Declassified E.O. 12356 Section 3.3/NND No. 785019

ACC CEB/1/2 10000/150/705 CENTR
JAN. -

Declassified E.O. 12356 Section 3.3/NND No. 785019

10000/150/705

CENTRAL ELECTRICAL BOARD
JAN. - AUG. 1944

Central Electrical Board.

C.E.B/1/2

Declassified E.O. 12356 Section 3.3/NND No. 785019

10000 /150/705

THIS FOLDER
CONTAINS PAPERS
FROM JAN 1944
TO AUG 1944
CATALOGUE.

Declassified E.O. 12356 Section 3.3/NND No. 785019

WORK ALLOCATED TO PBS

Feb 18.

1. Rebuilding of transmission line to ROME.

Mar 12.

2. Rehabilitation of the 60 KV MATESE BENEVENTO line.

May 30.

3. Produce (with Volturno Coy) plan and specifications for carrying out restoration of Volturno 60 KV line at CAPODICHINO.

Declassified E.O. 12356 Section 3.3/NND No. 785019

WORK ALLOCATED TO D.W.

13 Feb.

1. Preparation of floating emergency power equipment for ROME.

30 May.

2. Take up with "Q" HQ AAI question of third class army trucks for SME

Declassified E.O. 12356 Section 3.3/NND No. 785019

WORK ALLOCATED TO EIGHTH ARMY

16 Apl.

1. Repairing of Volturno 60 KV transmission line.

3 May.

2. Rehabilitation of MATESE No 2 Plant - section of penstock and installation of a 3500 KVA hydro electric unit.

3 May.

3. Rehabilitation of MATESE - LETE transmission line.

3 May.

4. Rehabilitation of the Green MATESE - FRATTA transmission line, from Volturno River to MATESE.

Declassified E.O. 12356 Section 3.3/NND No. 785019

WORK ALLOCATED TO 2 DISTRICT

16 Apl.

1. CE 2 District, through DDW, that work on DE CECCO power station should continue

16 Apl.

2. Repair of 150 KV line from FOGGIA as far north as military situation permits

Declassified E.O. 12356 Section 3.3/NND No. 785019

WORK ALLOCATED TO 3 DISTRICT

12 Mar.

1. Transmission line BENEVENTO - CALORE

12 Mary

2. Repair CALORE hydro electric power station and place least damaged unit in operation, remove more damaged unit and transport to NAPLES.

3 May.

3. Rehabilitation of CALORE - TUSCIANO transmission line (60 KV)

3 May.

4. Rehabilitation of the second circuit 30 KV TANAGRO - TUSCIANO transmission line.

3 May.

5. Rehabilitation of second circuit 30 KV TUSCIANO - TORRE Transmission line.

30 May.

6. Rehabilitation of LETE hydro electric power plant. (To be conversant with work going on)

Declassified E.O. 12356 Section 3.3/NND No. 785019

WORK ALLOCATED TO A.C.C.

12 Mar.

1. Transfer of hydro electric unit from ALTO BELICE plant to NAPLES

30 May.

2. Lt-Col. LAPPER to pursue question of obtaining good trucks for SME
3. " " " " " " " tyres and tubes
4. " " " " " " " electric hand lamps from PBS
5. Requisition CALORE hydro electric plant.
6. Secure shoes for Workmen of Power Co -

Declassified E.O. 12356 Section 3.3/NND No. 785019

ROYAL NAVY

12 Mar.

1. Rehabilitation of CAPUANO Steam Plant

30 May.

2. Repair of No 2 unit from CALORE hydro electric plant.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

Subject: Electric Power Supply - MATEER II - Alto-Relico Unit

(65)

11 CE Works
EIGHTH ARMY
CE 1532/82
1 Aug. 1944

H.Q., 82 C.A.U. (Works)

Copies to: C.E., No.5 District.
D.D., A.A.I.
C.E.D., A.P.O. 400
A.C.C., A.P.O. 394

1. Reference your J/2/1757 dated 24 July 44 just received.

2. No diagram have been received direct from A.C.C., the details of circuits were obtained direct from Alto-Relico at the time of the inspection made by this H.Q.

3. The diagram drawing 1103/262 dated 12 June 44 was forwarded to C.E. No.5 District, under cover of our CE 1506/69 dated 24 June 44, who has all the details and to whom you should direct all your enquiries.

AWP/mcn.

Lt Col.
11 CE Works.

Declassified E.O. 12356 Section 3.3/NND No. 785019

64

A.A.I.
CENTRAL ELECTRICAL BOARD
HQ AAI CMT

REF: CEB/1/2

27 July 1944

SUBJECT:- Paper Mill - TARQUINIA

TO:- CC PBS, Engr Section.
(Att/ Lt-Col. G. COOLEY)

64A

1. Enclosed herewith is copy of a memo dated 24 July 44 from the Societa Romana di Elettricita in connection with the station at the Paper Mills at TARQUINIA which is self-explanatory. Since this plant is in fact in PBS area I believe it should be handled by PBS.

2. Regardless of how the power is used the repairs to the dam should be completed and the generating station put into operation.

JAMES F. CROWDON,
COLONEL, CE,
Vice Chairman, AAI - C.E.B.

COPY TO:-
HQ ACC (Att.Lt-Col.WM LAPPER)
HQ RALC
Lt. Wade Brown, RA.

7146

Declassified E.O. 12356 Section 3.3/NND No. 785019

6419

Rome, July 24 th 1944

M E M O R A N D U M

Statiom of Papermills at Tarquinia

These papermills, actually not in exercise, were once fed by a self-governing station on the river Marta with an alternator to 180 KVA and another one to 300 KVA at 500 V 50 cycles. The proprietor of the papermills Dr. Luigi Molina is presently at Varese, on the spet there have remaind an everseer and three workmen.

The dam has been damaged but net very seriously and is being repaired by the Municipality of Tarquinia which however asks on return that the power be totally utilized for the inhabited centre, actually supplied at 30.000 with a non-continuous supply (shifts).

Civitavecchia area has installed a transformer at 175 KVA and is going to supply Tarquinia at 10.000 Volt with a provisional cabin.

Colonel Cooly of P.B.S. has however asked that the power be sent into our net and the Municipality has therefore discontinued the dam's repairs.

o o o o o

It is necessary te obtain from Allied Headquarters an order to be allowed the use of the Station, to finish the repairs of the dam, to install a more powerful transformer and connect it with the sub-station of Tarquinia-Scale, utilizing at first the 60.000 Volt line for Montecatini Company (S.R.E.) presently not in exercise.

If their requests are not exagerrated, it may be possible to appoint local workmen .

R

25 JUL 1944

1/2

(63)

Subject:- Electric Power Supply - Repair of Transmission Lines.

HQ AAI,
C.M.F.

2131/1/Q2.

23 July 44.

Main Eighth Army
Rear Eighth Army
1 District
3 District
CG, PBS.

1. Central Electrical Board (Italy) letter CEB/1P/10 of 14 July, 44, sent direct to you by the Board, sets out a general scheme for the rehabilitation of transmission lines in Central Italy.

2. Responsibility for the work involved is allotted as follows:-

1 District - SANGIACOMO to TERNI
PEDASO - ANCONA

3 District - MADALENA to CASTELMADAMA
MORINO to CATARNO
CEPRANO to ACQUORIA (TIVOLI)
CANTERNO to ROME.

3. Eighth Army and CG, PBS, are requested to take such action as may be possible to give similar assistance in respect of the following lines:-

Eighth Army - TERNI to FLORENCE
PBS - ROME to LEGHORN.

4. It is intended that civilian labour should be used as far as possible, but military assistance will be required in respect of transport, food and housing arrangements, in addition to the necessary permits and "protection" to enable labour to reach the places where the work is located.

5. Technical instructions will be sent to Chief Engineers of Districts through Engineer Channels.

Declassified E.O. 12356 Section 3.3/NND No. 785019

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Rear Eighth Army
1 District
3 District
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5. Technical instructions will be sent to Chief Engineers of Districts through Engineer Channels.

for Major-General,
Chief Administrative Officer.

Copy to:- 2 District
HQ, Allied Control Commission
G.4
Q1
Works
Local Resources Section (2)
Chairman, Central Electrical Board.

714

339

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

CAPUANO GENERATING STATION
25th. June 1944

Dear Col. Growden,

Owing to developments on the Naval side during the last few weeks, it has been quite impossible for me to carry out the proposed inspection of the CALORE plant with a view to reaching a decision as to whether the repairs required to the second set can be dealt with at Navalmeccanica.

I have been in CIVITAVECCHIA for several days and am due to return there to-morrow for an indefinite period - which will probably be of the order of from 2 - 3 weeks.

I do not know whether stripping down of the set has commenced, but presume that this is the case. Commander Bonney at Navalmeccanica is aware that the job is under consideration, and I suggest, therefore that Covino, of S.M.E., arranges with him regarding the sending in of damaged parts.

I shall, of course get in touch with you in this connection as soon as I return, but I hope that no snags will arise.

When in ROME I heard a rumour that TERNI had escaped serious damage. How does this, if true, affect the necessity for repair of the CALORE unit ?

Kind regards,
Yours sincerely,

Electrical Commander R.N.

7143

Declassified E.O. 12356 Section 3.3/NND No. 785019

(61)

A.A.I.
CENTRAL ELECTRICAL BOARD
HQ AAI CMF

REF: CEB/1/2

9 July 1944.

SUBJECT:- Alto Belice Turbine Unit.

TO:- DW HQ AAI

(61A)

1. Ref CE 3 District letter, CE.6004/10 dated 6 Jul 44.

2. In view of the fact that the a/m turbine has been inspected and in the opinion of S.O.R.E. 3 District "the plant has suffered no serious damage", it is suggested that the plant be transported to erection site where it should be thoroughly examined by engineers of the S.M.E., who will presumably be erecting and assembling the plant under R.E. supervision.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

7143

COPY

610

SUBJECT:- Alto Belice Turbine Unit

Chief Engineer,
3 District.
Tel Ex 34
CE.6004/10

6 Jul 1944

DW HQ AAI

1. Herewith a copy of a report submitted by O i/c No 2 Sect543 E & M Coy through 52 CRE to this office.

2. This plant has since been inspected by the undersigned who is of the opinion that the plant has suffered no serious damage.

3. In the case of the Pelton wheel and it shaft - the crate appears to have taken the shock of impact.

4. The packing certainly left a lot to be desired. Timber of a much more substationtial nature should have been used for casing such weights.

(sgd)
Major RE
for Brigadier
Chief Engineer

PJH/BS

---

COPY

REPORT ON OFF-LOADING OF MACHINERY FOR MATESE II HYDRO-ELECTRIC POWER STATION

Under instructions from SORE (E&M). 3 District, I proceeded to NAPLES docks where I contact Major BELL A.C.C.(U.S.A.) who, SORE informed me would be in charge of the off-lading of machinery for Matese II Power Station.

Off-loading commenced at about 22.00 hours, 27 Jun [illegible]

Declassified E.O. 12356 Section 3.3/NND No. 785019

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(sgd)
Major RE
for Brigadier
Chief Engineer

PJH/BS

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Off-loading commenced at about 22,00 hours, 27 Jun and was satisfactory until the off-loading of the Rotor from No 2 Hold. Before the Rotor was off-loaded I inspected the crate in which it was partially packed. This crate, in my opinion, was not strong enough to fully protect the Rotor. Prior to being slung over the ship's side onto the transporter, the Rotor was dragged, by the ship's crane, across the hold and in the process, the crate practically came to pieces. When placed on the transporter the crate was in such a poor condition that it offered no protection for the Rotor. 711

The Pelton wheel was off-loaded quite well except that in lowering it over the ship's side the winch operator dropped it very heavily from a height of about 3 feet onto the dockside.

Although neither of these items show any superficial damage, a complete examination cannot be carried out until they are positioned in the Power Station. It is possible that the shafts may be out of alignment; if so, the damage will take competent trandesmen quite a time to repair the fault, and the repairs are beyond the capabilities of this Section.

(sgd) P. CANNING, Lt. RE,
O i/c No 2 Section
543 E & M Coy RE

Vice Chairman, C.E.B.

May I have your remarks please.

(sgd) W.A.R.SMITH
for DW AAI

87

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Declassified E.O. 12356 Section 3.3/NND No. 785019

(60)

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

19 June 44.

SUBJECT: Electricity SBE Power Stations

TO:- DW HQ AAI CMF

(59)

1. With reference to your 2057/DW dated 14 June 44 to which was attached copy of 21 CRE Works report on Aventino power station.

2. The whole situation so far as this plant is concerned is being investigated with the view of carrying out its rehabilitation as promptly as possible.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Subject:- Electricity. S.M.E. Power Stations

Directorate of Works.
H.Q., A.A.I., C.M.F.

2057/DW.

14 Jun 44.

To:- Vice Chairman C.E.B. ✓

It has been reported that at the AVENTINO Power Station TARANTA PELIGNA (H 1480) there is some prospect of getting a 6000 KW set into working order in two months.

A copy of the report forwarded from C.E. 2 Dist. is attached. Will you please let me know what the Board proposes should be done with this Power Station.

A.A.I. OFFICIAL 1/2 11/44 CENTRAL ELECTRICAL BOARD

W.A.R. SMITH.
Lt. Col. R.E.
for Brigadier,
Director of Works.

WARS/EDR.

Reinstated as promptly as possible 7/44

Declassified E.O. 12356 Section 3.3/NND No. 785019

Copy/-

SUBJECT:- Power Station TARANTO DI PALICHA Ref 21/CRE/W/270.

C.L. 2 District.

A second visit was paid to the above power station, the 80 KV switching and transformer rooms also the pipeline and headstock were examined.

There are 6 - 2000 KVA - 80 KV Transformers covered in rubble, the bushings are smashed and the oil drained out, two appear to have been subjected to heat. Windings and tanks of the others appear to be O.K.

80 KV switchgear is buried in rubble and appear to be beyond repair

The pipeline is a rivetted steel pipe about 5' diam and 2,500 ft long made of plates about ⅜" thick.

The pipe from the Power Station up to the road about 1800 -2000 ft is undamaged. Two pipes passed under the road and both have been destroyed when the road was blown. The gap is about 15 yards. There is about 600 ft above the road which has been damaged in six places by tollemines placed against or inside the pipe. One hole can be patched the other 5 involving 7-6 foot sections need renewing.

The Valvehouse at the head of the pipe has been blown-up destroying the motor and cast iron butterfly valve casing. A transformer 500/250V and about 50 KVA also the butterfly valve itself with control wheel and hand winch appear undamaged.

The headstock chamber and syphon overflow are undamaged.

A possible solution to the problem of repair would be to dismantle the top 120 ft of the pipe and use it for repairs lower down. To replace this top 120 ft with 120 ft of pipe taken from the station at LAMA DI PALICHA which is beyond repair but the pipe is undamaged.

An Engineer Officer of 4th Ind Div reported that a bowspring girder bridge carrying the canal across a wadi near PALICHA has been cut at both ends and dropped down. Also two spans of an aqueduct had been blown up. These have not yet been examined.

Sgd. ??????????
Lieut Col RE.
21 CRE Works.

Field.
23 May 44.
DW/GB

7138

Declassified E.O. 12356 Section 3.3/NND No. 785019

(58)

Subject: Requisition of Hydro Electric Unit at CALORE Plant.

HQ AAI,
C.M.F.

2131/1/Q2.

13 June 44.

HQ, ACC.

1. At its meeting on 30 May,44, the AAI Central Electrical Board allotted the following task to the ACC for execution:-

> The requisition of the NO.2. Hydro Electric generating unit at the CALORE hydro electric plant of the Societa Meridionale di Elettricita.

2. It is intended to install this unit after repair at the site of a demolished plant in the ROME area, and to operate it at this new site to meet military and essential civilian power requirements. It would be available for return to the Societa Meridionale di Elettricita as soon as replaced by a permanent installation.

3. Please notify the AAI Central Electrical Board when this requisition has been carried out.

Major General,
Chief Administrative Officer.

Copy to:-

CG, ROME.
G.4
Wks
Local Resources Section
Electric Power Committee, AFLR (I) Board
Central Electrical Board

A. A. I.
OFFICIAL
CENTRAL
ELECTRICAL BOARD

Declassified E.O. 12356 Section 3.3/NND No. 785019

Office of Flag Officer,
Western Italy,
NAPLES.

57

10th June, 1944.

No.FOWIT 226.
A.A.I., CENTRAL ELECTRICAL BOARD.

See 62

53

REPAIR OF SECOND HYDRO ELECTRIC UNIT FROM CALORE.

With reference to your letter C.E.B/1/2 dated 2 June it is confirmed that when existing committments permit the Royal Navy Electrical Engineer will carry out a preliminary inspection of this turbine on site before a qualified acceptance of responsibility can be given.

2. It is understood that the turbine in question has been extensively damaged, and the preliminary inspection will be necessary to ascertain whether the repairs, which will probably be of a purely workshop nature, will be able to be carried out by Navalmeccanica.

C Agnew.
for REAR ADMIRAL.

7136

Declassified E.O. 12356 Section 3.3/NND No. 785019

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

3 June 44

SUBJECT:- Requisition of Unit at CALORE Plant.

TO:- DW HQ AAI
(Attention Lt-Col. W.A.R.SMITH RE)

1. Enclosed herewith please find draft of a letter for the signature of the C.A.O.

2. It would be appreciated if you would take the necessary action in this matter.

JAMES F. CROWDON,
COLONEL CE,
Vice Chairman,AAI - C:E.B.

Declassified E.O. 12356 Section 3.3/NND No. 785019

DRAFT

SUBJECT:- Requisition of Hydro Electric Unit at CALORE Plant.

H.Q., A.A.I.,
C.M.F.

HQ Allied Control Commission. June 44.

1. At its meeting on 30 May 44, the AAI Central Electrical Board allotted the following task to the A.C.C. for execution;-

> The requisition of the No 2 Hydro Electric generating unit at the CALORE hydro electric plant of the Societa Meridionale di Elettricita.

2. After it has been repaired it is intended to install this unit at the site of a demolished plant in the ROME area, and to operate it at this new site to supply military and essential civilian demands for power until it can be replaced by a unit intended for permanent installation. It would thereafter be available for return to the Societa Meridionale di Elettricita.

3. Please notify the AAI Central Electrical Board when this requisition has been carried out.

Major-General,
Chief Administrative Officer.

7134

Declassified E.O. 12356 Section 3.3/NND No. 785019

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

2 June 1944.

SUBJECT:- Repair of 2nd Hydro Electric Unit from the CALORE Generating Plant.

TO:- Flag Officer, Western Italy.

1. The AAI Central Electrical Board has allotted to No 3 District the task of removing the No. 2 hydro electric unit from the CALORE generating station and transporting it to NAPLES for repair. This unit has been damaged by mines but can be repaired in NAPLES. It is to be installed at a suitable site North of ROME for the supply of power in that area, where it is presumed that the existing power generating facilities will have been destroyed.

2. I am instructed by the Board to submit to you their desire that you undertake the work of repairing this hydro electric unit so that it will be ready for installation when the site has been taken.

3. I should be grateful of confirmation of your willingness to carry out this work.

JAMES P. GRONDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

7133

Declassified E.O. 12356 Section 3.3/NND No. 785019

Send this to Col Brownlee AAI

SECRET

SECRET (56)
Auth: CG, PBS
Init: LPN
Date: 30 MAY '44

HEADQUARTERS
PENINSULAR BASE SECTION
APO 782

DSB/rak

AG 675 BPENG (30 May 44)

30 May 1944

SUBJECT: Allocation of Electrical Rehabilitation Project.

TO : Chief Administrative Officer, A.A.I. Adm. Echelon, APO 400.

1. Reference is made to letter, Headquarters A.A.I. (Rear Adm. Echelon), dated 16 May 1944, subject, "Allocation Electrical Rehabilitation Project".

2. The plan as submitted by you for the supply of food and payment of wages for civilian labor and the processing and settlement of invoices for locally procured materials and services required in connection with the rehabilitation of the Naples-Rome power line is acceptable.

3. The design is complete, materials and supplies are being assembled and the work of rehabilitation is under way.

For the Commanding General:

L. F. NICKEL,
Lt. Colonel, A. G. D.,
Adjutant General

A. A. I.
OFFICIAL
1871 21 Jun
CENTRAL
ELECTRICAL BOARD

SECRET

7132

Vice Chairman E.E.B.(Italy),
Col. JP CROWDON, AUS.

55 7/14

## ELECTRIC POWER SUPPLY - ITALY PART VIII.

This report constitutes a continuation of Part VII and covers the following section:

37. The LIRI Group Hydro Electric Power Station and should be read in conjunction with Dwg. No. 11 CE/257.

This Hydro system is contained in an area bounded by S.GIOVANNI INCARICO in the South MR G 635230, CEPRANO in the West MR G 600270, MONTE S.GIOVANNI in the North MR G 600375 and from FONTANA LIRI in the East MR G 640350, and utilises the water of the River LIRI, River VALONE and River CANCELLO, and the whole scheme to be described later was constructed by the Societa Mediterranea Electricita who obtained authority to continue with the work in 1924-5 having been conceived in 1919.

The enemy had been hurried in carrying out his demolitions, that carried out at S.GIOVANNI embraced the main dam and power station machinery. At CEPRANO, although charges had been placed at all parts of the power station, has not been blown but has been inundated by coil torn from the hillside, by a break down of the walls of the surge pond. This was not an enemy demolition but was caused through the pond overflowing and underscouring the retaining wall to such a degree that the wall collapsed. The main control substation of the group at CEPRANO has been demolished in part, 2 - 15,000 KVA 60/12 KV transformers can be salvaged, the control room is completely demolished but the stores are intact (those that have not been pilfered). The dam at the confluance of the River CANCELLO with the LIRI has been subjected to demolition, the dam at FONTANA LIRI together with the power station has been subjected to demolition. Some of the charges are still in place on the dam although the detonators have been removed. The main sluice and the power station at FONTECUPA (L'ANITRELE) have been demolished. Details of the individual stations are as follows, starting from the South and working Northwards.

PONTE FIUME Hydro Power Station MR G 635230.

The barrage is located astride the LIRI at a place called PONTE FIUME just upstream of an old railway bridge now demolished. The dam is of the gravity type curved in plan, bellying upstream and is constructed of reinforced concrete. It is provided with 5 main sluice gates, an overflow wier and a controllable discharge for the power station itself, the length of the dam proper is 42 metres and is approximately 30 metres high. Each of the main sluice gates has a [illegible]

Declassified E.O. 12356 Section 3.3/NND No. 785019

in the South MR G 635230, CEPRANO in the West MR G 600270, MONTE S.GIOVANNI in the North MR G 600375 and from FONTANA LIRI in the East MR G 640350, and utilises the water of the River LIRI, River VALONE and River CANCELLO, and the whole scheme to be described later was constructed by the Societa Mediterranea Electricita who obtained authority to continue with the work in 1924-5 having been conceived in 1919.

The enemy had been hurried in carrying out his demolitions, that carried out at S.GIOVANNI embraced the main dam and power station machinery. At CEPRANO, although charges had been placed at all parts of the power station, has not been blown but has been inundated by soil torn from the hillside, by a break down of the walls of the surge pond. This was not an enemy demolition but was caused through the pond overflowing and underscouring the retaining wall to such a degree that the wall collapsed. The main control substation of the group at CEPRANO has been demolished in part, 2 - 15,000 KVA 60/12 KV transformers can be salvaged, the control room is completely demolished but the stores are intact (those that have not been pilfered). The dam at the confluance of the River CANCELLO with the LIRI has been subjected to demolition, the dam at FONTANA LIRI together with the power station has been subjected to demolition. Some of the charges are still in place on the dam although the detonators have been removed. The main sluice and the power station at FONTECUPA (L'ANITRELE) have been demolished. Details of the individual stations are as follows, starting from the South and working Northwards.

PONTE FIUME Hydro Power Station MR G 635230.

The barrage is located astride the LIRI at a place called PONTE FIUME just upstream of an old railway bridge now demolished. The dam is of the gravity type curved in plan, bellying upstream and is constructed of rienforced concrete. It is provided with 5 main sluice gates, an overflow wier and a controllable discharge for the power station itself, the length of the dam proper is 42 metres and is approximately 30 metres high. Each of the main sluice gates has a maximum opening of 5.5 metres high by 7 metres wide and are believed to have provided an outflow of 200 $M^3$/sec per gate. Each gate is provided with an oil pump driven Servo Motor with a central control placed in a small house built on the dam itself, where the two main oil pumps driven by electric motors were installed. It is believed a third pump worked by hydraulic turbine was also installed. It is possible that each of the pumps is capable of operating all five sluice gates at once if the necessity occurred. The sluice gates have been subjected to demolition, four have had a hole pierced in the lower portion of the gate itself, the fifth has been almost completely demolished. It is considered that these gates are repairable. The hydraulic mechanism is to a large extent intact but the main oil pumps and their motors have been subjected to demolition and are covered in debris. All gates if necessity occurred scould be hand operated. The main sluice to the power station itself connects into the main dam on one side and is again provided with five independent sluice gates operated from the hydraulic control room situated as above. The sluice gates are intact, as is also the anal leading to the station. The reservoir formed by this barrage can give a utilisable supply of 2½ million tons of water, it is not quite clear why the surrounding countryside has not been incorporated into the reservoir system as parts are considerably lower than the dam itself and could have quite easily been bunded to provide an even larger reservoir. It is possible that economics were the deciding factor in this connection. The canal connecting the reservoir with the

715
to page 2...

Declassified E.O. 12356 Section 3.3/NND No. 785019

power station which is situated adjacent to the dam tapers out into a headstock where the water is again controlled by sluice gates, these sluice gates do not appear badly damaged. After the sluice gates the water discharges into the normal type of low head flume normally used with the FRANCIS low head turbines. The power station consisted of three FRANCIS turbines manufactured by CALZONI, two of these are double inlet type and are coupled horizontally to Siemens Schukert 3600 KW 12.5 KV 45 cycle co-axially excited alternators and the third turbine is a single inlet FRANCIS turbine coupled horizontally with an 1800 KW Siemens Schukert alternator generating at the same voltage and frequency, speed is in two cases 225 r.p.m. and the third 150 r.p.m. Each of the first two turbines were designed to consume 32 M3/sec and the smaller turbine absorbed 16 M3/sec. Of this totally installed capacity however there was never more water than could provide a maximum of 8,000 KW but its total yearly output averaged between 20 and 25 million Kwhrs. The station was also provided with a transforming capacity of 5 x 2500 KVA 12/20 KV. Circuit breakers and bus bar chambers were of the internal pattern, the alternator control panel of the desk type. The degree of demolition is as follows, turbine alternator, all three have had charges placed on the inside end of the turbine and the resulting damage has damaged the governing gear and cracked the turbine housing in all cases. The alternator shafts are bent and the inside bearings demolished, all three alternator housings have been fractured but in one case the rotor and stator is considered repairable on a long term policy. Two of the exciters have been badly damaged but the third is repairable. The control desks have been completely demolished but the regulators for the exciters could possibly be repaired. The circuit breakers are intact together with instrument transformers and a proportion of the bus bar chamber. The main bus bar is repairable. The roof of the building has collapsed but the 30 ton crane is intact. There is a decided bulge on the river side of the building and it is doubtful whether it could travers the whole length of the rail. The transformers must be considered a complete write-off although the laminations could possibly be salvaged. In conclusion it is considered that the sluice gates are repairable and one 3600 KW turbine set could be repaired if a five to six ton casting can be made.

CEPRANO Hydro Power Station ER G 609258.

This station draws its water from a reservoir formed by damming the River LIRI and the River CANDELLO and these actually form two small reservoirs connected by a canal. From this reservoir the water is taken by tunnel to a second reservoir formed by the two small rivers GIACOMO and ROCCO, this reservoir forms a silt trap and is provided with silt discharge outlets. From this small reservoir a second tunnel carries the

Declassified E.O. 12356 Section 3.3/NND No. 785019

alternator generating at the same voltage and frequency, speed is in two cases 225 r.p.m. and the third 150 r.p.m. Each of the first two turbines were designed to consume 32 M3/sec and the smaller turbine absorbed 16 M3/sec. Of this totally installed capacity however there was never more water than could provide a maximum of 8,000 KW but its total yearly output averaged between 20 and 25 million Kwhrs. The station was also provided with a transforming capacity of 5 x 2500 KVA 12/20 KV. Circuit breakers and bus bar chambers were of the internal pattern, the alternator control panel of the desk type. The degree of demolition is as follows, turbine alternator, all three have had charges placed on the inside end of the turbine and the resulting damage has damaged the governing gear and cracked the turbine housing in all cases. The alternator shafts are bent and the inside bearings demolished, all three alternator housings have been fractured but in one case the rotor and stator is considered repairable on a long term policy. Two of the exciters have been badly damaged but the third is repairable. The control desks have been completely demolished but the regulators for the exciters could possibly be repaired. The circuit breakers are intact together with instrument transformers and a proportion of the bus bar chamber. The main bus bar is repairable. The roof of the building has collapsed but the 30 ton crane is intact. There is a decided bulge on the river side of the building and it is doubtful whether it could travers the whole length of the rail. The transformers must be considered a complete write-off although the laminations could possibly be salvaged. In conclusion it is considered that the sluice gates are repairable and one 3600 KW turbine set could be repaired if a five to six ton casting can be made.

CEPRANO Hydro Power Station MR G 609258.

This station draws its water from a reservoir formed by damming the River LIRI and the River CANTELLO and these actually form two small reservoirs connected by a canal. From this reservoir the water is taken by tunnel to a second reservoir formed by the two small rivers GIACOMO and ROCCO, this reservoir forms a silt trap and is provided with silt discharge outlets. From this small reservoir a second tunnel carries the water to a point MR G 611262, here the tunnel is provided with a surge tower in the form of a basin, and from this surge tower is taken the penstock which leads down to the station and splits four ways, two of the ways going into the double inlet type turbine, and the other two ways each connected to a single inlet turbine. The dam on the LIRI is situated at MR G 618323 (S.ELUETRIO) and is similar in construction to the dam at PONTE FIUME, but has only four main sluice gates. Again these sluice gates are operated by oil servo motors. The total length of the dam is 31 metres and is roughly 32 metres nigh, the height of the water level was normally kept at 32 metres. The size of each gate is 6.5 metres high by 6.5 metres wide and are from visual inspection similar to the one used at PONTE FIUME. The main difference being that whereas at PONTE FIUME the gates are hoisted and lowered by the screw method these gates are lifted by chain and are counterbalanced. The operating mechanism for these gates is located on the downstream side of the dam in a house which serves also as the accommodation for the personnel. The mechanism consists of a main hydro control panel, two hydraulically driven oil pumps and one electrically driven oil pump. The extent of damage to this dam is as follows, all four main sluice gates have been

to page 7130

Declassified E.O. 12356 Section 3.3/NND No. 785019

completely demolished as well as their hoisting mechanism, repair is however considered possible. Of the main oil pump drive the turbines have been demolished and the electric motor has been demolished. All three oil pumps appear to be intact, the hydro control panel appears to be intact.

The dam on the River CANCELLO is considerably smaller in size than that on the LIRI and is provided with three bottom discharge outlets, and function as a means of clearing the reservoir of silt although they do come into use and operate with those on the S.ELUETRIO dam at time of excess water. This dam appears to be intact. The total storage of these two reservoirs provides a useable capacity of something approximating to 1,000,000 $M^3$. As stated above a tunnel is taken from this reservoir leading to the secondary reservoir and from here a second tunnel of approximately 4 metres diameter takes the water to the expansion pond which has a normal working storage of 3,000 $M^3$ . From this expansion pond is taken a rienforced concrete penstock of approximately 4 metres diameter and this carries the water to the station in the manner described above. At the top of this penstock is fitted a flat type sluice gate and was again operated by oil servo motor which was located immediately above the sluice gate. Just below the sluice gate was provided an air release tower. The power station is provided with 1 - 10,000 KW turbine alternator sets all generating at 12 KV 45 cycles. The large turbine is of the double inflow type. Transforming capacity of five 5,000 KVA 12/20 KV are installed. The damage to the expansion basin and power station is as follows: due to a surge of water the expansion basin overflowed and undermined the retaining lip, the lip collapsed and the resulting deluge carried the soil from the hill into the station and inundated the machinery to a depth of roughly 4 metres. Charges have been placed on both turbines and alternators and still exist. The power house is still intact as is also the crane, all five transformers had charges placed but had not been detonated and the detonators have now been removed. Four are completely serviceable and one is damaged by shrapnel and can be repaired, it is considered that this station could be fully repaired, and with the repair of the S.ELUETRIO dam could be made to function up to its normal capacity. The discharge basin and tunnel is intact.

FONTANA LIRI Hydro Power Station MR G 619345.

This station situated on the left bank of the LIRI just upstream of the explosive factory, obtains its water by the damming of the LIRI at MR G 616350. This dam is of the gravity type with an overhead gantry for operating two gates, one of these gates was automatically operated and is 17 metres wide. The other is smaller being only 18 metres wide and operated mechanically. The large gate it is understood was normally kept open to allow a steady flow equivalent to the natural yield of the river to pass in order that the explosive factory could operate its hydro electric machinery. From this dam a side take off is made and controlled by sluice gates, it opens out into a still pond which in turn goes into a canal, thence to a tunnel opening once again just before the power station [illegible] the penstock chambers. The penstocks feed

Declassified E.O. 12356 Section 3.3/NND No. 785019

approximately 4 metres diameter takes the water to the expansion pond which has a normal working storage of 3,000 $M^3$. From this expansion pond is taken a rienforced concrete penstock of approximately 4 metres diameter and this carries the water to the station in the manner described above. At the top of this penstock is fitted a flat type sluice gate and was again operated by oil servo motor which was located immediately above the sluice gate. Just below the sluice gate was provided an air release tower. The power station is provided with 1 - 10,000 KW turbine alternator sets all generating at 12 KV 45 cycles. The large turbine is of the double inflow type. Transforming capacity of five 5,000 KVA 12/20 KV are installed. The damage to the expansion basin and power station is as follows: due to a surge of water the expansion basin overflowed and undermined the retaining lip, the lip collapsed and the resulting deluge carried the soil from the hill into the station and inundated the machinery to a depth of roughly 4 metres. Charges have been placed on both turbines and alternators and still exist. The power house is still intact as is also the crane, all five transformers had charges placed but had not been detonated and the detonators have now been removed. Four are completely serviceable and one is damaged by shrapnel and can be repaired, it is considered that this station could be fully repaired, and with the repair of the S.ELETTRIO dam could be made to function up to its normal capacity. The discharge basin and tunnel is intact.

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to page 4...

7129

Declassified E.O. 12356 Section 3.3/NND No. 785019

FONTE CUPA Hydro Power Station MR G 624368.

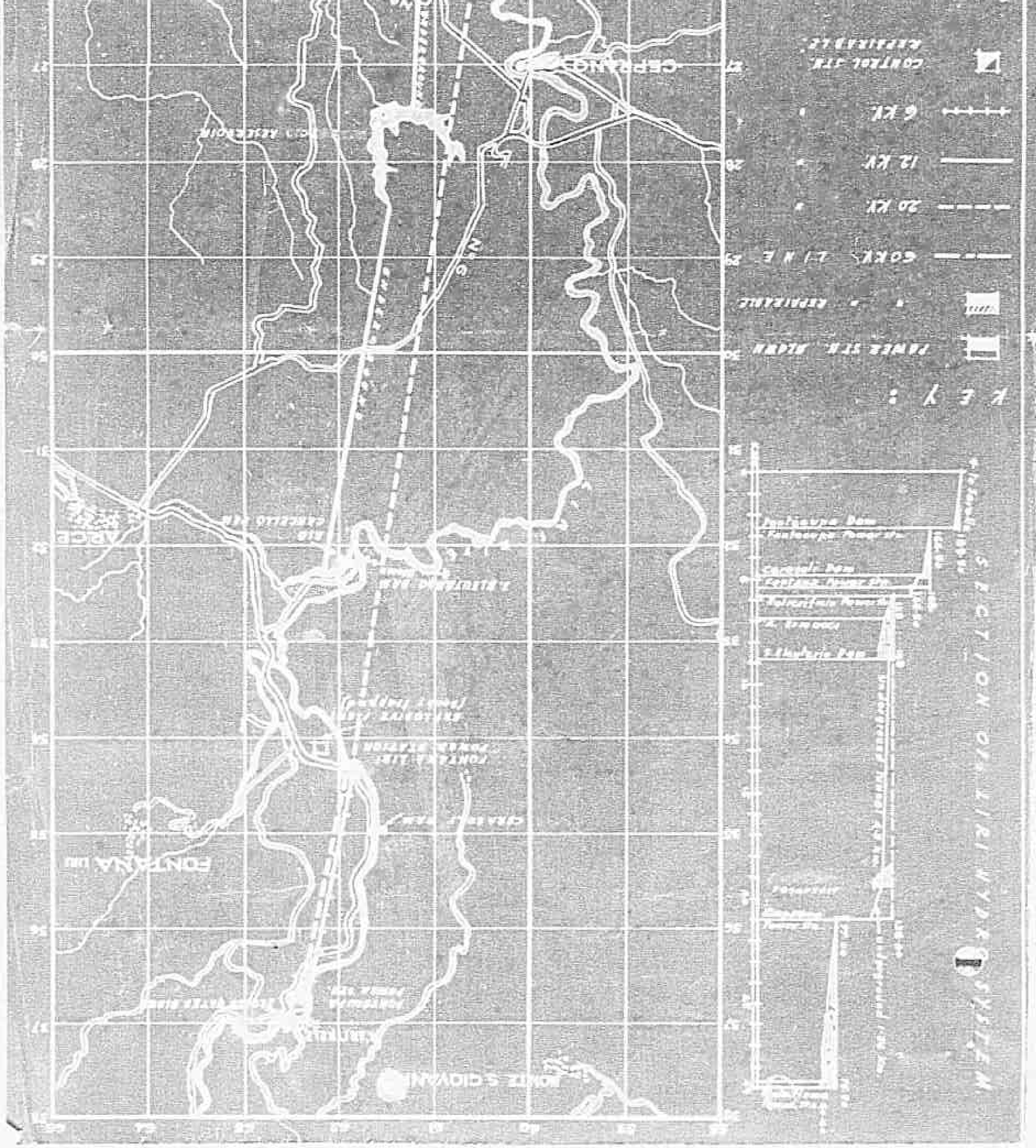
This station situated on the left bank of the River LIRI is in the precincts of the small township L'ANITRELE, and obtained its water via barrage built approximately·2 Kms upstream, from the basin of water thus formed, water was taken via canal and sluice gates to a small still pond above the penstock proper. Here again gates are provided to control the flow, side overflow by means of a specially designed gate which rotates horizontally and is of rather novel interest. The penstocks are constructed of plate steel and feed into the station some 40 metres below. Here the water is taken to 2 double discharge type turbines each coupled co-axially with an alternator. A third penstock has been provided but no evidence can be seen of the third set having been installed. The damage to this station is as follows: the main sluice gates have been blown and the automatic overflow gate slightly damaged, the turbines and alternators are completely wrecked and one transformer has been badly damaged. The second transformer may possibly be repaired but a detailed examination is necessary. Bus bars and circuit breakers are nothing more or less than a twisted mass of scrap. At the time of the inspection the uncontrolled flood of water was spouting up through the orifice where the turbines once stood in a foutain some 1½ metres high. It is not considered that this station is repairable. The exact details of the alternators and turbines is not known but it is suspected that they generated at 6 KV 45 cycles and may have each had a capacity of 2000 KVA.

AWP/AR.
5 Jun 44.

