

9 67 2/11/58 9606/23 22.11.58
Explains present position regarding
the delivery of the new third class
carriages

Already the C.A. are doing everything
possible to get the coaches delivered
quickly. No need to call
Mr. McKeown unless he asks for
further info. Mr. High Commissioner will know
the content of this letter already. In

Chas. ...

10 I have signed it (7/9) 16 MAY 1958



93

ALL INFORMATION CONTAINED
HEREIN IS UNCLASSIFIED
DATE 10-12-2001 BY 60322 UCBAW/STP

W. Williams
GENERAL MANAGER
KENYA UGANDA RAILWAY

A. WILLIAMS,
LONDON, E.W.1.

22nd April, 1936.

Sir,

I have the honour to acknowledge the receipt of your letter No. 18179/24 M of the 13th April transmitting copies of correspondence with the High Commissioner for Transport, Kenya - Uganda, and a copy of a letter to Mr. V. La T. Mabutee, M.P. on the subject of third class travelling conditions on the Kenya-Uganda railway.

2. The High Commissioner, in paragraph three of his letter of the 25th March, states that new third class carriages were ordered as long ago as October, 1935, but this is not quite correct. In October, 1935, we received an indent for six third class carriages and five other types of carriages and vans, and we were requested to submit drawings to the Railway Administration showing the types of vehicles we suggested. In January, 1936, we forwarded diagrams of the proposed vehicles and a long report dealing with the design of the new stock. In May, June and September, 1936, we received letters from the General Manager commenting on our proposals and, in November 1936, we sent a further long report to the General Manager dealing with the proposed modifications to our designs, but a little later we received a further letter submitting a new design for third class carriages. In March, 1937, we again wrote to the General Manager enclosing copies of the specifications we had issued to tenderers including revised diagrams showing the arrangement of the vehicles.

18179/24 M

The Under Secretary of State,
Colonial Office.

JWS

vehicles with the same, and again in May, 1937, we received further letters from the General Manager requesting certain amendments. On the 30th June, 1937, we advised the General Manager by telegraph the cost of the vehicles required and he asked us by telegraph on the 2nd July what the cost of the third class coaches would be if the number was increased by 15 vehicles. This information was sent by telegraph on the 9th July and on the 18th July we received instructions to place orders and increase the number of third class coaches to 29. It will be seen from the foregoing that correspondence regarding the design of the vehicles was proceeding between the General Manager and ourselves for a period of 18 months after October, 1935, and we were not in a position to order the coaches until July, 1937.

3. The contractors undertook to commence delivery in July, 1938, and to continue at the rate of two vehicles per week but we are afraid that owing to pressure of work the contractors will not be able to comply with the delivery promised. The coaches are of an entirely new design and involve the preparation of a number of drawings which have to be submitted to us for approval. It is in the Drawing Offices of rolling stock builders that the greatest congestion has occurred in recent months and there is little doubt that delay has occurred in the completion of contracts, not only for ourselves but also for other buyers, due to the inability of the drawing office staffs to deal promptly with the large number of contracts which have been placed in recent years. The design for the third class coaches involves a new welded type of body and we were unable to adopt the contractor's earlier proposals. Three separate designs have been submitted to us for approval and the first design received will, we hope, be approved at an early date. The firm should then be in a position to proceed with the

3.
manufacture of the vehicles without further delay.

4. Whilst we will do whatever may be possible to press for early delivery, it must be recognised that if special efforts are made to expedite the delivery in the case of one contract, delay may result in the case of other contracts which the firm may be dealing with and which include a large number to our order. We will, however, do whatever is possible with regard to pressing for early delivery.

5. In the correspondence which accompanied your letter reference is made to the unsatisfactory character of existing third class coaches. The new coaches will be of modern design and will be divided into three portions, one for women, one for Africans and one for Asiatics, and each division will have separate entrances and lavatory accommodation. The vehicles should be superior to anything now existing on the Kenya and Uganda Railway and equal in comfort to any third class coaches now running on Colonial railways.

I have the honour to be,
Sir,
Your obedient Servant,

[Signature]
for Crown Agents.

C.O.

Mr. Postley-Smith 7/4.39

38179/29/38

Mr. James B. 4

Mr.

Ch. R. Mott

10 G. Fennell

X 100 C. Kennedy 746

10 / Skarborough

Post. U.S. of S.

Post. U.S. of S.

Secretary of State

Lowth Street

13 April, 1939

Gentlemen,

in reply to your letter of 10/4/39

to you copies of correspondence with the

Commissioner for the

Kenya, and for a letter to

Mr. V. La F. McIntee, M.P., on the *Committee*

subject of third-class travelling on the Kenya-Uganda Railway, and to enquire, with reference to para. 2 of the despatch from the High

Commissioner, whether any steps can usefully be taken to accelerate

delivery of the third-class vehicles and other equipment *in quarters*

I am, etc.

Agas A. Dawe

~~CONFIDENTIAL~~

THE SECRETARY OF STATE

FOR THE COLONIES

To High Commissioner. (5)

To High Commissioner. (6)

To Mr. McIntee. (Draft herewith) 2c attached

(Draft herewith) 2c attached

2 drafts.

FURTHER ACTION

A copy of this of the draft herewith to High Commissioner for information. If, for information.

ref (6) - with last encl. only.

C.O.

Mr. Costley-White. 5/4.38.

38179/29/38.

Mr. ~~James~~ **6.4**

Mr.

to H. Mann

Mr G. Tomlinson

Mr C. Dunnington 7.4

Parly. U.S. of S.

Parly. U.S. of S.

Secretary of State

For the Secretary of State's signature.

Downing Street.

8th April, 1938.

Dear Mr. Mann

(4) This is to let you know
I will ref. to my letter of the 10th Feb.
1938 I have now received a reply

DRAFT

V. La S. ... M.P.

to the ... ABOUT
third-class travelling conditions on
the Kenya-Uganda Railway.

The position is that
over-crowding of third-class carriages
sometimes occurs on certain long-
distance trains. This is due partly
to the amount of personal belongings
taken by natives into the compartments
and partly to the impossibility of
obtaining prior information as to the
number of native passengers who
intend travelling; consequently, when
large numbers of passengers arrive
unexpectedly, it is sometimes impossible

①
1938
LMS

2-drafts

FURTHER ACTION

to make special arrangements for ensuring that sufficient accommodation is available. In the circumstances the only alternative to over-crowding is a limitation on the number of passengers allowed on a train a course which would cause greater inconvenience than some temporary over-crowding. A number of very old third-class carriages without lavatory conveniences have had to be maintained in service to meet traffic demands, but the Administration has already placed orders for vehicles to replace them. Delivery of these new vehicles, some of which were ordered as long ago as October, 1930, has, however, been seriously delayed and the first instalment is unlikely to be available until next year. These vehicles will contain adequate lavatory accommodation. I am having enquiries made with the Crown Agents for the Colonies as to the possibility

G. O.

Mr.
Sir W. Moore,
Sir G. Thompson,
Sir C. Robinson,
Sir J. Chamberlain,
Messrs. D. & C. S.
Party, U.S. of S.
Secretary of State.

FURTHER ACTION

possibility of accelerating their delivery, of these vehicles. With regard to the sanitary amenities at stations, these are, of course, designed for the use of passengers using the stations and not for the use of those passing through or staying. With the arrival of the additional vehicles the necessity for their use will largely disappear. The conditions under which third-class passengers are conveyed by these services are continually being reviewed and every endeavour has been made to ensure a reasonable standard of accommodation for this class of traffic. One of the difficulties to be contended with is the almost complete lack of knowledge of hygiene and of ordinary sanitary behaviour.

G.O.

Mr.
Sir W. Moore,
Sir G. Thompson,
Sir C. Buxton,
Sir J. Sturtevant,
Forest, U.S. of S.
Park, U.S. of S.
Secretary of State.

possibility of accelerating their
delivery, of these ~~trains~~.

With regard to the sanitary
amenities at stations, these are, of
course, designed for the use of
passengers using the stations and
not for the use of those passing
through on trains. With the arrival
of the additional ~~trains~~ the
necessity for their use will largely
disappear.

The conditions under which
third-class passengers are conveyed
by these services are continually
being reviewed, and every endeavour
has been made to ensure a reasonable
standard of accommodation for this
class of traffic. One of the
difficulties to be contended with is
the almost complete lack ^{of a} knowledge
of hygiene and of ordinary sanitary
behaviour

FURTHER ACTION.

behaviour on the part of the more
unsophisticated type of labourer.

But every effort is being made to
encourage missionaries, school teachers,
and others to overcome this trouble by
suitable education and instruction.
Already much improvement is noticeable.

.....

.....

TRANSPORT
KENYA-UGANDA

NO. 47

OFFICE OF THE HIGH COMMISSIONER FOR TRANSPORT,
GOVERNMENT HOUSE,

NAIROBI,
KENYA.



25th March, 1938.

Sir,

I have the honour to acknowledge the receipt of your despatch, Transport No. 12, of the 7th of March, 1938 and to offer the following observations on the points raised by Mr. V. La T. McEwen, M.P., in regard to the conditions of third-class travelling on the Kenya and Uganda Railways:-

2. Overcrowding of third-class passengers sometimes occurs on certain long-distance trains. This is due partly to the amount of personal belongings taken by natives into the compartments, and partly to the impossibility of obtaining prior information as to the number of native passengers who intend travelling; consequently, when large numbers turn up unexpectedly, it is sometimes impossible to make special arrangements for ensuring that sufficient accommodation is available. In the circumstances, the only alternative to overcrowding is a limitation in the number of passengers allowed on a train, a course which would cause greater hardship than some temporary overcrowding.

3. A number of very old third-class carriages, without lavatory conveniences, have had to be maintained in service to meet traffic demands, but the Administration has already placed orders for vehicles to replace these. Delivery of these new vehicles, some of which were ordered as long ago as October, 1935, has, however, been seriously delayed, for reasons which will be understood, and the first instalment is unlikely to be available until next year. These vehicles

THE RIGHT HONOURABLE
W. G. A. ORMSBY GORE, M.P.,
SECRETARY OF STATE FOR THE COLONIES,
DOWNING STREET, S.W. 1.

will/

Copy to CA
⑦

69

will contain adequate lavatory accommodation. I need hardly add that any steps that you may find it possible to take to ensure accelerated delivery of these vehicles and other urgently required equipment will be very greatly appreciated.

4. With regard to the sanitary amenities at stations, these are, of course, designed for the use of passengers using the stations, and not for the use of those passing through on trains. With the arrival of the additional vehicles, the necessity for the use of wayside station latrines will largely disappear.

5. The conditions under which third-class passengers are conveyed by these services are continually being reviewed, and every endeavour is being made to ensure a reasonable standard of accommodation for this class of traffic.

6. One of the major difficulties to be contended with is the almost complete lack of a knowledge of hygiene and ordinary sanitary behaviour on the part of the more unsophisticated type of labourer, but every effort is made to encourage missionaries, schoolteachers and others to overcome this trouble by suitable education and instruction. Already much improvement is noticeable in the standard of the third-class passenger travelling over the system.

I have the honour to be,

Sir,

Your most obedient, humble servant,

W. Brooke-Popham

HIGH COMMISSIONER

38129/25/38

C.O.

Mr. *Boon* 26/2 6

7 MAR 1938



- Mr.
- Mr.
- Sir H. Moore
- Sir G. Tomkinson
- Sir C. Hottomley
- Sir J. Shackleton
- Parliamentary U.S. & S.
- Parliamentary U.S. & S.
- Secretary of State

Sir:

I have no objection to
 you a copy of a Parliamentary
 Question, which has been put
 down by Mr. Butler, in regard
 to the conditions of the class
 travel on the Glasgow & Glasgow
 railways. Mr. Butler was
 good enough to withdraw his
 Question, as you proposed
 in Parliamentary time, but I
 have undertaken to make
 enquiries in the matter
 and accordingly request
 that I may be furnished
 with a report on these matters.

I have

}

(Signed) W. C. MOBY

Article 6
 in regard
 (see the 513)

DRAFT.

No 12

Question (No. 1)

FURTHER ACTION.

C. O.

38179/38 P.Q.

Mr. Paskin

Mr. Dave.

Mr.

Mr. H. Myers

Mr. G. Tomlinson

Mr. C. Bennett

Mr. J. Davidson

Pres. U.S. of S.

Pres. U.S. of S.

Secretary of State.

MEMO REPLY TO
GENERAL QUINLAN BY
MR. W. B. BROWN

Wednesday 23rd February.

I am not aware that
conditions such as those mentioned by
the Honourable Member exist on the
Kenya and Uganda Railways. I am
however asking the High Commissioner
for Transport to furnish a report on
the matter.

FURTHER ACTION.

HOUSE OF COMMONS

284. Mr. McIlroy. — To ask the Secretary of State for the Colonies whether he is aware of the serious overcrowding of the third-class carriages on the Kenya and Uganda railways; whether any steps are being taken by the railways management to reduce the overcrowding in the immediate future; whether he is aware of the dirty and dilapidated condition of the third-class carriages, and of the lack of a reasonable standard of sanitary and other amenities at the stopping places; and whether he will take steps to have more satisfactory conditions provided. (Wednesday 25th February.)

Answer by Mr. Clements, C.S.I.

ORAL REPLY

The only information on these points which I have been able to find are in paragraphs 107, 108 & 109 of the Annual Report for 1936 — in 1937/14/37 attached. There is no reference to overcrowding; but "close attention was given to sanitation during the year", "a marked improvement in the condition of working stock is noticeable", and "new working stock is on order to replace worn expired vehicles". This is not enough on which to base an answer. The reply should be that the S.O.S has no information on these points.

copy to Mr. McIlroy

Clements
17/2

1939

Kenya

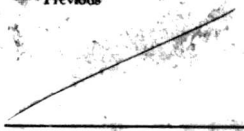
No. 38179/30

SUBJECT C0533/495

Kenya Uganda Railway and Harbours

Letters for re-aligning and re-gauging main line of railway
between Nairobi and Nakuru

Previous



Subsequent

1939 300

No. 38179/30

SUBJECT.

