of one per cent ( $3/4$  of 1%) per annum during the ten (10) year grace period and two percent (2%) per annum thereafter.

2. Currency Repayment:

Provision shall be made for repayment of the loan and payment of interest in United States dollars.

3. Other Terms and Conditions:

(a) Equipment, materials and services financed under the loan shall be procured from the United States of America;

(b) Relending or other financial arrangements made by the Borrower with respect to the loan proceeds shall be satisfactory to A.I.D.; and

(c) Such other terms and conditions as A.I.D. may deem advisable.

\_\_\_\_\_  
William B. Macomber  
Assistant Administrator  
Bureau for Near East and South Asia

\_\_\_\_\_  
Date