S.O.R.E.(E & M),
11 C.E. Works,
Eighth Army.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. WA-1-10

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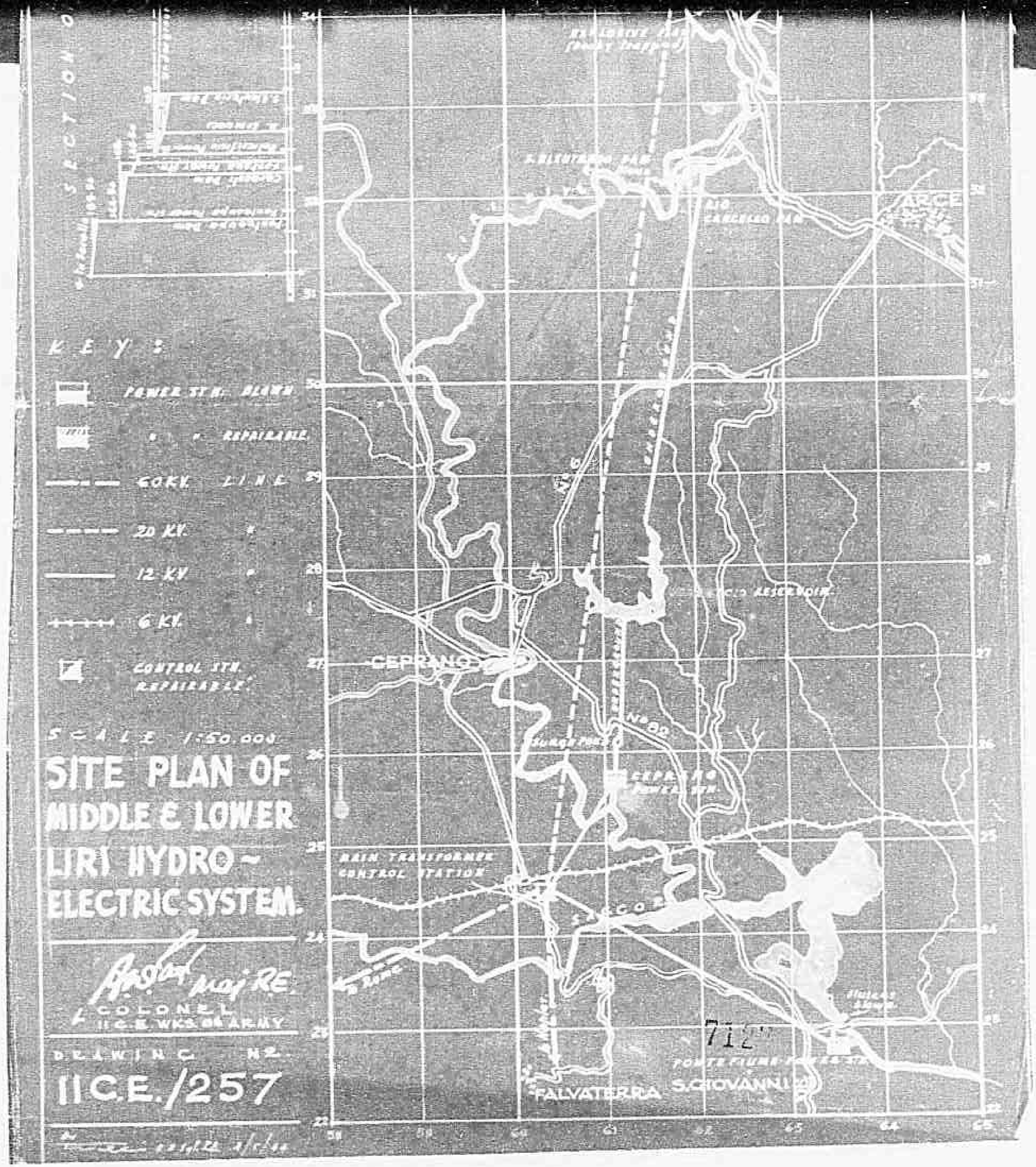



Declassified E.O. 13526, Section 3.3(NND Project) NND 963211 By NARA, Date 2011

Declassified E.O. 12356 Section 3.3/NND No. 785019

Subject:- De Cecco Power Station.

Directorate of Works,
H.Q. A.A.I. C.M.F.

2057/DW

30 May 44

(49)

To :- 14 C.E. Works,
H.Q. 2 District.

Reference your CE/113/6/7 of 27.5.44.

Approval is hereby given for the installation of the 1400 KVA alternator in Set No. 3. It is considered this should be given priority over set No. 2 as it is doubtful whether there will be sufficient water for 3 sets. It is appreciated that you cannot get more than 750 KW out of set No. 3.

Your remarks on the probable water capacity during the next four months would be of interest.

A.A.I. OFFICIAL 1/2 1 June 44 CENTRAL ELECTRICAL BOARD

W. A. R. SMITH,
Lt. Col. R.E.,
for Brigadier,
Director of Works.

WARS/NP.

Copy to:- C.E.B. (Ref phone conversation Col. Growdon - Lt.Col. Smith speaking).

7126

Declassified E.O. 12356 Section 3.3/NND No. 785019

Subject: Rehabilitation of [redacted] II Power Station.

52 C.E.C. (Works).

11 C.E. Works,
Eighth Army.
CE 1532/G1.

Copy to: CE A.A.I.
: DW AAI for ADH(E & M).
(with copy of plans).
: O.E. Main HQ Eighth Army.
: Vice Chairman C.E.H. A.A.I.
A.P.O.400. - (with copy of plans).

30 May 44.

Herewith the following drawings in connection with Task No.2 as detailed in Works Order No. 11 CE 98 dated 1 May 44 and Technical Instruction dated 26 Apr 44.

| | |
|---|---|
| Dwg.Nos. 11 CE/218 | Dwg.Nos. 11 CE/225 |
| " 219 | " 226 |
| " 220 | " 227 |
| " 221 | " 228 |
| " 222 | " 229 |
| " 223 | " 230 |
| " 224. | |

Owing to the nature of the site it is essential that the concrete for machinery foundations is of good quality and impervious to water.

Colonel,
11 C.E. Works,
Eighth Army.

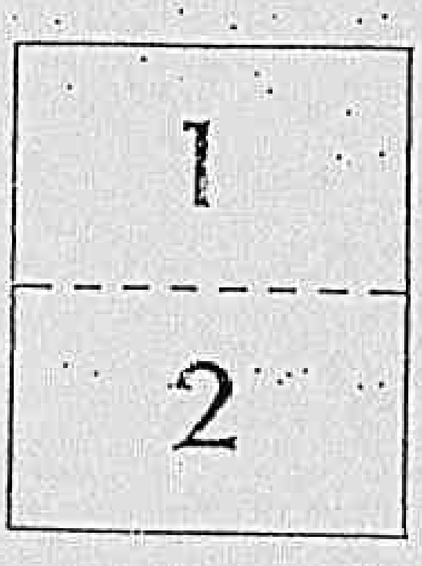
Awp/ar.

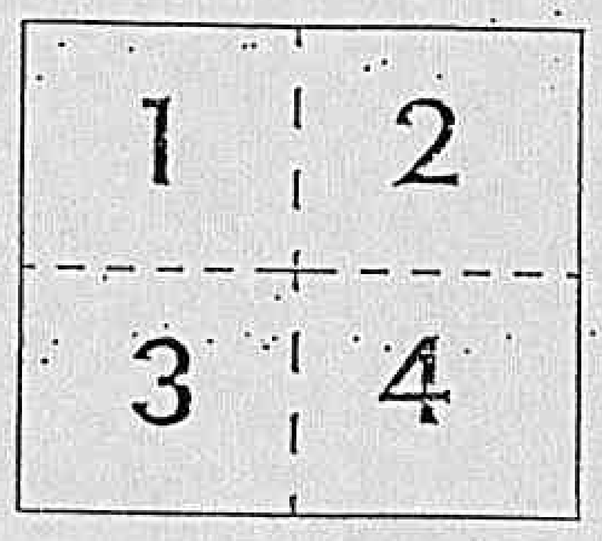
7126

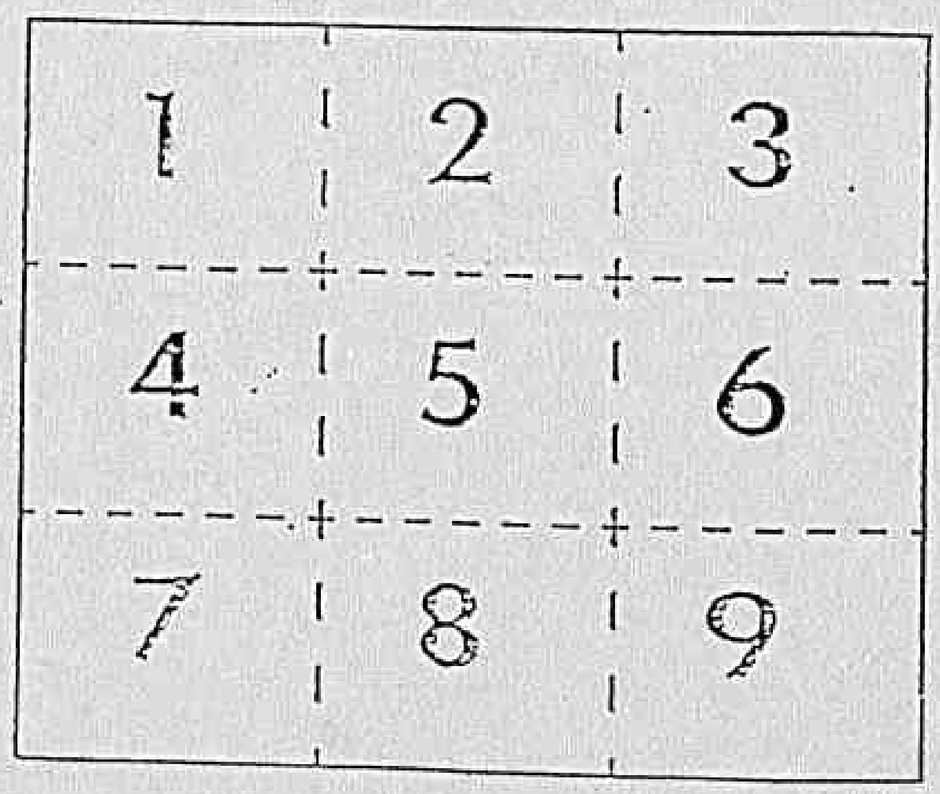
Declassified E.O. 12356 Section 3.3/NND No. 785019

MAPS AND CHARTS TOO LARGE TO FILM
ON ONE EXPOSURE ARE FILMED CLOCKWISE
BEGINNING IN THE UPPER LEFT CORNER,
LEFT TO RIGHT, AND TOP TO BOTTOM.

SEE DIAGRAMS BELOW.



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BEST COPY POSSIBLE

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EXISTING STORAGE

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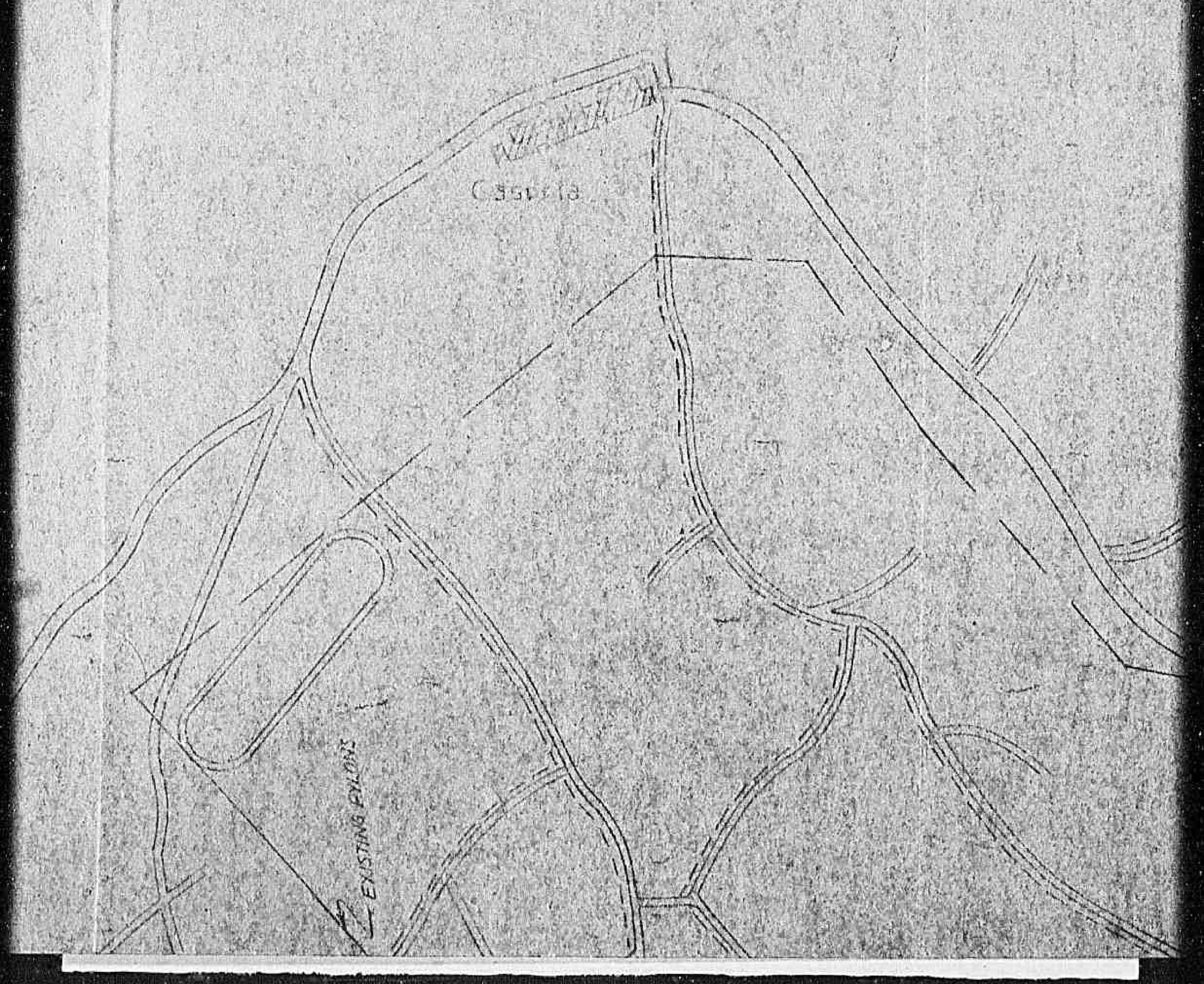

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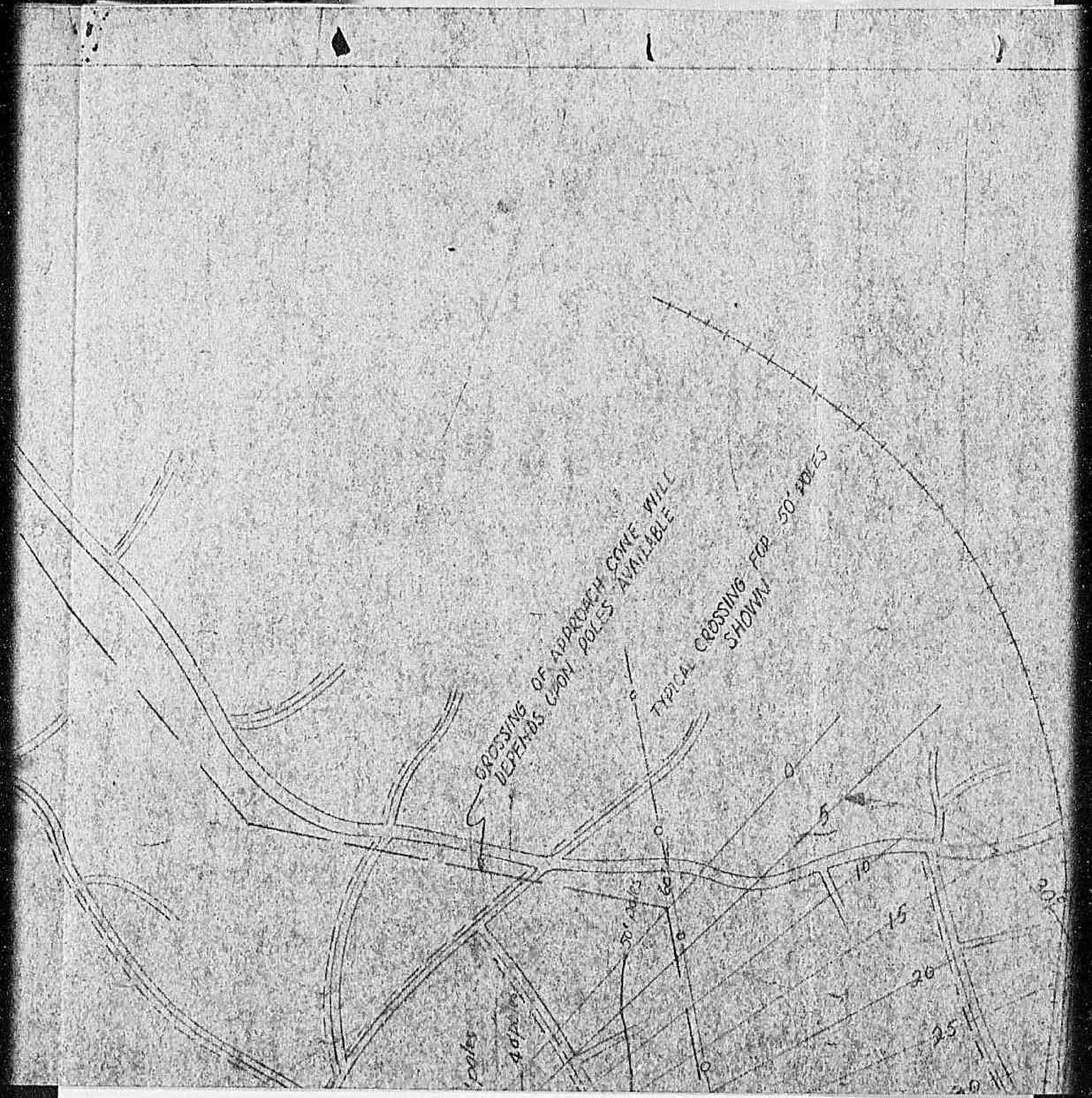

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ON DRAUGHT CONE WILL
POLES AVAILABLE

TYPICAL CROSSING FOR 50' POLES
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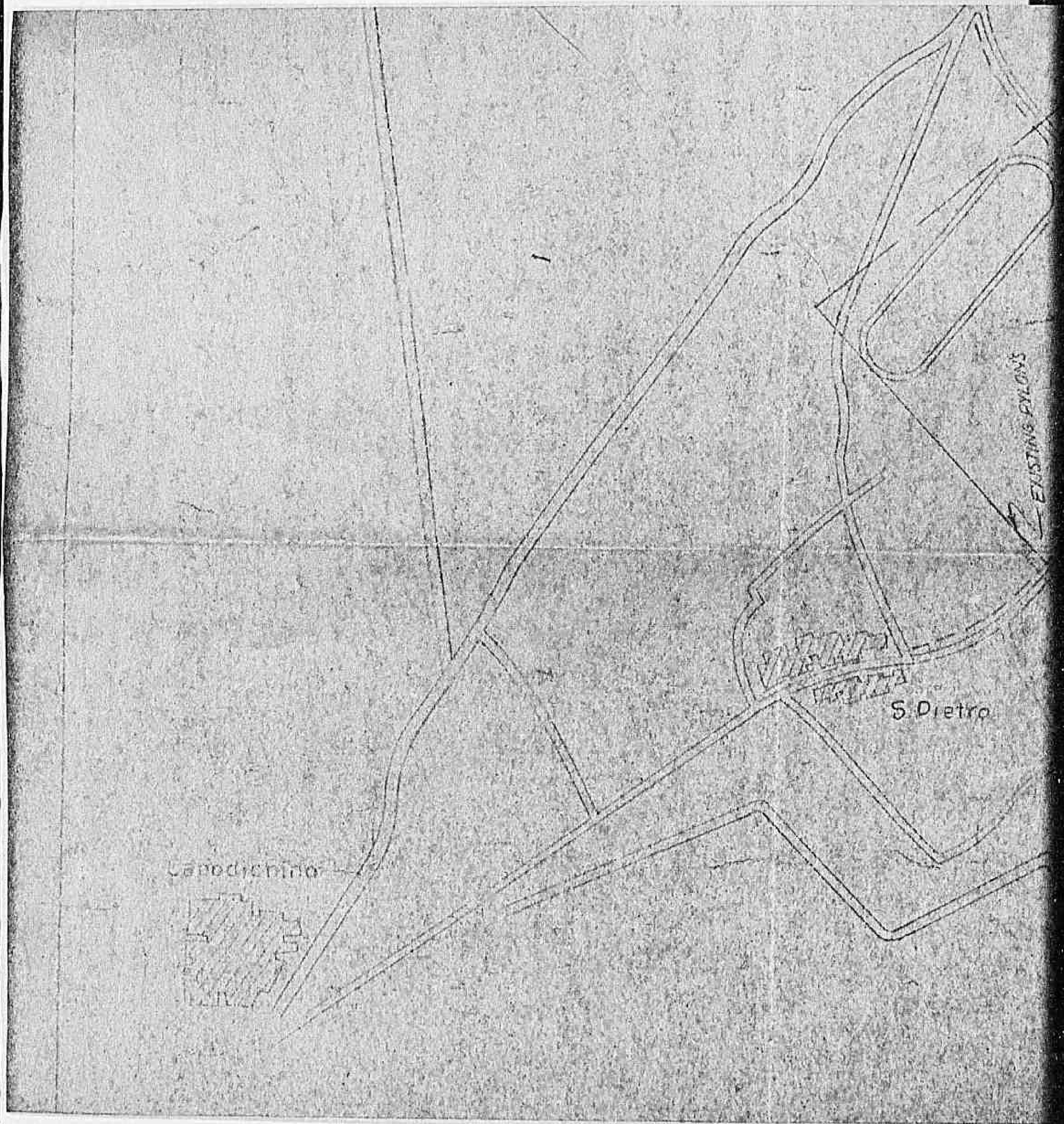

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EXISTING PYLONS

S. Pietro

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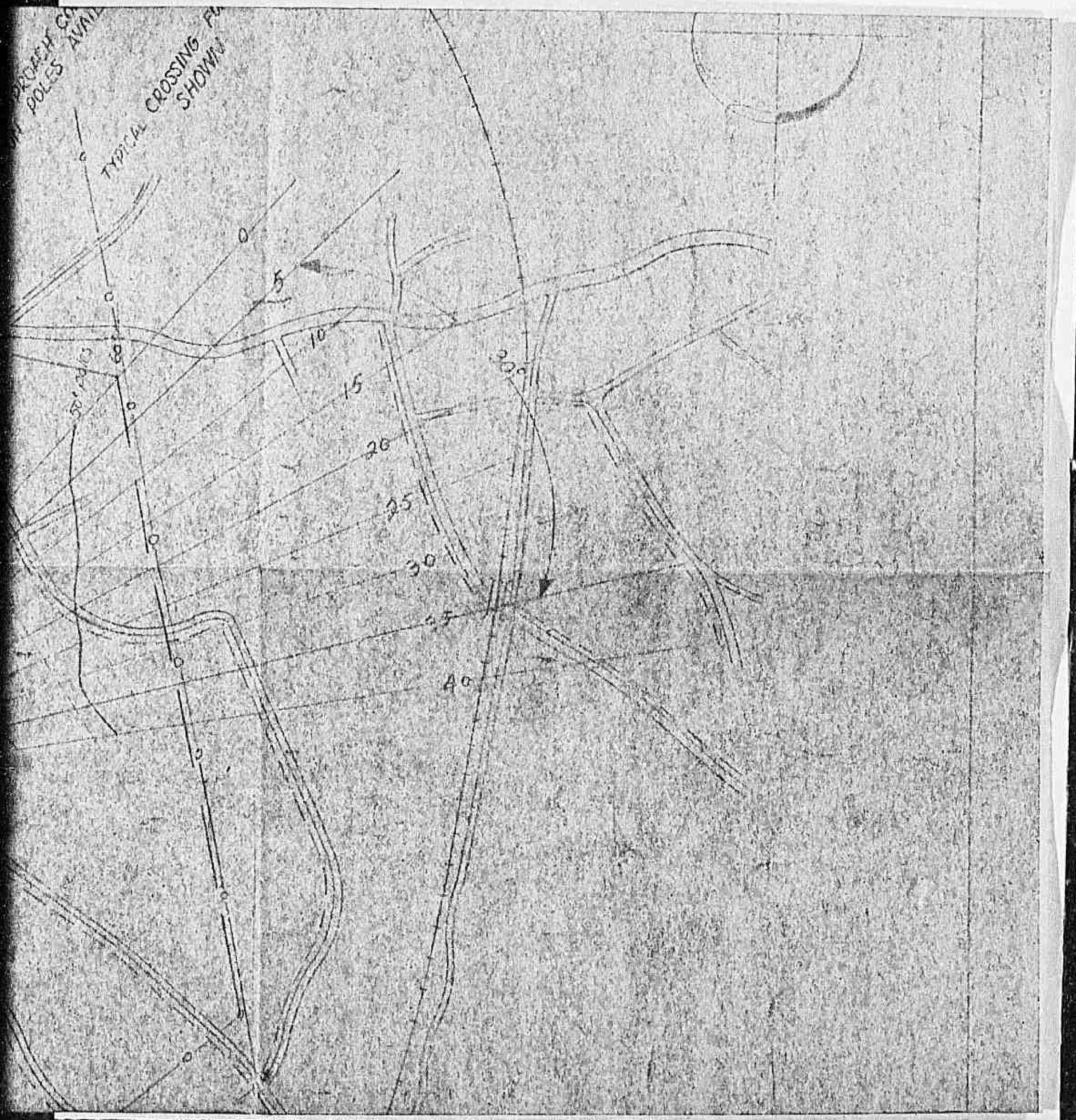

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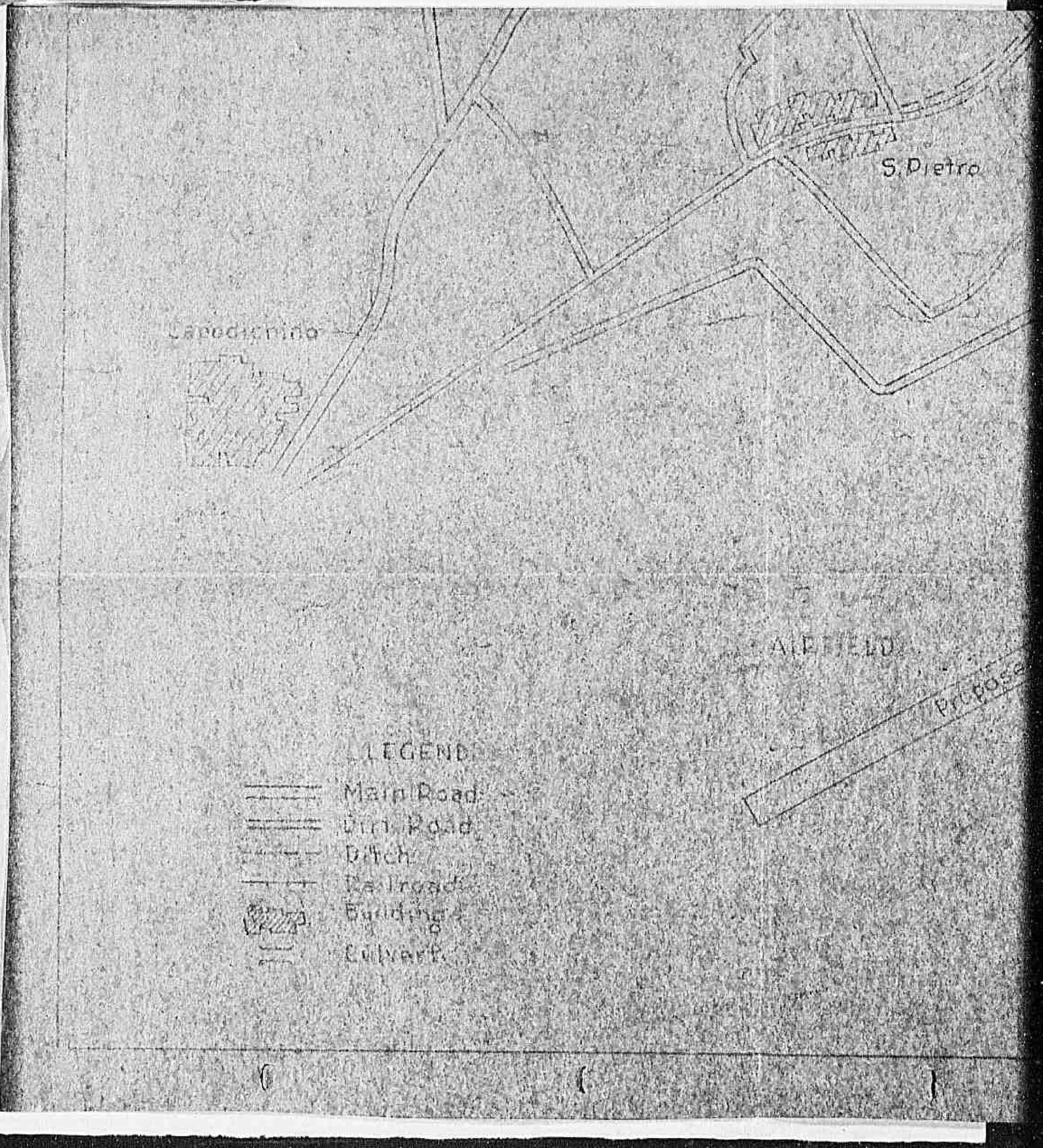

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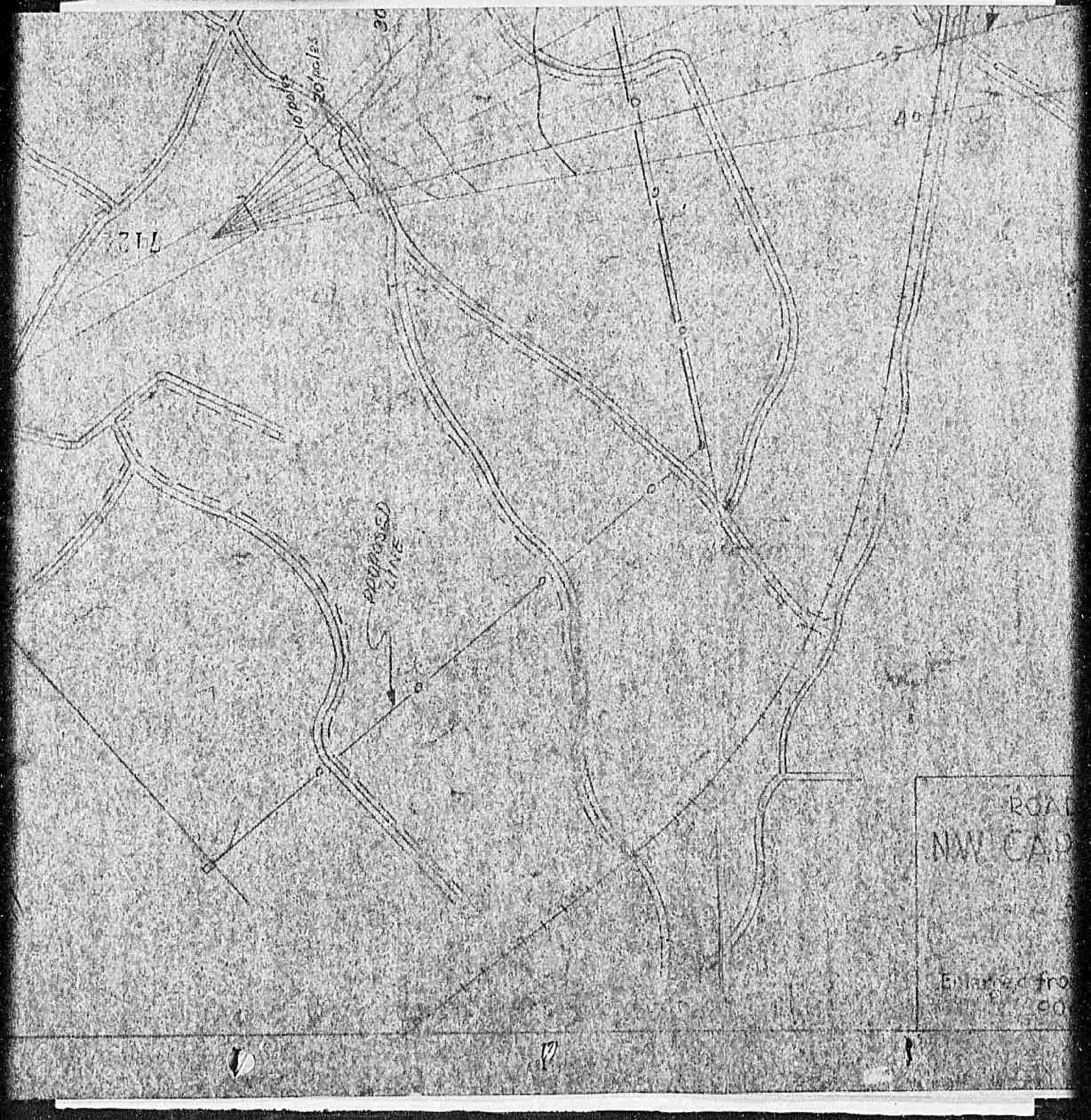

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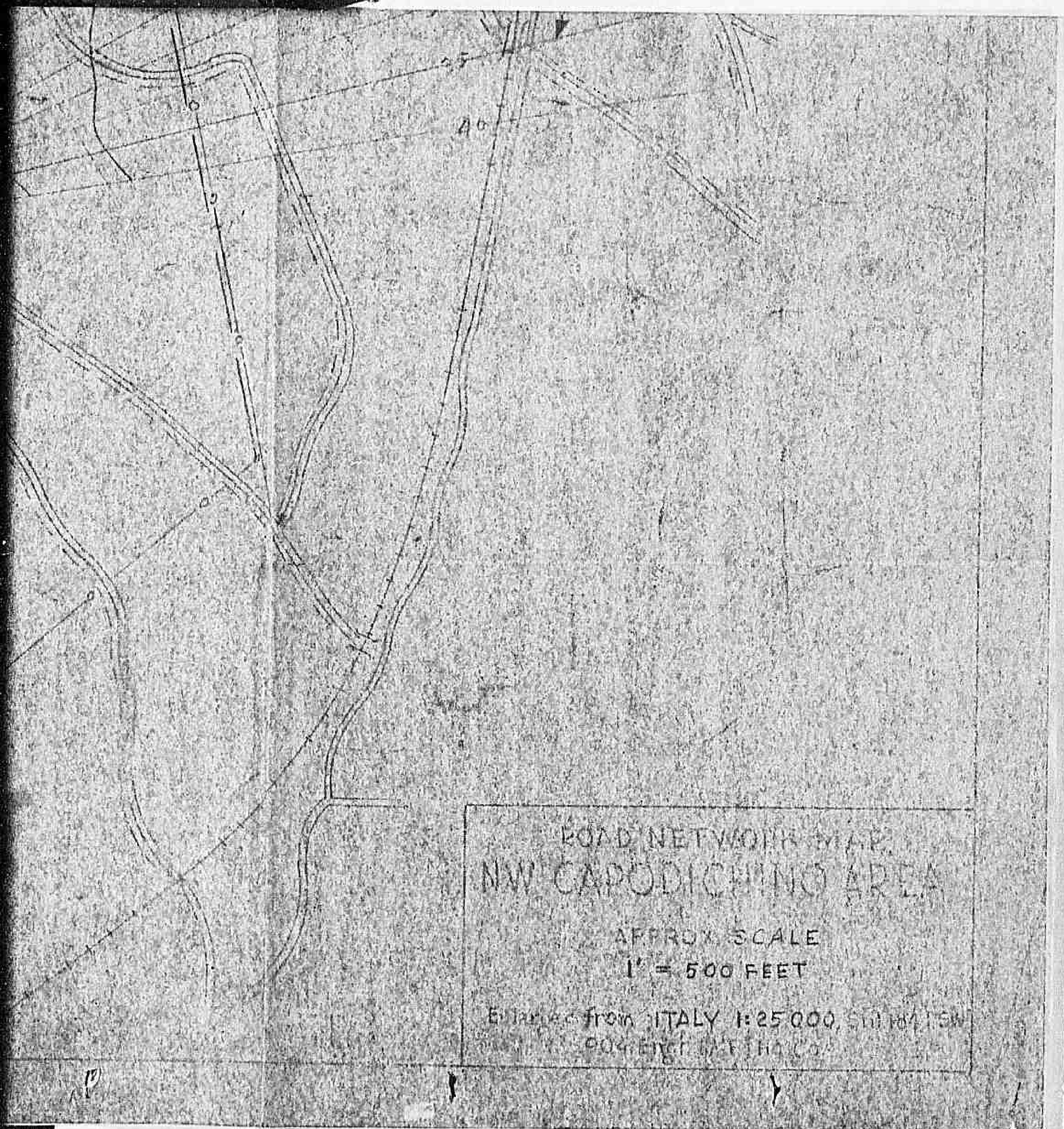

Declassified E.O. 12356 Section 3.3/NND No. 785019

52

ENGINEER SERVICE
PENINSULAR BASE SECTION
A. P. O. 782

GC/rhf

28 May 1944

MEMORANDUM:

SUBJECT : Restoration of E.A.V. 60 Line at Capodichino.

1. Early in December 1943 the Air Force removed some towers from the E.A.V. (Volturno) double circuit 60 Kv line at Capodichino to permit extending a runway.

2. A verbal request was recently made on the Area Engineer, XII AFSC for obtaining a relocation for the line and for assistance in restoring the line.

3. The Area Engineer submitted the attached plan which shows the previous location of the line as well as a proposed new location requiring the construction of approximately 15000' of new line. A plan and profile is now being prepared.

4. It will be necessary to carry out the construction this 15000' of 60 Kv curcuit in order to tie the Fratta-Minturno-Rome 60 Kv line to the 60 Kv line at Capuano Station. (It is understood that S.M.E. is providing the necessary 60 Kv connection between Capuano Steam Station and Volturno Diesel Station.)

5. The Area Engineer indicated verbally that they were not equipped to carry out the construction of this line but that they would probably assist with such facilities as they might have available.

6. It is proposed that this section be constructed as a single circuit line and that the job be allocated to E.A.V. assisted by the Air Force.

G. COOLEY,
Lt. Colonel, Corps of Engineers,
Construction Branch.

712

Declassified E.O. 12356 Section 3.3/NND No. 785019

(1)

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

27 May 1944

SUBJECT:- Rehabilitation of the LETE Hydro Electric Power Plant

TO:- CE HQ AAI, Maj-Gen. N.A. COXHILL ROGERS, CBE DSO,
CC PBS (Attention Col. D.S. BURNS - CE)
DW HQ AAI (Attention Lt-Col. W.A.R.SMITH RE)
CC ACC (Attention Lt-Col. W.M. LAPPER)
Comdr. L.E. HOGGAN, RN.

1. The LETE hydro electric plant is situated about 20 km west of the MATESE hydro electric plant. It operates under a maximum static head of 577 M. and is supplied from a small reservoir which provides for weekly storage. The original installation consisted of 4 hydro electric generating units having a combined capacity of 8000 KW. It produced from 25 - 35,000,000 KWH per year, which was transmitted to the NAPLES area over the LETE - MATESE and PIATTA MAGGIORE transmission lines.

2. The power station and generating equipment have been completely destroyed by mines. The reservoir intake and pipeline are undamaged. The transmission lines LETE - MATESE - PIATTA MAGGIORE are in operation or under repair.

3. It is feasible to move the second unit from MATESE I plant and install it at LETE, somewhat above the destroyed LETE power house. When so installed this unit should have a capacity of not less than 6000 KW always available for peak loads and would produce approximately 25,000,000 KWH per year.

4. All of the equipment required is available. The work can be done largely by Italian civilians under the direction of and with the assistance of an Army unit. The Army unit would be required to supply some transport, equipment, and food and miscellaneous supplies.

5. It is believed that the unit could be installed ready for operation within a period of four months, which would make it available for carrying the increased winter loads.

7122

James P. Crowdon

JAMES P. CROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(50)

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

27 May 44

SUBJECT:- Repair of the No 2 Unit now Being Removed from the CALORE Hydro Electric Plant.

TO:- CE HQ AAI, Maj-Gen. N.A. OCKWELL ROGERS, CBE DSO,
OC PBS (Attention Col. D.S. BURNS - CE)
DW HQ AAI (Attention Lt-Col. W.A.R. SMITH RE)
HQ ACC (Attention Lt-Col. W.M. LAITER )
Comdr. I.E. HOGGAN, RN.

1. No 9 District has been allotted the task of removing the No 2 hydro electric unit from the CALORE plant and transporting it to NAPLES for repair. It is proposed to instal this unit at a suitable site [illegible] North of ROME, where its output would be most useful either for supplying additional power to ROME or for transmission to the area north of ROME.