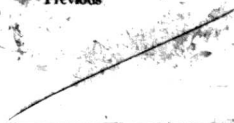
C0533/495

Kenya - Uganda Railway and Harbours

Scheme for re-aligning and re-grading main line of railway

between Nairobi and Nakuru

Previous



Subsequent

1909 ~~2000~~

L.T. 1. H. de Transport 105. 6/1/38
Transport (1117) Requests early approval of proposal to realign and
upgrade main line of Rly between Nairobi and
Nakuru submitted as a desirable measure to
reduce annual cost of working and as
alternatives to certain replacement works. Encls
Chief Engineer's Report

This is a proposal for extensive reconstruction work on the Railway between Nairobi and Nakuru involving in places the building of a completely new line. The gross cost approaches half a million pounds, of which only £250,000 odd will be required, ^{to be raised} in the form of new capital. This it is proposed to take temporarily from the Renewals Fund pending the raising of a new loan by the Government of Kenya. Reckoning interest at ^{£250,000} 6% on ^{the net cost of the scheme may be taken to loan} ~~this quarter of a million~~ ^{new capital charges} it is calculated that the scheme will bring in an annual gain to the Railway of £8,000 odd.

The technical considerations involved cannot usefully be discussed here; nor do there appear to be any difficulties requiring consideration other than the question of the finance of the scheme. It is obviously desirable to let the Railway go forward with proposals which will bring in increased revenue, provided only, of course, that the capital required can be found. If the proposed method of financing the scheme is accepted, the Colony will have to raise an extra quarter of a million in addition to the proposed £1,000,000 loan, consideration of which is proceeding on 38128/38. The High Commissioner asks that approval of the present proposals should be sought from the Treasury independently of and prior to settlement of the £5½ million debt question. In No. 16 on 38128/38, ^{however,} the question of ^{the} Colonial loan was referred to the Treasury with the suggestion that

that it should be discussed at the same time as the £5 million debt. The Treasury clearly cannot be expected to approve the raising of this extra quarter of a million independently of the larger question of the proposed £1,000,000 loan; and discussion on that loan and the £5 million debt question is being held up until a full exposition of the High Commissioner's views on the debt question is received. Thus it is not practicable to fall in with the High Commissioner's request for these present proposals to be mentioned forthwith in anticipation of the settlement of the debt question. A despatch giving the High Commissioner's views on the debt is, however, now shortly to be expected (see paragraph 11 of this despatch) so no very great delay will be involved in holding these present proposals over for the moment.

Reply that the Secretary of State is prepared to give the proposals his most sympathetic consideration, but that, as they involve an addition to the loan requirements of the Colony, which are to be discussed with the Treasury at the same time as the £5 million debt, he is unable to give his sanction to the proposals in anticipation of the settlement of the debt question; explain that this discussion is awaiting the receipt of the despatch promised in paragraph 11 of this despatch; and add that the present proposals are being referred at once to the Treasury in preparation for the general discussion - and to the Treasury accordingly ~~concerning the same~~ stating that the Secretary of State approves the scheme in general *explaining what has been said to the H.C.*

Clark White

18.9.29.

Mr. Costley-White's minute.

I am beginning to wonder (and so will the Treasury) whether this is the last of the Kenya loan proposals. This one at any rate is comparatively straight forward and is also urgent.

2. The gist of the High Commissioner's proposal is to expend £445,969 on re-aligning and re-grading the main line between Nairobi and Nakuru, the money to be provided as follows:-

Renewals fund	£ 65,366
Released material	23,878
Betterment fund (from 1937 surplus)	79,100
Net Revenue Account	35,388
Loan (money to be temporarily withdrawn from Renewals fund pending the raising of a loan)	242,277

Total 446,009

(There is a discrepancy of £40 here. Presumably the amount to be found from net revenue account should be reduced by that sum).

3. The economies which will be effected by this expenditure are shown in para. 5 of the despatch. They are considerable and amount to nearly £8,000 a year, irrespective of certain other advantages which are outlined in para. 6 of the despatch.

4. As regards the question of making compensation to land holders detrimentally affected by the divergence of the Railway, I think that in replying to the despatch we might sound a warning

As to the immediate action necessary, I agree that the Treasury may well object to dealing with this before any discussions have taken place on the £52 million left and the other loan proposals. At the same time the work proposed is urgently wanted and I recommend that I am sending a copy of this despatch, with enclosures, to the Treasury.

... we should also say that in view of the manifest advantages to be derived (there we can stress the estimated annual economies, the saving of the £20,000 expenditure on the Kikuyu roads, and the fact that there are sufficient ex the constructional staff now available to do the work), the Secretary of State hopes that the Lords Commissioners will agree to his authorizing the inception of the work forthwith, the method of finance being left over for discussion at the September meeting and funds in the meantime being provided by temporary withdrawals from the Renewals Fund. Add that the Secretary of State would be grateful for an early reply.

We should, I think, also refer to the High Commissioner's opinion that it may be necessary to appoint an independent body to investigate the complaints regarding road access, and say that the Secretary of State assumes that there will be no question of paying large sums as compensation.

(I cannot hold out much hope that the Treasury will agree - especially if they have seen to-day's "Times" - but it is, I think, worth trying.)

6. We must keep the High Commissioner informed as to the action which is being taken in this matter,

and

and Mr. Mackin should see the papers on his return.

19.5.52

2.4.52 with Mr. Spiller
4.1.52 with Mr. Spiller
Revised to Mr. Spiller with
letter for on 29th August

2.4.52 with Mr. Spiller
and Mr. Spiller's views on the
subject. The former was not a bank
under any but and even then
the 2.4.52. The former was
the former

Handley

21/8/52

2. L. Handley (21/8/52) 20

Received
Handley
on the 29th August
with the letter
of 2/8/52

I have shown this despatch to Mr. Spiller who has also shown it to Mr. Spiller. None of them had any comments to offer except to say that the scheme is obviously a sound one and should be processed with quite regardless of whatever decisions may be taken on the matter of the £52 million loan. (Mr. Spiller had a minor comment to the effect that in estimating the savings which would be effected by this re-alignment the General Manager appears to have omitted to take into account the rate reductions which will be necessary owing to the shortening of the line. This is, however, a matter of very secondary importance and does not affect the principle.)

in the circumstances I had hoped to take
with the Treasury the question
whether these proposals could not now be dissociated
from the question of the £52 million with a view to
the High Commissioner being authorized to go ahead
with this re-alignment programme, leaving over for
future consideration the question as to exactly how
the £52 million account is to be raised.
However, in view of the pressure of work I have been
unable to do this, and on mentioning it to Mr. Prentice
the other day he agreed that this despatch, together
with the various papers relating to the Railway
and Colony finances, should be kept for him to deal
with on his arrival.

In the meantime, however, I think you
should see in case you have any comments to offer.

J.P. [Signature]
24.9.38.

I notice that the scheme seems to be a sound one,
and that the S/S would normally have been justified
in asking the Treasury to accede to the request
made by the H Cr. for immediate consideration
of the project. They might, or might not, have
agreed; but anyhow it would have been worth
trying.

At the moment, however, the position seems to me
entirely different--we appear to be on the very
edge of war. If war comes--and it is more than
a probability, as things stand, evidently--we all
know some at least of the major difficulties

and dislocations which will ensue. Subsidies
will be reserved for war purposes; labour will
be diverted to war objects; shipping will be
rationed; loans will be most strictly a Govt.
reserve. Everything, everywhere, will be
dominated by war requirements. In the circum-
stances, it seems to me most improbable that
the Treasury will agree here; and I should not
send the H Cr's proposals to them, for acceptance,
at this juncture. If the prospects of war recede,
and we get back to normal times again, we can do
so: it is a sound case, obviously, on the merits.
But, as things are, I see no reason why a line
which has run so long, and which is in a
disability should not continue to bear it for
some time longer--till we know better where we
are, on the dominating issue of peace or war.

The 20th September, 1938.

[Signature]
26/9/38

You may like to reconsider this in the light of the changed situation
in London. I understand from the Chgo. that they do not regard
as imperative the question of raising a loan on the market
(the loan on funds, even of the order of £250,000) though I do not know
whether this is the same as the £250,000 of the loan proposed.

[Signature]
3/10

Extract from Railway Advisory Council Minutes
(August 26th & 27th 1938)
(Registration directed on 30/11/38)

Mr. Dawo.

This was discussed with the Treasury yesterday and Mr. Hale authorised me to say that Treasury approval can be assumed for the High Commissioner's proposals, including the detailed financial arrangements outlined in paragraphs 10 and 11 of 1042. Draft was submitted, and note to Mr. Hale.

10th November, 1938.

*at
11.11*

4 To H. de Sampaio Tel. No. 9. 11. 17. 38.

~~DESTROYED~~ ~~ORDER~~ ~~STATUTE~~ To Hale (2nd) - 17. 11. 38.

No 3 1 Put by Clowes 24/11

[Handwritten signature]

46

C. O.

Mr. Freeston. (o) 11

88179/30/38. Kenya.

C. O.	
A	12 NOV
B	12

Mr. Dawe 11.11

Attorney

Mr.

Sir H. Moore.

Sir G. Tomlinson.

Sir C. Bottomley.

Sir J. Shuckburgh

Perms. U.S. of S.

Parly. U.S. of S.

Secretary of State.

He

*11.45 pm
11.11.38
(H.W.)*

Part 6

DRAFT conanon.

No. 9

HIGHCOMA NAIROBI.

Your despatch 6th August No. 106.

Proposals for realignment approved,
subject to concurrence of Government of
Kenya, in addition to next Kenya loan
of sum named in paragraph 11.

by this (H.W.)

FURTHER ACTION.

Note of a meeting held at the Treasury on the
9th November, 1938 to consider various
questions relating to Kenya.

Present:-

Mr. Freeston	}	Colonial Office
Mr. Walker		
Mr. Boyse		
Mr. Thomas		
Mr. Gale	}	Treasury
Mr. Ingh		
Mr. Jones		

1. £5½ millions debt to Exchequer.

Mr. Freeston first enquired whether the Treasury accepted the view that the liability for the debt was rested on the Kenya and Uganda railway in view of the Order in Council of 1925.

Mr. Hale agreed that the claim lay primarily against the railway and he then asked what objections there were in principle to repayment of the debt.

Mr. Freeston and Mr. Walker stated the reasons why the Colonial Office considered that the debt should be waived. They held that on historical, economic, financial and political grounds (both as regards the territories concerned and the railway) the claim should not be pressed and it was subsequently decided that these arguments should be elaborated and forwarded officially to the Treasury for consideration and submission to higher authority.

Mr. Freeston drew attention particularly to an answer given in the House by Mr. Harcourt in 1914 (copy attached).

Mr. Freeston then referred to a suggestion that had been made by the High Commissioner for Transport that the railway should make a defence contribution of £500,000 to the Exchequer and that this should be regarded as in

satisfaction of the debt. He felt some doubt whether this suggestion would commend itself to the Secretary of State.

Mr. Hale recalled the Nigerian precedent, but said that he doubted whether a defence contribution from a railway was very appropriate. Mr. Walker thought it might be possible for the Colony to make the payment and take a corresponding receipt from the railway in respect of the assets that the railway took over from the Colony.

Doubts were expressed as to whether the Railway could afford to pay as much as £1 million and Mr. Hale said that he would be prepared to recommend acceptance of an offer of £250,000 if such an offer were made formally. It was for the Colonial Office to consider whether such a payment should be directly related to the debt or in the form of an unrelated contribution to defence.

2. Increased borrowing powers for the Colony.

Mr. Hale agreed that the High Commission should be given authority to spend not exceeding £450,000 on re-aligning and regrading the railway between Nairobi and Nakuru. Of this amount approximately £242,000 would be met from loan eventually, but until further loan proposals are settled the cost would be met from railway funds.

As regards the Land Bank, Mr. Freeston said that the Colonial Office felt some doubt as to the desirability of increasing the capital of the Bank in present circumstances, and were not yet in a position to express a view as to whether the proposal to raise £250,000 for this purpose (for which powers exist) should be proceeded with.

Mr. Hale said that the Treasury were ready to consider proposals for borrowing for self-liquidating purposes on their merits. His principal difficulty was in

regard to the loan of £750,000 which would not be of a self-liquidating kind. The works proposed to be financed by this loan were of a kind that ought to be financed in the Colony's budget as extraordinary expenditure, and continued borrowing for such purposes could only lead to increasing embarrassment.

Mr. Freeston said that the Kenya budget unfortunately never contained sufficient margin to make adequate provision for extraordinary expenditure. The programme submitted, he thought, could be pruned, but the Barracks and Hospital at Nairobi were really urgent, and the Mwakere endowment was a definite commitment. These items amounted to £300,000. The agricultural and road proposals ought probably to be submitted to the E.A.C. for consideration.

Mr. Hale suggested and Mr. Freeston agreed that the Colonial Office should inform the Treasury of the minimum amount required by Kenya at the moment by way of loan (including the £242,000 for the railway). In the meantime, apart from the railway, Mr. Hale was not in a position to commit the Treasury to approving borrowing by Kenya for the purposes in question.

3. Colony's contribution to sinking funds.

Mr. Hale invited attention to the somewhat unusual wording of the Prospectus dealing with the issue of the £6 million loan of 1946/56, viz. "The principal will be payable at par on the 15th September, 1956 by a sinking fund of not less than 2 1/2% per annum". These words would lead an investor to assume that the sinking fund would be full at September 1956. He stressed the necessity for keeping faith with the investor, who would naturally rely on the published prospectus, and in addition to the general

desirability of making full provision for sinking fund.
Mr. Walker held that if a Kenya sinking fund were insufficient at the time of redemption of a particular loan, the ultimate security of the investor was the general revenues and assets of Kenya.

Mr. Freeston offered to seek the views of the Crown Agents on the question raised by the Treasury.

HOUSE OF COMMONS.

Vol. 61.

23rd April, 1914. (Column 1086)

British East African Protectorate.

22. SIR J. D. REES asked the Secretary for the Colonies whether any debt against the East African Protectorate is made on account of the Uganda Railway; if not, how does the account stand between the taxpayer and the beneficiary in respect of that undertaking; what is the annual charge upon the Consolidated or other fund for interest; is there any and, if so, what provision for a sinking fund; and how does the account in that behalf also stand?

THE SECRETARY OF STATE FOR THE COLONIES

(Mr. Harcourt): Under the provisions of the Uganda Railway Acts, advances up to a total of £5,502,592 have been made from the Consolidated Fund for the purposes of construction, and the expenditure out of these advances had amounted to a total of £5,460,294. 8s. 4d. in the period to 31st March, 1914. Repayment of the advances from the Consolidated Fund is being made by instalments of annuities (terminating on 15th November, 1925) at the rate of £319,112 a year, for which provision is made on the Colonial Services Vote. No repayment has been made by British East Africa in respect of these advances, and no such repayment is contemplated under the Acts.

August 1938

2124. Report of Action taken on minutes of Council Meeting. (R.A.S. 2A.)

Council noted the report of action taken on the Minutes of the last meeting, which had been circulated to them.

In connexion with Minute No. 2116, Lord Francis Scott stated that he was in England when this Minute was passed, but had since had an opportunity of discussing the matter with the Acting General Manager and was of the opinion that it was not desirable to re-align between Gilgil and Nakuru, and that a regrading of the present line would result in a considerable saving in capital expenditure and loan charges.

He was also of the opinion that heavy compensation would be necessitated by the proposed re-alignment in which case the cost would be greatly increased. After discussion, Council agreed to recommend that no action be taken until representations have been received on the matter of compensation, in the light of which the question of the re-alignment between Nakuru and Gilgil could be reconsidered.

(Registration directed on 28/10/19/38 R.U.F.)

C. O.

Mr. Surridge. 22/8/38. *js.*Mr. ~~Downs~~.

Mr.

Sir H. Mackay

Sir G. Tomlinson

Sir C. Bottomley

Sir J. Stuchburgh

Paras. U.S. of S.

Paras. U.S. of S.

Secretary of State

O. D.
RECORDED
22/

For Mr. King.

DOWNING STREET.

22 August, 1938

DRAFT.

D. J. WARDLENY, ESQ., M.C.

(Treasurer)

Dear Wardley

In Mackin's absence on leave

I am sending you a copy of a further despatch from Kenya, this time from the High Commissioner for Transport, regarding the expenditure of nearly £450,000 (including £242,000 odd from loan) on realigning and regrading the Railway between Nairobi and Nakuru. Most of our people who normally deal with ^{such matters} ~~these questions~~ are away, and we shall not therefore be in a position to send you an official letter for some little time - possibly not ~~even~~ before the September meeting.

(1) D
(Wardley)

FURTHER ACTION

Recd. 1/9
no reply

mt.

In the meantime

You will be aware with the despatch

~~see the despatch~~

~~_____~~

*which will probably
also be discussed at during
the meeting. _____*

~~_____~~

~~_____~~

meeting.

Incidentally, there are two slips

in paragraph 10 of the despatch. First

£449,969 in the third line should read

£415,969 and, secondly, one of the items

(I assume net revenue account) is £40 too

much.

COURS SI NO. E

(RM) Rex Smith



OFFICE OF THE HIGH COMMISSIONER FOR TRANSPORT,
GOVERNMENT HOUSE;

NAIROBI,
KENYA.

TRANSPORT

KENYA-UGANDA

NO. 105



6th August, 1938.

Sir,

I have the honour to invite your consideration of a scheme for realigning and regrading the main line of the Kenya and Uganda Railway between Nairobi and Nakuru, at a cost of approximately £446,000, which has been submitted to me as a desirable measure to reduce the annual cost of working these Railways and as an alternative to certain replacement works which must otherwise shortly be undertaken. The events which have led up to the proposal are briefly as follows:-

2. In the 1937 Estimates provision was made for an initial expenditure of £10,000 towards the total estimated cost of £40,000 on replacement by earthworks of certain viaducts in the Kikuyu area. In December, 1936, Sir Joseph Byrne had signified his approval of the expenditure of £1,260 on a survey to discover whether it was possible to effect a remunerative reduction in working costs by shortening the mileage between Gilgil and Nakuru, and early in 1937 it was decided that the scope of the survey should be increased in order to determine the possibility of obtaining an easier and better route which at the same time would obviate the expenditure of the £40,000 on the replacement of the Kikuyu viaducts. The surveys have now been completed, and the estimates and facts adduced by the Chief Engineer have convinced both Sir Philip Mitchell and myself of the desirability of undertaking the proposed reconstruction as early as possible.

3./

THE RIGHT HONOURABLE

MR. COLM. MACDONALD, M.P.,

SECRETARY OF STATE FOR THE COLONIES.

Copy to Secretary 2

3. The Chief Engineer's report, of which copies are enclosed, demonstrates that it is possible to obtain a maximum grade of 1.18% compensated against down loads as compared with the existing maximum uncompensated grades of 2% on the Uplands-Longonot section, 1.5% on the Longonot-Naivasha section, and 1.5% on the Gilgil-Nakuru section. The effect of this regrading on the traffic-carrying capacity of the line is admirably illustrated by the diagram marked Sheet No.1 opposite page 7 of the report. (The diagram marked Sheet No.2 refers to a suggested regrading for uploads, of which brief mention is made on pages 11 and 12 of the report, but to which no further reference will be made in this despatch). Nakuru, the proposed limit of the 1.18% ruling grade, is of course the station where trains loaded with the combined traffic of the Kampala and Kisumu lines are made up, and it is from this point therefore that the easier grade would be most effective.

4. In addition to the improvements in grade, the proposals involve a shortening of the line by a little over ten miles, as shown below:-

	16.97 miles between Uplands and Longonot in place of 18.174 miles
	11.75 miles between Longonot and Naivasha in place of 8.924 miles
	21.67 miles between Gilgil and Nakuru in place of 33.500 miles
Total	<u>50.37</u> miles in place of 60.598 miles

5. The preliminary estimated cost of the total scheme, which is set out at length on pages 5 and 6 of the tabulated details at the back of the report, is £445,969. Of this sum it is proposed that £65,366 should be charged to Renewals Fund and

and £23,878 recovered from released material, leaving
£356,725 to be regarded, for the purpose of calculating
the economic value of the work, as the sum on which should
be paid loan charges amounting, at the rate of 6%, to an
annual interest payment of £21,405. On the basis of the
1957 traffic, it is anticipated that some £23,655 will be
saved in working expenses, plus an eventual reduction in
loan charges on wagons and locomotives of £5,728, so that
the clear annual gain which it is expected will accrue if
the work is undertaken will be in the neighbourhood of
£7,980. The detailed calculations on which the above
figures are based are set out on pages 8 to 10 of the
report, and on the page which is attached to this despatch
as Appendix "A".

6. In addition to the financial advantages set out
in the preceding paragraph, the project would render
unnecessary the expenditure of £40,000 on the Kikuyu viaducts,
work which must be undertaken if the present alignment is to
be retained, but which will effect no improvement in running
costs. Moreover, the efficiency of the Railway is bound to
be enhanced by other working improvements which have not been
taken into consideration in estimating the saving of £7,980
per annum, such as the raising of the freight train speed on
the Kijabe-Maguga section from 7½ to 12 miles per hour, the
elimination of much of the shunting which is now necessary
to alter loads at "change of grade" stations, the reduction,
perhaps even the complete abolition, of the remarshalling at
Nairobi of through goods trains from Nakuru and beyond, the
removal of the necessity for using "banking engines", and
the increased load capacity, which will be equivalent to
the present Nairobi-Coast loading.

7. The following extract from the minutes of the Kenya and Uganda Railway Advisory Council, to which the proposal has been referred for advice, is indicative of local opinion on the project:-

"After discussing the scheme put forward, Council agreed generally to the principle as to the desirability of undertaking the work.

"2. With regard to the allocation of funds, the Acting General Manager stated that the figures given were approximately correct as between the various funds and the suggestion was that the cost chargeable to capital should come out of the next Kenya Loan, but in the meantime, subject to the approval of the Kenya Government and the Secretary of State, should be financed from existing balances.

"He also stated that when the final estimate was submitted to Council the amount allocated to the Betterment Fund would be shown in more detail and Council could then, if it so wished, recommend a reallocation.

"3. Council decided to recommend that the scheme put forward be approved, subject to the proviso that more details of the allocation as between capital and betterment be submitted, and also recommended that the scheme with the Administration's proposals for financing the expenditure be forwarded to the Secretary of State as soon as possible. Council expressed the view that no more expenditure from Betterment Funds than was absolutely necessary should be incurred.

"4. Considerable discussion then took place on the question of the Administration's liability to pay special compensation to those people affected by the removal of the railway from the proximity of their land. The Council were of the opinion subject to the verification of the legal aspect that the railway were not liable to pay such special compensation although it was agreed that some expenditure might be justified in providing adequate road access to the new alignment."

8. Of the land required for the new alignment, approximately 125 acres are native reserves, but a large proportion of this is on such a steep slope as to be impossible of economic cultivation. A similar area of land would be relinquished but about one-fifth of the land so released would be valueless to peasant cultivators as it would consist of banks and cuttings. It is too early

for/

18

for me to state with accuracy what return would have to be made to the native reserves, but it appears probable that sufficient Crown land will be available adjoining the reserves for the Administration to acquire and hand over acre for acre, and I have little doubt but that this problem will prove easy of settlement.

9. You will observe from the minutes of the Railway Advisory Council which I have quoted in paragraph 7 that consideration has been given to the question of making compensation to landholders detrimentally affected by the diversion of the Railway. I am advised that there is no legal liability to pay compensation for possible reduction in land value due to the removal of the line some ten miles further away from certain farms, and the Railway Advisory Council does not recommend that any such compensation should be paid to them, though it does suggest that reasonable road access should be provided from those areas to the new station sites. I find myself nevertheless unable to accept entirely the Council's point of view, and I am of the opinion that it may be necessary to appoint an independent body to investigate complaints when these are received, and to ascertain whether any genuine hardship is being caused. Whether this hardship can be removed by the provision of extra roads or whether some other form of compensation is equitable, must be decided on the merits of each case. Any liability in this respect, however, is not likely to be of great importance, for the traffic from the district is at present small and is unlikely ever to be very large, since the

major/

major part of the area affected is pastoral land.

10. On the result of the preliminary investigation which has been made, and on the basis of the provisional estimate of £449,969, it is proposed that the necessary financial provision should be made in this manner:-

- (1) The additional capital value created as a result of the constructional work to be a charge to capital account and railway loan funds...£242,277
- (2) The replacement cost of non-wasting assets, e.g. abandoned earthworks, to be a charge to Betterment Fund (i.e. non-capitalised) £ 79,100
- (3) The replacement cost of wasting assets, e.g. permanent way materials, bridges and buildings, to be allocated as follows:-

Life-expired assets to be a charge to Renewals Fund.

Non-life-expired assets, the proportionate replacement cost in respect of the expired life to be charged to Renewals Fund, the balance being charged to net revenue account, which receives credit for the value of retrieved materials sold.

Renewals Fund	£ 65,366
Net Revenue Account	£ 59,266
Total	<u>£445,969</u>

* These amounts will be reduced by £25,878, the value of materials released from viaducts, etc., giving a net total cost of £422,091.

11. I propose that the additional capital value should be met by a temporary withdrawal of £242,277 from the Renewals Fund, pending the raising of a loan by the Government of Kenya, and subject of course to the concurrence of that Government. As regards the debit to Betterment Fund, in Mr. Ormsby Gore's (now Lord Harlech's) despatch, Transport No. 17 of the 18th of March, 1938, the reservation was made that the allocation of surplus balances for the year 1937 must be regarded as provisional only pending a decision on the question of the £51 million Treasury advance. Whatever decision may ultimately be taken regarding the repayment of the original cost of the Railway (and I shall be addressing a separate despatch to you on this subject very shortly), the merits of the present proposal are so strong that, in my opinion, it should be undertaken in any event. I do urge you, therefore, not to allow consideration of the major question to delay the constructional work now proposed, and I trust that you will be able to persuade the Lords Commissioners of the Treasury, in view of the profitable nature of the undertaking, to approve the release of £79,100 from the provisional appropriation of the 1937 surplus.

12. I have already mentioned the Kikuyu viaducts which will have to be replaced by earthworks in the near future if the greater scheme is not soon to be undertaken. I desire now to refer to certain other considerations which make it advisable that the work should be started as soon as possible. The regrading of the Uplands -

Longonot

21

-8-

Longonot section is for the most part heavy rock cutting, for which prolonged blasting operations will be necessary, and is of such a kind that it is bound to take a long time to complete. Moreover, sufficient numbers of the constructional staff recently employed by the Administration are at present available locally to undertake the whole work. Should they obtain other employment of a permanent kind before the diversion can be started, the collection of the requisite staff may present difficulties. For these reasons, as well as for the financial advantages of the scheme, I shall be glad to receive your early approval of the proposal.

I have the honour to be,

Sir,

Your most obedient, humble servant,

R Brooke-Popham

HIGH COMMISSIONER

WYLANDS - WAKURU RE-ALIGNMENT AND REGRADING, FUND "A"

ANNUAL SAVINGS
WORKING ASSUMED

Engineering Expenses:

reduced maintenance expenditure as a result of the shortening of the line ..

680

Locomotive Running Expenses:

Maintenance of Engines and Rolling Stock:

Traffic Expenses:

reduced running, etc., expenditure as a result of the regrading and shortening of the line, resulting in reduced train miles and ton miles

Renewals Contributions:

reduced renewals contributions resulting from the shortening of the line and the elimination of viaducts: 1,303 plus

18,040

x eventual saving in respect of renewal contributions on locomotives and wagons which can be released as a result of the reduction in train miles and ton miles

1,602

1,303

23,655

ANNUAL LOAN CHARGES

NET REVENUE ASSUMED

Cost of re-alignment and regrading

443,969

LESS:

charge to Renewals Fund
value of released material

28,366

12,572

29,844

364,725

Loan Charges - 6% on 256,475 -

LESS:

x eventual reduction in loan charges on locomotives and wagons which can be released as a result of the reduction in train miles and ton miles - 6% on 256,475 -

5,725

15,675

2,700

NET ANNUAL SAVINGS

NOTE:

These savings will accrue when the locomotives and wagons released as a result of the re-alignment and regrading, can be utilized to meet increased traffic demands, thus obviating the necessity for acquiring a corresponding number of locomotives and wagons from Capital Funds.