2. This unit has been damaged by mines and will require extensive repairs, which can be made in NAPLES. These repairs should be undertaken as promptly as possible so that the unit will be ready for installation when the site has been taken by the Allied Armies.

James P Crowdon

JAMES P. CROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

7121

Declassified E.O. 12356 Section 3.3/NND No. 785019

SOCIETA MERIDIONALE DI ELETTRICITÀ

(47)

Memorandum for Col. Growdon

Following your kind request, and with reference to our memorandum of April 20th inst. we give you the names of our employees who are in charge of the works mentioned in page 1 of said memorandum.

1) 60 KV White and Red Matese-Fratta - Between Fratta and Volturno River Sig. De Luca D. (maintenance crew of Fratta) - Between Volturno River and Matese Sig. Roseo C.

2) 150 KV Fratta-Pescara - Sig. Galzignato G.

3) 88 KV Matese-Lete - Sig. Gravina G.

4) 60 KV Calore-Tusciano - Sig. Fatti V.

5) 30 KV Tusciano-Tanagro - Sig. Fatti V.

6) 60 KV Green Matese-Fratta - Sig. Roseo C.

All the works, also if made with operation crews,are under control of transmission lines construction Department (Ing.Firpo M.)

Naples, the 1st May 1944

GC/pz

7129

Mod. 8 (20.000) Tipl A. Trani - 6-43

Copy No.8.

46

Appreciation of Rehabilitation of MATESE II Hydro Electric Station as at 18 May 44 - Job 11 CE 98.

156 C.R.E. (Works).

11 C.E. Works,
Eighth Army.
CE 1532/63.

18 May 44.

Further to 11 CE Works Technical Instuction dated 26 Apr 44 for Job 11 CE 98, a visit has now been made to PALERMO and the Hydro Station at ALTO BELICE inspected in detail. As a preface to comparing the Hydraulics of ALTO BELICE and MATESE II, the following gives a brief description of the arrangement at ALTO BELICE.

ALTO BELICE.

This station situated about 10 Kms. S.E. of PALERMO draws its water from the River HONE. The water is first collected into a small reservoir, then carried to the forbay by canal and tunnel, a surge tower is provided and automatic valve closure can be effected at the penstock head. From the forbay the water is carried by first a rivetted pipe then a cast steel pipe into the station. The station head is 450 metres and the total quantity of water available in good seasons is 3 M³/sec. Unlike normal practise the penstock starts at the top with a steep gradient and curves off to a long level gradient prior to entering the station. The profile of the pipe is somewhat hyperbolic in shape. At the station are installed the following :-

(a) 3 Nos. RIVA/G.E.C. Turbine Alternator Sets, each capable of generating continuously 3500 KVA at 0.7 PF, 10,000 volts 3-phase 50 cycles.
(b) 3 Nos. Circuit Breakers 10,000 volt 350 Amps.
2 Nos. " " 10,000 volts 1,000 Amps.
(c) Control Boards with TERRIL Regulators.

A space and a manifold have been made for a fourth set but this has never been installed. Distribution is at 10,000 volts 50 cycles.

It is intended to remove the following from the station.
(a) Set No.3 complete with Hydrostat, main valve, governor tachometer, alternator [illegible]

Declassified E.O./12356 Section 3.3/NND No. 785019

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2 Nos. " " 10,000 volts 1,000 Amps.
(c) Control Boards with TERRIL Regulators.

A space and a manifold have been made for a fourth set but this has never been installed. Distribution is at 10,000 volts 50 cycles.

It is intended to remove the following from the station.
(a) Set No.3 complete with Hydrostat, main valve, governor tachometer, alternator, excitor, excitor regulator and control panel, circuit breakers for alternator and instrument transformers.
(b) Piping. - All piping involved in Set No.3 plus a taper piece and elbow of Set No.4, (not at present in use).

Comparison of relative outputs ALTO BELICE - MATESE II.

| Conditions. | ALTO BELICE. | MATESE II. |
|---|---|---|
| (a).Hydraulic Data. | | |
| 1.Head static | 450 metres, 1476' | 352 metres, 1150' |
| 2.Head actual | 436 " 1430' | 344.3 " 1130' |
| 3.Quantity of water | 1.000 $M^3$/sec. | 1.500 $M^3$/sec (available) |
| 4.Velocity $\sqrt{2gh}$ | 310 ft/sec. | 268 ft/sec. |
| 5.Jet velocity (310 x .92) | 285 ft/sec. | 247 ft/sec. |
| 6.Speed of turbine | 750 r.p.m. | 675 r.p.m. |
| 7.Wheel peripheral velocity | 140 ft/sec. | 125.5 ft/sec. |

to 7 pages 2...

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | ALTO BELICE | MATESE II |
|---|---|---|
| 8.Ratio $\frac{\text{Wheel peripheral velocity}}{\text{Jet velocity}}$ | = .49 | 0.505 |
| 9.Jet diameter | = 120mm. | 120mm. |
| 10.Jet area | = .123 sq.ft. | .123 sq.ft. |
| 11.Quantity of water passed (V x a) | = (35 cu.ft. (99 M³/sec. | (30.8 cu.ft. (.872 M³/sec. |
| 12.H.P. $(\frac{QH}{8.8})$ | = 5680 | 3900 |
| 13.Efficiency of turbine | = 0.85 | 0.84 |
| 14.H.P. output of turbine | = 4830 | 3280 |
| 15.KW " " " | = 3600 | 2450 |

(b) Electrical Data.

i) Alternator
Maker's Name: SCHENECTADY G.E.C. (~~SCHENECTADY~~) NY USA.
Serial No: 3096635 Type ATB-8-3500M-750-5.
Amperes: 202/187.
R.P.M.: 750 (ALTO BELICE) 675 (MATESE II)
P.F. : 0.7
Contuous Rating: 3500 KVA.
Static rise in temp: 50 deg.Cent.rise.
Rotor rise of temp: 60 deg.Cent.rise.

ii) Excitor
Maker's Name: G.E.C.
Serial No: 1201519 Type EC7-4-20-750 Form A.
Amperes : 160 Amps.
Speed : 750 r.p.m.
Volts no load: 125 volts.
Volts full load: 120 volts
KW continuous: 20 KW
Temperature rise: 50 deg.Cent.

Tests carried out indicate that the jet is in good order and provides a straight linecharacteristic for the whole of the turbine operating range. The curve falls off above 0.9 gate opening. Curve 11 CE/216 shows the plotted figures included in table I. The excitor figures are included in table II and 11 CE/217 shows these figures plotted. It would appear that the excitor is amply large enough for the new condition.

T A B L E I.

| Load KW | Measured Jet opening | Corrected Jet opening. |
|---|---|---|
| 3800 | 1.0 | 1.0 |
| 3500 | 0.88 | 0.87 |
| 3000 | 0.72 | 0.73 |
| 2500 | 0.59 | 0.60 |

Declassified E.O. 12356 Section 3.3/NND No. 785019

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P.F. : 0.7
Contuous Rating: 3500 KVA.
Static rise in temp: 50 deg.Cent.rise.
Rotor rise of temp: 60 deg.Cent.rise.

ii) Exciter

Maker's Name: G.E.C.
Serial No: 1201519 Type EC7-4-20-750 Form A.
Amperes : 160 Amps.
Speed : 750 r.p.m.
Volts no load: 125 volts.
Volts full load: 120 volts
KW continuous: 20 KW
Temperature rise: 50 deg.Cent.

Tests carried out indicate that the jet is in good order and provides a straight linecharacteristic for the whole of the turbine operating range. The curve falls off above 0.9 gate opening. Curve 11 CE/216 shows the plotted figures included in table I. The excitor figures are included in table II and 11 CE/217 shows these figures plotted. It would appear that the excitor is amply large enough for the new condition.

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|---|---|---|
| 3800 | 1.0 | 1.0 |
| 3500 | 0.88 | 0.87 |
| 3000 | 0.72 | 0.73 |
| 2500 | 0.59 | 0.60 |
| 2000 | 0.48 | 0.49 |
| 1500 | 0.34 | 0.36 |
| 1000 | 0.24 | 0.24 |
| 500 | 0.14 | 0.13 |
| 0 | 0 | 0 |

The above indicates that the nozzle design gives a jet opening proportional to load output for the full range up to its rated output.

to page 3...



Declassified E.O. 12356 Section 3.3/NND No. 785019

TABLE II

| Generated Voltage. | Excitor Volts. | | Excitor Amps. | | Excitor KW. | |
|---|---|---|---|---|---|---|
| | 50 cycles | 45 cycles | 50 cycles | 45 cycles | 50 cycl | 45 cycl. |
| 10,000 | 55 | 62 | 65 | 74 | 3.57 | 4.6 |
| 9,000 | 46.5 | 55.4 | 58 | 65 | 2.7 | 3.6 |
| 5,000 | 52.4 | 46.8 | 34.4 | 38.4 | 1.8 | 1.8 |
| 2,500 | 18.4 | 15.9 | 19.0 | 22.0 | 0.35 | 0.35 |

At 9,000 volts generated at 45 cycles, the KW output of the excitor will be approximately the same, if alternator run at full load - As the turbine will however have a smaller output, the excitor load will also be lower.

Ventilator.

The alternator is designed for air cooling by 13,000 cubic ft. of air per min. and the design of air ducts is being made to keep the air velocity below 900 ft/min.

Drawings.

A full set of foundation dwgs together with dwgs for power house and machinery are in the course of preparation.

Penstock.

All broken sections have been removed and are in the course of being transported to Naval Meccanico, NAPLES. The flange repair at the base of penstock has been completed.

Rotor of No.2 Machine at MATESE I

This has been removed and is awaiting at main road junction for suitable transport. At the moment all available low loaders are involved in operations.

Distribution.

| | Copy No. | | Copy No. |
|---|---|---|---|
| 156 C.R.E.(Works) | 1 - 4. | H.Q. A.C.C. A.P.O.394. | 9 |
| CE Main 8th Army. | 5 | SCRE(E & M). | 10 |
| CE AAI. | 6 | File | 11 - 12. |
| DW for ADW(E & M). | 7 | War Diary | 13 - 14. |
| AAI C.E.B. A.P.O.400. | 8 | | |

Declassified E.O. 12356 Section 3.3/NND No. 785019

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| AAI C.E.B. A.P.O.400, | | | |
| Vice Chairman Col.JP GROWDON C.E. 8. | | | |

A.W. Lush Maj RE

for Colonel,
11 C.E. Works,
Eighth Army.

AWP/AR.

7117

Declassified E.O. 12356 Section 3.3/NND No. 785019

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BEST COPY POSSIBLE

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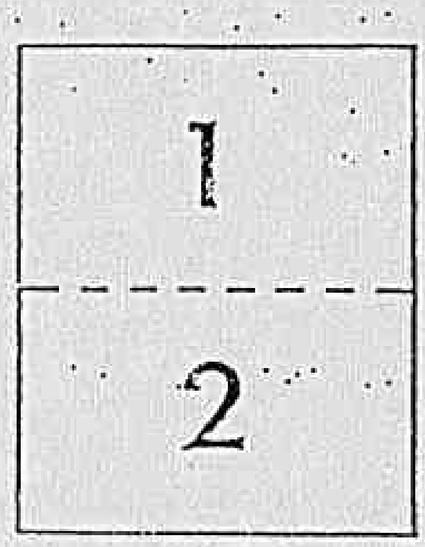
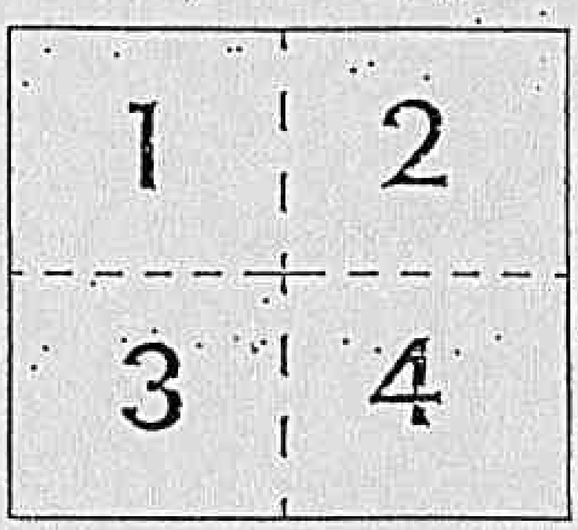
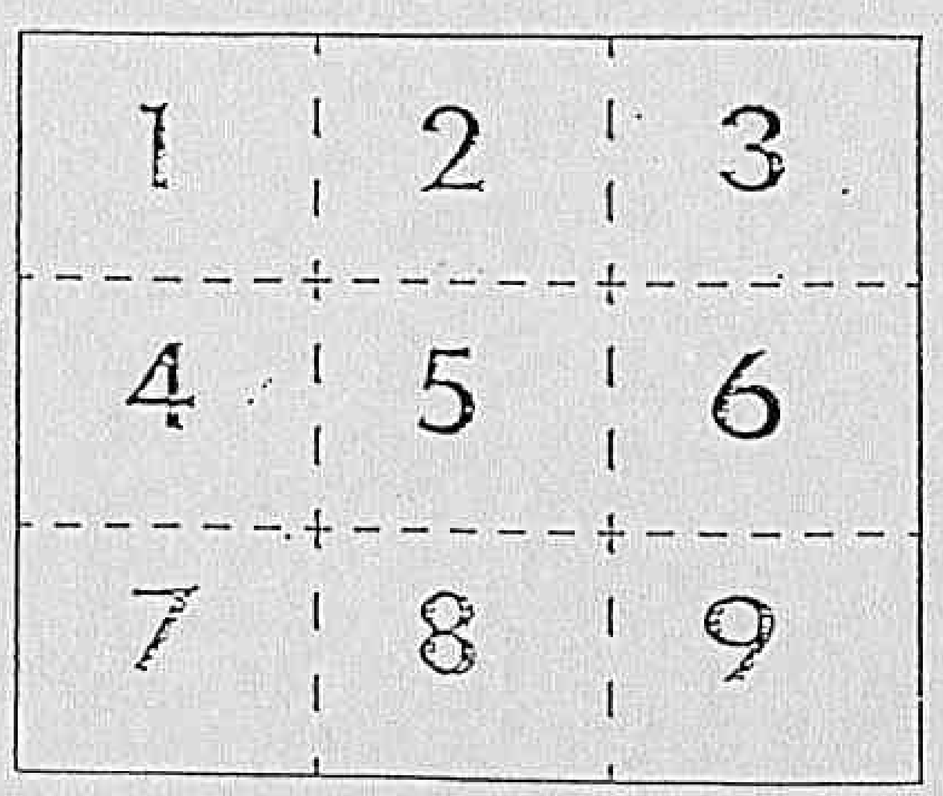
MAPS AND CHARTS TOO LARGE TO FILM
ON ONE EXPOSURE ARE FILMED CLOCKWISE
BEGINNING IN THE UPPER LEFT CORNER,
LEFT TO RIGHT, AND TOP TO BOTTOM.

SEE DIAGRAMS BELOW.



Declassified E.O. 12356 Section 3.3/NND No. 785019

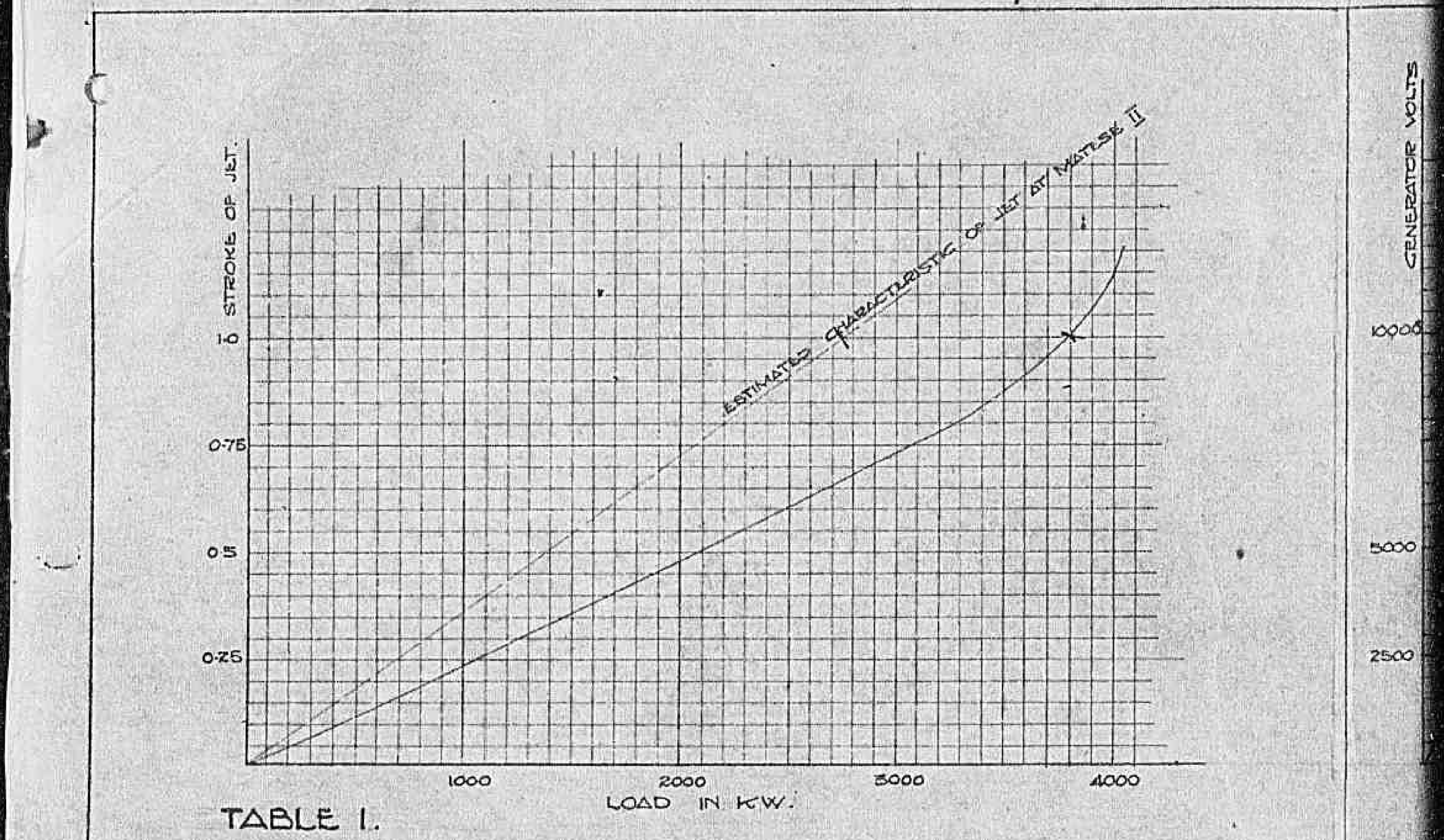



TABLE 1.

| LOAD K W. | MEASURED JET OPENING | CORRECTED JET OPENING |
|---|---|---|
| 3800 | 1.0 | 1.0 |
| 3500 | 0.88 | 0.87 |
| 3000 | 0.72 | 0.73 |
| 2500 | 0.59 | 0.60 |
| 2000 | 0.48 | 0.49 |
| 1500 | 0.34 | 0.36 |
| 1000 | 0.24 | 0.24 |
| 500 | 0.14 | 0.13. |
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Declassified E.O. 12356 Section 3.3/NND No. 785019

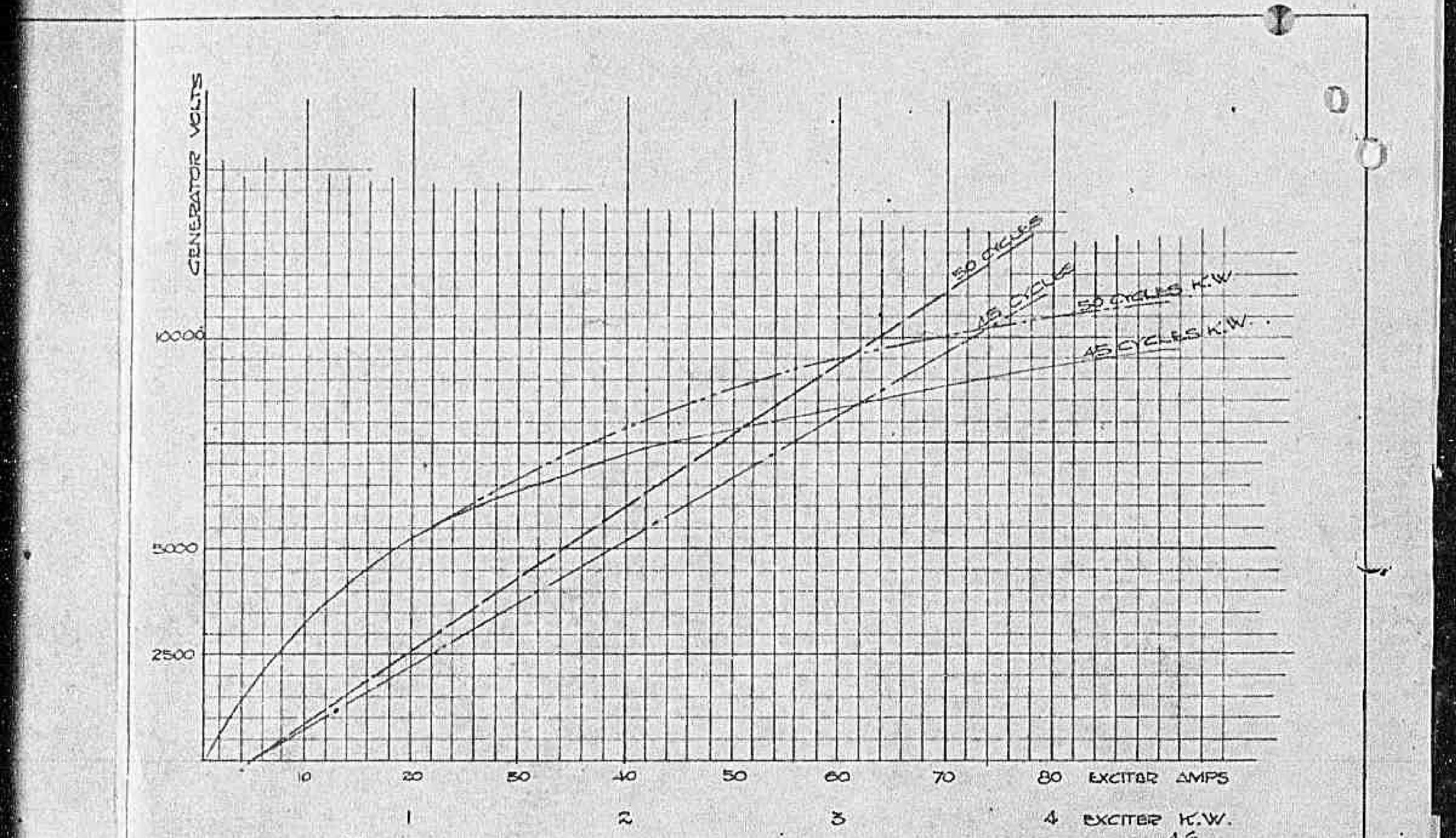


TABLE II

| GENERATOR VOLTAGE | EXCITER VOLTS. | | EXCITER AMPS. | | EXCITER KW. | |
|---|---|---|---|---|---|---|
| | 50 CYCLES. | 45 CYCLES | 50 CYCLES. | 45 CYCLES. | 50 CYCLES | 45 CYCLES |
| 10,000 | 55 | 62. | 65 | 74. | 3.57. | 4.6 |
| 9000. | 46.5 | 55.4. | 58 | 65 | 2.7. | 3.6 |
| 5000 | 52.4. | 46.8. | 34.4. | 38.4. | 1.8. | 1.8. |
| 2500 | 18.4. | 15.9. | 19.0. | 22.0. | 0.35 | 0.35. |

AT 9000 V GENERATED AT 45 CYCLES THE KW OUTPUT OF THE EXCITER WILL BE APPROXIMATELY THE SAME IF ALTERNATOR RUN AT FULL LOAD — AS THE TURBINE WILL HOWEVER HAVE A SMALLER OUTPUT THE EXCITER LOAD WILL ALSO BE LOWER.

Declassified E.O. 12356 Section 3.3/NND No. 785019

| LOAD K.W. | MEASURED JET OPENING | CORRECTED JET OPENING |
|---|---|---|
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| 1500 | 0.34 | 0.36 |
| 1000 | 0.24 | 0.24 |
| 500 | 0.14 | 0.13 |
| 0 | 0 | |

THE ABOVE INDICATES THAT THE NOZZLE DESIGN GIVES A JET OPENING PROPORTIONAL TO LOAD OUTPUT FOR THE FULL RANGE UP TO ITS RATED OUTPUT.

# LOAD-JET CHARACTERISTICS
# Nº 3 MACHINE ALTO BELICE

H. C.E. WORKS DWG Nº CE/216

COLONEL.
H. C.E. WORKS

Declassified E.O. 12356 Section 3.3/NND No. 785019

| GENERATOR VOLTAGE | EXCITER VOLTS. | | EXCITER AMPS. | | EXCITER KW. | |
|---|---|---|---|---|---|---|
| | 50 CYCLES. | 45 CYCLES | 50 CYCLES | 45 CYCLES. | 50 CYCLES | 45 CYCLES |
| 10,000 | 55 | 62. | 65 | 74. | 3.57. | 4.6 |
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| | | | |
|---|---|---|---|
| A. Murray Major<br>COLONEL.<br>U.S. ENGR. WORKS | EXCITER CHARACTERISTICS OF No 3 ALTERNATOR ALTO BELICE | U.S. ENGR. WORKS DWG. No. CE/217 | A. Murray Major<br>COLONEL.<br>U.S. ENGR. WORKS. |

Declassified E.O. 12356 Section 3.3/NND No. 785019

1/2 14/24 (45)

Subject:- Hydro-electric Unit, PALERMO - Transfer to NAPLES.

HQ AAI,
C.M.F.

2131/1/Q2.

12 May 44.

HQ, ACC (2)
1 District
CO., Island Base Section.

Reference 2131/1/Q2 of 29 Apr., 44, para. 7.

Bids for shipping space should be made to C.O., I.B.S., for onward transmission to AFHQ and NOT to Movements, 1 District.

Chief Admin: Major-General, Deputy Chief Administrative Officer.

Copy to:- G.4.
Q1
Mov(2)
Works (2)
Local Resources Section
Vice-chairman, Central Electricity Board.

7115

Declassified E.O. 12356 Section 3.3/NND No. 785019

SUBJECT: Rehabilitation of MATESE No 2 Hydro Electric Generating Plant.

HQ. A.A.I. C.M.F.
Ref: 2550/1/RE.
12 May 44

To: CE EIGHTH Army (11 CE Wkg)

1. In connection with HQ AAI No. 2131/1/Q2 of 7 May paras 1(a) and 3, the following technical instructions are forwarded.

2. The MATESE No 2 hydroelectric generating station, located at PIEDMONTE, utilizes the discharge from MATESE No 1 generating station under a head of 352 metres. As originally constructed the station had two 5,000 KVA generators direct coupled to Pelton turbines. The water was taken from the discharge of MATESE No.1 through a series of canals and tunnels to the headworks of No. 2 MATESE. From the headworks it was taken to No. 2 turbines through a single penstock. A second pipeline parallel to the penstock is used to discharge the water from MATESE No.1 when No.2 is not operating. The water for these two plants is taken from MATESE lake which has a storage capacity of approx. 16,000,000 cubic metres. This storage is especially valuable during the dry season.

3. It is believed that the conduit from MATESE No.1 and the intake structures of MATESE No.2 are undamaged. A section of the penstock has been destroyed. The power house and generating equipment have been completely destroyed. One transformer is now in operation and a second is under repair.

4. The work to be done is as follows:-

(a) Repair the penstock where it has been damaged. It will be unnecessary to replace the arched bridge over the roadway at this point as the penstock will span this distance between supports.

(b) Prepare a flange for the existing penstock where it emerges from the bottom anchorage and attach to it two lengths of undamaged cast steel pipe. Prepare a cast steel reducer for connecting the penstock to the valve of the unit to be installed. Prepare foundations and power house for a 3500 KVA hydro electric generating unit to be installed. This unit is being removed from a plant in SICILY and shipped to NAPLES by ACC. This unit needs to be installed complete with switch gear and connections to transformer ready for operation.

5. Complete plans of the work to be done will be provided as soon as detailed drawings of the unit to be installed are available. It is suggested that you should send a representative to inspect the unit in SICILY at the earliest practicable date.

6. The Societa Meridionale di Elettricita will provide technical supervision and a part of the workman required. Para 2 of this HQ letter referred to above indicates the extent to which military resources are to be utilised.

W.A.R. SMITH,
Lieut-Col RE
for Major-General.
Chief Engineer,

Copy to:- Central Electric Board,
A.P.O. 400

Declassified E.O. 12356 Section 3.3/NND No. 785019

1/2 14/Gen (43)

SUBJECT:- Rehabilitation of MATESE-LETE Transmission Line

Headquarters
A. A. I.
C. M. F.

2550/1/RE

CE EIGHTH Army

12 May 1944

In connection with HQ AAI 2131/1/Q2 of 7 May paras 1(d) and 3, the following technical instructions are forwarded.

2. The work consists of repairing ONE of the the two transmission lines from MATESE to LETE and as far north of LETE as the military situation permits.

3. It is intended to energise this line on completion at 60 KV to prevent theft of conductor.

4. The pylons, insulators and conductors required to repair the first circuit may be removed from the second and whatever is left of the second circuit should be repaired so that it can be safely connected to the first. The cross connections should be made on several convenient points.

The Societa Meridionale di Elettricita will provide special tools and fittings, technical supervision and most of the workmen required. Signor G. GRAVINA will be the SME representative on the work.

Para 2 of this HQ letter referred to above indicates the extent to which military resources are to be utilised.

W.A.R. SMITH,
Lieut-Col RE
for Major-General
Chief Engineer.

WARS/elw

Copy to:- Central Electric Board
A.P.O. 400

7113

SUBJECT: Rehabilitation of Electric Supplies - ITALY

1/2 (42) 14/35/46

HQ AAI,
C.M.F.

2131/1/Q2.

7 May 44.

No. 3 District

1. At its meeting on 3 May 44, the AAI Central Electrical Board recommended that the following work be allotted to No. 3 District for execution:-

(a) Rehabilitation of the CALORE - TUSCIANO 60 KV Transmission Line.

(b) Rehabilitation of the second circuit TANAGRO - TUSCIANO 30 KV Transmission Line.

(c) Rehabilitation of the second circuit TUSCIANO - TORRE 30 KV Transmission Line.

2. You will utilize local Italian workmen and resources to the fullest extent possible, and will please provide transport and any further materials or supplies required, and exercise general supervision to ensure that the work is completed as quickly as possible.

3. Technical instructions will be forwarded direct to your Chief Engineer by DDW this HQ.

Major-General,
Chief Administrative Officer.

Copy to: Vice Chairman, Central Electrical Board.
Works.
Local Resources.

Declassified E.O. 12356 Section 3.3/NND No. 785019

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(b) Rehabilitation of the second circuit TAMAGRO - TUSCIANO 30 KV Transmission Line.

(c) Rehabilitation of the second circuit TUSCIANO - TORRE 30 KV Transmission Line.

2. You will utilize local Italian workmen and resources to the fullest extent possible, and will please provide transport and any further materials or supplies required, and exercise general supervision to ensure that the work is completed as quickly as possible.

3. Technical instructions will be forwarded direct to your Chief Engineer by DDW this HQ.

Major-General,
Chief Administrative Officer.

Copy to: Vice Chairman, Central Electrical Board.
Works.
Local Resources.



Declassified E.O. 12356 Section 3.3/NND No. 785019

1/2 · 14/5/44

(41)

SUBJECT: Rehabilitation of Electric Power Supplies - ITALY

HQ AAI,
C.M.F.

2131/1/G2.

7 May 44.

Rear HQ EIGHTH ARMY (2)

1. The AAI Central Electrical Board has recommended that the following tasks be allotted to you for execution:-

(a) the repair of the penstock at No. 2 MATESE electric generating plant and the installation of a 3500 KVA hydro electric generating unit at this site.

(b) the repair of the Green MATESE - PRATTA 60 KV transmission line from MATESE power station to the VOLTURNO River.

(c) the salvage of the conductor from the Red and White MATESE - PRATTA 60 KV transmission lines from the MATESE power station to the VOLTURNO River.

(d) the repair of one MATESE - LETE 60 KV transmission line from MATESE power house as far north as the military situation permits, and the removal of conductor from the second MATESE - LETE transmission line.

2. You will be required to utilise Italian workmen and resources to the fullest extent possible and to provide transport and any further materials and supplies required, and to exercise general supervision to ensure that the work is completed as quickly as possible without interference with military operations.

3. Technical instructions have been discussed with Chief Engineer your HQ and will be forwarded direct to him by Chief Engineer, AAI.

4. Will you please confirm that you can carry out this work?

Major-General,

Declassified E.O. 12356 Section 3.3/NND No. 785019

1. The AAI Central Electrical Board has recommended that the following tasks be allotted to you for execution:-

(a) the repair of the penstock at No. 2 MATESE electric generating plant and the installation of a 5500 KVA hydro electric generating unit at this site.

(b) the repair of the Green MATESE - PRATA 60 KV transmission line from MATESE power station to the VOLTURNO River.

(c) the salvage of the conductor from the Red and White MATESE - PRATA 60 KV transmission lines from the MATESE power station to the VOLTURNO River.

(d) the repair of one MATESE - LETE 66 KV transmission line from MATESE power house as far north as the military situation permits, and the removal of conductor from the second MATESE - LETE transmission line.

2. You will be required to utilise Italian workmen and resources to the fullest extent possible and to provide transport and any further materials and supplies required, and to exercise general supervision to ensure that the work is completed as quickly as possible without interference with military operations.

3. Technical instructions have been discussed with Chief Engineer your HQ and will be forwarded direct to him by Chief Engineer, AAI.

4. Will you please confirm that you can carry out this work?

Major-General,
Chief Administrative Officer.

Copy to: C.E., A.A.I.
Berlin.
Vice Chairman, Central Electrical Board.
Local Resources Section.

7111

Declassified E.O. 12356 Section 3.3/NND No. 785019

(40)

Subject: Job 11 CE 102.

11 C.E. Works,
Eighth Army.
CE 1535/60.

7 May 44.

DW for ADW(E & M).

Vice Chairman C.E.B. Col.J.P.GROWDON,AUS.
c/o A.C.C. HQ A.A.I.

Copy to: CE A.A.I.
: "Q" Rear 8th Army.
: CE Main HQ, 8th Army.

1. Further to your 2550/1/RE of 29 Apr 44 received here on 2 May 44. A complete recce of the line concerned has been made and a detailed inspection report is appended. In addition the following information is given.

2. Both transmission Lines are supported on a common tower, the phases of each line being displaced horizontally to each other, the Red transmission Line being above and the White transmission Line below.

3. The Towers are numbered from No.1 at Power Station COLLE-VOLTURNO to No.342 on West Bank of river VOLTURNO South of CAPUA.

4. Each transmission Line consists of three hard drawn copper conductors (stranded) made up of 7/10 guage (7/.128) (58.1 sq.mm.) Jointing is effected by the use of copper sleeves and wedges and screwed gland connectors. Span measures approx 600 ft.

5. Insulators used are of two types:
(a) A cup shaped white glazed porcelain insulator with a tongue and clevis fitment diameter 8".
(b) Normal disc type tongue and clevis insulator white or brown porcelain diameter 10".
These are arranged 6 in a series for normal suspension, tensioning, and corner positions, but double strings are used at major road and river crossing.

6. The towers are of the latice girder type with bolted main members and rivetted cross braces. They are rectangular in section taping towards the apex, the insulator supports running the full width of the top section.

Declassified E.O. 12356 Section 3.3/NND No. 785019

: GS Main HQ, 8th Army.

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(b) Normal disc type tongue and clevis insulator white or brown porcelain diameter 10".
These are arranged 6 in a series for normal suspension, tensioning, and corner positions, but double strings are used at major road and river crossing.

6. The towers are of the latice girder type with bolted main members and rivetted cross braces. They are rectangular in section taping towards the apex, the insulator supports running the full width of the top section.

7. There is no continuous earth wire, each tower being separately earthed.

8. Provision is necessary at span 341-342 for alternative method of suspending the petrol pipeline at present being suspended by steel wire rope anchored to pylons 341-342.

9. It will be seen from the summary of damage on page 1 of the appendix that the repair work involved is somewhat extensive. The two biggest items being pylon replacement and repair, and the amount of copper cable required.

10. In view of 9, it is felt that a meeting between C.E.B., the E.A.V. and rep from this HQ would be most advantageous in order that a detailed works table may be established and the supply of stores be investigated.

Colonel,
11 C.E. Works,
Eighth Army.

AWP/AR.

Declassified E.O. 12356 Section 3.3/NND No. 785019

APPENDIX I

Damage report on Power line feeding into CAPUANA Power Station NAPLES from the Power Station at COLLE VOLTURNO MR H 085320.

SUMMARY OF DAMAGE.

Pylons destroyed. - 24 No.
Nos.81,82,83,84,85,86,139,140,160,161,162,162,165,172, 173,177,178,179,182,183,187,192,193,257,289.

Pylons damaged. - 9 No.
Nos.1, 46, 204, 252, 256, 268, 274, 281, 306.

Pylons removed.
Nos. 121,122,123.

Insulators damaged or missing. - 787 No.

Conductor required to make good. - 118,000 metres.

7 May 44.
AWP/AR.

Major S.O.R.E.(E ... ),
11 C.E. Works,
Eighth Army.

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| RED<br>WHITE. | | Red terminal pylon damaged, 4 insulators. |
| 2 | 1 - 2. | Red line - all lines OK - White line - all lines OK.<br>No damage. |
| 3 | 2 - 3 | Red line - all lines OK - White line - all lines OK.<br>No damage. |
| 4. | 3 - 4 | Red line all lines OK. White line all Lines OK.<br>No damage. |
| 5 | 4 - 5 | Red line all lines OK. White line all lines OK.<br>No damage. |
| 6 | 5 - 6 | Red line, No.2 line down. White line No.1 & 2 down.<br>No damage. |
| 7 | 6 - 7 | Red line No.2 line down. White line No.1 & 2 down.<br>No damage. |
| 8 | 7 - 8 | Red line No.2 line down. White line No.2 down.<br>No damage. |
| 9 | 8 - 9 | Red line No.1 & 2 line down. White line No.2 & 3 line down.<br>No damage. |
| 10 | 9 - 10 | Red line No.1 & 3 line down. White line all lines up.<br>Pylons undamaged, 2 insulators cracked. |
| 11 | 10-11 | Red line No.1 & 3 line down, white line all lines up.<br>Pylon undamaged, 2 insulators cracked. |
| 12 | 11-12 | Red line all lines down, white line No.2 & 3 lines down.<br>No damage. |
| 13 | 12-13 | Red line No.1 line down, white line all lines up.<br>No damage. |
| 14 | 13-14 | Red line all lines up, white line No.1 & 2 lines down.<br>No damage. |
| 15 | 14-15 | Red line all lines up, white line all lines up.<br>No damage. |
| 16 | 15-16 | Red line all lines down, white line all lines down.<br>Pylon not damaged, 3 insulators broken. |
| 17 | 16-17 | Red line No.1 line down, white line all lines up.<br>No damage. |
| 18 | 17-18 | Red line No.1 & 2 line down, white line all lines up.<br>Pylon not damaged, 14 insulators broken. |
| 19 | 18-19 | Red line No.1 & 2 lines down, white line all lines up.<br>No damage. |
| 20 | 19-20 | Red line all lines up, white line No.2 line down.<br>No damage. |
| 21 | 20-21 | Red line all lines down, white line all lines down.<br>Pylon not damaged, 4 insulators missing. |
| 22 | 21-22 | Red line No.1 & 3 lines down, white line No.1 & 2 lines down.<br>No damage. |
| 23 | 22-23 | Red line all lines |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| | | No damage. |
| 7 | 6 - 7 | Red line No.2 line down. White line No.1 & 2 down. No damage. |
| 8 | 7 - 8 | Red line No.2 line down. White line No.2 down. No damage. |
| 9 | 8 - 9 | Red line No.1 & 2 line down. White line No.2 & 3 line down. No damage. |
| 10 | 9 - 10 | Red line No.1 & 3 line down. White line all lines up. Pylons undamaged, 2 insulators cracked. |
| 11 | 10-11 | Red line No.1 & 3 line down, white line all lines up. Pylon undamaged, 2 insulators cracked. |
| 12 | 11-12 | Red line all lines down, white line No.2 & 3 lines down. No damage. |
| 13 | 12-13 | Red line No.1 line down, white line all lines up. No damage. |
| 14 | 13-14 | Red line all lines up, white line No.1 & 2 lines down. No damage. |
| 15 | 14-15 | Red line all lines up, white line all lines up. No damage. |
| 16 | 15-16 | Red line all lines down, white line all lines down. Pylon not damaged, 3 insulators broken. |
| 17 | 16-17 | Red line No.1 line down, white line all lines up. No damage. |
| 18 | 17-18 | Red line No.1 & 2 line down, white line all lines up. Pylon not damaged, 14 insulators broken. |
| 19 | 18-19 | Red line No.1 & 2 lines down, white line all lines up. No damage. |
| 20 | 19-20 | Red line all lines up, white line No.2 line down. No damage. |
| 21 | 20-21 | Red line all lines down, white line all lines down. Pylon not damaged, 4 insulators missing. |
| 22 | 21-22 | Red line No.1 & 3 lines down, white line No.1 & 2 lines down. No damage. |
| 23 | 22-23 | Red line all lines up, white line all lines up. No damage. |
| 24 | 23-24 | Red line all lines up, white line all lines up. No damage. |
| 25 | 24-25 | - do - |
| 26-45 | 25-34 | - do - |
| | | All pylons undamaged, 12 insulators damaged. |
| | 34-35 | Red line No.1 & 2 lines down, white line no damage. |
| | 35-36 | Red line all lines down, white line No.2 down. |
| | 36-37 | Red line all lines down, white line No.2 down. |
| | 37-38 | Red, line No.2 & 3 lines down, white line all lines down. |
| | 38-39 | Red line all lines up, white line all lines up. |
| | 40-41 | - do - |
| | 41-42 | Red line all lines down, white line all lines down. |
| | 42-43 | - do - |

to page 3...



Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| | 44-45 | Red line No.1 line down, white line all lines up. |
| | 45-46 | Red line all lines down, white line 1 & 2 lines down. |
| 46 | | Pylons badly damaged, 4 insulators damaged. |
| 47-68 | | All pylons undamaged, 17 insulators damaged. |
| | 46-47 | Red line 1 & 3 lines down, white line all lines up. |
| | 47-48 | Red line No.2 line down, white line No2 down. |
| | 48-49 | Red line 3 line down, white line No.3 line down. |
| | 49-50 | Red line No.1 & 3 lines down, white line No.3 line down. |
| | 50-51 | Red line 1 & 2 lines down, white line 1,2,3 lines down. |
| | 51-52 | Red line all lines down, white line all lines down. |
| | 52-53 | Red line all lines down, white line all lines down. |
| | 53-54 | Red line 1 line down, white line all lines down. |
| | 54-55 | Red line 1 line down, white line . & 2 lines down. |
| | 55-56 | Red line all lines down, white line all lines down. |
| | 56-57 | Red line all lines down, white line all lines up. |
| | 57-60 | Red line all lines up, white line all lines up. |
| | 60-61 | Red line all lines up, white line all lines up. |
| | 62-63 | Red line 1 line down, white line 3 line down. |
| | 63-64 | Red line 2 line down, white line 2 line down. |
| | 64-65 | Red line 2 line down, white line 2 line down. |
| | 65-66 | Red line 1 & 3 lines down, white line all lines down. |
| | 66-67 | Red line 1 line down, white line all lines up. |
| | 67-68 | Red line 1 line down, white line all lines up. |
| | 68-69 | Red line 1 & 3 lines down, white line 2 & 3 lines down. |
| 69-80 | | |
| | 69-70 | All pylons OK, 31 insulators damaged. |
| | 70-71 | Red line all lines up, white line 3 line down. |
| | 71-72 | Red line all lines up, white line 3 line down. |
| | 72-73 | Red line 1 & 3 line down, white line 2 & 3 line down. |
| | 73-74 | Red line 1 line down, white line all lines up. |
| | 74-75 | Red line all lines up, white line all lines up. |
| | | Red line all copper missing, white line all copper missing. |
| | 75-76 | Red line all copper missing, white line ditto. |
| | 77-78 | Red line all lines down, white line all lines down. |
| | 78-79 | ditto. |
| | 79-80 | ditto. |
| | 80-88 | ditto. |
| 81-86 | | |
| 87-119 | | All pylons demolished, 65 insulators damaged. |
| | 88-91 | All pylons undamaged. 29 insulators damaged. |
| | 91-97 | Red line 1 line down, white line all lines down. |
| | 97-98 | Red line and white line all lines up. |
| | 98-99 | Red line and white line all lines up. |
| | 99-100 | Red line all lines down, white line 2 & 3 lines down. |
| | 100-103 | Red line 1 & 2 lines down, white line 3 line down. |
| | 103-104 | All lines up. |
| | 104-105 | Red line 2 line down, white line |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| | 52-53 | Red line all lines down, white line all lines down. |
| | 53-54 | Red line 1 line down, white line all lines down. |
| | 54-55 | Red line 1 line down, white line [illegible] & 2 lines down. |
| | 55-56 | Red line all lines down, white line all lines down. |
| | 56-57 | Red line all lines down, white line all lines up. |
| | 57-60 | Red line all lines up, white line all lines up. |
| | 60-61 | Red line all lines up, white line all lines up. |
| | 62-63 | Red line 1 line down, white line 3 line down. |
| | 63-64 | Red line 2 line down, white line 2 line down. |
| | 64-65 | Red line 2 line down, white line 2 line down. |
| | 65-66 | Red line 1 & 3 lines down, white line all lines down. |
| | 66-67 | Red line 1 line down, white line all lines up. |
| | 67-68 | Red line 1 line down, white line all lines up. |
| | 68-69 | Red line 1 & 3 lines down, white line 2 & 3 lines down. |
| 69-80 | | All pylons OK, 31 insulators damaged. |
| | 69-70 | Red line all lines up, white line 3 line down. |
| | 70-71 | Red line all lines up, white line 3 line down. |
| | 71-72 | Red line 1 & 3 line down, white line 2 & 3 line down. |
| | 72-73 | Red line 1 line down, white line all lines up. |
| | 73-74 | Red line all lines up, white line all lines up. |
| | 74-75 | Red line all copper missing, white line all copper missing. |
| | 75-76 | Red line all copper missing, white line ditto. |
| | 77-78 | Red line all lines down, white line all lines down. |
| | 78-79 | ditto. |
| | 79-80 | ditto. |
| | 80-88 | ditto. |
| 81-86 | | All pylons demolished, 65 insulators damaged. |
| 87-119 | | All pylons undamaged, 29 insulators damaged. |
| | 88-91 | Red line 1 line down, white line all lines down. |
| | 91-97 | Red line and white line all lines up. |
| | 97-98 | Red line and white line all lines up. |
| | 98-99 | Red line all lines down, white line 2 & 3 lines down. |
| | 99-100 | Red line 1 & 2 lines down, white line 3 line down. |
| | 100-103 | All lines up. |
| | 103-104 | Red line 2 line down, white line all lines up. |
| | 104-105 | Red line all lines down, white line all lines up. |
| | 105-106 | Red line 1 & 3 lines down, white line 1 line down. |
| | 106-107 | Red line 1 and 3 lines down, white line 1 & 2 lines down. |
| | 107-108 | Red line all lines up, white line 1 & 2 lines down. |
| | 108-109 | Red line 1 line down, white line 1 & 3 lines down. |
| | 109-110 | Red line 1 line, white line 1 & 2 lines down. |
| | 110-111 | Red line 1 & 2 lines down, white line 1 & 2 lines down. |
| | 111-112 | Red line all lines up, white line 2 line down. |
| | 112-113 | Red and white line 2 line down. |
| | 113-114 | Red line 2 line down, white line all lines up. |
| | 114-115 | Red line all lines down, white line 1 line down. |
| | 115-116 | Red line 1 line down, white line 1 & 2 lines down. |
| | 116-117 | Red line 1 & 2 lines down, white line 2 line down. |
| | 117-118 | Red line all lines down, white line 1 & 2 lines down. |
| | 118-119 | Red and white lines up. |
| | 119-120 | Red and white lines all lines down. |
| 121-123 | | Pylons removed completely with 54 insulators. |

710 to page 4...

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 124-139 | 120-124 | Red & white line, all lines down, copper missing. |
| | | All pylons undamaged, 5 insulators broken. |
| | 124-130 | Red line all lines up, white line 2 & 3 lines down. |
| | 130-138 | Red line 2 line down, white line all lines up. |
| | 138-139 | Red & white line 2 & 3 lines down. |
| 139-140 | | Pylons demolished, 30 insulators broken. |
| | 139-141 | Red & white lines, all lines down, no copper. |
| 141-159 | | Pylons undamaged, 4 insulators broken. |
| | 141-145 | Red and white line all lines up. |
| | 145-147 | Red and white lines all lines down. |
| | 147-153 | Red & white lines all lines up. |
| | 153-154 | Red line 1 line down, white line 2 line down. |
| | 154-155 | Red line all lines down, white line 2 & 3 lines down. |
| | 155-156 | Red line 2 line down, white line 2 & 3 lines down. |
| | 156-157 | Red line all lines down, white line 2 & 3 lines down. |
| | 156-157 | Red line all lines down, white line 2 & 3 lines down. |
| | 156-157 | Red line all lines down, white line 2 & 3 lines down. |
| | 157-158 | Red line all lines down, white line 2 & 3 lines down. |
| | 158-159 | Red line 1 line down, white line 1 & 3 lines down. |
| 160-162 | | All pylons down, 50 insulators broken. |
| | 159-163 | Red & white line all lines down, copper missing. |
| 163-164 | | All pylons undamaged. |
| 165 | | Pylon destroyed. |
| | 163-166 | Red & white lines all down, copper missing. |
| 166-168 | | All pylons undamaged, 15 insulators required. |
| | 166-170 | Red & white line all down, copper missing. |
| | 170-171 | Red & white line, copper missing all lines down. |
| 168-171 | | All pylons undamaged. |
| 172-173 | | Pylons destroyed, 36 insulators destroyed. |
| 174-176 | | All pylons undamaged. |
| | 171-176 | Red & white line all lines down. |
| 177-179 | | Pylons destroyed, 54 insulators destroyed. |
| 180-181 | | Pylons undamaged. |
| 182-183 | | Pylons destroyed, 36 insulators destroyed. |
| | 176-183 | Red & white line all down, 60% copper missing. |
| 184-186 | | Pylons undamaged. |
| 187 | | Pylon destroyed, 18 insulators broken. |
| | 183-199 | Red & white line all down, 50% copper missing. |
| 188-191 | | Pylons undamaged, 3 insulators cracked. |
| 192-193 | | Pylon demolished, 36 insulators broken. |
| 194-198 | | Pylons undamaged, insulators damaged, |
| 199 | | Pylon undamaged, 8 insulators cracked, 1 string of 6 missing. |
| | 199-200 | Red line no damage, white line 3 down. |
| 200 | | No damage. |
| | 200-201 | Red line 1 & 3 lines down, white line 1 & 3 down. |
| 201 | | No damage. |
| | 201-202 | Red line all down, white line all down. |
| 202 | | No damage. |
| 202-203 | | Red line all |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| | 156-157 | Red line all lines down, white line 2 & 3 lines down. |
| | 156-157 | Red line all lines down, white line 2 & 3 lines down. |
| | 157-158 | Red line all lines down, white line 2 & 3 lines down. |
| | 158-159 | Red line 1 line down, white line 1 & 3 lines down. |
| 160-162 | | All pylons down, 50 insulators broken. |
| | 159-163 | Red & white line all lines down, copper missing. |
| 163-164 | | All pylons undamaged. |
| 165 | | Pylon destroyed. |
| | 163-166 | Red & white lines all down, copper missing. |
| 166-168 | | All pylons undamaged, 15 insulators required. |
| | 166-170 | Red & white line all down, copper missing. |
| | 170-171 | Red & white line, copper missing all lines down. |
| 168-171 | | All pylons undamaged. |
| 172-173 | | Pylons destroyed, 36 insulators destroyed. |
| 174-176 | | All pylons undamaged. |
| | 171-176 | Red & white line all lines down. |
| 177-179 | | Pylons destroyed, 54 insulators destroyed. |
| 180-181 | | Pylons undamaged. |
| 182-183 | | Pylons destroyed, 36 insulators damaged. |
| | 176-183 | Red & white line all down, 60% copper missing. |
| 184-186 | | Pylons undamaged. |
| 187 | | Pylon destroyed, 18 insulators broken. |
| | 183-199 | Red & white line all down, 50% copper missing. |
| 188-191 | | Pylons undamaged, 3 insulators cracked. |
| 192-193 | | Pylon demolished, 36 insulators broken. |
| 194-198 | | Pylons undamaged, insulators damaged. |
| 199 | | Pylon undamaged, 8 insulators cracked, 1 string of 6 missing. |
| | 199-200 | Red line no damage, white line 3 down. |
| 200 | | No damage. |
| | 200-201 | Red line 1 & 3 lines down, white line 1 & 3 down. |
| 201 | | No damage. |
| | 201-202 | Red line all down, white line all down. |
| 202 | | No damage. |
| | 202-203 | Red line all down, white line all down 3 line copper missing. |
| 203 | | No damage. |
| | 203-204 | Red line 1 line down, white line 1 line down. |
| 204 | | Main member on pylon bent. Not U/S. |
| | 204-205 | Red line no damage, white line 3 line down. |
| 205 | | No damage. |
| | 205-206 | Red line 3 line down white line no damage. |
| 206 | | No damage. |
| | 206-207 | Red line 2 & 3 lines down, white line all down. |
| 207 | | **Pylon OK, 1 insulator cracked.** |
| | 207-208 | Red line all lines down, white line all down. |
| 208 | | No damage. |
| | 208-209 | Red line all copper removed, white line ditto. |
| 209 | | No damage. |
| | 209-210 | Red line 3 line down, white line 1 & 2 line down. |
| 210 | | No damage. |
| | 210-211 | Red & white lines, 1 line down 2 & 3 lines copper missing. |

to page 5

7105

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 211 | | Pylon 0 , 2 insulators cracked. |
| | 211-212 | Red & white lines, all copper removed. |
| 212 | | Pylon OK, 1 insulator broken. |
| | 212-213 | Red line no damage, white line No.1 line down. |
| 213 | | No damage. |
| | 213-214 | Red & white line no damage. |
| 214 | | No damage. |
| | 214-215 | Red line no damage, white line 3 line down. |
| 215 | | No damage. |
| | 215-216 | ditto. |
| 216 | | ditto. |
| | 216-217 | Red line 3 line down white line no damage. |
| 217 | | No damage. |
| | 217-218 | Red and whithe lines no damage. |
| 218 | | No damage. |
| | 218-219 | ditto. |
| 219 | | ditto. |
| | 219-220 | Red line 1 line copper missing, white line 2 line copper missing. |
| 220 | | No damage. |
| | 220-221 | Red line 1 line down, white line 3 line down. |
| 221 | | No damage. |
| | 221-222 | Red line 1 & 3 lines down, white line 1 line down. |
| 222 | | No damage. |
| | 222-223 | Red & white line, all lines down. |
| 223 | | No damage. |
| | 223-224 | Red & white line, all copper missing. |
| 224 | | No damage. |
| | 224-225 | Red & white line, all copper missing. |
| 225 | | No damage. |
| | 225-226 | Red & white line, all copper missing. |
| 226 | | No damage. |
| | 226-227 | Red & white line all copper missing. |
| 227 | | No damage. |
| | 227-228 | Red & white line all copper missing. |
| 228 | | No damage. |
| | 228-229 | Red & white line all copper missing. |
| 229 | | No damage. |
| | 229-230 | Red & white line all copper missing. |
| 230 | | No damage. |
| | 230-231 | Red and white line all copper missing. |
| 231 | | No damage. |
| | 231-232 | Red & white line all copper missing. |
| 232 | | 1 string of 6 insulators missing. |
| | 232-233 | Red & white line, all copper missing. |
| 233 | | No damage. |
| | 233-234 | Red & white line all copper missing. |
| 234 | | No damage. |
| | 234-235 | Red & white line all copper missing. |
| 235 | | No damage. |
| | 235-236 | Red & white all copper missing. |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| 216 | | ditto. |
| | 216-217 | Red line 3 line down white line no damage. |
| 217 | | No damage. |
| | 217-218 | Red and white lines no damage. |
| 218 | | No damage. |
| | 218-219 | ditto. |
| 219 | | ditto. |
| | 219-220 | Red line 1 line copper missing, white line 2 line copper missing. |
| 220 | | No damage. |
| | 220-221 | Red line 1 line down, white line 3 line down. |
| 221 | | No damage. |
| | 221-222 | Red line 1 & 3 lines down, white line 1 line down. |
| 222 | | No damage. |
| | 222-223 | Red & white line, all lines down. |
| 223 | | No damage. |
| | 223-224 | Red & white line, all copper missing. |
| 224 | | No damage. |
| | 224-225 | Red & white line, all copper missing. |
| 225 | | No damage. |
| | 225-226 | Red & white line, all copper missing. |
| 226 | | No damage. |
| | 226-227 | Red & white line all copper missing. |
| 227 | | No damage. |
| | 227-228 | Red & white line all copper missing. |
| 228 | | No damage. |
| | 228-229 | Red & white line all copper missing. |
| 229 | | No damage. |
| | 229-230 | Red & white line all copper missing. |
| 230 | | No damage. |
| | 230-231 | Red and white line all copper missing. |
| 231 | | No damage. |
| | 231-232 | Red & white line all copper missing. |
| 232 | | 1 string of 6 insulators missing. |
| | 232-233 | Red & white line, all copper missing. |
| 233 | | No damage. |
| | 233-234 | Red & white line all copper missing. |
| 234 | | No damage. |
| | 234-235 | Red & white line all copper missing. |
| 235 | | No damage. |
| | 235-236 | Red & white, all copper missing. |
| 236-251 | | No damage to pylons, 24 insulators damaged. |
| | 236-238 | Red & white line all copper missing. |
| | 238-239 | Red line, 1 line down, white line all lines up. |
| | 239-240 | Red line, 1 line down, white line copper missing. |
| | 240-251 | Red line all copper missing except a few yds. White line all copper missing. |
| 252 | | Centre section [illegible] |
| 252-255 | | No damage to pylons, 2 insulators damaged. |
| | 251-255 | Red and white line, all copper missing. |
| 256 | | 5 bracing struts cut in top section. |
| | 255-256 | Red & white line, all copper missing. |

to page 6..



Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 257 | | Pylon destroyed, 36 insulators broken. |
| | 256-265 | Red & white line all lines down, 80% copper missing. |
| 258-259 | | Pylons undamaged, 8 insulators broken. |
| 260 | | Centre section bracing cut, main member holed, 2 insulators broken. |
| 261 | | No damage to pylon, 6 insulators damaged. |
| 262 | | Shrapnel damage, 9 insulators damaged. |
| 263-265 | | No damage to pylons, 14 insulators damaged. |
| 266 | | Pylon demolished, 18 insulators destroyed. |
| 267 | | No damage to pylon, 4 insulators damaged. |
| 268 | | Cross bracing cut, centre section. |
| | 265-292 | Red & white line, all copper removed. |
| 268-273 | | No damage to pylons, 14 insulators damaged. |
| 274 | | Top section of pylon damaged, 4 insulators broken. |
| 275-280 | | No damage to pylons, 5 insulators damaged. |
| 281 | | Shrapnel damage to pylon. |
| 282-288 | | No damage to pylons, 15 insulators damaged. |
| 289 | | Pylon demolished, 36 insulators broken. |
| 290-292 | | Pylons not damaged. |
| | 292-293 | Red line, 2 line down, white line all lines down. |
| | 293-294 | Red line all down, white line ditto. |
| | 294-295 | Red line 3 line down, white line all down. |
| 293-305 | | All pylons undamaged. |
| | 295-296 | Red & white lines all up. |
| | 296-297 | ditto. |
| | 297-298 | ditto. |
| | 298-299 | ditto. except white 3 line down. |
| | 299-300 | Red line all up, white all down. |
| | 300-301 | ditto. |
| | 301-302 | Red line 2 & 3 down, white line all down. |
| | 302-303 | Red & white line all up. |
| | 303-304 | ditto. |
| | 304-305 | ditto. |
| | 305-306 | Red line 1 & 2 line down, white all lines down. |
| 306 | | Top section of pylon damaged badly. |
| 307-342 | | No damage to pylons, 52 insulators damaged. |
| | 306-307 | Red & white lines, all lines down. |
| | 307-308 | Red line all up, white line copper missing. |
| | 308-309 | Red line 3 line down, white line copper missing. |
| | 309-310 | Red line 3 line down, white line all copper missing. |
| | 310-311 | Red line 1 & 2 lines down, white line all copper missing. |
| | 311-312 | Red line 2 line down, white line all copper missing. |
| | 312-313 | Red line 2 line down, white all copper missing. |
| | 313-314 | Red line 2 line down, white line all copper missing. |
| | 314-317 | Red line 2 line down, white line all copper missing. |
| | 317-318 | Red line 1 & 2 line down white copper missing. |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| 266 | | Pylon demolished, 18 insulators destroyed. |
| 267 | | No damage to pylon, 4 insulators damaged. |
| 268 | | Cross bracing cut, centre section. |
| | 265-292 | Red & white line, all copper removed. |
| 268-273 | | No damage to pylons, 14 insulators damaged. |
| 274 | | Top section of pylon damaged, 4 insulators broken. |
| 275-280 | | No damage to pylons, 5 insulators damaged. |
| 281 | | Shrapnel damage to pylon. |
| 282-288 | | No damage to pylons, 15 insulators damaged. |
| 289 | | Pylon demolished, 36 insulators broken. |
| 290-292 | | Pylons not damaged. |
| | 292-293 | Red line, 2 line down, white line all lines down. |
| | 293-294 | Red line all down, white line ditto. |
| | 294-295 | Red line 3 line down, white line all down. |
| 293-305 | | All pylons undamaged. |
| | 295-296 | Red & white lines all up. |
| | 296-297 | ditto. |
| | 297-298 | ditto. |
| | 298-299 | ditto. except white 3 line down. |
| | 299-300 | Red line all up, white all down. |
| | 300-301 | ditto. |
| | 301-302 | Red line 2 & 3 down, white line all down. |
| | 302-303 | Red & white line all up. |
| | 303-304 | ditto. |
| | 304-305 | ditto. |
| | 305-306 | Red line 1 & 2 line down, white all lines down. |
| 306 | | Top section of pylon damaged badly. |
| 307-342 | | No damage to pylons, 52 insulators damaged. |
| | 306-307 | Red & white lines, all lines down. |
| | 307-308 | Red line all up, white line copper missing. |
| | 308-309 | Red line 3 line down, white line copper missing. |
| | 309-310 | Red line 3 line down, white line all copper missing. |
| | 310-311 | Red line 1 & 2 lines down, white line all copper missing. |
| | 311-312 | Red line 2 line down, white line all copper missing. |
| | 312-313 | Red line 2 line down, white all copper missing. |
| | 313-314 | Red line 2 line down, white line all copper missing. |
| | 314-317 | Red line 2 line down, white line all copper missing. |
| | 317-318 | Red line 1 & 2 line down white copper missing. |
| | 318-319 | Red line 3 line down, white all copper missing. |
| | 319-322 | Red line 3 line down , " " " " |
| | 322-323 | Red line all up, white line all copper missing. |
| | 323-325 | Red line 2 line down, " " " " " |
| | 325-328 | Red line all up, white line all copper missing. |
| | 328-330 | Red line 2 line down, white all copper missing. |
| | 330-332 | Red line all up, white line all copper missing. |
| | 332-334 | Red line 1 & 3 lines down, white all copper missing. |
| | 334-336 | Red line all up, white line all copper missing. |
| | 336-340 | Red & white line all copper missing. |
| | 340-341 | Red line 3 line copper missing, white line all copper missing. |
| | 341-342 | Red line all up, white line all copper missing. |
| 342 | | Pylon at river crossing used as anchorage for steel wire supports for petrol pipe line which crosses river at this point. |

7104

Declassified E.O. 12356 Section 3.3/NND No. 785019

(32)

A.A.I.
CENTRAL ELECTRICAL BOARD
APC 400

COPY No....

4 May 1944.

MINUTES OF FIFTH MEETING
AAI - C.E.B.

The fifth Meeting of the Central Electrical Board was held at 1600 hrs on 3 May 1944 at the offices of the Board at No 42 Via P.E. IMBRIANI, NAPLES.

PRESENT:-

| | |
|---|---|
| Colonel JAMES P. CROWDON | Vice Chairman |
| Lt-Col. W... LAPPER | A.C.C. |
| Lt-Col. G. COGLEY | P.B.S. |
| Major ROY T. HARRIS, R.E. | D.D.W. |

In the absence of the Chairman, the ViceChairman took the Chair.

1. The Vice Chairman stated that the principal object of the meeting was to allot to the various agencies the work which had been authorized by the Board at its last meeting. (Para 4 of Minutesof Fourth Meeting refers)

2. Rehabilitation of the MATESE No 2 Plant. The work to be done consists of repairing a section of penstock and the installation of a 3500 KVA hydro electric unit at the site of the No 2 MATESE. This work has been discussed with EIGHTH Army (11 CE Works) who are willing to undertake it. The Board recommended that this task be allotted to EIGHTH Army.

3. Rehabilitation of MATESE - LETE Transmission Line. The rehabilitation of this transmission line is immediately necessary to prevent theft of conductor. It will be used to transmit power from LETE to the NAPLES district at a later date. This work has been discussed with EIGHTH Army who are prepared to undertake it. The Board recommended that this task be allotted to EIGHTH Army.

4. Rehabilitation of the Green MATESE - FRATTA Transmission Line. This transmission line is required to transmit power from MATESE to NAPLES and should be rehabilitated immediately to prevent theft of conductor. The Red and White MATESE - FRATTA transmission lines will not be required. The conductor of these lines should be removed to prevent theft and for repairing essential transmission lines. This work has been discussed with EIGHTH Army who are prepared to do the work from the VOLTURNO River to MATESE. The Board recommended that this task be allotted to EIGHTH Army.

5. Rehabilitation of the CALORE - TUSCIANO Transmission Line.(60 KV). The rehabilitation of this transmission line is necessary to prevent theft of conductor and to provide another 60 KV circuit feeding NAPLES area. No. 3

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | |
|---|---|
| Colonel JAMES P. GROWDON | Vice Chairman |
| Lt-Col. W... LAPPER | A.C.C. |
| Lt-Col. G. COOLEY | P.B.S. |
| Major ROY T. HARRIS, RE. | D.D.W. |

In the absence of the Chairman, the ViceChairman took the Chair.

1. The Vice Chairman stated that the principal object of the meeting was to allot to the various agencies the work which had been authorized by the Board at its last meeting. (Para 4 of Minutesof Fourth Meeting refers)

2. Rehabilitation of the MATESE No 2 Plant. The work to be done consists of repairing a section of penstock and the installation of a 3500 KVA hydro electric unit at the site of the No 2 MATESE. This work has been discussed with EIGHTH Army (11 CE Works) who are willing to undertake it. The Board recommended that this task be allotted to EIGHTH Army.

3. Rehabilitation of MATESE - LETE Transmission Line. The rehabilitation of this transmission line is immediately necessary to prevent theft of conductor. It will be used to transmit power from LETE to the NAPLES district at a later date. This work has been discussed with EIGHTH Army who are prepared to undertake it. The Board recommended that this task be allotted to EIGHTH Army.

4. Rehabilitation of the Green MATESE - FRATTA Transmission Line. This transmission line is required to transmit power from MATESE to NAPLES and should be rehabilitated immediately to prevent theft of conductor. The Red and White MATESE - FRATTA transmission lines will not be required. The conductor of these lines should be removed to prevent theft and for repairing essential transmission lines. This work has been discussed with EIGHTH Army who are prepared to do the work from the VOLTURNO River to MATESE. The Board recommended that this task be allotted to EIGHTH Army.

5. Rehabilitation of the CALORE - TUSCLANO Transmission Line.(60 KV). The rehabilitation of this transmission line is necessary to prevent theft of conductor and to provide another 60 KV circuit feeding NAPLES area. No. 3 District have finished the work of rehabilitating the BENEVENTO - CALORE line and are equipped to rehabilitate the CALORE - TUSCLANO line. The Board recommended that this task be allotted to No 3 District.

6. Rehabilitation of the Second Circuit 30 KV TAMAGRO - TUSCLANO Transmission Line. The rehabilitation of this second circuit is necessary to reduce loss of power transmitted from TAMAGRO hydro electric generator to NAPLES and to prevent theft of conductor. Due to surplus water at other plants TAMAGRO plant can be shut down and the second circuit repaired. This work should be done as promptly as possible so that it can be finished before the output of the TAMAGRO plant is again required. The Board recommended that this task be allotted to No 3 District who are in a better position to execute it than any other agency.

Declassified E.O. 12356 Section 3.3/NND No. 785019

7. Rehabilitation of the second Circuit 30 KV TUSCIANO - TORRE Transmission Line. The rehabilitation of this second circuit is necessary to provide for increased loads in the SALERNO and CASTELLAMMARE Area, to reduce loss and to prevent theft of conductor. The work cannot be undertaken immediately and should be allotted so that it can be executed promptly when the first circuit can be de-energized. The work is located in No 3 District, who are believed to be better equipped to execute this task that any other agency. The Board recommended that No 3 District be allotted this work.

8. Major ROY T. HARRIS RE (D.D.W) pointed out to the Board the difficulty experienced in obtaining poles. Lt-Col. G. COOLEY (PBS) also explained his difficulties.. Lt-Col. W.L. LAPPER (ACC) agreed to look into the position and inform the members of the Board as soon as possible.

9. The meeting of the Central Electrical Board adjourned at 1700 hrs, to meet again on the call of the Vice Chairman.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

DISTRIBUTION:-

| | |
|---|---|
| 1 - 3 | CAO HQ AAI |
| 4 - 6 | CG PBS |
| 7 - 8 | CE AAI |
| 9 -10 | DDW |
| 11212 | CC, ACC |
| 13-15 | Vice Chairman CEB |
| 16-17 | Flag Officer, Western Italy |
| 18 | DCAO |
| 19 | Q.1. |
| 20 | DQMG |
| 21 | CE PBS |
| 22 | Electric Power Committee |
| 23 | Lt-Col. WM LAPPER |
| 24 | Cmdr. LE HOGGAN RN |

Declassified E.O. 12356 Section 3.3/NND No. 785019

8. Major ROY T. HARRIS RE (D.D.W) pointed out to the Board the difficulty experienced in obtaining poles. Lt-Col. G. COOLEY (PBS) also explained his difficulties.. Lt-Col. W.M. LAPPER (ACC) agreed to look into the position and inform the members of the Board as soon as possible.

9. The meeting of the Central Electrical Board adjourned at 1700 hrs, to meet again on the call of the Vice Chairman.

JAMES P. CROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

DISTRIBUTION:-

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| 1 - 3 | CAO HQ AAI |
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| 13-15 | Vice Chairman CEB |
| 16-17 | Flag Officer, Western Italy |
| 18 | DUAO |
| 19 | Q.1. |
| 20 | DQMG |
| 21 | CE PBS |
| 22 | Electric Power Committee |
| 23 | Lt-Col. WM LAPPER |
| 24 | Cmdr. LE HOGGAN RN |
| 25 | 11 CE Works |
| 26 | No 3 District |
| 27 | CE No 3 District |
| 28 | File |
| 29-35 | Spare |

Declassified E.O. 12356 Section 3.3/NND No. 785019

(31)

Job 11 CE No.98. Copy No.7.

156 C.R.E. (Works). (23)

1. Ref Technical Instruction dated 26 Apr 44 issued by this office.

Amendments.

2. The joint mentioned under para 16 will be constructed as in Dwg.No. CE/200, NOT as shown in Dwg. No. CE/196. This joint is considered quicker, easier to execute and equally as strong.

Additions.

3. In repairing penstock over road see Dwg. No. 11 CE/200. Section 1 to 10 to be taken to bottom of funicular for repair, Section 1 to have priority as a new section will have to be fabricated. Section A to B, C & D, E & F and G to H to remain in situ.

4. Dwg. No. 11 CE/199 gives a survey of site of new power station as at present. Area marked in red to be excavated as shown as priority of building work. The section of road to be excavated in two parts, the first to an incline to pipe level to permit the pipe to be hauled to road level. Then excavated to full depth as shown. Provision must be made to deal with subterranean water, as water level is as shown on Dwg. No. 11 CE/199.

Stores.

5. DDW(S) release voucher No. H 749 covers issue of compressor from CANCELLO.

6. Concrete Mixer CMF/MC 1824 is released and may be collected from R.E. Store RIARDO.

7. Pump 40,000 GPH to 40ft.H. is released against M.I.O No.11/1 dated 30 Apr 44.

8. Two winches 3 Tons are released against M.I.O. No.111 dated 29 Apr 44.

9. 12 Bottles oxygen, 6 Bottles acetylene may be collected from O.F.P. against ADOS 55 Area authority. These are to be retained only as long as the job lasts, after which they will be returned to O.F.P.

10. Electrodes and welding rods will be collected from R.E.Store VAIRANO against CE Main 8th Army release 3407/10 dated 30 Apr 44.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Additions.

3. In repairing penstock over road see Dwg. No. 11 CE/200. Section 1 to 10 to be taken to bottom of funicular for repair, Section 1 to have priority as a new section will have to be fabricated. Section A to B, C & D, E & F and G to H to remain in situ.

4. Dwg. No. 11 CE/199 gives a survey of site of new power station as at present. Area marked in red to be excavated as shown as priority of building work. The section of road to be excavated in two parts, the first to an encline to pipe level to permit the pipe to be hauled to road level. Then excavated to full depth as shown. Provision must be made to deal with subterranean water, as water level is as shown on Dwg. No. 11 CE/199.

Stores.

5. DDW(S) release voucher No. H 749 covers issue of compressor from CANCELLO.

6. Concrete Mixer CME/MC 1824 is released and may be collected from R.E. Store RIARDO.

7. Pump 40,000 GPH to 40ft.H. is released against M.I.O No.11/1 dated 30 Apr 44.

8. Two winches 3 Tons are released against M.I.O. No.111 dated 29 Apr 44.

9. 12 Bottles oxygen, 6 Bottles acetylene may be collected from O.F.P. against ADOS 55 Area authority. These are to be retained only as long as the job lasts, after which they will be returned to O.F.P.

10. Electrodes and welding rods will be collected from R.E.Store VAIRANO against CE Main 8th Army release 3407/10 dated 30 Apr 44.

11. Blocks Tackle G.S.Cordage 3" snatch - 9 Nos.
Blocks Cord 3" Tackle - 6 Nos.
Cordage 2" - 110 Fathoms.
" 3" - 110 Fathoms.
Above may be collected from R.E.Store VAIRANO against CE Main 8th Army release 3407/10 dated 30 Apr 44.

ACK.

| Distribution. | Copy No. | Less Dwgs. | Copy No. |
|---|---|---|---|
| 156 C.R.E.(Works). | 1 - 4. | "Q"Rear 8th Army. | 8. |
| CE A.A.I. | 5. | CE Main 8th Army. | 9. |
| DW for ADW(E & M). | 6. | SORE(E & M). | 10. |
| C.E.B c/o ACC for Col.GROWDEN,A.U.S. | 7. | File. | 11 - 12. |
| | | War Diary. | 13 - 14. |

(Colonel,
11 C.E. Works,
EIGHTH ARMY.

AWP/AR.
1 May 44.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

4 May 1944

(3H)

SUBJECT:- Rehabilitation of Electric Power Supplies - ITALY

TO :- CAO HQ AAI CMT

1. At its meeting on 3 May 1944, the AAI Central Electrical Board recommended that the following tasks be allotted to EIGHTH Army :-

(a) the repair to the penstock at No 2 MATESE electric generating plant and the installation of a 3500 KVA hydro electric generating unit at this site.

(b) the repair of the Green MATESE - FRATTA 60 KV transmission line from MATESE power station to the VOLTURNO River.

(c) the salvage of the conductor from the Red and White MATESE - FRATTA 60 KV transmission lines from the MATESE power station to the VOLTURNO River.

(d) the repair of one MATESE - LETE 88 KV transmission line from MATESE power house as far north as the military situation permits, and the removal of conductor from the second MATESE - LETE transmission line.

2. It is requested that EIGHTH Army be requested to carry out these tasks; a suggested draft is enclosed herewith.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

7102

Declassified E.O. 12356 Section 3.3/NND No. 785019

(34A)

SUBJECT:- Rehabilitation of Electric Power Supplies - ITALY

H.Q., A.A.I., C.M.F.

To:- Messrs HQ EIGHTH ARMY (2)

May 1944.

1. The AAI Central Electrical Board has recommended that the following tasks be allotted to you for execution :-

(a) the repair of the penstock at No 2 MATESE electric generating plant and the installation of a 3500 KVA hydro electric generating unit at this site.

(b) the repair of the Green MATESE - FRATTA 60 KV transmission line from MATESE power station to the VOLTURNO River.

(c) the salvage of the conductor from the Red and White MATESE - FRATTA 60 KV transmission lines from the MATESE power station to the VOLTURNO River.

(d) the repair of one MATESE - LETE 60 KV transmission line from MATESE pwer house as far north as the military situation permits, and the removal of conductor from the second MATESE - LETE transmission line.

2. You are required to utilize Italian workmen and resources to the fullest extent possible and to provide transport, materials and supplies, and exercise general supervision to ensure that the work is completed as quickly as possible without interference with military operations.

3. Technical instructions have been discussed with Chief Engineer your HQ and will be forwarded direct to him by Chief Engineer, AAI.

4. Will you please confirm that you can carryout this work?

Major General,
Chief Administrative Officer.

Copy to:- C.E., A.A.I.
Works
Vice Chairman, Central Electrical Board
Local Resources Section.

7100

Declassified E.O. 12356 Section 3.3/NND No. 785019

SUBJECT:- Rehabilitation of MATESE No 2 Hydro Electric Generating Plant.

HQ. AAI. CMF. 348

Ref:

To: CE EIGHTH Army (11 CE Works)

1. The MATESE No 2 hydroelectric generating station, located at PIEDEMONTE, utilizes the discharge from MATESE No 1 generating station under a head of 352 metres. As originally constructed the station had two 5,000 KVA generators direct coupled to Pelton turbines. The water was taken from the discharge of MATESE No 1 through a series of canals and tunnels to the headworks of No 2 MATESE. From the headworks it was taken to No 2 turbines through a single penstock. A second pipeline parallel to the penstock is used to discharge the water from MATESE No 1 when No 2 is not operating. The water for these two plants is taken from MATESE lake which has a storage capacity of approx. 16,000,000 cubic metres.. This storage is especially valuable during the dry season.

2. It is believed that the conduit from MATESE No 1 and the intake structures of MATESE No 2 are undamaged. A section of the penstock has been destroyed. The power house and generating equipment have been completely destroyed. One transformer is now in operation and a second is under repair.

3. The work to be done is as follows :-

(a) Repair the penstock where it has been damaged. It will be unnecessary to replace the arched bridge over the roadway at this point as the penstock will span this distance between supports.

(b) Prepare a flange for the existing penstock where it emerges from the bottom anchorage and attach to it two lengths of undamaged cast steel pipe. Prepare a cast steel reducer for connecting the penstock to the valve of the unit to be installed. Prepare foundations and power house for a 3500 KVA hydro electric generating unit to be installed. This unit will be removed from a plant in SICILY and shipped to NAPLES. The unit will be installed complete with switch gear and connexions to transformer ready for operation.

4. Complete plans of the work to be done will be given you as soon as detailed drawings of the unit to be installed are available. It is suggested that you should send a representative to inspect the unit in SICILY at the earliest practicable date.

5. The Societa Meridionale di Elettricita will provide technical supervision and a part of the workmen required. You will utilize Italian workmen and resources to the fullest extent and will provide transport, materials and supplies not otherwise obtainable. You will exercise general supervision to ensure that the work is completed as promptly as possible and without interfering with military operations.

7093

Major General,
Engineer-in-Chief.