KENYA AND UGANDA RAILWAYS AND HARBOURS

- REPORT AND ESTIMATE
ON THE REALIGNMENT AND REGRADING OF THE
MAIN LINE BETWEEN NAIROBI AND NAKURU
TO OBTAIN A RULING GRADE OF 1.18%
AGAINST DOWN LOADS

ALSO

THE SHORTENING OF THE LINE BY 11² MILES
BETWEEN GILGIL AND NAKURU.

CHIEF ENGINEER'S OFFICE,
K.U.R & H.,
NAIROBI.

The Hon. General Manager,
Kenya & Uganda Railways & Harbours,
Nairobi.

Sir,

I have the honour to submit herewith my report and estimate for the elimination of 2% Uncompensated grades and the substitution of 1.5% Compensated grades against down traffic on the Nairobi - Nakuru Section of the Main Line, and the shortening of the Gilgil - Nakuru Section by 11 $\frac{3}{4}$ miles.

I have the honour to be,

Sir,

Your obedient Servant,

CHIEF ENGINEER.

8th April, 1938.

TABLE OF CONTENTS.

REPORT.

TABULATED DETAILS.

ESTIMATE.

KENYA AND UGANDA RAILWAYS AND HARBOURS.

R E P O R T

ON THE REALIGNMENT AND REGRADING OF THE
MAIN LINE BETWEEN NAIROBI AND NAKURU
TO OBTAIN A RULING GRADE OF 1.15%
AGAINST DOWN LOADS

ALSO

THE SHORTENING OF THE LINE BY 11 1/2 MILES
BETWEEN GILGIL AND NAKURU.

CHIEF ENGINEER'S REPORT

ON
THE ELIMINATION OF 2% UNCOMPENSATED GRADES
AND THE SUBSTITUTION OF 1.18% COMPENSATED GRADES
ON THE NAIROBI - NAKURU SECTION OF THE MAIN LINE
AND THE SHORTENING OF THE GILGIL - NAKURU
SECTION BY 11 1/2 MILES.

History of
reductions
in ruling
grades
Coast to
Nairobi.

The reduction of gradients between Mombasa and Nairobi received attention as early as 1904, twenty diversions being built between 1904 and 1909 on the Mazaras - Mackinnon Road Section. The object of these reductions was to eliminate short lengths of 2% gradient and to replace them with ruling grades of 1.18% against down traffic and 1.5% against up traffic.

Between 1911 and 1916, and again between 1920 and 1921, twenty further diversions and regradings were constructed between Voi and Nakindu, and, during the relaying of the Mazaras - Nairobi Section with 80 lb. rails between 1923 and 1929, the remaining heavy grades were eliminated, and finally the whole Section from the Coast to Nairobi was completed by the reconstruction of the Macupa - Mazaras Section by the heavy regrades between Macupa and Changanwe and the spiral at Mile 11 1/2. In all, nearly a hundred diversions and regradings were built at a cost of £150,000 before the Coast - Nairobi portion of the Main Line was brought to the uniform ruling grades of 1.18% and 1.5% respectively.

The economy in working due to these improvements has amply justified the expenditure on them. This is typified in the Macupa - Mazaras case, where an immediate saving of £5,000 per annum on banking engines was made. The capital cost of this particular work was £38,000.

Ruling
Grades
Uasin Gishu
Railway.

After the decision to build the Uasin Gishu Railway on a ruling grade of 1 1/2% compensated, consideration had to be given to the question as to whether the intervening section of Nairobi - Nakuru could be improved to bring it up to, at least, the capacity of the new line.

Examina-
tion of
alterna-
tive easy
grade
route
between
Nairobi
and Nakuru.

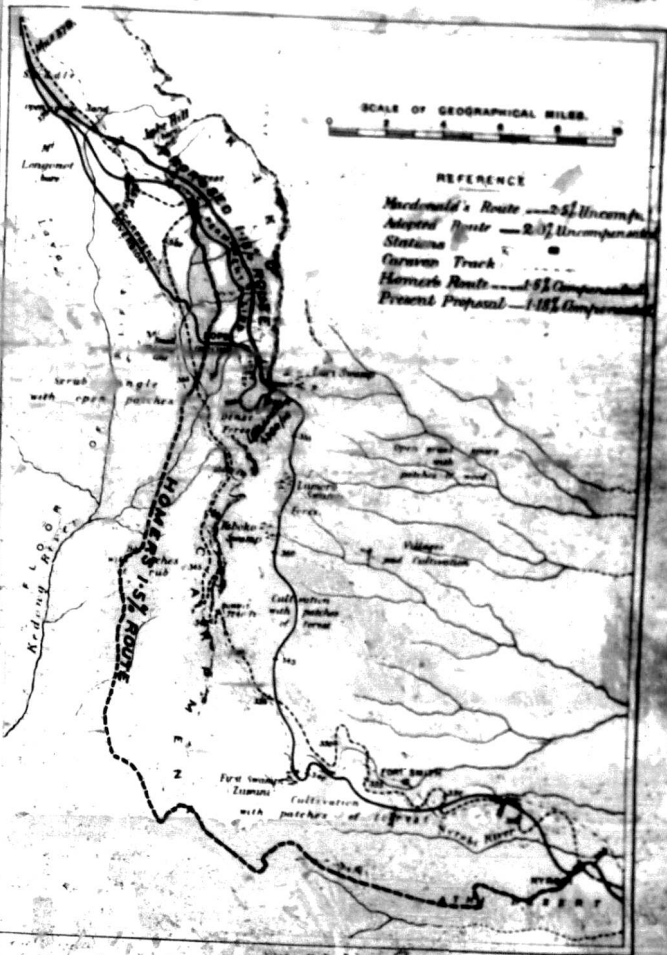
In 1924 a reconnaissance survey was made which showed that a 1.5% line could be found to the south of the present line, via Ngong, joining in again at Kijabe. This line would have been seven miles longer than the existing line, but was reported to be a comparatively cheap line to build. After consideration, it was decided that owing to the dislocation to established traffic on the present route, any line via Ngong could not be considered as a substitute line though at a later date it might have to be considered as an additional alternative line for through goods traffic.

About this time the introduction of the Garrett engines reducing train miles by almost 50% for the time being solved the problem of congestion on the Nairobi - Nakuru Section, and the question of improvements, for the moment, was dropped.

UGANDA RAILWAY.

DETAILS OF THE ASCENT AND DESCENT OF THE KIKUYU ESCARPMENT.

To face page 2



W. H. Murray
1894

Initiation
of present
Investiga-
tion.

The time, however, is rapidly approaching when a decision must be made as to the ultimate means to be adopted to increase the capacity of the blockage section on the through route of all traffic emanating from stations west of Nairobi. Furthermore, the urgency of a decision now is accentuated by the fact that the viaducts on the present line are severely overstressed at normal speeds by the existing engines, and, in fact, have a speed restriction placed on them. The estimated cost of replacing these viaducts by embankments - which is considered the most economical way of dealing with them - is 240,000, of which Railway Council have already authorised an expenditure of 110,000 as a first instalment. This expenditure has been deferred until a decision on the major issue, namely the abandonment of the whole section, has been arrived at.

An examination of the diagrams showing the engine loading on all sections of the Main Line indicates that the ruling grades on the Section in question should follow the ruling grades adopted below Nairobi. A careful and thorough survey has just been completed from Uplands to Nakuru, and a reconnaissance survey from Nairobi to Uplands, to locate the most economic line and one that does not cause serious dislocation of existing developments. The present proposals, if considered, will affect this.

Engine
loading.

Theoretically, the loads that can be hauled by a given locomotive on different gradients vary inversely as the gradients become steeper. For example, the weight of the engine and load on a grade is half the weight of the engine and load that can be hauled at a similar speed on a 1% grade. Actually the only factor that affects this exact ratio is train resistance, the proportion being slightly decreased if more vehicles are used to carry the load.

On the Kenya and Uganda Railway locomotives are rated for the load they can haul at a speed of 12 m.p.h. on the 1.18% and 1.5% ruling grades, but are proportionately more heavily loaded on the 2% uncompensated grades, so that they can only attain 7 1/2 miles per hour. If the loading for 2% grades was uniform with the 1.18% and 1.5% grades, the pay load would have to be reduced by 30%.

Below is a table showing Kenya and Uganda Railways loading compared with uniform loading, with train resistance and speed common to all grades. These tables assume that the Kenya and Uganda Railways loading for a 1.18% grade is the correct economic weight for 12-m.p.h.

	44 TONS.		55 TONS.	
	Actual Tables.	K.U.R.	Calcu- lated.	K.U.R.
Increase in load 1.18% Compensated over 2.0% uncompensated.	84%	98%	137%	100%
Increase in load 1.18% Compensated over 1.5% uncompensated.	61%	42%	62%	46%
Increase in load 1.5% Compensated over 2.0% uncompensated.	33%	38%	33.5%	38%
Increase in load 1.18% Compensated over 2.0% uncompensated.	68%	38%	70%	38%

Initiation of present investigation.

The time, however, is rapidly approaching when a decision must be made as to the ultimate means to be adopted to increase the capacity of this blockage section on the through route of all traffic emanating from stations west of Nairobi. Furthermore, the urgency of a decision now is accentuated by the fact that the viaducts on the present line are severely overstrained at normal speeds by the existing engines, and, in fact, have a speed restriction placed on them. The estimated cost of replacing these viaducts by embankments - which is considered the most economical way of dealing with them - is £40,000, of which Railway Council have already authorised an expenditure of £10,000 as a first instalment. This expenditure has been deferred until a decision on the major issue, namely the abandonment of the whole section, has been arrived at.

An examination of the diagrams showing the engine loading on all sections of the Main Line indicates that the ruling grades on the Section in question should follow the ruling grades adopted below Nairobi. A careful and thorough survey has just been completed from Uplands to Nakuru, and a reconnaissance survey from Nairobi to Uplands, to locate the most economic line and one that does not cause serious dislocation to existing developments. The present proposals, if it is considered, will affect this.

Engine Loading.

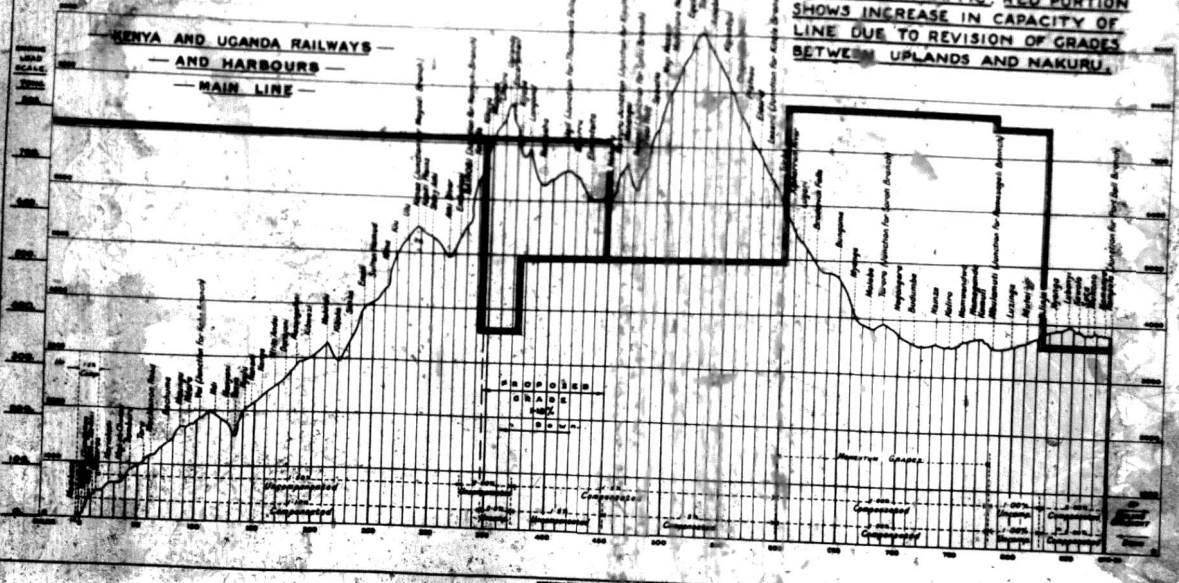
Theoretically, the loads that can be hauled by a given locomotive on different gradients vary inversely as the gradients become steeper. For example, the weight of the engine and load on a 2% grade is half the weight of the engine and load that can be hauled at a similar speed on a 1% grade. Actually the only factor that affects this exact ratio is train resistance, the proportion being slightly decreased if more vehicles are used to carry the load.

On the Kenya and Uganda Railway locomotives are rated for the load they can haul at a speed of 12 m.p.h. on the 1.18% and 1.5% ruling grades, but are proportionately more heavily loaded on the 2% uncompensated grades, so that they can only attain 7 1/2 miles per hour. If the loading for 2% grades was uniform with the 1.18% and 1.5% grades, the pay load would have to be reduced by 30%.

Below is a table showing Kenya and Uganda Railways loading compared with uniform loading, with train resistance and speed common to all grades. These tables assume that the Kenya and Uganda Railways loading for a 1.18% grade is the correct economic weight for 12 m.p.h.

	44 UNITS.		50 UNITS.	
	Calcu- lated.	K.U.R. Tables.	Calcu- lated.	K.U.R. Tables.
Increase in load 1.18% Compensated over 2.0% uncompensated	124%	98%	127%	102%
Increase in load 1.18% Compensated over 1.5% uncompensated.	61%	42%	62%	46%
Increase in load 1.18% Compensated over 1.5% <i>compensated</i>	33.5%		33.5%	
Increase in load 1.5% Compensated over 2.0% uncompensated.	68%	38%	70%	38%

DIAGRAM SHOWING ENGINE LOADS FOR DOWN TRAFFIC, RED PORTION SHOWS INCREASE IN CAPACITY OF LINE DUE TO REVISION OF GRADES BETWEEN UPLANDS AND NAKURU.



Work
entailed
in present
proposal.

The revision of the ruling grade between Nairobi and Nakuru necessitates two major diversions and one minor diversion, also fourteen minor regrades. The first diversion is Section No. 1 Uplands to Longonet, the second is Longonet to Naivasha, whilst the minor diversion and eight of the regrades are on the existing Gilgil - Nakuru Section.

A separate problem arises in connection with this section of the line, and that is the shortening of the line by rebuilding it north instead of south of Lake Elmenteita. By following, roughly, the route of the Sclaters Road the line can be shortened by 11½ miles, and it is strongly recommended that instead of regrading the present line, the opportunity should be seized to rebuild the line on its correct geographical alignment.

This shortening of the line has been considered many times and a suitable opportunity for pressing for it has not previously occurred. Now that the case for regrading affects the issue and, on examination, the increase in traffic warrants the expenditure, the matter becomes at once a live issue.

Economic
Case.

In the calculations that follow it will be noted that the case for reduction of grades is based on decreased train mileage. This is the main factor that is effected in any change of ruling grade. On the other hand, in the case of shortening the line, the controlling factor is the reduction in ton miles of work done, and consequently the calculations for the third section of these proposals - the Gilgil to Nakuru cut off - are on that basis.

In all these calculations bare working out of pocket costs alone are taken for running and maintenance, except where allowance is made for the reduction in contributions to the Renewal Fund on account of abandoned or redundant assets.

The estimated cost of constructing Sections 1 and 2 and regrading the remainder is £319,366, and the estimated cost of the complete scheme Sections 1, 2 and 3 is £445,969.

TRAFFIC DATA.

1937.

UP.TONS CARRIED.

MONTH.	NAIROBI - KIJABE.		KIJABE - NAKURU.	
	Nett.	Gross.	Nett.	Gross.
January	22,707	61,544	22,290	57,649
February	17,349	63,660	16,145	58,796
March	20,159	69,028	18,486	62,844
April	17,895	62,107	18,129	60,415
May	17,440	54,020	17,595	52,578
June	15,386	46,112	14,595	42,404
July	19,054	49,811	15,708	46,313
August	16,874	48,543	15,866	43,419
September	19,512	53,939	18,913	47,308
October	23,125	55,865	22,808	52,500
November	26,686	64,628	26,001	59,002
December	25,565	58,681	25,905	56,415
	441,702	1,137,138	436,083	1,111,643

WAGONS HAULED.

MONTH.	NAIROBI - KIJABE.		KIJABE - NAKURU.	
	Units		Units	
	Empty	Loaded.	Empty	Loaded.
January	1,591	3,991	1,433	3,716
February	3,185	3,543	2,806	3,284
March	3,477	3,476	2,883	3,256
April	3,124	3,021	2,787	3,087
May	1,986	2,966	1,777	3,024
June	1,273	2,848	856	2,842
July	803	3,196	379	3,159
August	871	3,253	392	3,022
September	1,224	3,674	469	3,447
October	780	3,670	454	3,502
November	967	3,986	371	3,941
December	1,211	3,975	627	3,237
	20,492	41,599	15,224	39,516

GILLOIL - NAKURU SECTION.

TONS CARRIED.

MONTH.	D O W N.		U P.	
	Nett.	Gross.	Nett.	Gross.
January	44,366	64,390	18,098	47,105
February	50,186	90,835	16,002	56,698
March	55,107	99,210	17,985	60,568
April	45,703	82,924	17,618	57,277
May	38,532	74,615	16,853	48,752
June	25,032	51,751	14,834	40,678
July	19,610	45,497	17,806	44,387
August	19,241	32,624	14,973	39,821
September	19,346	44,759	18,779	43,681
October	19,023	51,149	23,091	50,682
November	12,791	42,693	25,547	55,639
December	14,394	46,775	25,316	56,057
	363,331	738,222	226,302	601,345

SECTIONS NOS. 1 AND 2.

EFFECT OF REGRADING NAKURU - NAIROBI SECTION TO 1.16% AGAINST DOWN LOADS.

Traffic Figures are 1937 Actuals.

Nakuru - Kijabe Sections. 1.5% Ruling Grade.

46,639 loaded units }
 9,029 empty units } Traffic dealt with 1937.

55,668 Units.

Assuming all Garrett loads at 41 units per train.

$\frac{55,668}{41} = 1,358$ trains.

Alternative.

762,273 gross tons of traffic was dealt with.

Again assume Garrett loads.

41 units with load will be 565 tons.

$\frac{762,273}{565} = 1,349$ trains.

21/138

Average of above calculations = $\frac{1,358 + 1,347}{2} = 2,705$
 = 1,353 trains.

Kijabe - Muguga Section. 2% Uncompensated.

1937 Traffic.

49,142 loaded units
8,633 empty units 817,301 gross tons.

57,975 units.

Barrett load for 2% 28 units weight 444 tons.

$\frac{57,975}{28} = 2,071$ trains.

$\frac{817,301}{444} = \frac{1,841}{3.912}$ trains.

Average = 1,956 trains.

MUGUGA - NAIROBI. - Walter Grade 1.18%

Owing to the impossibility of making up the load from the 2% carried on the Kijabe - Muguga Section to the full load this section is capable of carrying, the effect is that practically the same number of trains are worked throughout the Muguga - Nairobi Section as on the preceding section, therefore the number of trains worked are 2,055.

The train miles at present worked are:-

Nakuru - Kijabe (76.67 miles) 1,353 x 76.67 train miles.
 = 103,734

Kijabe - Muguga (25.06 Miles)
 Muguga - Nairobi (18.94 ") = 44.00 x 1,956
 = 86,064

Total train miles Nakuru - Nairobi = 189,798

Train Miles run over whole Section if uniform grade of 1.18% Compensation is adopted.

Nakuru - Kijabe. Length 76.67 miles.

1.18% load 55 units of 742.5 tons

$\frac{55,668}{55} = 1,013$

$\frac{762,273}{742.5} = \frac{1,014}{2,027}$

Average 1,014 trains.

B.

Train Miles Nakuru - Nairobi.

Miles 76.67 + 44 + 1.64 = 122.31

(Note: Line is lengthened 1.64 miles).

Train miles	-	122.31 x 1.084	=	132,422
Plus extra Kijabe - Nairobi		2,308 units	=	43 trains.
Plus extra Muguga - Nairobi		2,475 units	=	46 trains.
Total on Section		122.31 x 1.084	=	132,422
		44 x 43	=	1,892
		18.94 x 46	=	871
				<u>126,785</u>

Saving in train miles 132,422
126,785
 5,637

As the whole of the stock has to work back again, with loads of without, the total saving in Train Miles is £ x 67,064 = 126,026 Train Miles.

Transportation and Loco costs are 2/09 per train mile.

∴ Saving is £ 126,026 x 2.09 = £263,194

To this must be added 1892 saving on Maintenance and Renewal of Viaducts less extra cost of maintaining and renewing 1.64 miles at £103 per mile. Bringing saving to 13,170 + 892 = 169 = £13,893.

Cost of Regrading only	-	Cost of Sections Nos.1 and 2.
		£319,366
Less recovered permanent way.	=	<u>7,539</u>
		<u>£311,827</u>

If this work is not done the viaducts must be replaced or strengthened at a cost of £40,000, £10,000 of which has already been voted as an instalment, so that £40,000 can be deducted from the above, leaving £271,827.

The savings represent 4.45% on £311,827
 or
 5.1% on £271,827

The saving in power is represented by at least 4 Garrett engines, which means that a reserve of Garretts, equivalent in value to some £75,000 is made available. If allowance is made for this reduction in Capital Cost, and for the consequent reduction in Renewal contribution, the saving is 8.2%.

Train Miles Nakuru - Nairobi.

Miles 76.67 + 44 + 1.64 = 122.31

(Note: Line is lengthened 1.64 miles).

Train mile:	122.31 x 1.024		
Plus extra Kijabe - Nairobi:	2,306 units	=	43 trains
Plus extra Masaga - Nairobi:	2,475 units	=	46 trains
Total on Section	122.31 x 1.024	=	124,022
	44 x 43	=	1,892
	18.94 x 46	=	871
			<u>126,785</u>

Saving in train miles 189,798
126,785
 63,013

As the whole of the stock has to work back again, with loads or without, the total saving in Train Miles is £ x 67,064 = 126,026 Train Miles.

Transportation and Loco costs are 2/09 per train mile.

Saving is £ 126,026 x 2.09 = £13,170.

To this must be added £892 saving on Maintenance and Renewal of Viaducts less extra cost of maintaining and renewing 1.64 miles at £103 per mile. Bringing saving to 13,170 + 892 = 169 = £13,893.

Cost of Regrading only = Cost of Sections Nos. 1 and 2.
 = £319,366
 Less recovered permanent way. = 7,539
 £311,827

If this work is not done the viaducts must be replaced or strengthened at a cost of £40,000, £10,000 of which has already been voted as an instalment, so that £40,000 can be deducted from the above, leaving £271,827.

The savings represent 4.45% on £311,827
 or
 5.1% on £271,827

The saving in power is represented by at least 4 Garrett engines, which means that a reserve of Garretts, equivalent in value to some £75,000 is made available. If allowance is made for this reduction in Capital Cost, and for the consequent reduction in Renewal contribution, the saving is 8.2%.

GILGIL CUT-OFF. (Section No. 3)
Shortening the Line by 11.74 Miles.

Net Tonnage carried over Gilgil - Nakuru Section in 1937 are

Down ... 363,331
 Up ... 226,302
 589,633 Tons

Miles saved = 11.74
 Ton Miles Saved = 11.74 x 589,633
 = 6,922,291.

Transportation and Loss out of pocket costs are .011 per ton mile.
 = 6,230.

Plus Engineering = 1,209 (Maintenance and renewal of 11.74 miles).
 7,439

Less 9.7% saving on train miles
 = 1,368 (Train Miles saved on present line)

6,071

Cost Sections 1, 2 and 3
 -do- 319,267

126,602

Saving = 4.8% of Capital Cost.

* Saving on trucks = 6,922,291 ton miles.

The saving in goods stock due to a reduction of 6,922,291 ton miles (on 1936 figures for ton miles per wagon per annum)

= 6,922,291
 109,311*

= 63 Units.

= 63 x 325

= £20,475.

Bringing the total saving to 6.4%

FULL CASE FOR REGRADING AND BUILDING CUT-OFF LINE, I.E. SECTIONS 1, 2 AND 3 COMPLETE.

Savings.	Sections 1 and 2	£13,893
	Section 3	<u>6,079</u>
		£19,972

Cost of Sections 1, 2 and 3		£445,969
Less value of recovered permanent way.		<u>19,295</u>
		£426,674

Direct savings on 1937 basis	-	4.7%
Future savings.	4 Loco.	£75,000
	63 trucks	<u>20,475</u>
		£95,475

Bringing ultimate cost to £331,199, and to the savings must be added the annual renewal charge on Loco. and rolling stock of £3,000 + 683 = £3,683. The maintenance of the locomotives and rolling stock is included in the main calculations.

Total saving = £23,654, which is 7.14% on Capital Cost.

Note: The deletion of the expenditure on replacements of the Viaducts of £40,000 is considered, the advantages of this scheme can be represented by 8.1% on expenditure.

ITEMS FAVOURABLY EFFECTING SAVINGS, BUT NOT INCLUDED IN THE FOREGOING CALCULATIONS.

- (a) The speed on the Kijabe - Miguga Section for freight trains will be raised from 7 1/2 m.p.h. to 12 m.p.h. This must have some value.
- (b) Shunting to alter loads at "change of grade" stations will be eliminated to a large extent.
- (c) The remارشalling of through goods from Nakuru and beyond, at Nairobi, will be reduced if not eliminated.
- (d) It will be noted that all the calculations are based on Garrett loads. In actual practice a considerable portion of the trains are drawn by small engines singly or doubly headed. In the former case, train miles increase considerably and in the latter, train miles increase slightly but at greater mileage costs.
- (e) There will be considerable gain on the passenger side, both in speeding up and in eliminating the use of "banking engines" and an increased load equivalent to the Nairobi - Coast loading can be hauled.

As a set off against these additional items, there may be "special claims" to meet by way of compensation to the few people at Escarpment, Eburru and Elmenteita, who are put to expense by having the railway moved further away from them. The only compensations included in the estimates are the ordinary payments for acquisition of land and damage to crops and property.

From the foregoing it would appear that a prima facie case is proved for not only the reduction in ruling grade, but also for the shortening of the line. As regards this latter improvement the following figures are of importance:-

TRAFFIC AT EBURRU AND ELMENTEITA.

		Inwards.	Outwards
Eburru	1936	124 Tons	254 Tons
	1937	500 "	353 "
Elmenteita	1936	1,054 Tons	521 Tons
	1937	1,461 "	403 "

Compensation for Disturbance

When it is remembered that this district is one of the earliest to be occupied by European settlement, it must be agreed that the development and consequent traffic is extremely small. In fact it is only 1% of the traffic which will gain advantage by the reduction in the length of the line. It must be agreed that the vested interest of so small a proportion of the Railway users cannot be allowed to influence the decision of this question. On the other hand some reasonable compensation may be considered as due on the basis of the reduction in the value of the land by reason of the added distance it will be from the main line.

Due weight in assessing compensation should be given to genuine producers, as against land speculators, who are merely occupying the land until they can offload it at an "unearned increment". An independent valuer could easily assess the depreciation by analogy with other land at equal distances from the Railway, and in the same neighbourhood.

At Escarpment and Elmenteita there are a number of Indian dukas of wood and iron construction which, for little cost, could be moved to the proximity of a station on the new alignment. There is, however, a small bacon factory at Escarpment that may be due some compensation, particularly if the abandoned section of the line is not turned into a road. This latter question is dealt with later.

Duration of Construction.

The estimated length of time necessary to complete these works, if undertaken simultaneously, is two and a half years, and at least a year must elapse in preliminaries and discussions before work can begin. It therefore seems certain that before full advantage can be gained from these improvements, they will not only be warranted, but overdue.

This completes the case for the re-alignments and regrading to benefit down loads, and the case for up loads must now be considered.

Case for Up Loads.

With that in view a survey is being made from Nairobi upwards, and from an examination of the terrain it appears most probable that the line can be rebuilt to a 1.5% compensated grading, as against the present 2% uncompensated, and at no very great cost compared with the heavy cost of regrading the

Rift Valley side of the Kikuyu escarpment against the down loads. It is however likely that no case for immediate construction will be found to exist. On the other hand it may be found that by the time the down load project has been completed the time for considering the up load will be approaching. Especially in view of the fact that this latter construction would entail two years work at least before full advantage could be taken of it. A further report on this question will be submitted during the year and if the route proves feasible at reasonable cost, it may be advisable to accept it now as a policy for the future and to acquire whatever land is necessary without delay.