Declassified E.O. 12356 Section 3.3/NND No. 785019

3/HC

SUBJECT:- Rehabilitation of MATESE - LETE Transmission Line

H.Q., A.A.I.
C.M.F.

To: CE EIGHTH ARMY (11 CE Works)

May 1944

1. The task of rehabilitating the MATESE - LETE transmission line has been allotted to EIGHTH ARMY (11 CE Works).

2. The work to be done consists of repairing one of the two transmission lines from MATESE to LETE and as far north of LETE as the military situation permits.

3. When repaired this line will be energized at 60 KV to prevent theft of conductor. The pylons, insulators and conductors required to repair the first circuit will be removed from the second circuit. The remaining second circuit should be repaired to the extent necessary to permit energizing it by connection to the first circuit. This cross connection should be made at several convenient points.

4. The Societa Meridionale di Elettricita willprovide special tools and fittings, technical supervision and most of the workmen required. Signore G. GRAVINA will be the S.M.E. representative on the work.

5. You will utilize Italian workmen and resources to the fullest extent and will provide transport, materials and supplies not otherwise obtainable. You will exercise general supervision to ensure that the work is completed as quickly as possible without interfering with military operations.

Major General,
Engineer-in-Chief.

7098

Declassified E.O. 12356 Section 3.3/NND No. 785019

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2 (33)

4 May 1944

SUBJECT:- Rehabilitation of Electric Power Supplies - ITALY

TO:- CAO HQ AAI CMF

1. At its meeting on 3 May 44, the AAI Central Electrical Board recommended that the following tasks be allotted to No 3 District :-

(a) Rehabilitation of the CALORE - TUSCIANO 60 KV transmission line

(b) Rehabilitation of the second circuit TANAGRO - TUSCIANO 30 KV transmission line

(c) Rehabilitation of the second circuit TUSCIANO - TORRE 30 KV transmission line.

2. It is requested that No 3 District be instructed to carry out this work; a suggested draft is enclosed herewith.

7097

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(33A)

SUBJECT:- Rehabilitation of Electric Supplies - ITALY

H.Q. A.A.I.
C.M.F.

No 3 District May 44.

1. At its meeting on 3 May 44, the AAI Central Electrical Board recommended that the following work be allotted to No 3 District for execution :-

(a) Rehabilitation of the CALORE - TUSCIANO 60 KV Transmission Line.

(b) Rehabilitation of the second circuit TANAGRO - TUSCIANO 30 KV transmission line.

(c) Rehabilitation of the second circuit TUSCIANO - TORRE 30 KV transmission line.

2. You will utilize local Italian workmen and resources to the fullest extent possible, and will provide transport, materials and supplies, and exercise general supervision to ensure that the work is completed as quickly as possible.

3. Technical instructions will be forwarded direct to your Chief Engineer by DDW this HQ.

Major General,
Chief Administrative Officer.

COPY TO:- Vice Chairman, Central Electrical Board
Works.

7095

Declassified E.O. 12356 Section 3.3/NND No. 785019

(338)

SUBJECT:- Rehabilitation of CALORE - TUSCIANO 60 KV Transmission Line

Directorate of Works,
HQ AAI CMF

/DDW

To: CE 3 District

May 1944.

1. The task of rehabilitating the CALORE - TUSCIANO 60 KV transmission line has been allotted to No 3 District.

2. The work to be done consists of repairing the 60 KV transmission line from CALORE power house to the TUSCIANO switching station.

3. The insulators and conductor which will be required to repair this transmission line will be obtained from the Societa Meridionale di Elettricita. The conductor to be used will be that removed from the Red and White MATTEI FIATTA transmission lines.

4. The Societa Meridionale di Elettricita will provide special tools and fittings, technical supervision and most of the workmen required. Signore V. FATTI will be the S.M.E. representative on the work.

5. You will utilize Italian workmen and resources to the fullest extent and will provide transport, materials and supplies not otherwise obtainable. You will exercise general supervision to ensure that the work is completed as quickly as possible.

Brigadier.
D.D.W.

7095

Declassified E.O. 12356 Section 3.3/NND No. 785019

(33c)

SUBJECT:- Rehabilitation of the Second Circuit 30KV TANAGRO-TUSCLAND Transmission Line.

Directorate of Works,
HQ AAI CMF

/DDW

May 44.

To: CE No 3 District

1. The task of repairing the second circuit TANAGRO - TUSCLANO 30 KV transmission line has been allocated to No 3 District.

2. There is now a surplus of water power available in the NAPLES area so that the output of the TANAGRO plant is not now required for transmission to NAPLES. It is anticipated that this condition will continue for not more than 3 weeks. The 30 KV TANAGRO - TUSCLANO transmission line can now be de-energized, which will permit uninterrupted repair of the second circuit.

3. The work to be done consists of repairing the second circuit of the 30 KV transmission line from TANAGRO power station to the TUSCLANO switching station. The Societa Meridionale di Elettricita will provide special tools and fittings, conductors and insulators, technical supervision and most of the workmen required. Signore V. FATTI will be the S.M.E. representative on the work.

4. You will utilize Italian workmen and resources to the fullest extent and you will provide transport, materials and supplies not otherwise obtainable. You will exercise general supervision to ensure that the work is completed as quickly as possible so that the lines may again be energized in order to transmit the output of the TANAGRO plant to the NAPLES area. It is vitally important that this work be started at the earliest possible moment.

Brigadier,
D.D.W.

709/

(38)

Subject: Job 11 CE 100.

11 C.E. Works,
Eighth Army.
CE 1534/62.

4 May 44.

DW (A.A.I) for ADW(E & M).
Vice Chairman C.E.B. (Col. J.P. GROWDON, AUS).

Copy to: CE A.A.I.
: "Q" Rear 8th Army.
: CE Main 8th Army.

1. Further to our Technical Instruction dated 30 Apr 44 covering the reconnaisance and repair of the Green line PIEDEMONTE to River VOLTURNO Bank. The detailed inspection report showing damage is apperded. In addition the following information is submitted.

2. The pylons are numbered from 1 at terminal tower PIEDEMONTE to 237 at the VOLTURNO Crossing North Bank.

3. The following section of this line has been repaired by S.M.E. civilian labour, and is at present connected to and forms part of the 60 KV yellow transmission line to NAPLES. Pylons 48 to 79, spans 48 to 79.

4. Insulators used, are of the Standard type, Tongue and Clevis, brown glazed porcelain, 10" disc. These are used in single strings of 6 discs in series, for normal suspension and tensioning points, but double strings of 6 in series are used at major road and river crossings.

5. Summary of damage:

| | |
|---|---|
| Pylons destroyed | 9 No. |
| Pylons damaged | 7 No. |
| Insulators required | 381 No. |
| Conductor required | 6000 yds (7.144). |

Declassified E.O. 12356 Section 3.3/NND No. 785019

Copy to: CE A.A.I.
: "Q" Rear 8th Army.
: CE Main 8th Army.

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| | |
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Maj for
Colonel,
11 C.E. Works,
Eighth Army.

AWP/AR.

Declassified E.O. 12356 Section 3.3/NND No. 785019

APPENDIX I.

Report on Condition of 60 KV Transmission Line linking
PIEDEMONTE POWER STATION MR H 310060
VOLTURNO RIVER CROSSING MR N 219810

1. The conductor used on the section of the route under survey varies, being :
   (a) Stranded H.D. copper 7/ .144 73.5 sq.mm.
   (b) 2 No. solid H.D. copper conductors, each being 5/16" dia. This is equal to approx 1 gauge (41 sq.mm.).

2. The earth wire consists of 11 strands of 16 gauge G.I.wire around a central core of 8 gauge H.D. copper. It is run from the apex of each pylon.

3. Pylons are of the Lattice girder type, with bolted main members, and rivetted cross bracing. Constructional details of various types in use are being prepared.

4. The length of span varies according to country, but is on an average 600 ft. Conductor spacing average 6 ft.

Major, S.O.R.E. (E & M),
11 C.E. Works,
Eighth Army.

AWP/AR.
4 May 44.

7092

Declassified E.O. 12356 Section 3.3/NND No. 785019

Detailed Damage Report of Green Line
from PIEDEMONTE POWER STATION MR H 310060
to VOLTURNO RIVER CROSSING MR N 219810.

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 1-33 | 1-33 | No Damage. |
| | 33-34 | All lines need retensioning. |
| 34 | | Pylon undamaged. |
| | 34-35 | No. 1 line down. |
| 35 | | Pylon undamaged. |
| | 35-36 | No damage. |
| 36 | | Pylon undamaged. |
| | 36-37 | No. 1 line down. |
| 37 | | Pylon undamaged. |
| | 37-38 | All lines need adjusting. |
| 38 | | Pylon undamaged. |
| | 38-39 | No. 2 line and earth down. |
| 39 | | Pylon undamaged. |
| | 39-40 | No damage. |
| 40 | | No damage. |
| | 40-41 | No. 1 and 3 lines down, earth down. |
| 41 | | No damage. |
| | 41-42 | No. 1 and 3 lines down, earth down. |
| 42 | | No damage. |
| | 42-43 | All lines down. |
| 43 | | Top sections pylon destroyed, 18 insulators damaged. |
| | 43-44 | All lines down. |
| 44 | | Top sections of pylon destroyed, 18 insulators damaged. |
| | 44-45 | Conductor removed, earth wire only up. |
| 45 | | Pylon undamaged. |
| | 45-46 | Conductor removed, earth wire only up. |
| 46 | | Pylon undamaged. |
| | 46-47 | Conductor removed, earth wire only up. |
| 47 | | Pylon undamaged. |
| | 47-48 | Conductor removed. |
| 48-79 | | Yellow line to NAPLES changes direction and is connected to Green line at No.48 Pylon. |
| | 48-79 | These spans have been temp.repaired, and are being used as part of yellow line to NAPLES. |
| 79 ST | | Junction pylon with yellow line. |
| | 79-80) | |

709

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| 1-33 | 1-33 | No Damage. |
| | 33-34 | All lines need retensioning. |
| 34 | | Pylon undamaged. |
| | 34-35 | No.1 line down. |
| 35 | | Pylon undamaged. |
| | 35-36 | No damage. |
| 36 | | Pylon undamaged. |
| | 36-37 | No.1 line down. |
| 37 | | Pylon undamaged. |
| | 37-38 | All lines need adjusting. |
| 38 | | Pylon undamaged. |
| | 38-39 | No.2 line and earth down. |
| 39 | | Pylon undamaged. |
| | 39-40 | No damage. |
| 40 | | No damage. |
| | 40-41 | No.1 and 3 lines down, earth down. |
| 41 | | No damage. |
| | 41-42 | No.1 and 3 lines down, earth down. |
| 42 | | No damage. |
| | 42-43 | All lines down. |
| 43 | | Top sections pylon destroyed, 18 insulators damaged. |
| | 43-44 | All lines down. |
| 44 | | Top sections of pylon destroyed, 18 insulators damaged. |
| | 44-45 | Conductor removed, earth wire only up. |
| 45 | | Pylon undamaged. |
| | 45-46 | Conductor removed, earth wire only up. |
| 46 | | Pylon undamaged. |
| | 46-47 | Conductor removed, earth wire only up. |
| 47 | | Pylon undamaged. |
| | 47-48 | Conductor removed. |
| 48-79 | | Yellow line to NAPLES changes direction and is connected to Green line at No.48 Pylon. |
| | 48-79 | These spans have been temp.repaired, and are being used as part of yellow line to NAPLES. |
| 79 ST | | Junction pylon with yellow line. 709 |
| | 79-80 | |
| 80 | | No damage. |
| | 80-81 | |
| 81 | | |
| | 81-82 | 1 strand of No.1 line severed and habging. |
| 82 ST | | N damage. |
| | 82-83 | 1 strand of No.2 line severed and hanging. |
| 83 | | No damage. |
| | 83-84 | Nos. 1 and 2 lines down. |
| 84 | | No damage. |
| | 84-85 | No.1 & 2 lines down. |
| 85 | | No damage. |
| | 85-86 | All lines need retensioning. |
| 86 | | No damage. |
| | 86-87 | No.1 line down, earth down. |
| 87 | | 2 insulators cracked. |
| | 87-88 | No.1 line down. |
| 88 | | No damage. |
| | 88-89 | All lines need retensioning. |

to page 3...

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 89 | | No damage. |
| | 89-90 | No damage. |
| 90 | | No damage. |
| | 90-91 | 1 strand of No.3 line severed. |
| 91 | | No damage. |
| | 91-92 | All lines down. |
| 92 | | No damage. |
| | 92-93 | All lines down, cut badly. |
| 93 | | No damage. |
| | 93-94 | Nos.1 and 2 lines down. |
| 94 | | No damage. |
| | 94-95 | No damage. |
| 95 | | No damage. |
| | 95-96 | No.1 line down, earth down. |
| 96 | | |
| | 96-97 | |
| 97 | | |
| | 97-98 | No damage. |
| 98 | | |
| | 98-99 | |
| 99 | | |
| | 99-100 | No.1 line down. |
| 100 | | No damage. |
| | 100-101 | No.1 line down, earth down. |
| 101 | | No damage. |
| | 101-102 | 1 strand down of No.2 and 3 line. |
| 103 | | No damage. |
| | 103-104 | 1 strand of No.3 line down. |
| 104 | | No damage. |
| | 104-105 | No.1 line down. |
| 105 | | No damage. |
| | 105-106 | No damage. |
| 106 | | 2 insulators cracked. |
| | 106-107 | 1 strand down of No.1 & 3 lines. |
| 107 ST | | No pylon damage, 4 insulators damaged. |
| | 107-108 | 1 strand down of No.1 and 2 lines. |
| 108 ST | | 7 insulators broken. |
| | 108-109 | 1 strand down of No.1, 2 & 3 lines. |
| 109 ST | | 5 insulators broken. |
| | 109-110 | No.1 and 2 down, No.3 line frayed. |
| 110 ST | | Slight damage, 10 insulators broken. |
| | 110-111 | 1 strand down on No.2 line. |
| 111 ST | | Pylon undamaged, 2 insulators broken. 709 |
| | 111-112 | All lines down, copper removed. |
| 112 ST | | 4 strings of 6 insulators missing. |
| | 112-113 | All lines down, copper missing. |
| 113 | | 4 strings of 6 insulators missing. |
| | 113-114 | All lines down, no copper. |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| | 94-95 | No damage. |
| 95 | | |
| | 95-96 | No.1 line down, earth down. |
| 96 | | |
| | 96-97 | |
| 97 | | |
| | 97-98 | No damage. |
| 98 | | |
| | 98-99 | |
| 99 | | |
| | 99-100 | No.1 line down. |
| 100 | | No damage. |
| | 100-101 | No.1 line down, earth down. |
| 101 | | No damage. |
| | 101-102 | 1 strand down of No.2 and 3 line. |
| 103 | | No damage. |
| | 103-104 | 1 strand of No.3 line down. |
| 104 | | No damage. |
| | 104-105 | No.1 line down. |
| 105 | | No damage. |
| | 105-106 | No damage. |
| 106 | | 2 insulators cracked. |
| | 106-107 | 1 strand down of No.1 & 3 lines. |
| 107 ST | | No pylon damage, 4 insulators damaged. |
| | 107-108 | 1 strand down of No.1 and 2 lines. |
| 108 ST | | 7 insulators broken. |
| | 108-109 | 1 strand down of No.1, 2 & 3 lines. |
| 109 ST | | 5 insulators broken. |
| | 109-110 | No.1 and 2 down, No.3 line frayed. |
| 110 ST | | Slight damage, 10 insulators broken. |
| | 110-111 | 1 strand down on No.2 line. |
| 111 ST | | Pylon undamaged, 2 insulators broken. |
| | 111-112 | All lines down, copper removed. |
| 112 ST | | 4 strings of 6 insulators missing. |
| | 112-113 | All lines down, copper missing. |
| 113 | | 4 strings of 6 insulators missing. |
| | 113-114 | All lines down, no copper. |
| 114 | | 2 strings of 6 insulators missing. |
| | 114-115 | All lines down, copper missing. |
| 115 | | Pylon destroyed, 36 insulators broken. |
| | 115-116 | All lines down. |
| 116 ST | | No damage. |
| | 116-117 | All lines up, no damage. |
| 117 ST | | 4 insulators broken. |
| | 117-118 | All lines up, no damage. |
| 118 ST | | No damage. |
| | 118-119 | All lines up, no damage. |
| 119 ST | | No damage. |
| | 119-120 | All lines down, cut. |
| 120 | | 7 insulators damaged. |
| | 120-121 | All lines down. |
| 121 | | No damage. |
| | 121-122 | All lines down. |
| 122 | | Pylon badly twisted. |
| | 122-123 | No.1 and 3 lines down, earth down. |

to page 4...

7093

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 123 | | All lines up. |
| | 123-124 | 1 line and earth down. |
| 124 | | 3 insulators broken. |
| | 124-125 | All lines up. |
| 125 | | 3 insulators broken. |
| | 125-126 | All lines down, cut badly. |
| 126 | | 5 insulators broken. |
| | 126-127 | All lines and earth wire down. |
| 127 | | Top section of pylon destroyed. |
| | 127-128 | All lines down, 7 insulators broken. |
| 128 | | Top section of pylon destroyed. |
| | 128-129 | All lines down, 8 insulators broken. |
| 129 | | No damage. |
| | 129-130 | No.1 and 2 lines down. |
| 130 | | No damage. |
| | 130-131 | No damage. |
| 131 | | No damage. |
| | 131-132 | No damage. |
| 132 | | No damage. |
| | 132-133 | No damage. |
| 133 | | |
| | 133-134 | |
| 134 | | No damage. |
| | 134-135 | |
| 135 | | |
| | 135-136 | 1 line down. |
| 136 | | Top arm twisted badly. |
| | 136-137 | 1 line down. |
| 137 | | |
| | 137-138 | |
| 138 | | |
| | 138-139 | |
| 139 | | |
| | 139-140 | |
| 140 | | No damage. |
| | 140-141 | |
| 141 | | |
| | 141-142 | |
| 142 | | |
| | 142-143 | No.1 line down, copper missing. |
| 143 | | No damage. |
| | 143-144 | No.1 line down, copper missing. |
| 144 | | |
| | 144-145 | |
| 145 | | |
| | 145-146 | |
| 146 ST | | |
| | 146-147 | |
| 147 | | |

7089

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| | 127-128 | Top section of pylon destroyed. |
| 128 | | All lines down, 7 insulators broken. |
| | 128-129 | Top section of pylon destroyed. |
| 129 | | All lines down, 8 insulators broken. |
| | 129-130 | No damage. |
| 130 | | No.1 and 2 lines down. |
| | 130-131 | No damage. |
| 131 | | No damage. |
| | 131-132 | No damage. |
| 132 | | No damage. |
| | 132-133 | No damage. |
| 133 | | |
| | 133-134 | |
| 134 | | No damage. |
| | 134-135 | |
| 135 | | |
| | 135-136 | 1 line down. |
| 136 | | Top arm twisted badly. |
| | 136-137 | 1 line down. |
| 137 | | |
| | 137-138 | |
| 138 | | |
| | 138-139 | |
| 139 | | |
| | 139-140 | |
| 140 | | No damage. |
| | 140-141 | |
| 141 | | |
| | 141-142 | |
| 142 | | |
| | 142-143 | No.1 line down, copper missing. |
| 143 | | No damage. |
| | 143-144 | No.1 line down, copper missing. |
| 144 | | |
| | 144-145 | |
| 145 | | |
| | 145-146 | |
| 146 ST | | |
| | 146-147 | |
| 147 | | |
| | 147-148 | No damage. |
| 148 | | |
| | 148-149 | |
| 149 | | |
| | 149-150 | |
| 150 | | |
| | 150-151 | |
| 151 | | |
| | 151-152 | |
| 152 | | |
| | 152-153 | |
| 153 ST | | |
| | 153-154 | |
| 154 ST | | |
| | 154-155 | No.2 line down. |

7084

to page 5...

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 155 | | |
| | 155-156 | |
| 156 | | No damage. |
| | 156-157 | |
| 157 ST | | |
| | 157-158 | No.3 line down. |
| 158 | | 2 No. insulators broken. |
| | 158-159 | 1 strand of No.2 line down. |
| 159 | | No.damage. |
| | 159-160 | 1 strand of No.1 line down. |
| 160 | | 5 insulators broken. |
| | 160-161 | All lines down. |
| 161 | | 3 insulators broken. |
| | 161-162 | All lines down, copper missing. |
| 162 ST | | No damage. |
| | 162-163 | All lines down. |
| 163 | | No damage. |
| | 163-164 | All lines down. |
| 164 ST | | No damage. |
| | 164-165 | No damage. |
| 165 | | No damage. |
| | 165-166 | No damage. |
| 166 | | No damage. |
| | 166-167 | All lines down. |
| 167 | | Pylon destroyed, 15 insulators broken. |
| | 167-168 | All lines down, badly cut. |
| 168 | | Pylon destroyed, 18 insulators broken. |
| | 168-169 | All lines down, badly cut. |
| 169 | | Pylon destroyed, 18 insulators broken. |
| | 169-170 | All lines down, badly cut. |
| 170 | | Pylon destroyed, 18 insulators broken. |
| | 170-171 | All lines down, badly cut. |
| 171 | | Pylon destroyed, 18 insulators down. |
| | 171-172 | All lines down, badly cut. |
| 172 | | Pylon destroyed, 18 insulators broken. |
| | 172-173 | All lines down, badly cut. |
| 173 | | Pylon destroyed, 18 insulators broken. |
| | 173-174 | All lines down, badly cut. |
| 174 | | Pylon destroyed, 36 insulators broken. |
| | 174-175 | All lines down. |
| 175 | | 7 insulators cracked. |
| | 175-176 | No.3 lines down, earth down. |
| 176 | | No damage. |
| | 176-177 | No damage. |
| 177 | | |
| | 177-178 | |
| 178 | | |



Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| 158 | | 2 No. insulators broken. |
| | 158-159 | 1 strand of No.2 line down. |
| 159 | | No.damage. |
| | 159-160 | 1 strand of No.1 line down. |
| 160 | | 5 insulators broken. |
| | 160-161 | All lines down. |
| 161 | | 3 insulators broken. |
| | 161-162 | All lines down, copper missing. |
| 162 ST | | No damage. |
| | 162-163 | All lines down. |
| 163 | | No damage. |
| | 163-164 | All lines down. |
| 164 ST | | No damage. |
| | 164-165 | No damage. |
| 165 | | No damage. |
| | 165-166 | No damage. |
| 166 | | No damage. |
| | 166-167 | All lines down. |
| 167 | | Pylon destroyed, 15 insulators broken. |
| | 167-168 | All lines down, badly cut. |
| 168 | | Pylon destroyed, 18 insulators broken. |
| | 168-169 | All lines down, badly cut. |
| 169 | | Pylon destroyed, 18 insulators broken. |
| | 169-170 | All lines down, badly cut. |
| 170 | | Pylon destroyed, 18 insulators broken. |
| | 170-171 | All lines down, badly cut. |
| 171 | | Pylon destroyed, 18 insulators down. |
| | 171-172 | All lines down, badly cut. |
| 172 | | Pylon destroyed, 18 insulators broken. |
| | 172-173 | All lines down, badly cut. |
| 173 | | Pylon destroyed, 18 insulators broken. |
| | 173-174 | All lines down, badly cut. |
| 174 | | Pylon destroyed, 36 insulators broken. |
| | 174-175 | All lines down. |
| 175 | | 7 insulators cracked. |
| | 175-176 | No.3 lines down, earth down. |
| 176 | | No damage. |
| | 176-177 | No damage. |
| 177 | | |
| | 177-178 | |
| 178 | | |
| | 178-179 | |
| 179 | | No damage. |
| | 179-180 | |
| 180 | | |
| | 180-181 | |
| 181 | | |
| | 181-182 | No.2 line down. |
| 182 | | 1 insulator cracked. |
| | 182-183 | Earth down. |
| 183 | | No damage. |
| | 183-184 | No damage. |
| 184 ST | | No damage |
| | 184-185 | All lines down. |
| 185 | | 5 insulators cracked. |
| | 185-186 | All lines down. |
| 186 | | No damage. |

7088

to page 6.

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| | 186-187 | All lines down. |
| 187 | | Pylon in course of erection, civilian labour. |
| | 187-188 | All lines down. |
| 188 | | No damage. |
| | 188-189 | No.1 line down. |
| 189 | | No damage. |
| | 189-190 | No.1 and 3 lines down. |
| 190 | | No damage. |
| | 190-191 | No.1 & 3 lines down. |
| 191 | | No damage. |
| | 191-192 | No.3 line down. |
| 192 | | No damage. |
| | 192-193 | No.2 & 3 lines down. |
| 193 | | No damage. |
| | 193-194 | No.2 line down. |
| 194 | | No damage. |
| | 194-195 | No damage. |
| 195 | | No damage. |
| | 195-196 | No damage. |
| 196 | | No damage. |
| | 196-197 | 1 line down. |
| 197 | | No damage. |
| | 197-198 | 1 line down. |
| 198 | | No damage. |
| | 198-199 | No damage. |
| 199 | | No damage. |
| | 199-200 | No damage. |
| 200 | | No damage. |
| | 200-201 | No damage. |
| 201 | | No damage. |
| | 201-202 | No damage. |
| 202 | | |
| | 202-203 | |
| 203 | | |
| | 203-204 | |
| 204 | | |
| | 204205 | |
| 205 | | No damage. |
| | 205-206 | |
| 206 | | |
| | 206-207 | |
| 207 | | |
| | 207-208 | |
| 208 | | |
| | 208-209 | |
| 209 | | |
| | 209-210 | No.1 line down. |
| 210 | | No damage. |
| | 210-211 | No.1 line down. |

7087

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| 191 | | No damage. |
| | 191-192 | No.3 line down. |
| 192 | | No damage. |
| | 192-193 | No.2 & 3 lines down. |
| 193 | | No damage. |
| | 193-194 | No.2 line down. |
| 194 | | No damage. |
| | 194-195 | No damage. |
| 195 | | No damage. |
| | 195-196 | No damage. |
| 196 | | No damage. |
| | 196-197 | 1 line down. |
| 197 | | No damage. |
| | 197-198 | 1 line down. |
| 198 | | No damage. |
| | 198-199 | No damage. |
| 199 | | No damage. |
| | 199-200 | No damage. |
| 200 | | No damage. |
| | 200-201 | No damage. |
| 201 | | No damage. |
| | 201-202 | No damage. |
| 202 | | |
| | 202-203 | |
| 203 | | |
| | 203-204 | |
| 204 | | |
| | 204205 | |
| 205 | | No damage. |
| | 205-206 | |
| 206 | | |
| | 206-207 | |
| 207 | | |
| | 207-208 | |
| 208 | | |
| | 208-209 | |
| 209 | | |
| | 209-210 | No.1 line down. |
| 210 | | No damage. |
| | 210-211 | No.1 line down. |
| 211 | | |
| | 211-212 | |
| 212 | | |
| | 212-213 | |
| 213 | | No damage. |
| | 213-214 | |
| 214 | | |
| | 214-215 | No.2 & 3 lines down. |
| 215 | | |
| | 215-216 | |
| 216 | | |
| | 216-217 | |
| 217 | | |
| | 217-218 | No damage. |

7087

to page 7.

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 218 | | |
| | 218-219 | No damage. |
| 219 | | |
| | 219-220 | |
| 220 | | |
| | 220-221 | No.1 line down. |
| 221 | | |
| | 221-222 | |
| 222 | | |
| | 222-223 | No damage. |
| 223 | | |
| | 223-224 | |
| 224 | | |
| | 224-225 | No.2 & 3 lines down. |
| 225 | | No damage. |
| | 225-226 | No.2 line down. |
| 226 | | |
| | 226-227 | |
| 227 | | |
| | 227-228 | |
| 228 | | No damage. |
| | 228-229 | |
| 229 | | |
| | 229-230 | |
| 230 | | |
| | 230-231 | No.2 & 3 lines down. |
| 231 | | |
| | 231-232 | |
| 232 | | |
| | 232-233 | |
| 233 | | |
| | 233-234 | No damage. |
| 234 | | |
| | 234-235 | |
| 235 | | |
| | 235-236 | |
| 236 | | Pylon replaced by SME, 36 Insulators broken |
| | 236-237 | All lines down, no copper. |
| 237 | | Pylon on N.Bank Volturno O.K. |
| | 237-238 | River Crossing, all lines down. |

7085

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

(39)

SUBJECT:- Rehabilitation of the second Circuit TUSCIANO - TORRE 30 KV Transmission Line.

Directorate of Works,
HQ AAI CMF

/DDW

To: CE No 3 District

May 1944

1. The task of repairing the second circuit TUSCIANO - TORRE 30 KV transmission line has been allocated to No 3 District.

2. The circuit is on the same pylons which carry the first circuit of the TUSCIANO - TORRE transmission line which is now in operation. It is not considered feasible to repair the second circuit while the first circuit is in operation. It is understood that parts of the second circuit have been repaired by the Societa Elettrica della Campania during the periods of low load at which times sections of the first circuit can be de-energized. The 5000 KVA 60-12 KV transformer for installation at the TORRE Substation is now under repair. When this transformer has been put into operation at the TORRE Substation the load now carried by the 30 KV TUSCIANO - TORRE transmission line can be reduced so that sections of the existing circuit can be de-energized and the second circuit repaired.

3. It is anticipated that the load in the TORRE-CASTELAMARE-SALERNO area will be increased due to military requirements. It is essential that the second circuit of the TUSCIANO - TORRE transmission line be placed in operation to assist in carrying the anticipated additional load, to reduce transmission losses and to improve the power service in this area.

4. The Societa Elettrica della Campania will provide workmen, special tools, and ~~xxxx~~ by arrangement with the Societa Meridionale di Elettricita, the conductor and insulators necessary for this work. The details of the work should be arranged with them.

5. You will utilize Italian workmen and resources to the fullest extent. You will provide transport, materials and supplies not otherwise obtainable. You will exercise general supervision to ensure that the work is completed as promptly as is feasible. Weekly progress will be rendered in duplicate to this office.

7085

Brigadier,
D.D.W.

Declassified E.O. 12356 Section 3.3/NND No. 785019

37

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/I/2

3 May 1944

SUBJECT:- VOLTURNO Transmission Line

TO:- 11 CE Works, EIGHTH Army.

1. With reference to Technical Instruction (AWP/AR dated 1 May 44) regarding the a/m transmission line.

2. Will you please notify the AAI Central Electrical Board when your recce on this line is complete and when you will be ready to start work: the C.E.B. will then notify Professor Luigi D'AMELIO of the E.A.V. Company.

JAMES P. CROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

(36)

Subject: Repair of LETE - MATESE II Power Line. (Job 11 CE 99).

156 C.R.E.(Works). (2).

11 C.E. Works,
Eighth Army.
CE 1533/60.

3 May 44.

Copy to: DDW for ADW(E & M).
: Vice Chairman C.E.B.(Col. S.P.GROWDON, AUS.)
(Conversation Maj. PAGE -Ing. F.B.FIRPO(S.M.E.)2 May refers).
: CE A.A.I.
: CE Main 8th Army.

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(35)

1. Further to recce of LETE - MATESE II Red & White power lines. Work will now proceed as follows.

2. A civilian gang provided by S.M.E. will commence work on Monday 8th May, from LETE line terminal and repair both red and white lines to the Castello PRATELLA Junction.

3. You will provide an N.C.O. and one man and lorry (15 cwt.) to boost up this repair work and carry out the necessary supervision.

4. At the same time a purely Military line gang will continue work from the MATESE Terminal of the red line and work Northwards using connections from the white line.

5. Towers for the Saint ANGELO - MATESE section will be recovered from the Red/White line MATESE - DRAGONI. Arms will be modified by using those recovered fron the towers of the red line Saint ANGELO - MATESE.

6. Tower for the PRATELLA - Saint ANGELO section will be provided under S.M.E. arrangements from FRATTAMAGGIORE.

7. Weekly progress reports will be rendered of work carried out by both gangs in accordance with our instruction dated 27 Apr 44.

A.W. Paige

Colonel,
11 C.E. Works,
Eighth Army.

AWP/AR.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(35)

Subject: Electric Power Supply.

11 C.E. Works,
Eighth Army.
CE 1506/2.

2 May 44.

:DW for ADW(E & M).
:Vice Chairman C.E.B.(Col. J.P.GROWDON,AUS).

Copy to: CE A.A.I.
"Q" Rear 8th Army.
CE Main 8th Army.

(36)

1. Ref rehabilitation of the LETE - MATESE Red and White lines, a recce has been carried out and detailed damage report is given in Appendix I.

2. In addition the following information is given.

3. Method of Jointing Conductors. Copper sleeve and wedge.

4. Particulars of Insulators. Tongue and Clevis type, white and brown glazed porcelain. Diameter of disc - 10", arranged in single strin of 6 for suspension and double strings of 6 for road crossings and at strain and corner towers.

5. Earthing. Continuous wire, run at the apex of each tower, 11 strands of 20 guage, galvanised iron wire, around a central core of 10 guage H.D. Copper.

6. Summary of Damage.

White Line.

| | |
|---|---|
| Pylons destroyed | 14. |
| Pylons damaged | 4. |
| Insulators damaged | 356. |
| Estimated conductor | 5000 yds. |
| Estimated No. of joints | 400. |

Red Line.

| | |
|---|---|
| Pylons destroyed | 8. |
| Pylons damaged | 10. |
| Insulators damaged | 287. |
| Estimated conductor | 4000 yds. |
| Estimated No. of joints | 400. |

Declassified E.O. 12356 Section 3.3/NND No. 785019

1. Ref rehabilitation of the LETE - MATESE Red and White lines, a recce has been carried out and detailed damage report is given in Appendix I.

2. In addition the following information is given.

3. Method of Jointing Conductors. Copper sleeve and wedge.

4. Particulars of Insulators. Tongue and Clevis type, white and brown, glazed porcelain. Diameter of disc - 10", arranged in single strings of 6 for suspension and double strings of 6 for road crossings and at strain and corner towers.

5. Earthing. Continuous wire, run at the apex of each tower, 11 strands of 20 guage, galvanised iron wire, around a central core of 10 guage H.D. Copper.

6. Summary of Damage.

White Line.

| | |
|---|---|
| Pylons destroyed | 14. |
| Pylons damaged | 4. |
| Insulators damaged | 356. |
| Estimated conductor | 5000 yds. |
| Estimated No. of joints | 400. |

Red Line.

| | |
|---|---|
| Pylons destroyed | 8. |
| Pylons damaged | 10. |
| Insulators damaged | 287. |
| Estimated conductor | 4000 yds. |
| Estimated No. of joints | 400. |

7. Work on repair is proceeding and 8 spans have already been restrung.

8. May instruction be issued on the following:-
   (a) In view of the extent of pylon damage which of the two lines are to receive priority.
   (b) Whether or not the pylons from this line not to be repaired may be used in reconstructing the other.

9. The red and white lines between MATESE II and CAPUA are insulated with pin insulators and are unsuitable for the repair of the above mentioned lines. The conductor and towers could be used but are being reserved for the repair of the Green line between MATESE II and VILLA SANTA MARIA

10. Report on Green line mentioned in para (9) follows as also does report on the VOLTURNO line between CAPUA and COLLE.

Colonel,
11 C.E. Works,
EIGHTH ARMY.

AWP/AR.

Declassified E.O. 12356 Section 3.3/NND No. 785019

APPENDIX I.

Report on 60 KV. Transmission Lines linking PIEDEMONTE & LETE.

There are two lines linking the Hydro Electric Stations at Prata Sannita (LETE) MR H 172135 and Piedemonte D'Alife (MATESE II) MR H 310060.

For the purpose of this report the more Southerly of the two lines will be referred to as WHITE line and the more Northerly as RED line, and particulars of conductors used are as follows :-

WHITE Line.

Type: Stranded H.D.Copper.
Size: 7/.144 (62 sq.mm.).
Length of Span: 500ft. to 600ft.
Depth of sag: 8ft. to 10ft.
Conductor spacing: 9ft.

RED Line.

Type: Stranded H.D.Copper.
Size: 19/092 (72 sq.mm.).
Length of Span 500ft. to 600ft.
Depth of sag: 8ft. to 10ft.
Conductor spacing: 9ft.

For details of damage to lines and pylons see damage reports attached.

Major S.O.R.E.(E & M)
11 C.E. Works
EIGHTH ARMY.

1 May 44.

To page 2...

Declassified E.O. 12356 Section 3.3/NND No. 785019

WHITE LINE DAMAGE REPORT.

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 1672 | | No damage. |
| | 1672-1670 | All lines down. |
| 1670-1640. | | No damage. |
| | 1670-1640 | All conductors up and no damage. |
| | 1640-1638 | All lines down, badly cut. |
| 1638 | | Pylon demolished, 18 insulators broken. |
| | 1638-1636 | All lines down, badly cut. |
| 1636-1606 | | No damage. |
| | 1636-1634 | Nos 2 & 3 lines down, earth wire down. |
| | 1634-1622 | No damage. |
| | 1622-1620 | No.1 line down, earth wire down. |
| | 1620-1618 | Earth wire down. |
| | 1618-1616 | Earth wire down. |
| | 1616-1614 | Nos 1 and 3 lines down. |
| | 1614-1612 | Earth wire down. |
| | 1612-1610 | No.2 line down, earth wire down. |
| | 1610-1606 | All conductors undamaged. |
| | 1606-1604 | All lines down, badly cut. |
| 1604 | | Pylon demolished, 18 insulators broken. |
| | 1604-1602 | All lines down. |
| 1602-1596 | | All pylons undamaged. |
| | 1602-1600 | Nos. 1 & 2 lines down, earth wire down. |
| | 1600-1598 | No. 3 line down, 5 insulators broken. |
| | 1598-1596 | All lines undamaged. |
| | 1596-1594 | All lines down, badly cut. |
| 1594-1588 | | All pylons demolished, 80 insulators broken |
| | 1594-1586 | All lines down, badly cut and removed. |
| 1586-1574 | | All pylons undamaged. |
| | 1586-1584 | Nos 1 and 2 lines down, earth down, removed. |
| | 1584-1582 | Earth wire missing. |
| | 1582-1580 | All lines undamaged. |
| | 1580-1578 | No.1 line down. |
| | 1578-1576 | No.1 line down, 6 insulators removed. |
| | 1576-1574 | Nos.1 & 2 lines down. |
| 1574 | | Pylon twisted due to blast. 7087 |
| | 1574-1572 | Nos.2 & 3 lines down, earth wire down. |
| 1572-1564 | | All pylons undamaged. |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| 1638 | | Pylon demolished, 18 insulators broken. |
| | 1638-1636 | All lines down, badly cut. |
| 1636-1606 | | No damage. |
| | 1636-1634 | Nos 2 & 3 lines down, earth wire down. |
| | 1634-1622 | No damage. |
| | 1622-1620 | No.1 line down, earth wire down. |
| | 1620-1618 | Earth wire down. |
| | 1618-1616 | Earth wire down. |
| | 1616-1614 | Nos 1 and 3 lines down. |
| | 1614-1612 | Earth wire down. |
| | 1612-1610 | No.2 line down, earth wire down. |
| | 1610-1606 | All conductors undamaged. |
| | 1606-1604 | All lines down, badly cut. |
| 1604 | | Pylon demolished, 18 insulators broken. |
| | 1604-1602 | All lines down. |
| 1602-1596 | | All pylons undamaged. |
| | 1602-1600 | Nos. 1 & 2 lines down, earth wire down. |
| | 1600-1598 | No. 3 line down, 5 insulators broken. |
| | 1598-1596 | All lines undamaged. |
| | 1596-1594 | All lines down, badly cut. |
| 1594-1588 | | All pylons demolished, 80 insulators broken |
| | 1594-1586 | All lines down, badly cut and removed. |
| 1586-1574 | | All pylons undamaged. |
| | 1586-1584 | Nos 1 and 2 lines down, earth down, removed. |
| | 1584-1582 | Earth wire missing. |
| | 1582-1580 | All lines undamaged. |
| | 1580-1578 | No.1 line down. |
| | 1578-1576 | No.1 line down, 6 insulators removed. |
| | 1576-1574 | Nos.1 & 2 lines down. |
| 1574 | | Pylon twisted due to blast. 7087 |
| | 1574-1572 | Nos.2 & 3 lines down, earth wire down. |
| 1572-1564 | | All pylons undamaged. |
| | 1572-1570 | Nos.2 and 3 lines down, earth wire down. |
| | 1570-1568 | No.2 line down. |
| | 1568-1564 | All lines complete. |
| | 1564-1562 | All lines down, badly cut. |
| 1562-1556 | | All pylons demolished, 80 insulators broken. |
| | 1562-1554 | All lines down, badly damaged. |
| 1554-1522 | | All pylons undamaged. |
| | 1554-1552 | Nos.1 & 2 lines down. |
| | 1552-1550 | Nos.1 & 2 lines down. |
| | 1550-1548 | No.1 line down. Others cut by shrapnel. |
| | 1548-1546 | No.3 line down. Earth down. |
| | 1546-1544 | All lines up, but cut by shrapnel. |
| | 1544-1542 | No.3 line down. |

to page 3....