At least notice of the intention of the Railway to carry out realignments on a specified route should be made to the public as soon as a decision can be arrived at.

Existing
Line to be
converted
to Main
Road.

It is suggested that if our present descent of the Kikuyu escarpment is abandoned the section Uplands - Longonot should be handed over to the Government as a substitute main road, in place of the present descent into the Kedong Valley. With this in view the route was examined recently by Engineers from the Public Works Department who appeared to be most impressed with the idea.

The cost to Government of taking over this road would only be the second hand or breakdown value of the girders of the viaducts. The trestles could be handed over at no value as the cost of dismantling them would only balance the value of the scrap steel so recovered.

The present width of the viaducts is 13'6" and this could be extended at comparatively little cost. About three cuttings would need widening, but otherwise the whole route seems an ideal proposition for a first class road.

DESCRIPTION OF THE ROUTE.

Section
No. 1. -
Uplands
to
Longonot.

This is by far the most difficult and expensive part of the whole scheme, but at the same time it is the most important and in fact is the controlling feature as it includes the elimination of the bulk of the 2% grades.

The present line swings to the south after leaving Uplands station, still climbing on maximum grade, until it reaches the saddle through which it can descend into the Rift Valley, which it then does at 2% uncompensated grade, until seven miles later it reaches a shelf where the present Escarpment station is situated. This is the point from which the old incline railway, built during construction, started. From this shelf the line again descends on full grade to Kijabe, with comparatively light earthworks, but eight viaducts to avoid earthworks. From Kijabe the line climbs to the Longonot saddle.

SECTION NO. 2



RESERVE

MUGICA

FOREST

RESERVE

KIAMB...

SECTION NO. 1

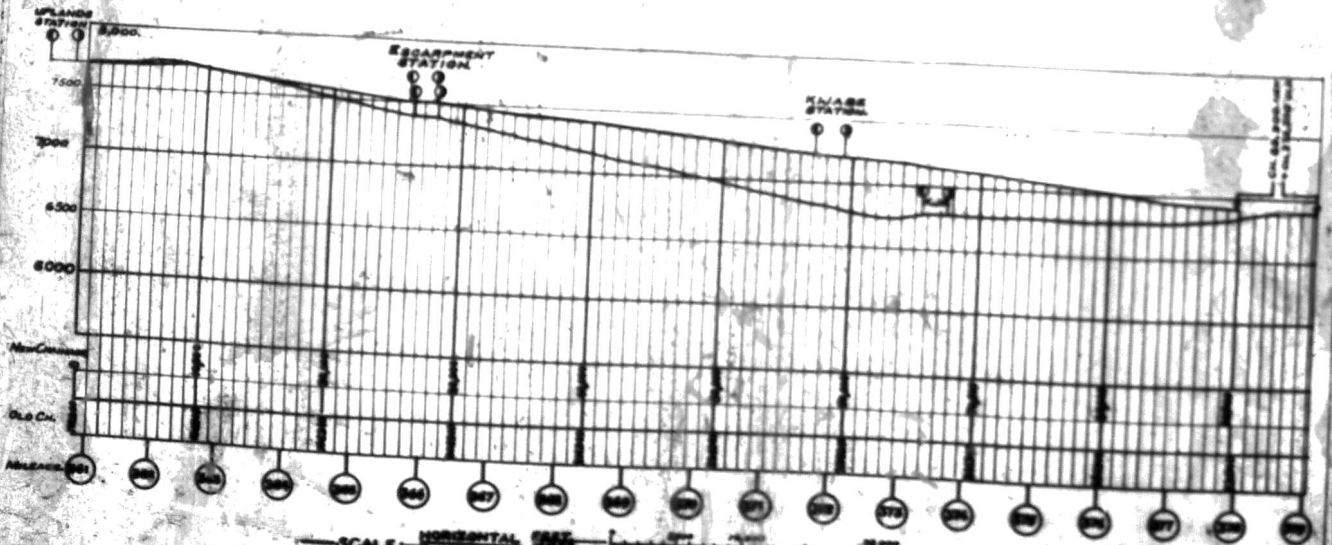
UPLANDS - LONGONOT

INDEX SECTION

SHOWING NEW LINE SUPERIMPOSED
IN RED ON OLD LINE

METRE GAUGE

LENGTH 16.97 MILES



SCALE HORIZONTAL FEET

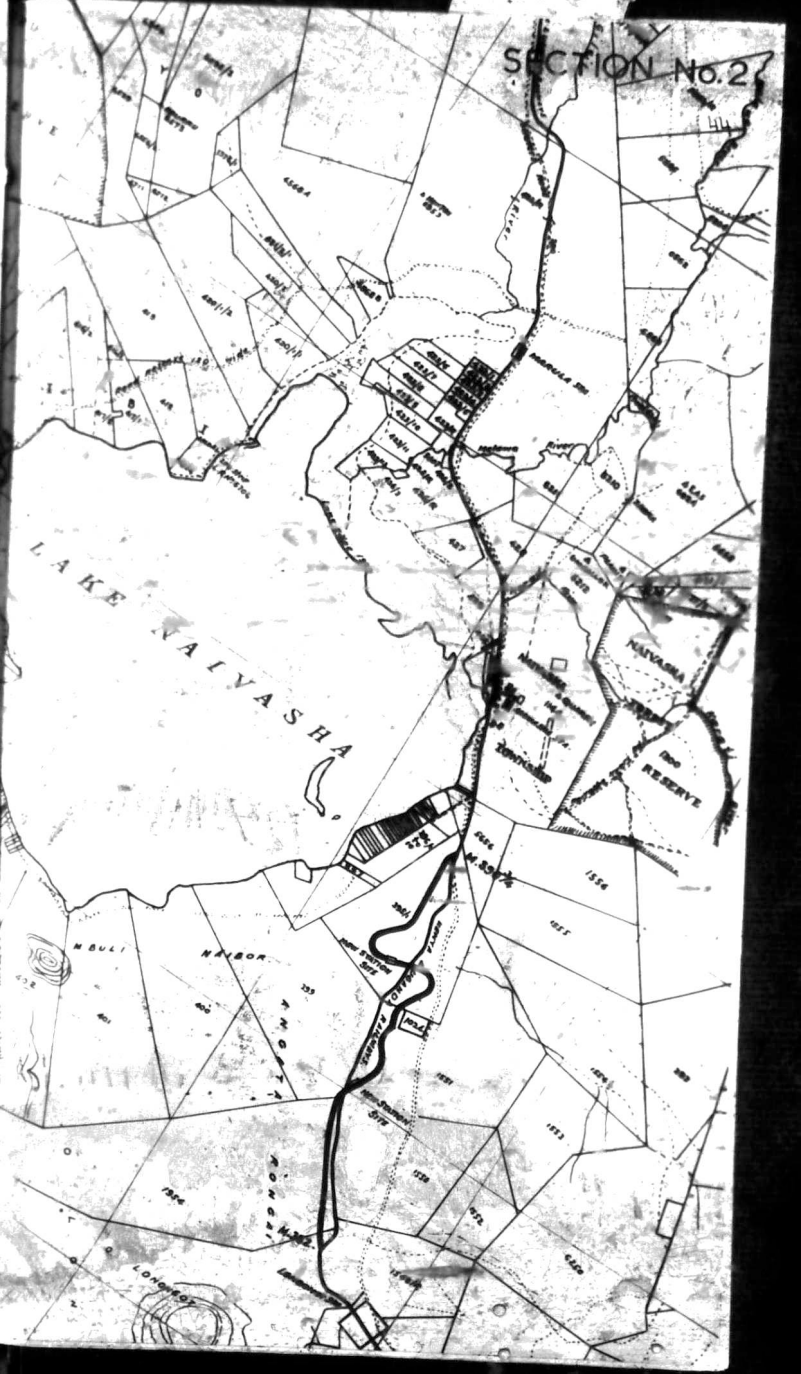
VERTICAL FEET

CON. 25.000
to the 1st boundary line

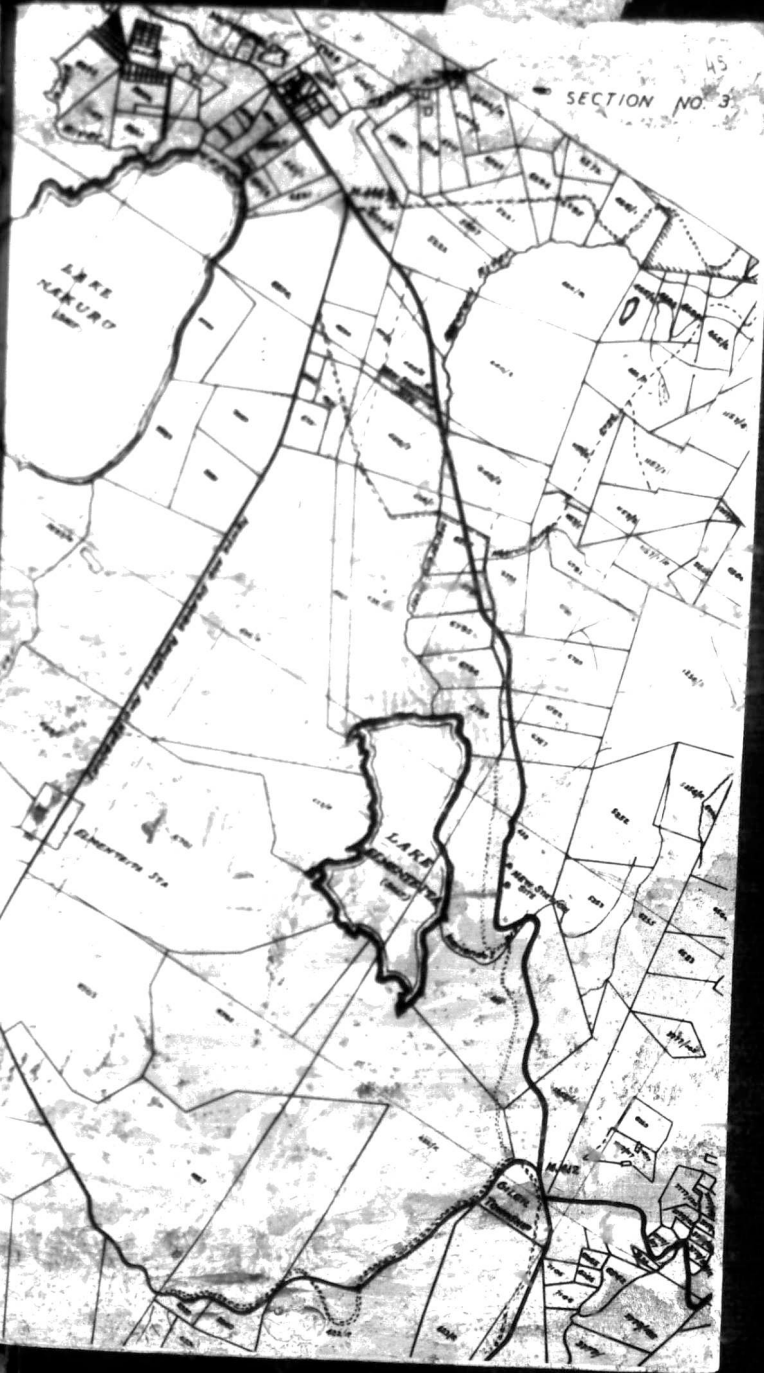
SECTION No. 2



SECTION No. 2



SECTION NO. 3



16

B.

The new trace rises slightly from the plains across the Lori Swamp to the lowest saddle leading to the Rift Valley, and from this saddle descends steadily to the Longonot-Kiljabe Hill Saddle on a 1.18% compensated grade.

As will be seen from the section, the rise and fall on the new trace is less than on the present line as the latter falls lower into the Kedong Valley than is necessary, to attain the level of the Longonot saddle.

The earthworks on the new proposal, however, are very much heavier than on the old line and could not have been attempted under the pioneer conditions of original construction. Instead of viaducts heavy embankments with retaining walls and deep cuttings will be built which will prove cheaper in maintenance and equal to any increased load it may be necessary for them to carry in the future. At the same time, they will not be more expensive to build than the slight easing of the earthworks and the provision of new viaducts which would be the alternative. The earthworks on this section are estimated to cost £8,500 per mile, but the bridging is only £1,800 per mile.

Section
No. 2. -
Longonot
to
Naivasha.

This section is quite straightforward and consists of light earthworks only, the line being merely lengthened to get extra development to enable the introduction of the 1.18% grades.

Section
No. 3. -
Gilgil
to
Nakuru.

The alignment of this section follows the old Sclaters Road and is the obvious route to Nakuru. Why the original construction was taken to the south of Lake Elmenteita is hard to say because, with the 2% ruling gradient that was then adopted, a comparatively cheap line could have been built on the new proposed alignment, except for possibly a mile or so of fairly heavy work shortly after leaving Gilgil.

The present proposal has some fairly heavy work on it in order to get the easier gradients aimed at. The formation will cost about £5,500 per mile.

ESTIMATES.

The estimates are prepared under two groupings:

- (1) The complete reconstruction, including regrading and shortening the line.
- (2) The complete regrading but omitting Section 3, the shortening of the line.

Also, under each main group are given the separate sections but these now sections must not be taken as estimates for carrying out that individual section by itself, they are only subdivisions of the main group estimates.

Preliminary Expenses.

This heading only includes the write back of the cost of the preliminary survey.

Land.

This includes land purchased for sections and compensations for damage, also the purchase of freehold land belonging to the American Mission at Kijabe, through which the main line would run.

Formation.

The prices allowed for earthworks are based on the experience of departmental and petty contract rates and ample provision for retaining walls has been made.

Bridge-work.

The bridgework is comparatively light, the main cost being in long culverts through the very high banks on the Escarpment Section.

Tele-graphs.

Attached as an appendix is the estimate of the Engineer in Chief of the Telegraph Department, for the whole scheme, but if Section 3 is not included the unit costs will go up on the remainder, as considerably less credit for released material will be available.

Permanent Way.

Permanent Way is based on a proportion of new material equal in length to the longest section, the remainder being salvaged material from the old line.

Plant.

This varies according to whether three or two sections are constructed, in the latter case costs being proportionately higher.

General Charges.

The same remarks apply as in the case of Plant. The basis for the duration of construction is two and a half years for the complete scheme, and two years if Section 3 is omitted.

RECOMMENDATION.

In conclusion it is emphasized that a sound case exists for accepting the principle of the entire scheme, and the only question to decide, is when to put it in operation.

In the opinion of the writer the figures indicate that Capital Expenditure on the work is justified now.

W. H. H. H.
CHIEF ENGINEER,

KENYA & UGANDA RAILWAYS & HARBOURS

TABULATED DETAILS.

KENYA AND UGANDA RAILWAYS AND HARBOURS.

UPLANDS - NAKURU REALIGNMENTS.

CURVE ABSTRACT.

Section No. 1.
Uplands - Longonot.

Metre Gauge.
Length of Section
16.97 Miles.

Degree of Curve.	Radius.	NEW LINE.			OLD LINE.		
		No. of each.	Length in Miles.	Total Curvature in Degrees.	No. of each.	Length in Miles.	Total Curvature in Degrees.
1°-00'	5,729.6	2	.246	13°-00'	1	.102	3°-23'
1°-36'	3,581.1				3	.805	65°-14'
2°-00'	2,864.9	7	.767	81°-00'			
2°-30'	2,292.0	1	.053	7°-00'			
3°-00'	1,910.1	13	1.152	182°-30'			
3°-30'	1,637.3	1	.132	30°-00'			
4°-00'	1,332.7	5	.736	155°-30'	1	.046	9°-55'
4°-46'	1,200				2	.311	78°-33'
5°-00'	1,146.3	2	.121	32°-00'			
5°-44'	1,000.0				3	.404	122°-13'
6°-00'	955.4	5	.497	157°-30'			
7°-00'	819.02	11	1.254	463°-30'			
7°-10'	800.0				69	7.848	2,268°-00'
8°-00'	716.0	1	.203	85°-30'			
9°-00'	637.3	1	.108	51°-30'			
10°-00'	573.7	17	2.718	1,435°-30'			
TOTAL		66	7.987	2,694°-30'	79	9.517	3,249°-16'

Ratio of Curve to
Total Length of
Line.

47.1%

52.4%

Average amount of
Curvature per Mile.

158.8°

178.8°

Total Length of
Line.

16.97 Miles.

18.174 Miles.

KENYA AND UGANDA RAILWAYS AND HARBOURS

UPLANDS - NAKURU REALIGNMENTS

CURVE ABSTRACT.

Section No.3.
Gilgil - Nakuru.

Metre Gauge.
Length of Section
21.67 Miles.

Degree of Curve.	Radius.	NEW LINE.			OLD LINE.		
		No. of each.	Length in Miles.	Total Curvature in Degrees.	No. of each.	Length in Miles.	Total Curvature in Degrees.
1°	5,729.7	3	.609	32°-10'	5	1.362	68°-01'
1°-30'	3,819.8	1	.208	16°-30'	5	2.090	163°-42'
2°-00'	2,864.9	6	1.245	131°-30'	3	.764	82°-05'
2°-30'	2,292.0				2	.608	96°-16'
3°-00'	1,910.1	7	.878	139°-00'	3	1.679	242°-13'
3°-30'	1,637.3				1	.115	21°-14'
4°-00'	1,432.7	11	1.479	312°-20'	2	.427	90°-06'
5°-00'	1,146.3	1	.328	86°-30'	6	1.287	334°-13'
6°-00'	955.4	7	.766	242°-50'			
7°-00'	819.0	11	1.336	493°-45'			
7°-10'	800				6	1.186	449°-33'
10°-00'	573.7	1	.258	136°-00'			
TOTAL		48	7.107	1,590°-35'	34	9.518	1,531°-46'

Ratio of Curve to
Total Length of
Line.

32.75%

28.41%

Average amount of
Curvature per Mile.

73.3°

50.2°

Total Length of
Line.

21.67 Miles.

33.5 Miles.

KENYA AND UGANDA RAILWAYS AND HARBOURS.

UPLANDS - NAKURU REALIGNMENTS.

GRADIENT ABSTRACT.

Section No. 1.
Uplands - Longonot

Metre Gauge.
Length of Section
16.97 Miles.

Grade.	NEW LINE.			OLD LINE.		
	No. of each.	Length in Miles	Percentage of total length.	No. of each.	Length in Miles.	Percentage of total length.
Level	5	2.333	13.6%	11	3.114	17.2%
0.10				1	.719	3.9%
0.19				1	.701	3.9%
0.20				1	.189	1.0%
0.36				1	.170	0.9%
0.37				1	.182	1.0%
0.50				2	.303	1.6%
0.70				1	.189	1.0%
0.79	1	.606	3.6%			
0.81				1	.075	0.4%
0.84	1	.276	1.6%			
0.93	1	1.136	6.7%			
1.15				1	.303	1.6%
1.18	3	12.660	74.5%			
1.21				1	.095	0.5%
1.30				1	.303	1.6%
1.50				3	1.295	7.1%
1.54				1	.265	1.5%
1.75				1	.189	1.0%
1.76				1	.549	3.0%
1.77				1	.218	1.2%
1.80				1	.341	1.9%
1.83				1	.899	5.0%
2.0				11	8.071	44.6%
		16.97	100%		16.17	100%

Steepest Grade. 1.18% Compensated. 2% Uncompensated.
 Longest Length of Steepest Grade. 5.36 Miles. 1.86 Miles.

KENYA AND UGANDA RAILWAYS AND HARBOURS.

UPLANDS - NAKURU REALIGNMENTS.

GRADIENT ABSTRACT.

Section No. 2.
Longonot - Nalvasha.

Metre Gauge.
Length of Section
11.73 Miles.

Grade.	NEW LINE.			OLD LINE		
	No. of each.	Length in Miles.	Percentage of total length.	No. of each.	Length in Miles.	Percentage of total length
Level.	2	.925	7.8%	1	.227	2.5%
0.63				1	.208	2.3%
0.66	1	.248	2.1%			
0.90				1	.095	1.1%
0.93				1	.401	4.5%
1.17				1	.322	3.6%
<u>1.18</u>	4	10.554	90.1%			
1.25				1	1.061	11.9%
1.31				1	.246	2.7%
1.38				1	.454	5.1%
1.46				1	1.573	17.6%
1.48				1	2.386	26.8%
<u>1.50</u>				3	1.951	21.8%
		11.73	100%		8.924	100%

Steepest Grade. 1.18% Compensated. 1.50% Uncompensated.

Longest length of steepest Grade.

4.58 Miles.

1.19 Miles.

KENYA AND UGANDA RAILWAYS AND HARBOURS.

UPLANDS - NAKURU REALIGNMENTS.

GRADIENT ABSTRACT

Section No. 3.
GILGIT - Nakuru.Metre Gauge
Length of Section
21.67 Miles.

Grade.	NEW LINE.			OLD LINE.		
	No. of each.	Length in Miles.	Percentage of total length.	No. of each.	Length in Miles.	Percentage of total length.
Level	9	2.755	12.7%	23	7.663	22.9%
0.04				1	0.473	1.4%
0.09				1	0.359	1.1%
0.12				1	0.473	1.4%
0.19				1	0.284	0.8%
0.20	1	0.251	1.1%	2	0.568	1.7%
0.22				1	0.625	1.8%
0.25				2	0.379	1.1%
0.28				1	0.625	1.9%
0.30				1	0.473	1.4%
0.33	1	0.284	1.3%			
0.37				1	0.879	2.6%
0.39				1	0.322	0.9%
0.41				2	0.870	2.6%
0.43				1	0.227	0.6%
0.45				1	0.416	1.2%
0.50	1	0.170	0.8%	4	2.064	6.2%
0.53	1	0.275	1.3%	1	0.928	2.8%
0.56	1	0.574	2.6%			
0.59				1	0.492	1.5%
0.60				1	0.322	0.9%
0.63				1	0.189	0.6%
0.64				1	0.340	1.0%
0.66				1	0.208	0.6%
0.69				1	0.227	0.6%
0.71	1	0.719	3.3%	1	0.398	1.2%
0.72	2	0.980	4.5%	1	0.340	1.0%

KENYA AND UGANDA RAILWAYS AND HARBOURS.

UPLANDS - NAKURU REALIGNMENTS.

GRADIENT ABSTRACT

Section No. 8.
GILGIT - Nakuru.Metre Gauge
Length of Section
21.67 Miles.

Grade.	NEW LINE.			OLD LINE.		
	No. of each.	Length in Miles.	Percentage of total length	No. of each.	Length in Miles.	Percentage of total length.
Level	9	2.755	12.7%	23	7.663	22.9%
0.04				1	0.473	1.4%
0.09				1	0.359	1.1%
0.12				1	0.473	1.4%
0.19				1	0.284	0.8%
0.20	1	0.251	1.1%	2	0.558	1.7%
0.22				1	0.625	1.9%
0.25				2	0.379	1.1%
0.28				1	0.625	1.9%
0.30				1	0.473	1.4%
0.33	1	0.284	1.3%			
0.37				1	0.879	2.6%
0.39				1	0.322	0.9%
0.41				2	0.870	2.6%
0.43				1	0.227	0.6%
0.45				1	0.416	1.2%
0.50	1	0.170	0.8%	4	2.064	6.2%
0.58	1	0.275	1.3%	1	0.928	2.8%
0.56	1	0.574	2.6%			
0.59				1	0.492	1.5%
0.60				1	0.322	0.9%
0.63				1	0.189	0.6%
0.64				1	0.340	1.0%
0.66				1	0.208	0.6%
0.69				1	0.227	0.6%
0.71	1	0.719	3.3%	1	0.398	1.2%
0.72	2	0.980	4.5%	1	0.340	1.0%

Section No. 3.
 Dilgil - Nakuru.

- 2 -

Grade.	NEW LINE.			OLD LINE.		
	No. of each.	Length in Miles.	Percentage of total length.	No. of each.	Length in Miles.	Percentage of total length.
0.74				1	0.966	2.9%
0.75	1	0.513	2.4%			
0.81				1	0.208	0.6%
0.90	1	0.568	2.6%			
0.95	1	0.199	0.9%			
1.00	1	0.189	0.9%			
1.04				1	0.398	1.2%
1.05				1	0.305	0.9%
1.08				1	0.473	1.4%
1.15				2	1.042	3.1%
1.16	1	0.568	2.6%			
1.18	9	13.655	63.0%			
1.19				1	0.398	1.2%
1.36				1	0.382	1.1%
1.40				1	0.379	1.1%
1.50				15	8.874	26.5%
		21.67	100%		33.5	100%

Steepest Grade. ①.18% Compensated.

①.15% Uncompensated.

Longest length
of steepest
Grade

3.96 Miles.

1.53 Miles.

KENYA AND UGANDA RAILWAYS AND HARBOURS.

- P R E L I M I N A R Y E S T I M A T E

FOR REDUCING RULING GRADIENTS AGAINST
DOWN LOADS ON THE
NAIROBI - NAKURU SECTION
OF MAIN LINE.

CHIEF ENGINEER.

MARCH, 1938.

- LIST OF ESTIMATES -

		<u>PAGE.</u>
General Abstract of Cost.	<u>Sections Nos.1, 2 and 3 combined.</u>	5 & 6
do. do.	Section No.1. (As part of above).	7 & 8
do. do.	Section No.2. (do. do.)	9 & 10
do. do.	Section No.3. (do. do.)	11 & 12
do. do.	<u>Sections Nos.1 and 2 combined.</u>	13 & 14
do. do.	Section No.1. (As part of above)	15 & 16
do. do.	Section No.2. (do. do.)	17 & 18

KENYA AND UGANDA RAILWAYS AND HARBOURS.

UPLANDS - NAKURU REALIGNMENTS.
(THREE SECTIONS).

PRELIMINARY ESTIMATE.

GENERAL ABSTRACT OF COST OF RAILWAY.

Sections Nos. 1, 2 and 3.
Uplands - Nakuru.

Metro Gauge.
Length of Sections
50.37 Miles.

Head of Account and Sub Head.	Sub Head.		Main Head	
	Cost. £.	Rate per Mile. £.	Cost. £.	Rate per Mile. £.
I. <u>PRELIMINARY EXPENSES</u>				
a. Survey Expenses	3,525.9	70	3,525.9	70
b. Plant.				
c. Establishment				
II. <u>LAND</u>	9,330	185.23	9,330	185.23
III. <u>FORMATION</u>			240,900	4,784.39
a. Earthworks	215,946	4,287.19		
b. Tunnels				
c. Walling.	19,281	382.79		
d. Drains	3,268	64.88		
e. Clearing.	1,850	36.72		
f. Road Diversions	645	12.81		
IV. <u>BRIDGEWORK</u>			44,147	876.45
a. Major Bridges.				
b. Minor Bridges.	35,790	710.54		
c. Culverts	8,357	165.91		
V. <u>FENCING</u>			7,238.5	143.70
a. Fencing.	2,300	45.66		
b. Boundary Posts.	502.5	9.98		
c. Gradient Posts.	46	.91		
d. Mile Posts.	32	.63		
e. Level Crossings.	4,320	85.76		
f. Notice Boards.	38	.75		
VI. <u>TELEGRAPHS</u>			4,015.25	797.15
a. Poles and Lines	3,777.75	750		
b. Instruments	237.5	47.15		
VII. <u>PERMANENT WAY</u>			77,242.2	1,533.5
A. <u>Main Line</u>				
1. Permanent Way	56,284.0	1,117.6		
2. Ballast	11,908.2	236.4		
B. <u>Sidings</u>				
1. Permanent Way.	5,760	114.3		
2. Ballast.	840	16.6		
C. <u>Points & Crossings</u>	2,450	48.6		

Carried Forward .. £386,488.85

KENYA AND UGANDA RAILWAYS AND HARBOURS

UPLANDS - NAKURU REALIGNMENTS
(THREE SECTIONS)

PRELIMINARY ESTIMATE

GENERAL ABSTRACT OF COST OF RAILWAY.

Section No. 1.
Uplands - Longnot.

Metre Gauge.
Length of Section
16.97 Miles.