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| | 1542-1524 | All lines undamaged. |
| | 1524-1522 | No.1 line down. |
| | 1522-1520 | No damage to lines. |
| 1520 | | Pylon damaged by gunfire. |
| | 1520-1518 | No damage to lines. |
| 1518-1484 | | All pylons undamaged. |
| | 1518-1510 | No.3 line down, earth down. |
| | 1510-1508 | No damage to lines. |
| | 1508-1506 | Nos.1 & 3 lines down. |
| | 1506-1504 | No.1 & 2 lines down. |
| | 1504-1496 | Nos.1 and 2 lines down, earth wire down. |
| | 1496-1494 | Lines complete, 2 insulators broken. |
| | 1494-1492 | No damage to lines. |
| | 1492-1490 | Nos.2 & 3 lines down, 1 insulator broken. |
| | 1490-1488 | No.1 line down, earth wire down. |
| | 1488-1486 | No damage to lines. |
| | 1486-1484 | Nos.1 & 2 lines down. |
| | 1484-1482 | All lines down. |
| 1482 | | Pylon damaged by gunfire, 12 insulators broken. |
| | 1482-1480 | All lines down, badly damaged. |
| 1480 | | Pylon demolished, 18 insulators broken. |
| | 1480-1478 | All lines down. |
| | 1478-1476 | All lines down, 12 insulators damaged. |
| | 1476-1474 | All lines down. |
| 1474 | | Pylon demolished, 18 insulators broken. |
| | 1474-1472 | All lines down. |
| 1472-1452. | | All pylons undamaged. |
| | 1472-1470 | No damage. |
| | 1470-1468 | No damage. |
| | 1468-1466 | No damage. |
| | 1466-1464 | No.1 & 2 lines down. |
| | 1464-1462 | No damage. |
| | 1462-1460 | No.1 line down. |
| | 1460-1458 | No damage. |
| | 1458-1456 | Nos.1 & 3 lines down, 8 insulators broken. |
| | 1456-1454 | No.2 line down, 3 insulators damaged. |
| | 1454-1452 | No.1 line down. |
| | 1452-1450 | All lines down, badly cut. |
| 1450 | | Pylon demolished, 18 insulators broken. |
| | 1450-1448 | All lines down, badly cut. 7086 |
| 1448-1414 | | All pylons undamaged. |
| | 1448-1446 | All lines down, 5 insulators damaged. |
| | 1446-1444 | No.2 & 3 lines down, earth wire down. |
| | 1444-1442 | Earth wire down, 3 insulators damaged. |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| 1518-1484 | | All pylons undamaged. |
| | 1518-1510 | No.3 line down, earth down. |
| | 1510-1508 | No damage to lines. |
| | 1508-1506 | Nos.1 & 3 lines down. |
| | 1506-1504 | No.1 & 2 lines down. |
| | 1504-1496 | Nos.1 and 2 lines down, earth wire down. |
| | 1496-1494 | Lines complete, 2 insulators broken. |
| | 1494-1492 | No damage to lines. |
| | 1492-1490 | Nos.2 & 3 lines down, 1 insulator broken. |
| | 1490-1488 | No.1 line down, earth wire down. |
| | 1488-1486 | No damage to lines. |
| | 1486-1484 | Nos.1 & 2 lines down. |
| | 1484-1482 | All lines down. |
| 1482 | | Pylon damaged by gunfire, 12 insulators broken. |
| | 1482-1480 | All lines down, badly damaged. |
| 1480 | | Pylon demolished, 18 insulators broken. |
| | 1480-1478 | All lines down. |
| | 1478-1476 | All lines down, 12 insulators damaged. |
| | 1476-1474 | All lines down. |
| 1474 | | Pylon demolished, 18 insulators broken. |
| | 1474-1472 | All lines down. |
| 1472-1452. | | All pylons undamaged. |
| | 1472-1470 | No damage. |
| | 1470-1468 | No damage. |
| | 1468-1466 | No damage. |
| | 1466-1464 | No.1 & 2 lines down. |
| | 1464-1462 | No damage. |
| | 1462-1460 | No.1 line down. |
| | 1460-1458 | No damage. |
| | 1458-1456 | Nos.1 & 3 lines down, 8 insulators broken. |
| | 1456-1454 | No.2 line down, 3 insulators damaged. |
| | 1454-1452 | No.1 line down. |
| | 1452-1450 | All lines down, badly cut. |
| 1450 | | Pylon demolished, 18 insulators broken. |
| | 1450-1448 | All lines down, badly cut. 7038 |
| 1448-1414 | | All pylons undamaged. |
| | 1448-1446 | All lines down, 5 insulators damaged. |
| | 1446-1444 | No.2 & 3 lines down, earth wire down. |
| | 1444-1442 | Earth wire down, 3 insulators damaged. |
| | 1442-1440 | All lines down, badly cut. |
| | 1440-1438 | Earth wire down. |
| | 1438-1434 | All lines undamaged. |
| | 1434-1432 | No.1 & 2 lines down. |
| | 1432-1430 | No.1 & 2 lines down. |
| | 1430-1428 | No.2 line and earth down. |
| | 1428-1426 | No.1 & 2 line and earth down. |
| | 1426-1424 | No.2 line down. |
| | 1424-1422 | No damage. |
| | 1422-1416 | No damage. |
| | 1416-1414 | All lines down. |
| 1416 | | No.1 arm twisted. |
| 1414 | | Pylon demolished, 18 insulators damaged. |

to page [illegible]

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| | 1414-1412 | All lines down, badly cut. |
| | 1412-1410 | No.2 & 3 lines down. |
| 1412 1410- 1396. | | 1 set of 6 insulators removed. |
| | | All pylons undamaged. |
| | 1410-1408 | All lines down, 5 insulators damaged. |
| | 1408-1406 | All lines down, 8 insulators damaged. |
| | 1406-1404 | All lines down, 9 insulators damaged. |
| | 1404-1402 | No.1 & 2 lines down, earth wire down. |
| | 1402-1400 | All lines down, badly cut. |
| | 1400-1398 | No.1 line & earth down, 4 broken insulators. |
| | 1398-1386 | All lines down, badly cut. |
| | 1396-1394 | All lines down, badly cut. |
| | 1396-1394 | All lines down, 5 insulators broken. |
| 1394 1392- 1376 | | Pylon demolished, 18 insulators damaged. |
| | | All pylons undamaged. |
| | 1394-1392 | All lines down. |
| | 1392-1390 | No.2 & 3 & earth wire down. |
| | 1390-1388 | All lines down. |
| | 1388-1386 | No.1 & 2 & earth wire down. |
| | 1386-1384 | No.2 and 3 and earth wire down. |
| | 1384-1382 | No.1 line down. |
| | 1382-1380 | No.3 line down. |
| | 1380-1378 | No.2 & 3 line down. |
| | 1378-1376 | All lines down. |
| | 1376-1374 | All lines down. |
| 1374- TERMINAL PRATELLA, | | All pylons undamaged. |
| | 1374-1372 | No.2 & 3 lines and earth down. |
| | 1372-1366 | No.2 & 3 lines and earth down. |
| | 1366-1360 | No.2 & 3 lines down. |
| | 1360 (Terminal) | No.2 & 3 & earth wire down. |
| TERMINAL PRATELLA- TERMINAL LETTINO | | All pylons undamaged with exception of, TERMINAL LETTINO. Demolished Pylon Nos 1 LETTINO No.36 PRATELLA. |
| | 36(Terminal PRATELLA) | Nos.1 & 2 lines down. |
| | 36-35 | No damage. |
| | 35-34 | No damage. |
| | 34-33 | No damage. |
| | 33-32 | No.2 line down. |
| | 32-31 | No damage. |
| | 31-30 | No damage. |
| | 30-29 | No damage. |
| | 29-28 | No.2 & 3 lines down. |
| | 28-27 | No.2 line down. |
| | 27-22 | (All lines down. |

7074

Declassified E.O. 12356 Section 3.3/NND No. 785019

1406-1404 All lines down, 5 insulators damaged.
1404-1402 No.1 & 2 lines down, earth wire down.
1402-1400 All lines down, badly cut.
1400-1398 No.1 line & earth down, 4 broken insulators.
1398-1386 All lines down, badly cut.
1396-1394 All lines down, badly cut.
1396-1394 All lines down, 5 insulators broken.
1394 Pylon demolished,18 insulators damaged.
1392-1376 All pylons undamaged.
1394-1392 All lines down.
1392-1390 No.2 & 3 & earth wire down.
1390-1388 All lines down.
1388-1386 No.1 & 2 & earth wire down.
1386-1384 No.2 and 3 and earth wire down.
1384-1382 No.1 line down.
1382-1380 No.3 line down.
1380-1378 No.2 & 3 line down.
1378-1376 All lines down.
1376-1374 All lines down.
1374- TERMINAL PRATELLA, All pylons undamaged.
1374-1372 No.2 & 3 lines and earth down.
1372-1366 No.2 & 3 lines and earth down.
1366-1360 No.2 & 3 lines down.
1360 (Terminal) No.2 & 3 & earth wire down.

TERMINAL PRATELLA-TERMINAL LETTINO All pylons undamaged with exception of, TERMINAL LETTINO. Demolished Pylon Nos 1 LETTINO No.36 PRATELLA.

36(Terminal PRATELLA) Nos.1 & 2 lines down.
36-35 No damage.
35-34 No damage.
34-33 No damage.
33-32 No.2 line down.
32-31 No damage.
31-30 No damage.
30-29 No damage.
29-28 No.2 & 3 lines down.
28-27 No.2 line down.
27-22 All lines down.
22-21 No.1 line down.
21-20 No.1 line down.
20-19 No.1 line down.
19-15 No damage
15-13 All lines down.
13-8 All lines up, no damage.
8-7 No.1 & 3 lines down.
7-3 No damage.
3-2 No.1 line down.
2-TERMINAL All lines down.

7079

to page 5...

Declassified E.O. 12356 Section 3.3/NND No. 785019

RED LINE DAMAGE REPORT.

| Pylon No. | Span No. | Damage. |
|---|---|---|
| 1677 | | No damage. |
| | 1677-1675 | No.3 conductors down, 3 insulators broken. |
| 1675 | | Pylon no damage. |
| | 1675-1673 | Nos.3 & 2 lines down & earth wire. |
| 1673 | | No damage. |
| | 1673-1671 | No damage. |
| 1671 | | No damahe. |
| | 1671-1669 | No damage. |
| 1669 | | No damage. |
| | 1669-1667 | No damage. |
| 1667 | | No damage. |
| | 1667-1665 | No damage. |
| 1665 | | No damage. |
| | 1665-1663 | No damage. |
| 1663 | | No damage. |
| | 1663-1661 | No.3 line down. |
| 1661 | | No damage. |
| | 1661-1659 | No.3 conductor down, badly frayed. |
| 1659-1647 | | No damage. |
| | 1659-1647 | No damage. |
| 1645 | | No damage. |
| | 1647-1645 | No.1 line down. |
| 1643 | | Pylon demolished,3 complete strings insulators required. |
| | 1645-1643 | Nos.1,2 & 3 conductors down & earth. |
| 1641 | | Pylon O.K. |
| | 1641-1639 | Nos.1,2 & 3 lines down, & earth wire. |
| 1639 | | Pylon O.K. |
| | 1639-1637 | No.3 line down, earth wire down. |
| 1637 | | Pylon O.K. |
| | 1637-1635 | No damage. |
| 1635-1611 | | All pylons O.K. |
| | 1625-1629 | All conductors O.K. |
| | 1629-1627 | No.1 line down. |
| | 1627-1625 | No.1 line down & earth wire down. |
| | 1625-1623 | No.1 line down & earth wire down. |
| | 1623-1619 | All conductors O.K. |
| | 1619-1617 | No.1 line down. |
| | 1617-1615 | No.2 line down. |
| | 1615-1611 | All conductors O.K. |
| ? 1609 | | Pylon demolished, 18 insulators damaged. |
| | 1611-1609 | All lines down, badly cut, earth wire down. |
| 1607- | | All pylons O.K. |

7078

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| | 1675-1673 | Nos.3 & 2 lines down & earth wire. |
| 1673 | | No damage. |
| | 1673-1671 | No damage. |
| 1671 | | No damahe. |
| | 1671-1669 | No damage. |
| 1669 | | No damage. |
| | 1669-1667 | No damage. |
| 1667 | | No damage. |
| | 1667-1665 | No damage. |
| 1665 | | No damage. |
| | 1665-1663 | No damage. |
| 1663 | | No damage. |
| | 1663-1661 | No.3 line down. |
| 1661 | | No damage. |
| | 1661-1659 | No.3 conductor down, badly frayed. |
| 1659-1647 | | No damage. |
| | 1659-1647 | No damage. |
| 1645 | | No damage. |
| | 1647-1645 | No.1 line down. |
| 1643 | | Pylon demolished,3 complete strings insulators required. |
| | 1645-1643 | Nos.1,2 & 3 conductors down & earth. |
| 1641 | | Pylon O.K. |
| | 1641-1639 | Nos.1,2 & 3 lines down, & earth wire. |
| 1639 | | Pylon O.K. |
| | 1639-1637 | No.3 line down, earth wire down. |
| 1637 | | Pylon O.K. |
| | 1637-1635 | No damage. |
| 1635-1611 | | All pylons O.K. |
| | 1625-1629 | All conductors O.K. |
| | 1629-1627 | No.1 line down. |
| | 1627-1625 | No.1 line down & earth wire down. |
| | 1625-1623 | No.1 line down & earth wire down. |
| | 1623-1619 | All conductors O.K. |
| | 1619-1617 | No.1 line down. |
| | 1617-1615 | No.2 line down. |
| | 1615-1611 | All conductors O.K. |
| 1609 | | Pylon demolished, 18 insulators damaged. |
| | 1611-1609 | All lines down, badly cut, earth wire down. |
| 1607-1575 | | All pylons O.K. |
| | 1609-1607 | All lines down, badly cut, earth wire down. |
| | 1607-1605 | Nos.2 & 3 lines down, earth wire down. |
| | 1605-1603 | No.3 line down, 2 insulators cracked. |
| | 1603-1601 | No.3 line down. |
| | 1601-1599 | No.3 line down. |
| | 1599-1597 | No.2 line down & earth line down. |
| | 1597-1595 | No.3 line down & earth wire. |
| | 1595-1593 | All lines down & earth wire, conductor missing. |
| | 1593-1591 | No damage. |
| | 1591-1589 | No damage. |
| | 1589-1587 | Nos.2 & 3 lines down, conductors badly cut. |
| | 1587-1585 | No.1 line down, 2 insulators broken. |
| | 1585-1581 | No damage to lines. |

7078

to page 6...

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| | 1581-1579 | Nos.1 & 3 lines down, badly bent. |
| | 1579-1577 | No.2 line down & earth wire down. |
| | 1577-1573 | No damage to lines. |
| 1573 | | Pylon twisted due to blast. |
| | 1573-1571 | No.3 line down. |
| 1571-1521 | | All pylons O.K. |
| | 1571-1565 | All lines O.K. |
| | 1565-1563 | No.2 line down, cut badly. |
| | 1563-1561 | No.2 line down, earth wire down. |
| | 1561-1559 | No damage. |
| | 1559-1557 | No.2 & 3 lines down. |
| | 1557-1555 | No.1,2 & 3 lines down. |
| | 1555-1553 | Nos.1 & 2 lines down, No.3 frayed. |
| | 1553-1551 | Nos.1 & 2 lines down. |
| | 1551-1549 | No.2 line down, 2 insulators cracked. |
| | 1549-1547 | Earth wire down. |
| | 1547-1527 | All lines O.K. |
| | 1527-1525 | All lines up but cut badly. |
| | 1525-1523 | No damage. |
| | 1523-1521 | No.1 line down & earth badly cut. |
| | 1521-1519 | No.1 & 2 lines down. |
| 1519 | | Pylon badly twisted due to blast. |
| | 1519-1517 | Nos.1 & 3 lines down. |
| | 1517-1513 | No damage. |
| 1517-1515 | | Pylons O.K. |
| 1513. | | |
| | 1513-1511 | All lines down. |
| 1511-1503 | | All pylons O.K. |
| | 1511-1509 | No damage. |
| | 1509-1507 | All lines up, but badly cut. |
| | 1507-1505 | No damage. |
| | 1505-1503 | All lines down. |
| | 1503-1501 | No.2 line down & earth wire. |
| 1501 | | Slight twist in pylon, 4 insulators cracked. |
| | 1501-1499 | Nos.1 & 2 conductors down. |
| 1499-1491 | | All pylons O.K. |
| | 1499-1497 | No.2 line down. |
| | 1497-1495 | Nos.1,2 & 3 lines down, badly cut. |
| | 1495-1493 | No.1 line down, others cut, 3 insulators broken. |
| | 1493-1491 | No.1 & 2 lines down & earth wire. |
| | 1491-1489 | All lines down, 3 insulators broken. |
| 1489 | | Pylon demolished, 18 insulators damaged. |
| | 1489-1487 | All lines down, badly cut. |
| | 1487-1485 | All lines down. |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| | 1561-1559 | No damage. |
| | 1559-1557 | No.2 & 3 lines down. |
| | 1557-1555 | No.1,2 & 3 lines down. |
| | 1555-1553 | Nos.1 & 2 lines down, No.3 frayed. |
| | 1553-1551 | Nos.1 & 2 lines down. |
| | 1551-1549 | No.2 line down, 2 insulators cracked. |
| | 1549-1547 | Earth wire down. |
| | 1547-1527 | All lines O.K. |
| | 1527-1525 | All lines up but cut badly. |
| | 1525-1523 | No damage. |
| | 1523-1521 | No.1 line down & earth badly cut. |
| | 1521-1519 | No.1 & 2 lines down. |
| 1519 | | Pylon badly twisted due to blast. |
| | 1519-1517 | Nos.1 & 3 lines down. |
| | 1517-1513 | No damage. |
| 1517-1515 | | Pylons O.K. |
| 1513. | | |
| | 1513-1511 | All lines down. |
| 1511-1503 | | All pylons O.K. |
| | 1511-1509 | No damage. |
| | 1509-1507 | All lines up, but badly cut. |
| | 1507-1505 | No damage. |
| | 1505-1503 | All lines down. |
| | 1503-1501 | No.2 line down & earth wire. |
| 1501 | | Slight twist in pylon, 4 insulators cracked. |
| | 1501-1499 | Nos.1 & 2 conductors down. |
| 1499-1491 | | All pylons O.K. |
| | 1499-1497 | No.2 line down. |
| | 1497-1495 | Nos.1,2 & 3 lines down, badly cut. |
| | 1495-1493 | No.1 line down, others cut, 3 insulators broken. |
| | 1493-1491 | No.1 & 2 lines down & earth wire. |
| | 1491-1489 | All lines down, 3 insulators broken. |
| 1489 | | Pylon demolished, 18 insulators damaged. |
| | 1489-1487 | All lines down, badly cut. |
| | 1487-1485 | All lines down. |
| 1487 | | Damage due to gunfire. |
| | 1485-1483 | All lines down, 3 insulators broken. |
| 1485 | | Pylon demolished, 18 insulators damaged. |
| | 1483-1481 | All lines down badly cut, 2 insulators broken. |
| 1483-1473 | | Pylons undamaged. |
| | 1481-1479 | All lines down. |
| | 1479-1477 | All lines down, badly cut. |
| | 1477-1475 | No damage. |
| | 1475-1473 | No damage. |
| | 1473-1471 | All lines down, badly cut. |
| 1471 | | Pylon demolished, 18 insulators damaged. |
| | 1471-1469 | All lines down, badly cut. |
| 1469-1457 | | All pylons O.K. |
| | 1469-1467 | No.3 line down. |
| | 1467-1465 | No.3 line down. |
| | 1465-1463 | Nos.2 & 3 lines down & earth wire. |
| | 1463-1461 | No damage. |
| | 1461-1459 | No.3 line down. |

7077

to page 7...

Declassified E.O. 12356 Section 3.3/NND No. 785019

| Pylon No. | Span No. | Damage. |
|---|---|---|
| | 1459-1457 | No.3 line down, cut badly. |
| | 1457-1455 | All lines down. |
| 1455 | | Pylon damaged by gunfire, 18 insulators broken. |
| | 1455-1453 | All lines down. |
| 1453 | | Top arm of pylon twisted, 18 insulators broken. |
| | 1453-1451 | Nos.1,2 & 3 lines down. |
| 1451 | | Arms twisted on pylon. |
| | 1451-1449 | No.1 and 3 line down & earth. |
| 1449 | | No damage to pylon, 12 insulators broken. |
| | 1449-1447 | All lines down. |
| 1447 | | Top arm of pylon twisted, 6 insulators damaged. |
| | 1447-1445 | Nos.1,2 & 3 Lines down. |
| 1445 | | No damage, 4 insulators broken. |
| | 1445-1443 | Nos.1,2 & 3 lines down, cut badly. |
| 1443 | | Top of pylon twisted due to gunfire. |
| | 1443-1441 | Earth wire down. |
| 1441-1421 | | All pylons undamaged. |
| | 1441-1439 | No damage. |
| | 1439-1437 | Nos.1 & 2 lines down. |
| | 1437-1435 | Nos.1 & 2 lines down. |
| | 1435-1433 | All lines down. |
| | 1433-1431 | No.2 line down. |
| | 1431-1429 | No.3 line down, 3 insulators damaged. |
| | 1429-1427 | No.3 line down. |
| | 1427-1425 | No.3 line down. |
| | 1425-1423 | No damage. |
| | 1423-1421 | No damage. |
| | 1421-1419 | All lines down. |
| 1419 | | Top of pylon twisted, 4 insulators damaged. |
| | 1419-1417 | All lines down. |
| 1417-1401 | | All pylons undamaged. |
| | 1417-1415 | All lines down,3 insulators damaged. |
| | 1415-1413 | All lines down, badly cut. |
| | 1413-1411 | Nos.1,2 & 3 lines down,12 insulators damaged. |
| | 1411-1409 | No.3 line & earth wire down. |
| | 1409-1407 | Nos.2 & 3 line & earth wire down. |
| | 1407-1405 | All lines down, 5 insulators broken. |
| | 1405-1403 | Nos.1 & 2 lines down. |
| | 1403-1401 | All lines down. |
| | 1401-1399 | All lines down. |
| 1399 | | Pylon demolished, 18 insulators broken. |
| | 1399-1397 | All lines down. |
| 1397 | | Pylon removed complete with insulators. |
| | 1397-1395 | All lines down. |
| 1395 | | Pylon O.K., 18 insulators broken. |

Declassified E.O. 12356 Section 3.3/NND No. 785019

| | | |
|---|---|---|
| 1451 | | Arms twisted on pylon. |
| | 1451-1449 | No.1 and 3 line down & earth. |
| 1449 | | No damage to pylon, 12 insulators broken. |
| | 1449-1447 | All lines down. |
| 1447 | | Top arm of pylon twisted, 6 insulators damaged. |
| | 1447-1445 | Nos.1,2 & 3 Lines down. |
| 1445 | | No damage, 4 insulators broken. |
| | 1445-1443 | Nos.1,2 & 3 lines down, cut badly. |
| 1443 | | Top of pylon twisted due to gunfire. |
| | 1443-1441 | Earth wire down. |
| 1441-1421 | | All pylons undamaged. |
| | 1441-1439 | No damage. |
| | 1439-1437 | Nos.1 & 2 lines down. |
| | 1437-1435 | Nos.1 & 2 lines down. |
| | 1435-1433 | All lines down. |
| | 1433-1431 | No.2 line down. |
| | 1431-1429 | No.3 line down, 3 insulators damaged. |
| | 1429-1427 | No.3 line down. |
| | 1427-1425 | No.3 line down. |
| | 1425-1423 | No damage. |
| | 1423-1421 | No damage. |
| | 1421-1419 | All lines down. |
| 1419 | | Top of pylon twisted, 4 insulators damaged. |
| | 1419-1417 | All lines down. |
| 1417-1401 | | All pylons undamaged. |
| | 1417-1415 | All lines down, 3 insulators damaged. |
| | 1415-1413 | All lines down, badly cut. |
| | 1413-1411 | Nos.1,2 & 3 lines down, 12 insulators damaged. |
| | 1411-1409 | No.3 line & earth wire down. |
| | 1409-1407 | Nos.2 & 3 line & earth wire down. |
| | 1407-1405 | All lines down, 5 insulators broken. |
| | 1405-1403 | Nos.1 & 2 lines down. |
| | 1403-1401 | All lines down. |
| | 1401-1399 | All lines down. |
| 1399 | | Pylon demolished, 18 insulators broken. |
| | 1399-1397 | All lines down. |
| 1397 | | Pylon removed complete with insulators. |
| | 1397-1395 | All lines down. |
| 1395 | | Pylon O.K., 18 insulators broken. |
| | 1395-1393 | Nos.1 & 2 lines down, earth wire down. |
| 1393 | | Pylon O.K. 8 insulators broken. |
| | 1393-1391 | Nos.2 & earth wire down. |
| 1391-1365 | | All pylons undamaged. |
| | 1391-1389 | Nos.1,2 & 3 lines down. |
| | 1389-1387 | Nos.2 & 3 and earth wire down. |
| | 1387-1385 | Nos.1,2 & 3 lines down, badly cut. |
| | 1385-1383 | Nos.1 & 3 lines down & earth wire. |
| | 1383-1381 | All lines down, badly cut. |
| | 1381-1379 | All lines down, badly cut. |
| | 1379-1377 | No.2 & 3 lines down. |
| | 1377-1371 | No.2 & 3 lines down. |
| | 1371-1369 | No.2 line down, earth wire down. |
| | 1369-1367 | No.2 & 3 lines down, earth down. |
| 1367-1335 | 1367-1365 | No.2 & 3 lines down, earth down. |

TERMINATING TOWER PRATELLA

19 Undamaged.

7075

to page 8...

Declassified E.O. 12356 Section 3.3/NND No. 785019

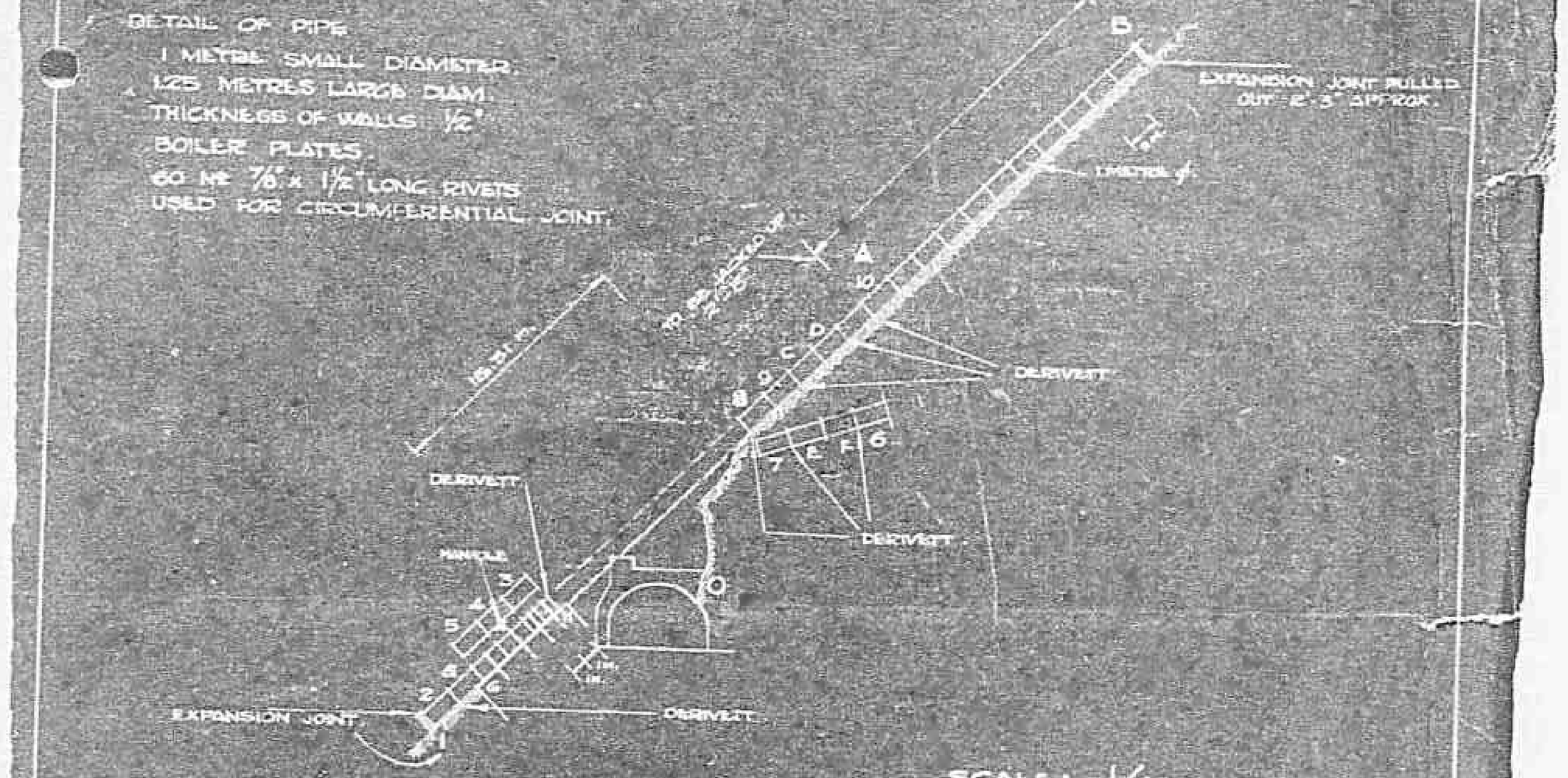
| Pylon No. | Span No. | Damage. |
|---|---|---|
| | 19-18 | No.1 & 2 lines down. |
| 18-2 | | All pylons undamaged. |
| | 18-17 | No.1 line down. |
| | 17-15 | No damage. |
| | 15-14 | No.1 line down & earth wire. |
| | 14-13 | All lines down, 2 insulators broken. |
| | 13-12 | No damage. |
| | 12-11 | No.1 & 2 lines down. |
| | 11-10 | No damage. |
| | 10-9 | No.1 line down & earth wire. |
| | 9-8 | No.2 line down. |
| | 8-7 | No.3 line down. |
| | 7-6 | Nos.1 & 2 lines down. |
| | 6-5 | No.2 line down, 3 insulators broken. |
| | 5-4 | No damage. |
| | 4-3 | No damage. |
| | 3-2 | All lines down, 5 insulators broken. |
| | 2-TERMINAL | All lines down. |
| TERMINAL LETINO | - | Demolished. |

7075

Declassified E.O. 12356 Section 3.3/NND No. 785019

DETAIL OF PIPE.

1 METRE SMALL DIAMETER.
1.25 METRES LARGE DIAM.
THICKNESS OF WALLS ½"
BOILER PLATES.
60 No. ⅞" x 1½" LONG RIVETS
USED FOR CIRCUMFERENTIAL JOINT.

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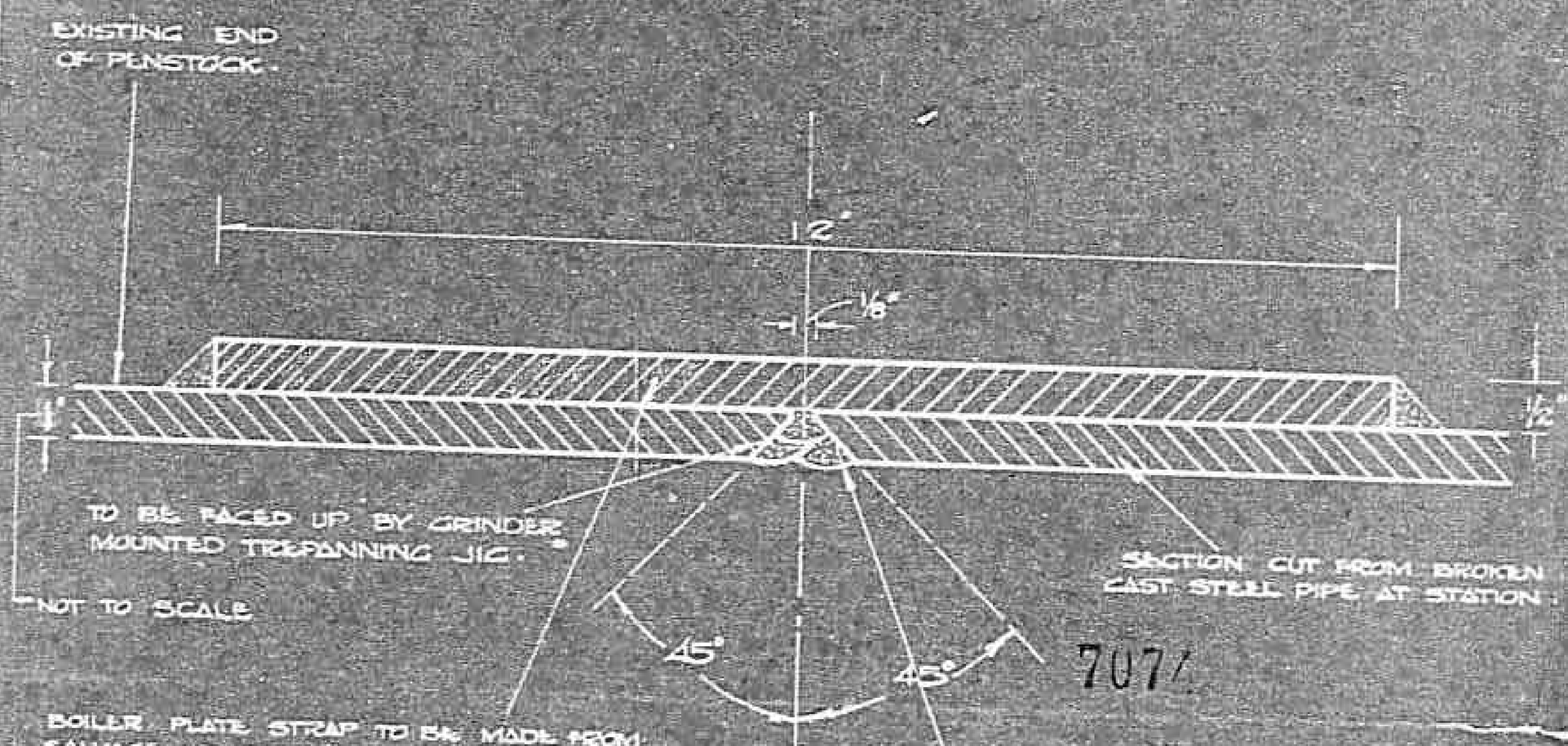
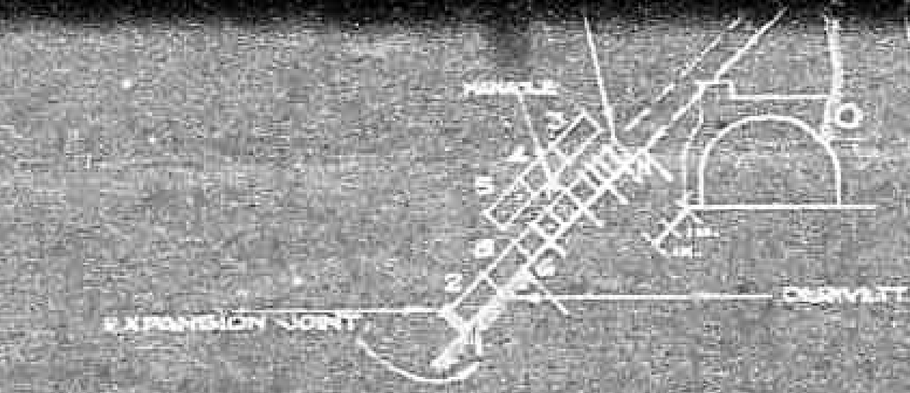


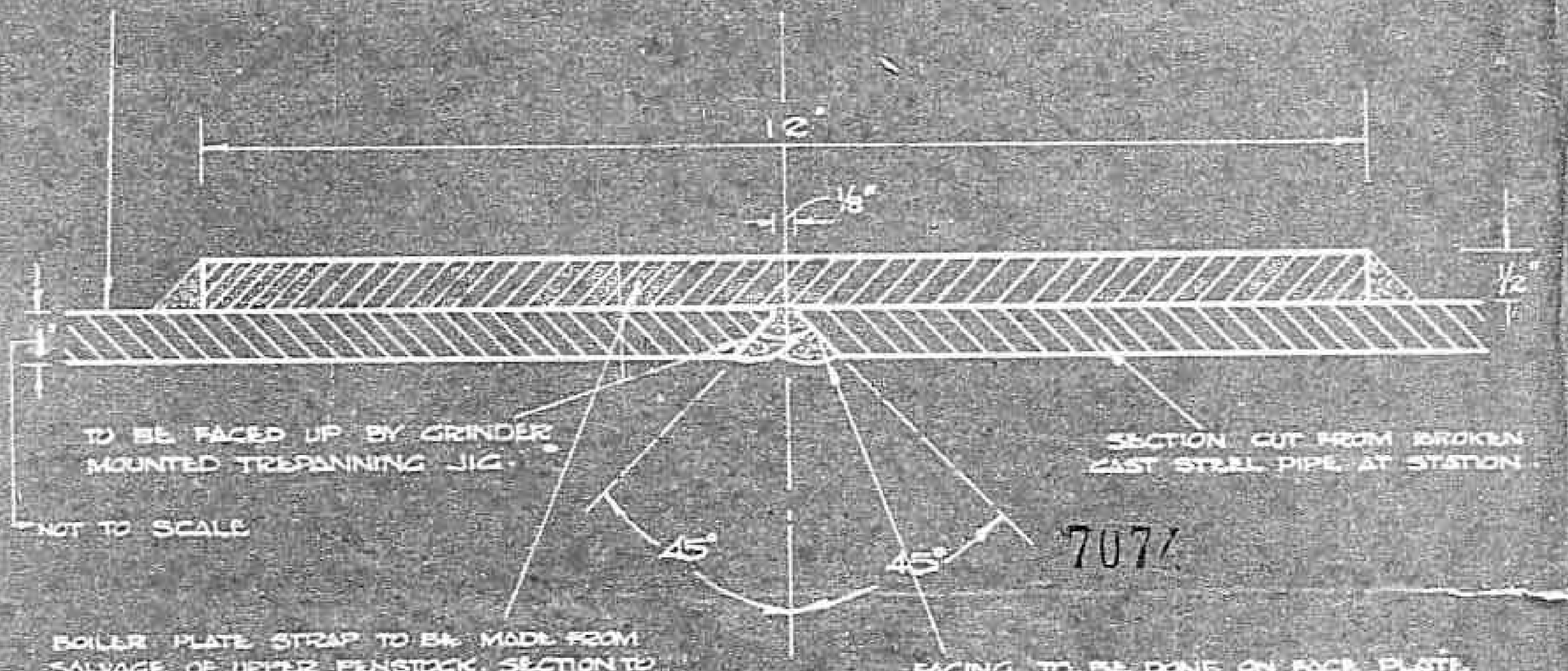

7071

Declassified on authority of E.O. 12958 Section 1.3(a)(2) and ARC 2/3/2011




SCALE: 1/400.

EXISTING END OF PENSTOCK.




TO BE FACED UP BY GRINDER MOUNTED TRESPANNING JIG.

NOT TO SCALE

SECTION CUT FROM BROKEN CAST STEEL PIPE AT STATION.

7077

BOILER PLATE STRAP TO BE MADE FROM SALVAGE OF UPPER PENSTOCK SECTION TO BE TACK WELDED INTO POSITION BEFORE MAIN JOINT WELD IS STARTED.

FACING TO BE DONE ON FACE PLATE LATHE IN STATION WORKSHOP.

SCALE: HALF FULL SIZE.

DRAWN: [signature] S.O. CE/22

# REHABILITATION OF MATESE II HYDRO-STATION. REPAIRS TO PENSTOCK.

H.C.E. WORKS DWG. NO. CE/200

[signature]
LT. COLONEL
H.C.E. WORKS

Declassified E.O. 13526 Section 3.3/NND No. 774000

(30)

Copy No. 9.

Technical Instruction by 11 C.E. Works,

Ref: Maps No. 161 & 172 of 1:100,000 (Italy).

Information.

1. The C.E.B. AAI has recommended that the power line feeding into CAPUANA Power Station NAPLES from the Power Station at COLLE VOLTURNO MR H 085320 be completely repaired (HQ. AAI letter 2031/Q1 refers)

2. The section of line between CAPUA MR N 175785 to COLLE VULTURNO MR H 085320 to be repaired under the direction of 11 C.E. Works.

3. The line is insulated to 60 KV.

4. Each pylon carries 6 conductors of 50 mm. sq. (7x3mm.) section copper comprising two independent circuits, one marked red, and the other white.

5. The approximate route of the line is - MR N 175785 to MR N 106990 to MR H 085062 to MR H 063160 to MR H 092290 to MR H 085320.

6. Skilled and unskilled workmen will be provided by the ENTE AUTONOMO VOLYURNO who can be contacted either at CAPUA or at COLLE.

7. Any transport or materials not available through E.A.V. sources will be provided by WD.

Intention.

8. 156 C.R.E. (Works) will carry out reconnaisance on the lines mentioned under para 2 and 5.

Tasks.

9. A detailed recce report of lines mentioned under para 2 & 5 will be rendered.

Intercommunication.

10. This job will be referred to as Job 11 CE 102.

11. A detailed recce report of lines both Red & White showing pylon No., extent of damage, number of insulators broken, which lines broken and whether or not the earth line is intact. Any unusual features, dimensions of pylons and number of transpositions together with site plan showing traverse of line between the two points mentioned under para 2, will be rendered to this H.Q.

12. A daily sitrep will be rendered in accordance with standing instructions.

Declassified E.O. 12356 Section 3.3/NND No. 785019

MR H 085320 to be repaired under the direction of [illegible]

3. The line is insulated to 60 KV.

4. Each pylon carries 6 conductors of 50 mm.sq.(7x3mm.) section copper comprising two independent circuits, one marked red, and the other white.

5. The approximate route of the line is - MR N 175785 to MR N 106990 to MR H 085062 to MR H 063160 to MR H 092290 to MR H 085320.

6. Skilled and unskilled workmen will be provided by the ENTE AUTONOMO VOLYURNO who can be contacted either at CAPUA or at COLLE.

7. Any transport or materials not available through E.A.V. sources will be provided by WD.

Intention.

8. 156 C.R.E.(Works) will carry out reconnaisance on the lines mentioned under para 2 and 5.

Tasks.

9. A detailed recce report of lines mentioned under para 2 & 5 will be rendered.

Intercommunication.

10. This job will be referred to as Job 11 CE 102.

11. A detailed recce report of lines both Red & White showing pylon No., extent of damage, number of insulators broken, which lines broken and whether or not the earth line is intact. Any unusual features, dimensions of pylons and number of transpositions together with site plan showing traverse of line between the two points mentioned under para 2, will be rendered to this H.Q.

12. A daily sitrep will be rendered in accordance with standing instructions.

ACK.

Distribution.

156 C.R.E.(Works).
"Q" Rear 8th Army.
CE Main 8th Army.
CE AAI.
DW for ADW(E & M).

Copy No.

1 - 4. C.E.B. Vice Chairman Col.
5. GROWDEN A.U.S. c/o ACC HQ.
6. SORE(E & M).
7. File.
8. War Diary.
9.
10.
11 - 12.
13 - 14.

Colonel,
11 C.E. Works,
Eighth Army.

AWP/AR.
1 May 44.

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

COPY

SUBJECT: Electricity - Volturno Company
Transmission Line
Map 1/250,000 Italy.

HEADQUARTERS,
A.A.I.

2550/1/Re
29 April 44.

(29)

To:- C.E. Eighth Army.

The repair of the transmission line belonging to the Volturno Co. (Elettricita Anamyno Volturno) has been arranged for execution by Eighth Army vide this H.Q. letter No. 2031/Q.2 of 26 April 44.

2. This is a double circuit transmission line running from Doganella Diesel Generating station NAPLES (Map Ref.N2449) to COLLI AL VOLTURNO (Map Ref.H0832) hydro electric generating station near ROCCETTA (H0537).

3. This line was requisitioned to enable the ROME transmission line to be repaired, but it is now in the process of having the requisitioned cancelled with a view to energising one of the circuits from Frattamaggiore. From DOGANELLA to a point near AVERSA (N1764) where it crosses the FRATTAMAGGIORE (N2260) CEPRANO (G0928) line, it will be used for transmitting power to Rome and will be isolated from the rest of the line. One circuit of the remainder will be repaired using materials from the second circuit, and any surplus conductor will be removed and stored by the Volturno Co.

4. It has been arranged that the Volturno Co. will provide and pay the workmen and will furnish the special tools, etc. required. They will require from you transport up to a maximum of two 3 ton lorries and such special materials as they are unable to provide for themselves. It will be necessary for you to exercise control and supervision over the work to enable the workmen to do their job without undue interference and to prevent the course of the work interfering with military operations. The work will be executed as quickly as the military situation will permit.

5. Professor LUIGI D'AMELIO of the E.A.V. Company should be contacted through the C.E.B. for all further details concerning this work.

see and inform
major Page to notify CEB when ready to start work

(Signed) W.A.R. SMITH,
Lt.Col., R.E.
for Major-General,
Chief Engineer.

WARS/EEN.

Copy to:- D.D.W., H.Q., A.A.I.

Copy to:- C.E.B., APO. 403. ✓

7072

Declassified E.O. 12356 Section 3.3/NND No. 785019

COPY

SUBJECT:- VOLTURNO Transmission Line.

H.Q., A.A.I.,
C.M.F.

2031/02

Rear H.Q. EIGHTH ARMY (2)

26 Apr.44.

1. The A.A.I. Central Electrical Board has recommended that the task of repairing the remaining part of the VOLTURNO transmission line lying within EIGHTH ARMY area be allotted to you for execution.

2. The ENTE AUTONOMO VOLTURNO will furnish skilled and unskilled workmen, and other special facilities for this purpose. You will be required to provide the transport, materials and supplies which the ENTE AUTONOMO VOLTURNO are unable to find and to exercise general supervision of the work to ensure that it is completed as quickly as possible without interference with military operations.

3. Technical instructions have been discussed with Chief Engineer your H.Q. and will be forwarded direct to him by Chief Engineer A.A.I.

4. Will you please confirm that you can carry out this work?

(Sgd)???????

for Major-General,
Chief Administrative Officer.

Copy to:- C.E., A.A.I.
"orks.
Vice Chairman, Central Electrical Board.
Local Resources Section.

7071

Subject:- H[illegible]c-electric Unit, PALERMO - Transfer [illegible] NAPLES.

H.Q., A.A.I.
C.M.F.

2131/1/[illegible]

29 Apr 44

HQ Allied Control Commission (2)
HQ, No 1 District
CG, Island Base Section.

1. At a meeting on 12 Apr 44, the AAI Central Electrical Board allotted the following work to the Allied Control Commission for execution :-

Removal, marking for re-assembly, packing for shipment and shipping from PALERMO to NAPLES, one 3500 KVA hydro-electric generating unit complete with control valves and switch gear, but excluding transformers, from the ALTO RELIOS hydro-electric generating plant belonging to the General Electric Company of SICILY and located near PALERMO.

2. It is intended to install this unit at the site of a demolished plant on the mainland and to operate it at this site until approximately one year after the end of the war in ITALY. It would thereafter be available for re-installation in its present location.

3. HQ, Allied Control Commission, will please take the necessary steps to acquire this plant and carry out the work scheduled above, calling on HQ, No 1 District for additional transport required.

4. CG, Island Base Section, is requested to assist No 1 District with transport in the PALERMO Area as far as his resources allow.

5. Local Italian resources and labour should be utilised to the fullest extent, and technical assistance will be provided by AAI Central Electricity Board on demand.

6. All charges other than for transport will be met by the Italian Government.

7. As soon as the necessary shipping data is available for component parts of the plant, HQ, Allied Control Commission, should make the necessary bids for shipping space to Movements, No 1 District.

8. HQ, Allied Control Commission, will send detailed drawings of the entire unit to AAI Central Electricity Board as soon as possible.

Logan Pow[illegible]

Declassified E.O. 12356 Section 3.3/NND No. 785019

control valves and switch gear, but excluding transformers, from the ANFO MELICS hydro-electric generating plant belonging to the General Electric Company of SICILY and located near PALERMO.

2. It is intended to install this unit at the site of a demolished plant on the mainland and to operate it at this site until approximately one year after the end of the war in ITALY. It would thereafter be available for re-installation in its present location.

3. HQ, Allied Control Commission, will please take the necessary steps to acquire this plant and carry out the work scheduled above, calling on HQ, No 1 District for additional transport required.

4. CG, Inland Base Section, is requested to assist No 1 District with transport in the PALERMO Area as far as his resources allow.

5. Local Italian resources and Labour should be utilised to the fullest extent, and technical assistance will be provided by AAI Central Electricity Board on demand.

6. All charges other than for transport will be met by the Italian Government.

7. As soon as the necessary shipping data is available for component parts of the plant, HQ, Allied Control Commission, should make the necessary bids for shipping space to Movements, No 1 District.

8. HQ, Allied Control Commission, will send detailed drawings of the entire unit to AAI Central Electricity Board as soon as possible.

Major-General,
Chief Administrative Officer.

Copy to:- G-4
G1
Mov (2)
Works (2) 2550/IRE dated 25 Apr 44 refers.
Local Resources Section.
Vice-Chairman, AAI Central Electricity Board.

707

42

Declassified E.O. 12356 Section 3.3/NND No. 785019

Declassified E.O. 12356 Section 3.3/NND No. 785019

Subject:- VOLTURNO Transmission Line.

HQ AAI,
C.M.F.

2131/1/Q2.

28 Apr 44.

C.C.,
P.D.S.

1. At the meeting of the AAI Central Electricity Board on 16 Apr., 44., the representative of Peninsular Base Section stated that all material from the VOLTURNO Transmission Line required for transmission of power to ROME had now been removed.

2. C.C., Peninsular Base Section, is, therefore, requested to arrange for the release to NAPL AUTORITA VOLTURNO of those parts of the VOLTURNO Line requisitioned by him and no longer required.

Major-General,
Chief Administrative Officer.

Copy to:- Vice-Chairman Central Electricity Board.
C.L.
Works.
L.R.S.

See 20.

7069

Declassified E.O. 12356 Section 3.3/NND No. 785019

Subject :- VOLTURNO Transmission Line.

H.Q., A.A.I.,
C.M.B.
BO31/GB.
26 Apr. 44.

Rear H.Q. EIGHTH ARMY (2)

1. The A.A.I. Central Electrical Board has recommended that the task of repairing the remaining part of the VOLTURNO transmission line lying within EIGHTH ARMY area be allotted to you for execution.

2. The ENTE AUTONOMO VOLTURNO will furnish skilled and unskilled workmen, and other special facilities for this purpose. You will be required to provide the transport, materials and supplies which the ENTE AUTONOMO VOLTURNO are unable to find and to exercise general supervision of the work to ensure that it is completed as quickly as possible without interference with military operations.

3. Technical instructions have been discussed with Chief Engineer your H.Q. and will be forwarded direct to him by Chief Engineer A.A.I.

4. Will you please confirm that you can carry out this work?

for Major-General,
Chief Administrative Officer.

Copy to:- C.E., A.A.I.
Works.
Vice Chairman, Central Electrical Board.
Local Resources Section.

7068

Fily

1506 by 1/25 E&M Section

Subject:- Recovery of Electrical Machinery

11 CE Works
EIGHTH ARMY
DE 0505/1
26 April 44.

Purpose

To render practicable the recovery of special machinery weighing about 14 tons from Hydro station (district S CERCHIO) by transporter or other means.

Appreciation

Road from rd junc H 340057 (PIEDIMONTE D' ALIFE) to point H 308073 has two demolished road bridges at H 298067 and H 308073, also at H 311065 an overhead bridge carrying ropeway and hydro tubes has been demolished. The last item is under reconstruction by civilian contractors and is half completed.

The route beyond point H 308073 has not yet been covered by recce but is stated to be free from demolitions as far as S CERCHIO. It should however be checked for transporter turns and clans.

Demolition H 298067 (see sketch 'A')

Gap between standing abutments 74' 0" increased to 135 ft approx at road level by demolition. Height from road to river bed 98 ft approx. Approaches are curved and it will be necessary to limit the length of bridge to take full advantages of turns on and off for neither approach can be improved as regards radius due to vertical rock faces.

Abutments are 16' 6" wide at the base which will occasion some overhang of the bridge seatings. By building in concrete or stone upon existing abutments it will be possible to bridge with Bailey equipment 100 ft or 110 ft(according to site requirements)Class 40. This re-building will be considerable in height and the possibility of using Bailey piers to assist should be borne in mind.

Launching will be difficult as the distance available is not more than 50 ft. The use of preventor tackle to rock anchorages in addition to centilege is indicated.

Demolition H 308073 (see sketch 'B')

Demolished stone arch bridge on sharp re-entrant turn between rock faces. Both abutments extensively damaged and will require to be pulled down to foundations for re-building. Original span 19' 6" increased to 57 ft at road level by demolition. Approach curve on North-East side is adequate but the South-West approach is very abrupt.

Proposal is to erect 70 ft Bailey bridge Class 40 slightly downstream of existing one to enable 3 tonne tractor to proceed to power

Declassified E.O. 12356 Section 3.3/NND No. 785019

and is half completed.

The route beyond point H 300073 has not yet been covered by recce but is stated to be free from demolitions as far as S Guercino. It should however be checked for transporter turns and class.

Demolition H 298067 (see sketch 'A')

Gap between standing abutments 74' 0" increased to 135 ft approx at road level by demolition. Height from road to river bed 56 ft approx. Approaches are curved and it will be necessary to limit the length of bridge to take full advantage of turns on and off for neither approach can be improved as regards radius due to vertical rock faces.

Abutments are 16' 6" wide at the base which will occasion some overhang of the bridge seatings. By building in concrete or stone upon existing abutments it will be possible to bridge with Bailey equipment 100 ft or 110 ft (according to site requirements) Class 40. This re-building will be considerable in height and the possibility of using Bailey piers to assist should be borne in mind.

Launching will be difficult as the distance available is not more than 50 ft. The use of preventer tackle to rock anchorages in addition to centilege is indicated.

Demolition H 300073 (see sketch 'B')

Demolished stone arch bridge on sharp re-entrant turn between rock faces. Both abutments extensively damaged and will require to be pulled down to foundations for re-building. Original span 19' 6" increased to 57 ft at road level by demolition. Approach curve on North-East side is adequate but the South-West approach is very abrupt.

Proposal is to erect 70 ft Bailey bridge Class 40 slightly downstream of existing gap to enable 3 tonner traffic to proceed over station. This Bailey will be difficult to launch and will require to be judiciously sited to make the most of the approaches. The buttments on the South-West side can be founded on rock, those on the North-East will bear on the existing road surface which has been shaken and will require consolidation. It is doubtful whether the Bailey bridge can be so sited as to allow the passage of the heavy machinery and it is therefore proposed to put in hand forthwith the reconstruction of the permanent bridge improving the South-East approach curve as far as possible. The work of re-building in stone with concrete arch should be possible in 30 days.

Demolition H 241065

Overhead bridge span 19' 9", height from road to crown of arch 14' 10", height to springing of semi-elliptical arch 7' 6". One half of this bridge has been rebuilt and centering may be struck in about 7 days time to allow passage of road vehicles. The construction of the second half of this bridge should not be allowed to impede the road traffic.

.....to sheet 2.

Declassified E.O. 12356 Section 3.3/NND No. 785019

NOTES.

(a) Materials for re-building the bridge at H 308073 and preliminary work on the Bailey bridge at the same site can be lifted by Telfer ropeway from PIEDIMONTE to H 311065 pending the completion of the Bailey bridge at H 296067 and the removal of the shuttering at H 311065.

(b) The centering to overhead bridge is approx equal in span to that required at H 308073. It is not in good condition but it is for consideration how much of this can be utilised.

(c) The Contractor at present working on reconstruction of the overhead bridge at H 311065 is Ingeneer MARIO CAMPANELLA, VIA STANISTA AUGUSTEO, NAPLES.

(d) MINES. The road from H 296067 to S CRISTOFO has not been checked for mines and should be regarded as suspect.

Major, RCEE.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(24)

Copy No. 8

Technical Instruction by 11 C.E. Works.

Ref: Map - Sheets 161 of 1:1,000,000(Italy)
Dwg. Nos. CE/68 & CE/196.

Information.

1. The electric power line between the Hydro Electric Station at Prata Sannita (LETE) MR H 172135 and Piedemonte D'Alife (Matese 2nd) MR H 310060 is to be repaired to supply power to the North at 60 KV.

2. Two lines exist, one marked red and the other white.

3. The lines are insulated to 30 KV.

4. The red line consists of:-
   3 Nos. copper cables of 73 mm.sq. sections.
   1 No. earth wire fixed from top to top of pylons

5. The white line consists of:-
   3 Nos. copper cables of 53 mm.sq. sections.
   1 No. earth wire.

6. The take off to LETE consists of cables similar to 5.

7. The pylons are numbered consecutively commencing at 1677 at Matese for the red line to 1481 at PRATELLA.

8. The pylons are numbered consecutively commencing at 1672 at MATESE for the white line to 1334 at Castel di Pratella where a take off line to LETE is made.

9. The pylons are numbered consecutively commencing from 1 at LETE to 36 at Castel di Pratella where the line taps into the white line.

10. A gang of 10 Nos. linesmen (civilian) will be provided by Signor GRAVINA for repair work.

Intention.

11. 156 C.R.E.(Works) will carry out the repair of the red line from Matese 2nd Stage Hydro Electric Station to LETE, PRATA SANNITA Hydro Power Station.

Tools &c.

Declassified E.O. 12356 Section 3.3/NND No. 785019

2. Two lines exist, one [illegible]

3. The lines are insulated to 30 KV.

4. The red line consists of:-
   3 Nos. copper cables of 73 mm.sq. sections.
   1 No. earth wire fixed from top to top of pylons.

5. The white line consists of:-
   3 Nos. copper cables of 65 mm.sq. sections.
   1 No. earth wire.

6. The take off to LETE consists of cables similar to 5.

7. The pylons are numbered consecutively commencing at 1677 at Matese for the red line to 1481 at PRATELLA.

8. The pylons are numbered consecutively commencing at 1672 at MATESE for the white line to 1334 at Castel di Pratella where a take off line to LETE is made.

9. The pylons are numbered consecutively commencing from 1 at LETE to 36 at Castel di Pratella where the line taps into the white line.

10. A gang of 10 Nos. linesmen (civilian) will be provided by Signor GRAVINA for repair work.

Intention.

11. 156 C.R.E.(Works) will carry out the repair of the red line from Matese 2nd Stage Hydro Electric Station to LETE, PRATA SANNITA Hydro Power Station.

Tasks.

12. A detailed recce of the two lines mentioned under 4 & 5 will be carried out.

7065

13. Repair to lines will be carried out with military and civilian labour.

Stores.

14. Insulators, cable, and clamps, will be obtained by salvaging from lines not to be reconstructed.

Intercommunications.

15. The following will be rendered:-
   (a) A detailed recce report of lines showing pylon No., extent of destruction, number of insulators broken, which lines broken and whether or not the earth line is intact. Any unusual design features and dimensions of pylons, positions and number of transpositions, together

to page 2...

Declassified E.O. 12356 Section 3.3/NND No. 785019

with site plan showing traverse of line between the two points mentioned under para 1.

(b) Stores requirements other than those obtainable under para 14.

(c) Daily Sitrep in accordance with standing instructions.

(d) Detailed weekly Sitrep to commence seven days after receipt of this instruction and to include No. of breaks repaired, method of repair and No. of replacement insulators used.

ACK.

| Distribution. | Copy No. | | Copy No. |
|---|---|---|---|
| 156 C.R.E. (Works) | 1 - 4. | Elec. Control Board(A.C.C. HQ) | 8 |
| CE Main 8th Army. | 5 | SORE (E & M) | 9 |
| CE AAI. | 6 | File | 10 - 11. |
| DDW HQ AAI (Adm Ech)CMF. | 7 | War Diary | 12 - 13 |

Lt Colonel,
11 C.E. Works.
EIGHTH ARMY.

AWP/AR.
27 Apr 44.

7064

Declassified E.O. 12356 Section 3.3/NND No. 785019

(23)

Technical Instruction by 11 C.E. Works. Copy No...9...

Ref: Maps - Sheets 161 of 1:1,000,000(Italy),
Drawings Nos. CE 68 & CE 196.

See (31)

Information.

1. The Electric Power supply from the South must be implemented by the rehabilitation of the Matese 2nd Stage Hydro Electric Station at Piedemonte D'Alife MR H 310060.

2. The main penstock feeding the second stage at the station is 89.3 cms. internal diameter, the metal is cast steel.

3. At the centre line of the turbines the static pressure is 600 lbs per sq.in. or 352 metres static head.

4. The amount of water available is stated to be 1.3 metres cubed/sec. or 286 gals/sec or 1.275 tons/sec.

5. The penstock has been damaged at the road crossing just above the station. Dwg. No. CE/68 dated 5 Nov 43 shows by sketch the extent of the damage to this section. The metal here is boiler plate.

6. In addition to the complete break in the pipe the expansion joint 40 yds above the blow has pulled out 2ft. 3ins.

7. A workshop is available on site and contains the following machines:
   2 Lathes.
   1 Shaper Machine.
   Grinding Machines.
   Forge etc.
   1 Milling Machine.
   1 Face Plate Lathe capable of taking loose couplings of penstock size.

8. The replacement plant will consist of a Pelton Wheel Turbine driving Alternator capable of generating 3500 KW.

9. There is a funicula railway by which material and equipment up to 3.5 tons dead load can be hoisted to the break in the pipe line.

10. The road from Piedemonte to the Matese 1st Stage is at present not open to traffic as two bridges have been blown. These are to be bridged under separate arrangements.

11. The road above the first blown bridge has not been certified clear of mines. Clearance of this road of mines is being made under separate arrangements.

12. The name of the Service Engineer at Matese IV Stage [illegible]

Declassified E.O. 12356 Section 3.3/NND No. 785019

Piedemonte D'Alife MR H 310060.

2. The main penstock feeding the second stage at the station is 89.3 cms. internal diameter, the metal is cast steel.

3. At the centre line of the turbines the static pressure is 600 lbs per sq.in. or 352 metres static head.

4. The amount of water available is stated to be 1.3 metres cubed/sec. or 286 gals/sec or 1.275 tons/sec.

5. The penstock has been damaged at the road crossing just above the station. Dwg. No. CE/68 dated 5 Nov 43 shows by sketch the extent of the damage to this section. The metal here is boiler plate.

6. In addition to the complete break in the pipe the expansion joint 40 yds above the blow has pulled out 2ft. 3ins.

7. A workshop is available on site and contains the following machines:
   2 Lathes.
   1 Shaper Machine.
   Grinding Machines.
   Forge etc.
   1 Milling Machine.
   1 Face Plate Lathe capable of taking loose couplings of penstock size.

8. The replacement plant will consist of a Pelton Wheel Turbine driving Alternator capable of generating 3500 KW.

9. There is a funicula railway by which material and equipment up to 3.5 tons dead load can be hoisted to the break in the pipe line.

10. The road from Piedemonte to the Matese 1st Stage is at present not open to traffic as two bridges have been blown. These are to be bridged under separate arrangements.

11. The road above the first blown bridge has <u>not</u> been certified clear of mines. Clearance of this road of mines is being made under seperate arrangements.

12. The name of the Service Engineers at Matese II Stage are Signor GRAVINA and Signor DECRESCENZO and the installation is the property of Societa Meridionale Electricita (S.M.E.).

<u>Intention</u>.

13. 156 C.R.E.(Works) will carry out the rehabilitation to Matese No.2 Power Station with plant to be supplied, in three tasks.

TASK No.1.

14. Clear area marked "A" shown hatched on drawing CE/68 of all debris and unserviceable concrete.

15. Pump out water from discharge channel. That portion at present full of running water is stated to have unsound bottom and need not be emptied at present.

to sheet 2.....

Declassified E.O. 12356 Section 3.3/NND No. 785019

16. Trim broken end of cast steel pipe be gas cutting. Build up outside of pipe by gas welding, finish by portable pneumatic grinder mounted in trepanning jig. Weld loose flange, to be recovered from scrap, on to built up surface. Enlarge existing bolt holes to clearance fit. Face up flange by portable grinder as above. Bolt back into position first two good sections and rest on existing pedestals. Assembly should then be as in Dwg. CE/196.

17. The damage to the penstock at the points where it crosses the S.Gregorio road is shown in Dwg. CE/68. The blown section at "B" will be removed complete by derivetting at its junction with the first sound pipe section. The torn sections at "C" will be dealt with in a similar manner. The 16 Nos. 2 metres sections which have moved 2/3 metres down hill from the first expansion joint above the bridge will be jacked back. 4 Nos. 22½ tons hydraulic jacks will be provided for this purpose from R.E. Stores. The recoverable section of the blown pipe will be derivetted and rivetted to the first sound section above the bridge. The resultant gap will be measured and new sections fabricated under separate arrangements.

TASK NO.2.

18. Foundations for plant and buildings will be carried out in accordance with Dwgs. to be issued subsequently from this office.

TASK NO.3.

19. Installations of plant in accordance with instructions to be issued subsequently from this office.

Plant.

20. Compressor with tools 1 No. to be released on receipt from E.S.D.

21. Pneumatic rivetting hammers 2 Nos. release refers.

22. Concrete Mixers 2 Nos. to be released on receipt from E.S.D.

23. Hydraulic Jacks 4 Nos. 22½ tons capacity, release refers.

24. Pump diesel driven 40,000 G.P.H. @ 40 F.H. for draining discharge channel.

Inter Communication. The following will be rendered.

25. Stores requirements other than those laid down under Plant.

26. Brief daily sitrep in accordance with standing instructions. 7083

Declassified E.O. 12356 Section 3.3/NND No. 785019

road is shown in Dwg. CE/68. The blown section at "B" will be removed complete by derivetting at its junction with the first sound pipe section. The torn sections at "C" will be dealt with in a similar manner. The 16 Nos. 2 metres sections which have moved 2/3 metres down hill from the first expansion joint above the bridge will be jacked back. 4 Nos. 22½ tons hydraulic jacks will be provided for this purpose from R.E. Stores. The recoverable section of the blown pipe will be derivetted and rivetted to the first sound section above the bridge. The resultant gap will be measured and new sections fabricated under separate arrangements.

TASK NO.2.

18. Foundations for plant and buildings will be carried out in accordance with Dwgs. to be issued subsequently from this office.

TASK NO.3.

19. Installations of plant in accordance with instructions to be issued subsequently from this office.

Plant.

20. Compressor with tools 1 No. to be released on receipt from E.S.D.

21. Pneumatic rivetting hammers 2 Nos. release refers.

22. Concrete Mixers 2 Nos. to be released on receipt from E.S.D.

23. Hydraulic Jacks 4 Nos. 22½ tons capacity, release refers.

24. Pump diesel driven 40,000 G.P.H. @ 40 F.H. for draining discharge channel.

Inter Communication. The following will be rendered.

25. Stores requirements other than those laid down under Plant.

26. Brief daily sitrep in accordance with standing instructions. 7088

27. Detailed weekly progress report in quintuplicate to commence 7 days after receipt of this instruction.

ACK.

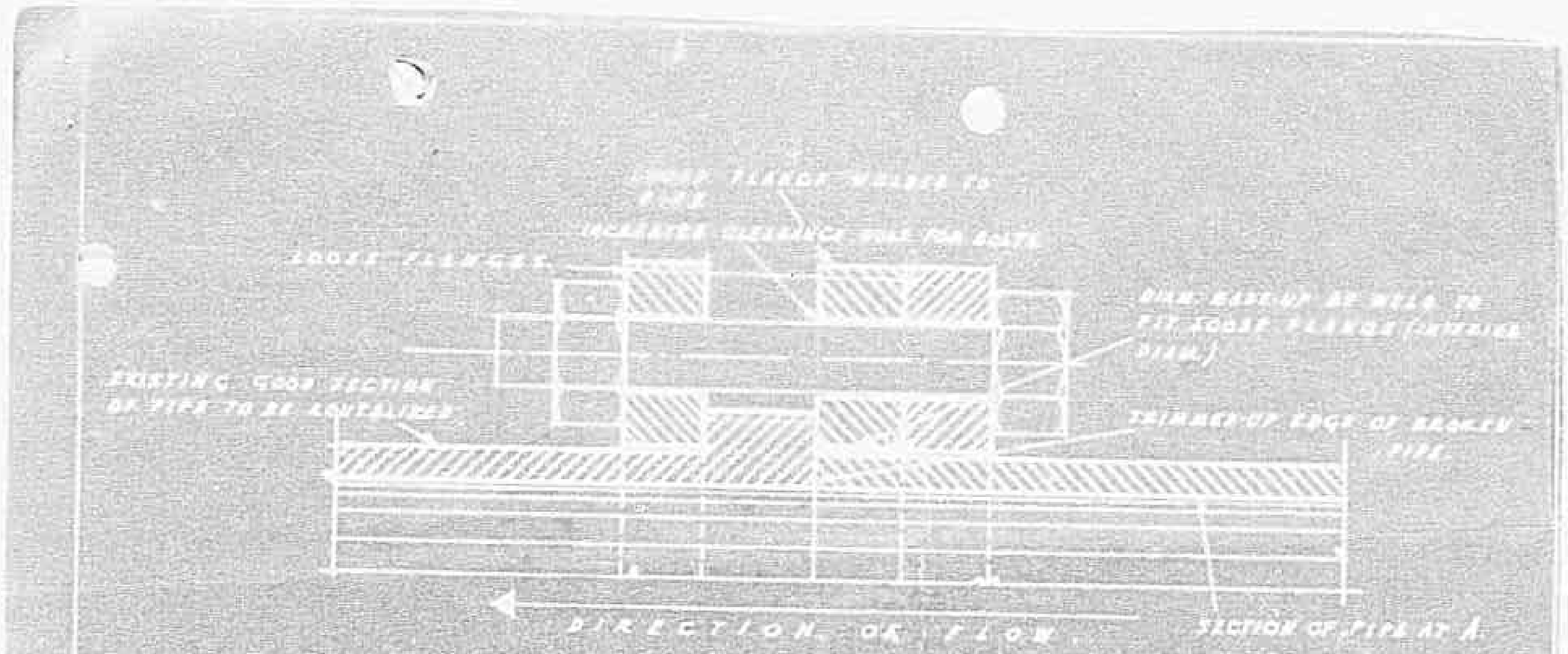
| Distribution. | Copy No. | | Copy No. |
|---|---|---|---|
| 156 C.R.E.(Works). | 1 - 4. | Elec. Control Board(A.C.C. HQ) | |
| CE Main 8th Army. | 5. | SORE (E & M). | 9. |
| CE AAI. | 6. | File. | 10 - 11. |
| DDW HQ AAI (Adm Ech)CMF. | 7. | War Diary. | 12 - 13. |

Colonel,
11 C.E. Works,
EIGHTH ARMY.

AWP/AR.
26 Apr 44.

Declassified E.O. 12356 Section 3.3/NND No. 785019

1837




# MADE-UP JOINT FOR BLOWN PENSTOCK.

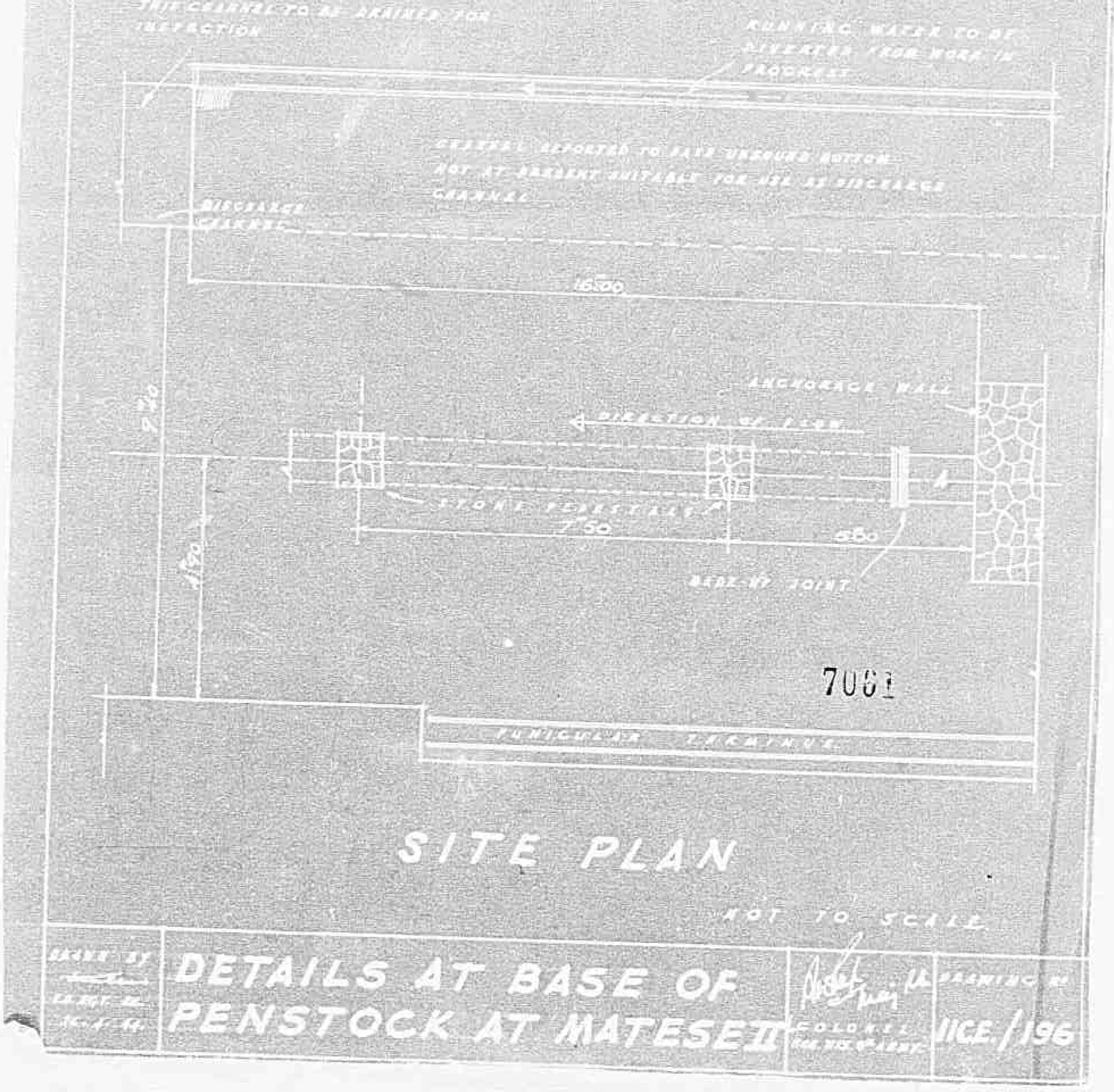



Declassified E.O. 12958 Section 3.3/NND No. 785015

DIRECTION OF FLOW

SECTION OF PIPE AT A.

# MADE-UP JOINT FOR BLOWN PENSTOCK.



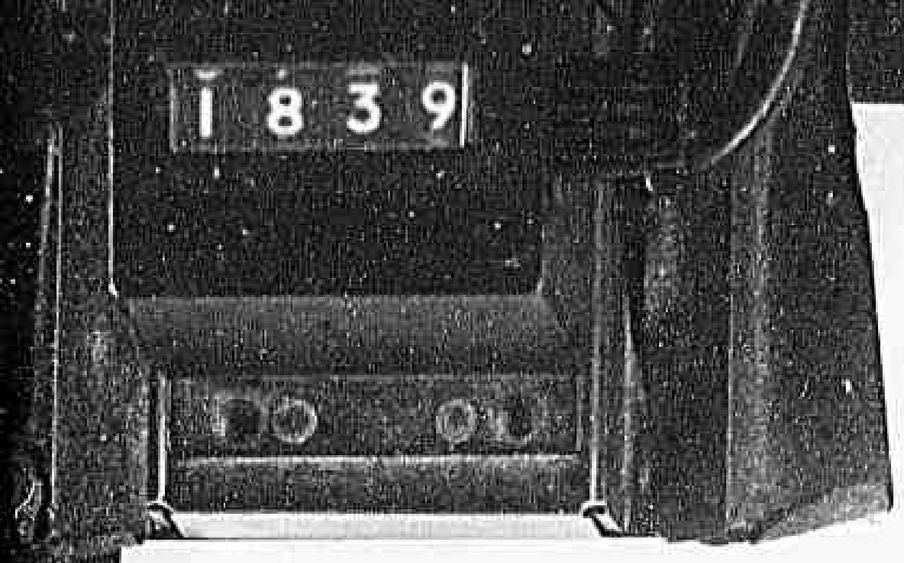

DETAILS AT BASE OF PENSTOCK AT MATESE II

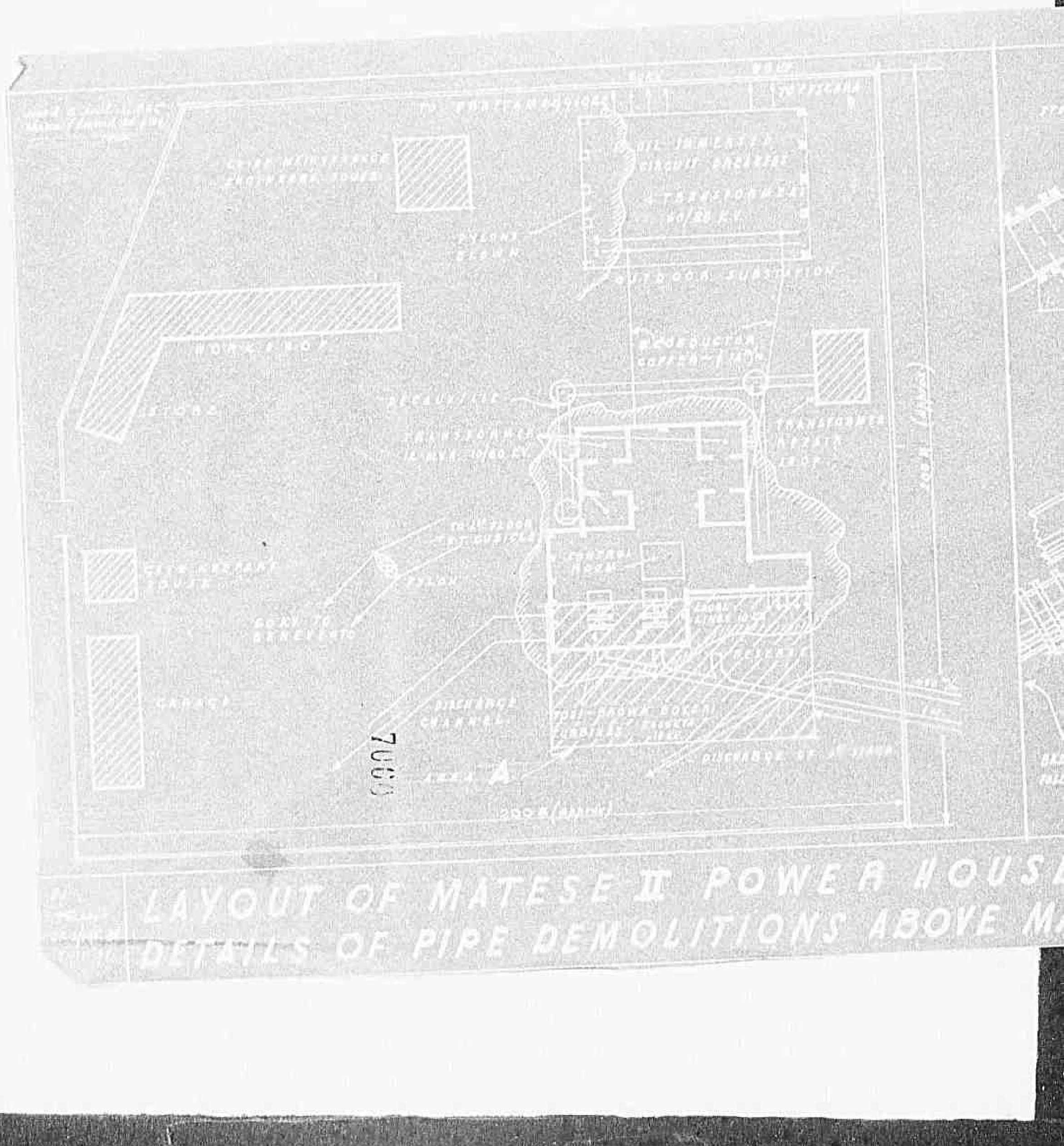
DRAWING No. 11CE/196

1838

Declassified E.O. 12356 Section 3.5/NND No. [illegible]

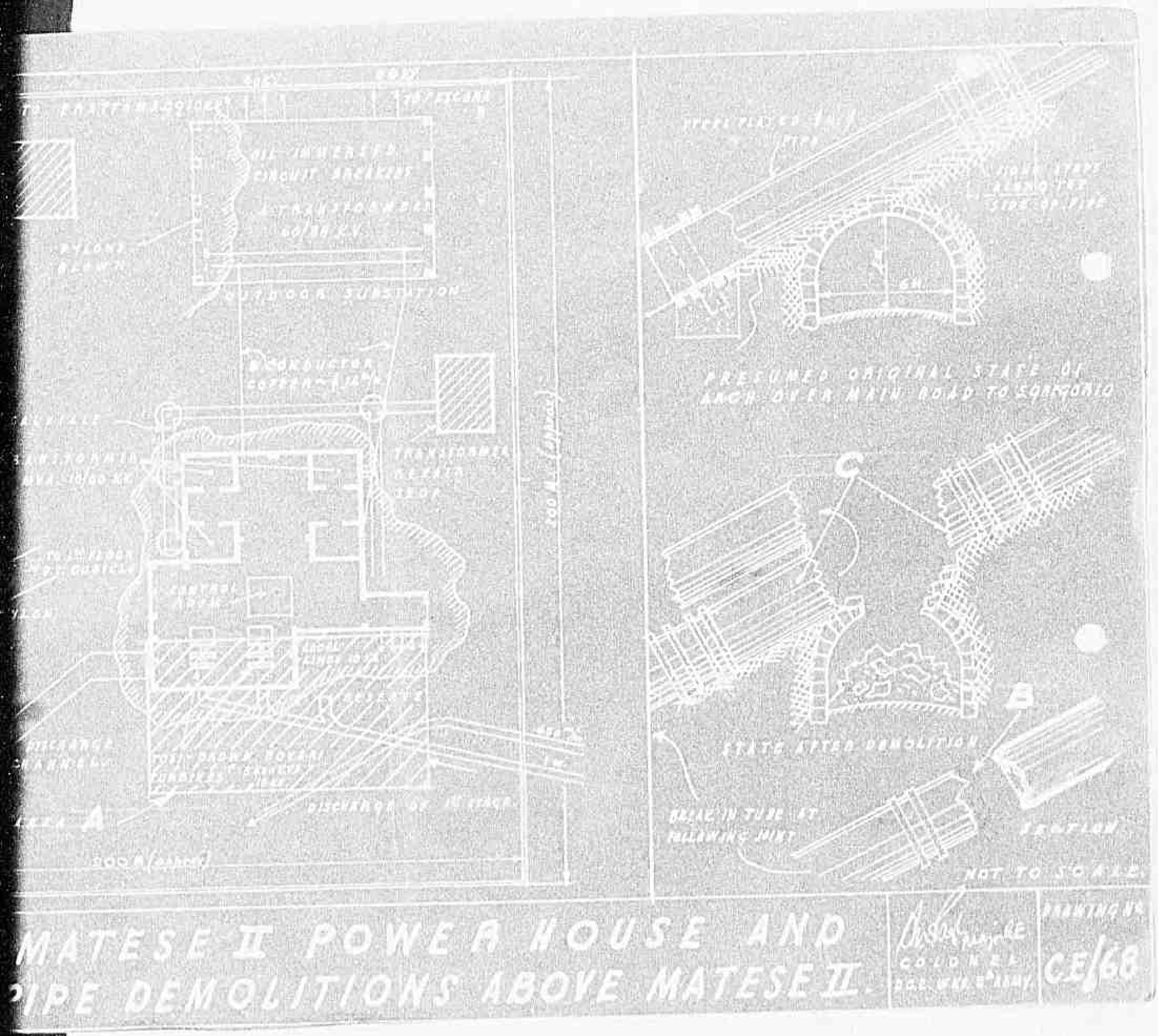
Declassified E.O. 12356 Section 3.3/NND No. 785019



Declassified E.O. 12356 Section 3.3/NND No. 778019

1840




# MATESE II POWER HOUSE AND PIPE DEMOLITIONS ABOVE MATESE II

COLONEL
CE/68

Declassified E.O. 12356 Section 3.3/NND No. 785019

DRAFT

H.Q. A.A.I.

Ref:

April 44.

(22A)

SUBJECT:- Transfer of Hydroelectric Unit from SICILY to NAPLES Area.

To:- C.C., A.C.C.

1. At its meeting on 12 March 44 the AAI Central Electrical Board allotted the following work to ACC for execution:-

> Removal, marking for re-assembly, packing for shipment and shipping from PALERMO to NAPLES, one 3500 KVA hydroelectric generating unit complete with control valves and switch gear, but excluding transformers, from the ALTO BELICE hydroelectric generating plant belonging to the General Electric Company of SICILY and located near Palermo.

2. It is intended to install this unit at the site of a demolished plant on the mainland and to operate it at this site until approximately one year after the end of the war in ITALY. It would thereafter be re-installed in its present location.

3. You will secure possession of this unit by requisition or otherwise. Local Italian workmen and resources will be utilized to the fullest extent. You will arrange with the appropriate armed services for transport. All other charges incurred will be met by the Italian Government.

4. You will, as promptly as possible, provide the AAI Central Electrical Board with detailed drawings of the entire unit. You should ask the AAI C.E.B. for any technical assistance which you may require.

Major General,
Chief Administrative Officer.

7059

Declassified E.O. 12356 Section 3.3/NND No. 785019

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

21 April 1944

SUBJECT:- Volturno Transmission Line.

TO:- CE HQ AAI CMF

1. At its meeting on 16 April 44 the AAI Central Electrical Board allotted the repair of the part of the VOLTURNO transmission line not required for the transmission of power to ROME to the EIGHTH Army in whose territory most of the work lies.

2. Confirmation will be forwarded to HQ EIGHTH Army by CAO.

3. It is requested that the necessary technical instruction be issued by you: a suggested draft is attached hereto.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI- C.E.B.

703

Declassified E.O. 12356 Section 3.3/NND No. 785019

(21a)

DRAFT

SUBJECT:- VOLTURNO Transmission Line

CE HQ AAI CMF

Ref:

TO:- CE EIGHTH Army

21 April 1944

1. The repair of the VOLTURNO transmission line has been allotted to EIGHTH Army. (see this HQ letter ref: dated ).

2. This is a double circuit transmission line extending from the DOGANELLA diesel electric generating station to the COLLI AL VOLTURNO hydro electric generating station near ROCCHETTA. The portion of the transmission line from DOGANELLA Station to the point where it crosses the FRATTALIRI line will be used for transmission of power to ROME. Some of the conductor in the remaining part of the line has been used to repair the ROME transmission line and part of the conductor has been stores. The work to be done consists of repairing one of the two circuits so that it may be energised, using material from the second circuit to effect the requisite repairs. Surplus conductor from the second circuit will be removed and placed in storage by the E.A.V.

3. The E.A.V. will provide and pay the workmen and will furnish the special tools, etc. required. You will provide, not to exceed, two 3-ton lorries and such special supplies as the E.A.V. may be unable to provide. Since most of the work will be north of the Volturno River it will be necessary for you to exercise control and supervision over the workmen to prevent interference with military operations.

4. The work will be executed as promptly as is consistent with the military situation.

7057

Chief Engineer

Declassified E.O. 12356 Section 3.3/NND No. 785019

(20)

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

21 April 44.

SUBJECT:- VOLTURNO Transmission Line.

TO:- C.A.C., HQ A.A.I.

1. At its meeting on 16 April 1944 the AAI Central Electrical Board received a verbal statement from the representative of the P.B.S. to the effect that all of the material which would be used in the reconstruction of the line to ROME, had now been removed from the VOLTURNO line.

2. With this assurance, the Board decided to request the P.B.S. to return to the ENTE AUTONOMO VOLTURNO the unused parts of the said transmission line.

3. To prevent the theft of conductor and to prepare the transmission line for use, the AAI Central Electrical Board allotted the repair of the parts of the VOLTURNO transmission line not required for the transmission of power to ROME, to the EIGHTH Army in whose territory most of the work would lie.

4. It is requested that the necessary instructions be issued. Suggested drafts are enclosed herewith.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI -C.E.B.

See (27)

70[illegible]

Declassified E.O. 12356 Section 3.3/NND No. 785019

20A

DRAFT

SUBJECT:- Return to ENTE AUTONOMO VOLTURNO of Unused Parts of the VOLTURNO Transmission Line

HQ AAI CBF

Ref:

21 April 44.

TO: CG PBS

1. Upon the assurance of the representative of the PBS that all material from the VOLTURNO transmission line required for the transmission of power to ROME had now been removed, the AAI Central Electrical Board at its meeting on 16 April 44 requested that the unused parts of this line be returned to the ENTE AUTONOMO VOLTURNO.

2. The CG PBS is therefore requested to arrange the release to the ENTE AUTONOMO VOLTURNO of the unused parts of the VOLTURNO transmission line which were requisitioned by him.

C.A.O.

7055

Declassified E.O. 12356 Section 3.3/NND No. 785019

208

DRAFT

SUBJECT:- VOLTURNO Transmission Line

TO:- Main HQ EIGHTH Army.

HQ AAI CMF

Ref:

21 April 44.

1. The AAI Central Electrical Board has allotted the task of repairing the remaining part of the VOLTURNO transmission line to EIGHTH Army.

2. The ENTE AUTONOMO VOLTURNO will furnish skilled and unskilled workmen, and other special facilities for this purpose. You will provide the transport, materials and supplies which the ENTE AUTONOMO VOLTURNO are unable to provide and exercise general supervision of the work to ensure that it is completed in such manner as not to interfere with military operations.

3. Technical instructions will be forwarded to your Chief Engineer by C.E., A.A.I.

O.A.O.

7054

Declassified E.O. 12356 Section 3.3/NND No. 785019

(19)

Subject:- Rehabilitation of Electric Supplies - ITALY.

H.Q. A.A.I.
C.M.F.

2/131/1/Q2.

20 Apr 44.

No. 2 District.

1. At the meeting of the Central Electrical Board held on 16 Apr 1944, the following work was allotted to No. 2 District for execution:-

(a) Repair and rehabilitation of the 150 KV transmission line from FOGGIA as far north as the military situation permits, and

(b) Repair and rehabilitation of the DE CECCO Plant. Work to proceed promptly as far as the first unit is concerned.

2. You will utilize local Italian workmen and resources to the fullest extent possible, and will provide transport, materials and supplies, and exercise general supervision to ensure that the work is completed as quickly as possible.

3. Technical instructions will be forwarded direct to your Chief Engineer by D.D.W. this HQ.

B. G. Horan L'Loc
Major General,
Chief Administrative Officer.

Copy to:- Vice Chairman, Central Electrical Board.
Works.

705

See (18)

339

Declassified E.O. 12356 Section 3.3/NND No. 785019

(18)

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

18 April 1944

SUBJECT:- Repair of 150 KV Transmission Line from FOGGIA North.

TO:- C.A.O., HQ A.A.I.

See File 12/1

1. At its meeting on 16 April 1944 the AAI Central Electrical Board alloted the repair of :-

(a) the 150 KV transmission line from FOGGIA north to No 2 District, and

(b) the partial repair of the DE CECCO generating plant,

to No 2 District.

2. It is requested that No 2 District be instructed to carry out this work.

3. A suggested draft is enclosed herewith.

(1 Encl)

JAMES P. CROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

Declassified E.O. 12356 Section 3.3/NND No. 785019

DRAFT

(18A)

SUBJECT:- Rehabilitation of Electric Supplies - ITALY.

HQ A.A.I. C.M.F.

Ref:

No. 2 District.

18 April 1944.

1. At the meeting of the Central Electrical Board held on 16 April 1944, the following work was allotted to No 2 District for execution :-

(a) Repair and rehabilitation of the 150 KV transmission line from FOGGIA as far north as the military situation permits, and

(b) Repair and rehabilitation of the DE CECCO Plant. Work to proceed promptly as far as the first unit is concerned.

2. You will utilize local Italian workmen and resources to the fullest extent possible, and will provide transport, materials and supplies, and exercise general supervision to ensure that the work is completed expeditiously.

3. Technical instructions will be forwarded direct to your C.E. by this HQ. (18B) (18C)

Major General,
Chief Administrative Officer.

7051

Declassified E.O. 12356 Section 3.3/NND No. 785019

18B

SUBJECT:- Repair of DE CECCO Generating Plant.

Directorate of Works,
HQ A.A.I. C.M.F.

/DDW

18 April 1944.

CE No 2 District.

1. The partial repair of the DE CECCO hydro electric plant has been ordered. (See HQ A.A.I. letter, ref: dated )

2. Plans for this work have already been initiated by EIGHTH Army and you are instructed to carry on in accordance with those plans. It is hoped that the 1 750 KVA 700 arc unit will be repaired promptly.

3. The AAI Central Electrical Board will investigate the technical feasibility of the rehabilitation of units Nos 2 and 3, and will discuss this question with you at the site, together with some other factors affecting the rehabilitation of these two units.

Brigadier.
D.D.W.

Declassified E.O. 12356 Section 3.3/NND No. 785019

(18c)

SUBJECT:- Rehabilitation of the 150 KV Transmission Line from FOGGIA North.

Directorate of Works,
HQ A.A.I., C.M.F.

/DDW

CE No 2 District

18 April 1944.

1. The repair of the 150 KV transmission line from FOGGIA north has been ordered. (See HQ A.A.I. letter, ref: dated ).

2. It is desired to repair this transmission line and place it in operation as far north as the military situation permits, so that conductor and other material will not be stolen and so that the transmission line will be ready for use if, as and when power generating units to the north are in condition to operate under Allied control.

3. As soon as successive sections of the line north of FOGGIA have been repaired they should be disconnected from sections further north and energised. This will not only protect the line against theft of conductor, but will considerably improve voltage conditions in the FOGGIA area.

4. A brief report will be sent to this HQ weekly covering progress of the work, together with a duplicate copy for onward transmission to the Central Electrical Board.

Brigadier,
D.D.W.

7044

Declassified E.O. 12356 Section 3.3/NND No. 785019

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

16 April 44.

1/2
22

SUBJECT:- Transfer of Hydroelectric Unit from SICILY to NAPLES Area.

TO:- CAO HQ AAI CMF.

1. At its meeting on 12 March 44 the AAI Central Electrical Board allotted to the ACC the work of removing, marking for re-assembly, packing for shipment and shipping from PALERMO to NAPLES, one 3500 KVA hydroelectric unit now installed in the ALTO BELICE plant of the General Electric Company of SICILY. This task was accepted by the ACC.

2. This unit can be removed from the power system supplying SICILY without reducing the number of KWH which can be generated by that system. It will, however, slightly reduce the peak loads which can be carried by hydro. It is proposed to temporarily install this unit at the second stage MATESE hydroelectric plant where it will utilize water now being wasted, and will provide from 1500 - 2000 KW and generate from 8 - 12 million KWH per year for use in the NAPLES area. The unit is too small to be left permanently in this plant and after the war it will be returned to its original plant in SICILY. A unit of the correct size can be taken from a plant in Northern ITALY and installed at the second stage MATESE.

3. If the output of this unit is required for military purposes it should be moved and put in operation promptly. If the output is determined to be for civilian use and not required by the military, the unit should be left at its present location. The AAI Central Electrical Board believes that the output is required by the military and that the unit should be moved. This view is not consistent with the decisions of higher authority in other matters affecting electric power supply.

4. If you approve the opinion of the Board it is requested that orders be issued. A suggested draft is enclosed.

James P. Growdon

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

Note: This letter was read by Maj. Gen. Lowell Rogers who said it should not be shown to Gen Robertson but that the order to move the unit should be given at once. JPG. 14 April 1944

7048

Declassified E.O. 12356 Section 3.3/NND No. 785019

A.A.I.
CENTRAL ELECTRICAL BOARD
APO 400

REF: CEB/1/2

16 April 44.

SUBJECT:- Transfer of Hydroelectric Unit from SICILY to NAPLES Area.

TO:- CAO HQ AAI CMF.

1. At its meeting on 12 March 44 the AAI Central Electrical Board allotted to the ACC the work of removing, marking for re-assembly, packing for shipment and shipping from PALERMO to NAPLES, one 3500 KVA hydroelectric unit now installed in the ALTO BELICE plant of the General Electric Company of SICILY. This task was accepted by the ACC.

2. This unit can be removed from the power system supplying SICILY without reducing the number of KWH which can be generated by that system. It will, however, slightly reduce the peak loads which can be carried by hydro. It is proposed to temporarily install this unit at the second stage MATESE hydroelectric plant where it will utilize water now being wasted, and will provide from 1500 - 2000 KW and generate from 8 - 12 million KWH per year for use in the NAPLES area. The unit is too small to be left permanently in this plant and after the war it will be returned to its original plant in SICILY. A unit of the correct size can be taken from a plant in Northern ITALY and installed at the second stage MATESE.

3. If the output of this unit is required for military purposes it should be moved and put in operation promptly. If the output is determined to be for civilian use and not required by the military, the unit should be left at its present location. The AAI Central Electrical Board believes that the output is required by the military and that the unit should be moved. This view is not consistent with the decisions of higher authority in other matters affecting electric power supply.

4. If you approve the opinion of the Board it is requested that orders be issued. A suggested draft is enclosed.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

7047

1854

Declassified E.O. 12356 Section 3.3/NND No. 785019

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Encl 16 & 17

a file 18/1

Declassified E.O. 12356 Section 3.3/NND No. 785019

(15)

A.A.I.
CENTRAL ELECTRICAL BOARD
A.P.O. 400

REF: CEB/1/2

6 April 1944

SUBJECT:- Removal of Hydroelectic Generating Unit from SICILY to ITALY.

TO:- P.W. & U. Sub-Commission,
HQ Allied Control Commission, APO 394.
(For attention of Lt-Col. W.M. LAPPER.)

1. This letter confirms information given to you verbally to the effect that a directive will be issued by the CAO, HQ AAI (Adm Echelon) ordering the removal of this unit from the Hydroelectric plant in SICILY.

2. You should have this directive before beginning any active work in connexion with the removal of this unit.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

See (10)

7044

Declassified E.O. 12356 Section 3.3/NND No. 785019

A.A.I.
OFFICIAL
1/2
CENTRAL 5/4/44
ELECTRICAL BOARD

Office of Flag Officer,
Western Italy,
Naples.

2nd April, 1944.

No.FOWIT 231.
THE VICE-CHAIRMAN,
CENTRAL ELECTRICAL BOARD,
ALLIED ARMIES IN ITALY. (For attention: Colonel Growdon, C.E.)

CAPUANO POWER STATION

With reference to your letter No.C.E.B./1/2 of 29th March, 1944, and confirming the decision reached at a meeting between Flag Officer, Western Italy, Colonel Growdon and Commander Hoggan on 31st March, 1944, arrangements will be made for the work of repair and rehabilitation of the Capuano steam plant to be continued. This to include the repair of the third steam turbine generating unit together with the necessary switch gear, transformer, etc.

2. At the same time I would like to make it clear that should circumstances dictate, it may become necessary for naval reasons to withdraw Commander Hoggan and other naval personnel, but as much notice as possible will be given.

REAR ADMIRAL.

Copy to: Commander Hoggan,
Superintending Electrical Engineer (Italy).

7045

Declassified E.O. 12356 Section 3.3/NND No. 785019

(12)

A.A.I.
CENTRAL ELECTRICAL BOARD
A.P.O. 400

CEB/1/2

29 March 1944.

SUBJECT:- Repair of Third Steam Turbine Generating Unit at CAPUANO Steam Plant.

TO:- Flag Officer, Western Italy.

1. The AAI Central Electrical Board has decided that the third steam turbine generating unit at the CAPUANO steam plant of the S.M.E. is necessary to provide power for military and essential civilian requirements.

2. I am instructed by the Board to submit to you their desire that you should continue the work of repair and rehabilitation of the CAPUANO steam plant to include the repair of the third unit together with the necessary switch gear transformer, etc.

3. I should be grateful of confirmation of your willingness to arrange for this work to be carried out.

JAMES P. CROWDON,
COLONEL CE,
Vice Chairman, AAI C.E.B.

See (9) (14)

7044

Declassified E.O. 12356 Section 3.3/NND No. 785019

(11)

Subject:- Rehabilitation - Electrical Supplies - Italy.

Directorate of Works,
HQ. A.A.I. (Adm Sch),
C.M.F.

2052/DDW
27 Mar 44

C.E. No.3 District.

With reference to H.Q. A.A.I. (Adm Sch) letter 2131/1/Q2 dated 26 Mar 44 concerning work to be done at CALORE Hydro Electric Station and the rehabilitation of the CALORE - BENEVENTO line, herewith the instructions issued by the C.E.B. describing the work to be done.

Weekly Progress Reports are required.

for W.A.R. SMITH,
Lt.Col. R.E.
for Brig.,
D.D.W.

Copy to C.E.B.

See (8)

7043

Declassified E.O. 12356 Section 3.3/NND No. 785019

(10)

WML/cw

1/2
29/3

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

ACC/857/PWU

28 Mar 44;

Subject: Removal of Hydroelectric Generating Unit from Sicily to Italy.

To : Vice Chairman, A.A.I. Central Electrical Board.

1. Reference is made to the minutes of the third meeting of the A.A.I. Central Electrical Board, dated 12 March 44. which were received at this office on 26 March 44.

2. In connection with paragraph 7 of these minutes, relating to the removal of a hydroelectric generating unit from Sicily to Italy, information is requested as to whether it is contemplated that a specific directive will be given to the Allied Control Commission, or whether paragraph 7 is to be construed as the directive to execute this mission.

W.M.LAPPER.
Lieut.Colonel.
Chief, El. & Adm. Div.

See (15)

Declassified E.O. 12356 Section 3.3/NND No. 785019

HEADQUARTERS
ALLIED CONTROL COMMISSION
Public Works and Utilities Sub-Commission
APO 394

WML/cw

ACC/057/PWU

28 Mar 44;

Subject: Removal of Hydroelectric Generating Unit from Sicily to Italy.

To : Vice Chairman, A.A.I. Central Electrical Board.

1. Reference is made to the minutes of the third meeting of the A.A.I. Central Electrical Board, dated 12 March 44. which were received at this office on 26 March 44.

2. In connection with paragraph 7 of these minutes, relating to the removal of a hydroelectric generating unit from Sicily to Italy, information is requested as to whether it is contemplated that a specific directive will be given to the Allied Control Commission, or whether paragraph 7 is to be construed as the directive to execute this mission.

W.M.LAPPER.
Lieut.Colonel.
Chief, El. & Adm. Div.

7041

Declassified E.O. 12356 Section 3.3/NND No. 785019

Subject:- Rehabilitation - Electric Supplies Italy.

HQ AAI (Adm Ech),
C.M.F.

2131/1/Q2.

No. 3 District.

26 Mar 44.

1. At the meeting of the Central Electrical Board Italy held on 12th March 44, the following works were allotted to No. 3 District for execution:-

(i) To repair and rehabilitate the CALORE Hydro Electric Station including the packing and shipping to NAPLES of No. 2 Hydro Electric Unit.

(ii) The rehabilitation of the 60 KV line from BENEVENTO Sub-Station to the CALORE Hydro Electric Generating Plant to permit the effective rehabilitation of the CALORE Hydro Electric Plant and to transmit power to be generated by this plant after its rehabilitation.

2. Skilled and unskilled workmen and technical direction will be supplied by the Societa Medionale di Electricita. You will provide transport, materials and supplies and exercise general supervision to ensure that the work is completed as quickly as possible.

3. Technical instructions will be forwarded direct to your Chief Engineer by D.D.W. this HQ.

Lt Major General,
Chief Administrative Officer.

Copy to:- Vice-Chairman, C.E.B. Italy.
Works - your 2052/DIW dated 25 Mar 44 refers.

1862

Declassified E.O. 12356 Section 3.3/NND No. 785019

To Col Grosvenor
CES

Declassified E.O. 12356 Section 3.3/NND No. 785019

DC&O. The Central Electrical Board is in as good position to issue orders to RN as I am. I think this should go from the Board and be signed by Gordon. I have suggested slight rewording. A similar procedure would probably cover most of these cases. (9)

See (7) (12)

Declassified E.O. 12356 Section 3.3/NND No. 785019

A.A.I.
CENTRAL ELECTRICAL BOARD
A.P.O. 400.

23 March 1944.

SUBJECT:- Repair of Third Steam Turbine Generating Unit at CAPUANO Steam Plant.

TO:- C.A.O., HQ A.A.I. (Adm Echelon)

1. At its meeting on 12 March 1944 the A.A.I. Central Electrical Board decided that the third steam turbine generating unit at CAPUANO steam plant would be required to provide for military and essential civilian power requirements.

2. It is requested that the Royal Navy be asked to effect the repair of this unit. A suggested draft is enclosed.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

DCNO,

The Central Electrical Board is in as good position to issue orders to R.N. as I am. I think the should go from the Board & be signed by Growdon. I have suggested slight alterations.

A similar procedure would probably cover most of other cases.

J.

25/3

7038

Declassified E.O. 12356 Section 3.3/NND No. 785019

D R A F T

SUBJECT:- Repair of Third Steam Turbine Generating Unit at CAPUANO Steam Plant.

HQ AAI (Adm Echelon)
C.M.F.

23 Mar 44

To:- Flag Officer, Western Italy.

1. The A.A.I. Central Electrical Board has ~~determined~~ come to the conclusion that the third steam turbine generating unit at the CAPUANO steam plant of the S.M.E. is necessary to provide power for military and essential civilian requirements.

2. ~~You are requested to~~ continue the work of repair and rehabilitation of the CAPUANO steam plant to include the repair of the third unit together with the necessary switch gear transformer, etc. I should be grateful if confirmation of your willingness to arrange for the work.

I am instructed by the Board to submit to you their desire that you should

~~C.in.C.~~ Colonel
Vice-Chairman

see letter 29th March.

7037

Declassified E.O. 12356 Section 3.3/NND No. 785019

DRAFT

SUBJECT:- Repair of Third Steam Turbine Generating Unit at CAPUANO Steam Plant.

HQ AAI (Adm Echelon)
C.M.F.

23 Mar 44

To:- Flag Officer, Western Italy.

1. The A.A.I. Central Electrical Board has determined that the third steam turbine generating unit at the CAPUANO steam plant of the S.M.E. is necessary to provide power for military and essential civilian requirements.

2. You are requested to continue the work of repair and rehabilitation of the CAPUANO steam plant to include the repair of the third unit together with the necessary switch gear transformer, etc.

C.A.O.

7036

Declassified E.O. 12356 Section 3.3/NND No. 785019

(7)

A.A.I.
CENTRAL ELECTRICAL BOARD
A.P.O. 400.

23 March 1944.

SUBJECT:- Repair of Third Steam Turbine Generating Unit at CAPUANO Steam Plant.

TO:- C.A.O., HQ A.A.I. (Adm Echelon)

1. At its meeting on 12 March 1944 the A.A.I. Central Electrical Board decided that the third steam turbine generating unit at CAPUANO steam plant would be required to provide for military and essential civilian power requirements.

2. It is requested that the Royal Navy be asked to effect the repair of this unit. A suggested draft is enclosed.

JAMES P. CROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

See (9)

Declassified E.O. 12356 Section 3.3/NND No. 785019

DRAFT

SUBJECT:- Rehabilitation of MATESE - BENEVENTO 60 KV Transmission Line.

HQ A.A.I. (ADM ECHELON)
C.M.F.

14 Mar 44.

To:- C.G., P.B.S.

1. Power supply at BENEVENTO is required for military installations and as a reserve for the operation of the electrified section of the railway between FOGGIA and BENEVENTO.

2. At its meeting on 12 March 44 the Central Electrical Board allotted the rehabilitation of the MATESE BENEVENTO 60 KV transmission line to P.B.S. In accordance with this recommendation the C.G. P.B.S. is requested to proceed at once with the rehabilitation of the above transmission line.

3. The work to be done consists of repairing for operation at 60 KV the double circuit 60 KV steel tower transmission line extending from MATESE No.2 Hydro electric plant to the BENEVENTO Sub Station.

4. The material required for this rehabilitation will be obtained from the "Red" and "White" MATESE-FRATTAMAGGIORE lines not now in service. Material not obtainable from the MATESE-FRATTAMAGGIORE lines can be obtained from the S.M.E. You are authorised to provide transport, equipment, supplies and personnel not obtainable from civilian sources.

5. Work should be completed as promptly as possible.

C.A.O.

7037

Declassified E.O. 12356 Section 3.3/NND No. 785019

(5)

A.A.I.
CENTRAL ELECTRICAL BOARD
A.P.O. 400

13 March 1944.

SUBJECT:- Rehabilitation of the BENEVENTO-CALORE 60 KV Transmission Line.

TO:- G.O.C. 3 District.

1. The rehabilitation of the 60 KV transmission line from BENEVENTO Sub Station to the CALORE Hydro Electric Generating Plant is required to permit effective rehabilitation of the CALORE Hydro Electric Plant, and to transmit power to be generated by this plant after its rehabilitation.

2. At its 14 meeting on 12 March 1944 the A.A.I. Central Electrical Board allocated the work of rehabilitation of this transmission line to the G.O.C. 3 District. You are requested to proceed with this work as promptly as possible.

3. The work to be done consists of repairing the damaged 60 KV Steel tower transmission line from BENEVENTO Sub Station to the CALORE Hydro Electric Generating Station. The greater part of the material required to complete this work may be obtained from dismantling the CALORE-TUSCIANO transmission line not now in service. The remaining material can be obtained from the S.M.E. The skilled and unskilled workmen to complete this work can be provided by the S.M.E. You are authorised to provide transport and supplies which will be required and exercise general supervision of the task. This work to be completed as promptly as possible.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

See (8)

703

Declassified E.O. 12356 Section 3.3/NND No. 785019

(4)

A.A.I.
CENTRAL ELECTRICAL BOARD
A.P.O. 400

13 March 1944

SUBJECT:- Rehabilitation of the CALORE Hydro Electric Generating Plant.

TO:- G.O.C. No 3 District.

1. The CALORE Hydro Electric Generating Plant, situated on the CALORE River near LUGASANO, has been damaged by enemy demolition and is inoperative. This plant consists of a conduit taking water from a large spring, forebay, a steel pen stock and power house. The power house contains two hydro electric generating units each of 12,000 HP operating under 190 metres head. When repaired the plant will be capable of producing from 6,000 to 8,000 KW and from 40 - 50 million KWH per year. This power will be transmitted to the BENEVENTO and NAPLES areas over the 60 KV single circuit transmission line from CALORE to BENEVENTO, and will be used to supply military and essential civilian requirements.

2. At its meeting on 12 March 1944, the Central Electrical Board allocated the repair and rehabilitation of the CALORE Hydro Electric Station to the G.O.C. No. 3 District. You are requested to proceed with this work as promptly as possible.

3. The work to be done consists of repair to damaged pen stock; replacing the damaged valves which connect the pen stock to the turbine by a suitable length of steel pipe; repairing and rehabilitating the No.1 hydraulic turbine and governor (this is the unit which has suffered least damage); repairing and rehabilitating the No.1 generator and providing for separate motor driven excitation; repairing the power house completing both sub structure and super structure; repairing and rehabilitating the switch gear and transformers. Disassembling the No.2 hydro electric unit and packing this unit for shipping to NAPLES for repair and installation at another site.

4. The S.M.E. will supply technical direction, skilled and common labour for this work. It will be necessary for you to supply transport, material and supplies and exercise general supervision to ensure that the work is completed as promptly as possible.

JAMES P. GROWDON,
COLONEL CE,
Vice Chairman, AAI - C.E.B.

(8)

703

Declassified E.O. 12356 Section 3.3/NND No. 785019

(6)

A.A.I.
CENTRAL ELECTRICAL BOARD
A.P.O. 400

13 March 1944

SUBJECT:- Rehabilitation of MATESE-BENEVENTO 60 KV Transmission Line.

TO:- C.A.O. HQ A.A.I. (Adm Echelon).

1. At its meeting on 12 March 1944, the AAI Central Electrical Board allocated the rehabilitation of the 60 KV MATESE-BENEVENTO line to P.B.S.

2. It is requested that the C.G. P.B.S. be asked to carry out this work. A suggested draft of this request is attached hereto.

JAMES P. CROWDON,
GENERAL CE,
Vice Chairman, AAI - C.E.B.

7031

Declassified E.O. 12356 Section 3.3/NND No. 785019

26 February 1944.

Colonel D. S. Burns,
P.B.S. Engineer Officer.
PERSONAL

Dear Colonel Burns:

(1) The 60 KV transmission line from Tusciano-Calore-Benevento-Matese will shortly be allocated for rehabilitation by the ACMF/CMB. This line will take a relatively high priority because it will permit a second source of power for the operation of the Benevento-Foggia railway which is vitally necessary and will also permit the rehabilitated Calore Plant to feed power into the Naples area.

(2) It occurs to me that you may like to train your transmission line crews, either military or civilian, which you expect to use on the Rome-Naples transmission line rehabilitation so that when this transmission line is in our possession your crews will be ready to work efficiently on it. If so, it is suggested that you might like to rehabilitate all or part of the Tusciano-Calore-Benevento-Matese line as a training project.

JAMES P. CROMDON,
Colonel, C. E.

7038

Declassified E.O. 12356 Section 3.3/NND No. 785019

A (1)

ENGINEER SERVICE
HQ. PENINSULAR BASE SECTION
APO 782

INTER-OFFICE MEMO

AG_____

CLASSIFICATION_____

SUBJECT_____

INSTRUCTIONS FOR USE

a. This sheet will remain attached to all papers bearing on this subject.
b. Reverse side may be used if necessary.
c. Notes will be numbered consecutively, in space provided, to completion of action.
d. Full width of sheet may be employed with separating line drawn below each memo.
e. HAS THIS MATTER BEEN COORDINATED WITH ALL SECTIONS CONCERNED?_____

DSB/rak

| NO. | Date | From | To: | |
|---|---|---|---|---|
| 1. | 1 Feb. 1944 | Engr. Serv., P.B.S. | Director, Electric Power Service, Provincia Bldg. | Confirming verbal agreement between you and Lt. Colonel Cooley of this office, it is understood that:<br><br>a. You will assume responsibility for completion of items 2-d,e,f,g, and i of attached letter. (11)<br><br>b. The Engineer Officer, P.B.S., will continue supervision of item 2-b, steel tower repairs, Frattamaggiore to Falciano (25 miles), but all other work will be carried out under the supervision of the Director, E.P.S.<br><br>c. Items 2-a and c will be continued and completed under the supervision of the Engineer Officer, P.B.S.<br><br>d. Item 2-h will be supervised by the Director, E.P.S., in cooperation with Engineer, P.B.S.<br><br>Donald S. Burns<br>DONALD S. BURNS,<br>Colonel, Corps of Engineers,<br>Engineer Officer.<br><br>1 Incl.-<br>Ltr. fr. Lt. Col. Cooley, dtd. 24 Jan 44. |

7029

Declassified E.O. 12356 Section 3.3/NND No. 785019

(10)

24 January 1944

Colonel Burns:

1. Engineer Service, PBS is at present supervising and/or assisting in certain projects and studies concerning electric power generation and transmission. Supervision of these projects and studies should be taken over by the Electric Power Service when it is prepared to function.

2. The following is a list of current projects:

a. Diversion of 60 Kv Tusciano - Naples line at Ottaviano air field. Made necessary by construction of new field by Air Force. 13 new structures being installed and 60 Kv circuit diverted. Old structures and line removed. Estimated completion 27 January 1944.

b. Frattamaggiore - Liri 60 Kv line. Reconstruction of line between Frattamaggiore and Minturno. Materials have been transported for repairs to 33 steel towers covering a 25 mile section of line and structure repairs are 50% complete. The Volturno - Doganella 60 Kv line has been requisitioned for use of materials in rehabilitating conductors. Conductor repairs being started on 25 January. Engineer Service, PBS has been supplying 5 men and a truck about 5 days a week and supervision. Studies have been made of line performance and capacity between Naples and Rome.

c. Pomigliano 60/9 Kv Substation. This substation including a 4500 Kva 60/9 Kv transformer was placed in service as a substitute for the demolished 60/9 Kv portion of Frattamaggiore substation on 3 January 1944 and failed on 13 January 1944. Investigation disclosed extensive damage from burn out of coils on two phases. Three to four weeks being required to reestablish 9 Kv service from Pomigliano, an investigation for providing power temporarily from another source was made. It was decided to install a temporary 30/9 Kv 2000 Kva transformer at Casalnuova di Napoli and supply it from Ste. Maria Substation over the Campania Co. 30 Kv line to Nola and the Circumvesuviana Ry 30 Kv line from Nola. PBS moved the 2000 Kva transformer and it was put into service on 23 January but failed. Investigation is being made to locate and install another suitable transformer. Assistance may be necessary in repairing one of the Pomigliano transformers.

d. Frattamaggiore 60 Kv Switching Station and Substation: This was previously a large switching station which was almost completely demolished by the enemy. SME proposals to reestablish a switching station are considered elaborate and requiring the use of equipment which should be available for use elsewhere. The existing arrangement was laid out by PBS Engineer and it is considered that relatively few additions are necessary to entertain the additional lines now contemplated.

702

Declassified E.O. 12356 Section 3.3/NND No. 785019

e. Doganella (Volturno) Diesel Plant: Now operating with 1 - 3500 Kw diesel generator unit. A second 3500 Kw diesel generator unit is under repair and scheduled for completion about 1 February 1944. Repair work being carried out under direction of Royal Navy.

f. Capuano Steam Plant: Rehabilitation of boilers, turbines and auxiliaries and provision of a temporary electrical layout. One 15000 Kw turbine generator unit scheduled for completion by 1 February. A second 15000 Kw unit is scheduled for completion during the latter part of February. Provision is being made to operate the generator of the third unit as a synchronous condenser. Rehabilitation work is being carried out under direction of Royal Navy.

g. Matese No I Hydro Electric Plant: One 5000 Kw unit with slightly bent shaft from an enemy demolition charge is in operation. The shaft of the second 5000 Kw unit which has been bent by an enemy demolition charge has been removed and after checking in Naples has been sent to Taranto where the Royal Navy is arranging to have it straightened and returned to Naples. SME will install shaft but may need assistance in transportation. Estimated completion date 10 February 1944.

h. Rehabilitation of Substations, Agnano No. I, Arenella, Poggioreale, Torre Annanziata: Restoration of transformers and switchgear. SME crews will continue at this work for several weeks. All substations are in service.

i. Materials and equipment: Several items are critical or will soon become critical. Review and editing of specifications with revisions if necessary to suit American or British practices required. Experience indicates that it will be necessary to provide effective means to expedite procurement of materials especially those to be obtained from overseas. Some of the most important items are:

(1) Cars and trucks.

(2) Tires, tubes and spare parts for cars and trucks.

(3) Porcelain bushings for transformers, circuit breakers, etc.

(4) Insulating ore.

(5) Flash lights and batteries.

(6) Miscellaneous electrical tools and equipment.

Many items have been requested through AMG but as yet there is no procedure for coordinating and expediting their procurement.

702

G. COOLEY,
Lt. Colonel, Corps of Engineers,
Construction Branch.

1876

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ALLOTMENT OF WORK "A" 1/2