Head of Account and Sub Head.	Sub Head.		Main Head.	
	Cost. £.	Rate per -Mile. £.	Cost. £.	Rate per Mile. £.
I. <u>PRELIMINARY EXPENSES</u>			1,187.9.	70
a. Survey Expenses.	1,187.9	70		
b. Plant	-	-		
c. Establishment.	-	-		
II. <u>LAND</u>	5,360	315.85	5,360	315.85
III. <u>FORMATION</u>			145,350	8,565.11
a. Earthworks	122,600	7,637.01		
b. Tunnels	-	-		
c. Walling.	12,500	736.59		
d. Drains.	1,650	97.23		
e. Clearing.	1,100	64.82		
f. Road Diversions	500	29.46		
IV. <u>BRIDGEWORK</u>			30,668	1,807.18
a. Major Bridges.	-	-		
b. Minor Bridges	25,950	1,529.16		
c. Culverts.	4,718	278.02		
V. <u>FENCING</u>			2,250	132.59
a. Fencing	400	23.57		
b. Boundary Posts.	165	9.72		
c. Gradient Posts	10	.59		
d. Mile Posts	5	.30		
e. Level Crossings	1,650	97.23		
f. Notice Boards.	20	1.18		
VI. <u>TELEGRAPHS</u>			1,372.75	80.9
a. Poles and Lines.	1,272.75	75		
b. Instruments.	100	5.89		
VII. <u>PERMANENT WAY</u>			26,594.4	1,567.1
A. <u>Main Line</u>				
1. Permanent way.	18,962.45	1,117.4		
2. Ballast.	4,011.95	236.4		
B. <u>Sidings</u>				
1. Permanent Way.	2,304	135.8		
2. Ballast	336	19.8		
C. <u>Points & Crossings</u>	980	57.7		

Carried Forward .. 2212,783.05

Section No. 1.
Uplands - Longonot.

Head of account and Sub Head.	Sub-Head.		Main Head.	
	Cost. £.	Rate per Mile. £.	Cost. £.	Rate per Mile. £.
	Brought Forward ..		£212,783.05	
VIII. <u>STATIONS & BUILDINGS.</u>			10,860	639.95
a. Station and Offices.	3,675	216.56		
b. Workshops and Stores.	-	-		
c. Staff Quarters.	4,015	236.69		
d. Station Machinery.	3,170	186.80		
IX. <u>PLANT.</u>			2,022	119.1
a. Engineering.	-	-		
b. Construction.	2,022	119.1		
c. Locomotive.	-	-		
d. Carriage & Wagon.	-	-		
e. Station & Office.	-	-		
X. <u>FERRIES.</u>	-	-		
XI. <u>ROLLING STOCK.</u>	-	-		
XII. <u>GENERAL CHARGES.</u>			10,109	595.7
a. Direction.	-	-		
b. Engineering.	5,266	310.3		
c. Accounts.	1,466	86.4		
d. Stores.	901	53.1		
e. Medical.	809	47.7		
f. Native Administration.	404	23.8		
g. Loco and Traffic.	1,263	74.4		
TOTAL ..			£235,774.05	13,893.56

62

KENYA AND UGANDA RAILWAYS AND HARBOURS.

UPLANDS - NAKURU REALIGNMENTS.
(THREE SECTIONS).

PRELIMINARY ESTIMATE.

GENERAL ABSTRACT OF COST OF RAILWAY.

Section No.2.
Longonot - Naivasha.

Metre Gauge.
Length of Section
11.73 Miles.

Head of account and Sub Head.	Sub Head.		Main Head.	
	Cost. £.	Rate per Mile. £.	Cost. £.	Rate per Mile. £.
I. PRELIMINARY EXPENSES			821.1	70
a. Survey Expenses.	821.1	70		
b. Plant.	-	-		
c. Establishment.	-	-		
II. LAND.	1,970	167.94	1,970	167.94
III. FORMATION			10,700	912.19
a. Earthworks.	3,915	345.27		
b. Tunnels.	-	-		
c. Walling.	-	-		
d. Drains.	490	41.77		
e. Clearing.	450	38.31		
f. Road Diversions.	45	3.84		
IV. BRIDGE/ORK.			1,124	95.82
a. Major Bridges.	-	-		
b. Minor Bridges.	-	-		
c. Culverts.	1,124	95.82		
V. FENCING.			283.5	24.16
a. Fencing.	-	-		
b. Boundary Posts.	117.5	10.02		
c. Gradient Posts.	6	.51		
d. Mile Posts.	5	.42		
e. Level Crossin.	150	12.79		
f. Notice Boards.	5	.42		
VI. TELEGRAPHS.			917.25	78.2
a. Poles and Lines.	879.75	75		
b. Instruments.	37.5	3.2		
VII. PERMANENT WAY.			17,690.4	1,508.1
A. Main Line.				
1. Permanent Way	13,107.25	1,117.4		
2. Ballast.	2,773.15	236.4		
B. Sidings.				
1. Permanent Way.	1,152	98.2		
2. Ballast.	168	14.3		
C. Points & Crossings.	490	41.8		

Carried Forward ... 233,506.25

Cost of Account and Sub Head	Sub Head		Main Head	
	Cost £.	Rate per Mile. £.	Cost £.	Rate per Mile. £.
	Brought Forward ..		£33,506.25	
VIII STATIONS & BUILDINGS			2,865	244.24
a. Station and Office	1,260	107.42		
b. Workshops and Stores				
c. Staff Quarters	1,100	111.40		
d. Station Machinery	200	15.34		
IX. PLANT			1,697	144.7
a. Engineering				
b. Construction	1,190	119.1		
c. Locomotive				
d. Carriages & Wagons				
e. Station & Office	300	25.0		
X. FERRIES				
XI. ROLLING STOCK				
XII. GENERAL CHARGES			6,987	595.7
a. Direction				
b. Engineering	3,640	310.3		
c. Accounts	1,013	86.4		
d. Stores	623	53.1		
e. Medical	559	47.7		
f. Native administration	279	23.8		
g. Loco and Traffic	873	74.4		
TOTAL ..			£45,055.25	3,841.03

INDIA - EASTERN RAILWAYS
INDIA SECTION

PRELIMINARY ESTIMATE

GENERAL ABSTRACT OF COST OF RAILWAY

Section No. 2
Civil - Madras

Route Name
Length of Section
21.67 Miles

Head of Account and Sub Head	Sub Head		Main Head	
	Cost £	Rate per Mile £	Cost £	Rate per Mile £
I. PRELIMINARY EXPENSES			1,516.9	70
a. Survey Expenses	1,516.9	70		
b. Plans				
c. Establishment				
II. LAND	8,000	92.29	8,000	92.29
III. FORMATION			84,940	3,919.68
a. Earthworks	78,431	3,527.04		
b. Trenches				
c. Walling	5,994	317.91		
d. Drains	3,128	52.05		
e. Clearing	500	23.07		
f. Soil Protection	100	4.61		
IV. BRIDGEWORK			12,355	570.14
a. Major Bridges				
b. Minor Bridges	9,740	454.08		
c. Culverts	2,615	116.07		
V. FENCING			4,705	217.10
a. Fencing	1,900	87.69		
b. Boundary Posts	220	10.15		
c. Gradient Posts	30	1.38		
d. Mile Posts	22	1.02		
e. Level Crossings	2,520	116.29		
f. Notice Boards	13	.60		
VI. TELEGRAPHS			1,725.25	79.6
a. Poles and Lines	1,625.25	75		
b. Instruments	100	4.6		
VII. PERMANENT WAY			32,937.4	1,520.9
A. Main Line				
1. Permanent Way	24,226.3	1,112.41		
2. Ballast	8,123.1	376.42		
B. Sidings				
1. Permanent Way	2,304	106.32		
2. Ballast	33	1.50		
C. Points & Crossings	980	45.22		

Carried Forward .. £140,199.55

Section No. 3
 Gilgil - Nakuru.

Head of Account and Sub Head.	Sub Head.		Main Head.	
	Cost. £.	Rate per Mile. £.	Cost £.	Rate per Mile. £.
	Brought Forward		£140,199.55	
VIII. STATIONS & BUILDINGS.				
a. Station and Offices.	8,640	125.06	8,640	241.4
b. Workshops and Stores.	7			
c. Staff Quarters.	2,920	134.76		
d. Station Machinery.	100	4.61		
IX. PLANT.				
a. Engineering.			2,501	419.1
b. Construction.	2,501	119.1		
c. Locomotive				
d. Carriage & Wagon				
e. Station & Office.				
X. FERRIES.				
XI. ROLLING STOCK.				
XII. GENERAL CHARGES.				
a. Direction			17,909	595.7
b. Engineering.	6,724	310.3		
c. Accounts.	1,872	86.4		
d. Stores.	1,151	58.1		
e. Medical.	1,033	47.7		
f. Native Administration.	516	23.8		
g. Loco and Traffic.	1,613	74.4		
TOTAL.			£161,354.55	7,445.90

KENYA AND UGANDA RAILWAYS AND HARBOURS

18.

UPLANDS - NAIVASHA REALIGNMENTS
(TWO SECTIONS).

PRELIMINARY ESTIMATE.

GENERAL ABSTRACT OF COST OF RAILWAY

Sections Nos. 1, and 2.
Uplands - Naivasha.

Metre Gauge.
Length of Sections
28.70 Miles.

Head of Account and Sub Head.	Sub Head.		Main Head.	
	Cost. £.	Rate per Mile. £.	Cost. £.	Rate per Mile. £.
I. <u>PRELIMINARY EXPENSES.</u>				
a. Survey Expenses.	2,009	70	2,009	70
b. Plant.	-	-	-	-
c. Establishment.	-	-	-	-
II. <u>LAND.</u>	7,330	255.4	7,330	255.4
III. <u>FORMATION.</u>			756,060	5,437.28
a. Earthworks.	139,515	4,861.15		
b. Tunnels	-	-		
c. Walling.	12,500	485.54		
d. Drains.	2,140	74.56		
e. Clearing.	1,350	47.04		
f. Road Diversions.	545	18.99		
IV. <u>BRIDGEWORK</u>			31,792	1,107.73
a. Major Bridges	-	-		
b. Minor Bridges.	25,950	904.18		
c. Culverts.	5,842	203.55		
V. <u>FENCING.</u>			2,533.50	88.27
a. Fencing.	400	13.94		
b. Boundary Posts.	282.5	9.84		
c. Gradient Posts.	16	56		
d. Mile Posts	10	35		
e. Level Crossings.	1,800	62.71		
f. Notice Boards.	25	87		
VI. <u>TELEGRAPHS.</u>			4,420	154.01
a. Poles and Lines.	4,282.5	149.22		
b. Instruments.	137.5	4.79		
VII. <u>PERMANENT WAY.</u>			54,447	1,897.10
A. <u>Main Line.</u>				
1. Permanent Way.	40,853	1,423.45		
2. Ballast.	7,370.15	256.79		
B. <u>Sidings.</u>				
1. Permanent Way.	3,760	131.01		
2. Ballast.	864	30.10		
C. <u>Points & Crossings.</u>	1,600	55.75		

Carried Forward .. £258,581.5

Sections Nos. 1 and 2.
Uplands Malvesha.

Account Sub Head.	Sub Head.		Main Head.	
	Cost. £.	Rate per Mile. £.	Cost. £.	Rate per Mile. £.
	Brought Forward ..		£250,581.5	
VIII. STATIONS & BUILDINGS.			13,725	478.22
a. Station and Offices.	4,935	171.85		
b. Workshops and Stores.				
c. Staff Quarters.	5,440	189.53		
d. Station Machinery.	3,350	116.72		
IX. PLANT			4,530	157.84
a. Engineering.				
b. Construction.	4,530	147.39		
c. Locomotive				
d. Carriage & Wagon.				
e. Station & Office.	300	10.45		
X. FERRIES.				
XI. ROLLING STOCK.				
XII. GENERAL CHARGES			20,555	716.20
a. Direction.				
b. Engineering.	10,105	352.09		
c. Accounts	3,360	117.77		
d. Stores.	2,170	75.61		
e. Medical.	1,600	55.75		
f. Native Adminis- tration.	800	27.87		
g. Loco and Traffic.	2,500	87.11		
TOTAL ..			£297,391.5	10,362.07
Add for 14 Minor Regrades and one Minor Diversion between Nairobi and Nakuru.			21,975	
GRAND TOTAL ..			£319,366.5	11,127.75

UPLANDS - NAIVASHA REALIGNMENTS
(190 SECTIONS)

PRELIMINARY ESTIMATE

GENERAL ABSTRACT OF COST OF RAILWAY

Section No. 1.
Uplands - Longnot.Metre Gauge.
Length of Section.
16.97 Miles.

Head of Account and Sub Head.	Sub Head.		Main Head.	
	Cost. £.	Rate per Mile. £.	Cost. £.	Rate per Mile. £.
I. PRELIMINARY EXPENSES.			1,187.9	70
a. Survey Expenses.	1,187.9	70		
b. Plant.				
c. Reestablishment.				
II. LAND.	3,360	315.85	3,360	315.85
III. FORMATION			145,350	8,565.11
a. Earthworks.	129,600	7,637.01		
b. Tunnels.				
c. Walling.	12,500	736.59		
d. Drains.	1,650	97.23		
e. Clearing.	1,100	64.82		
f. Road Diversions.	500	29.46		
IV. BRIDGEWORK.			30,668	1,807.18
a. Major Bridges.				
b. Minor Bridges.	25,950	1,529.16		
c. Culverts.	4,718	278.02		
V. FENCING.			2,250	132.59
a. Fencing	400	23.37		
b. Boundary Posts.	165	9.72		
c. Gradient Posts.	10	.59		
d. Mile Posts.	5	.30		
e. Level Crossings.	1,650	97.23		
f. Notice Boards.	20	1.18		
VI. TELEGRAPHS.			2,623	154.57
a. Poles and Lines.	2,523	148.68		
b. Instruments.	100	5.89		
VII. PERMANENT WAY.			32,663	1,924.75
A. Main Line.				
1. Permanent Way.	24,155.95	1,423.45		
2. Ballast.	4,357.9	256.80		
B. Sidings.				
1. Permanent Way.	2,506.65	147.71		
2. Ballast.	576	33.94		
C. Points & Crossings.	1,066.65	62.85		

Carried Forward .. 2220,101.9

Section No. 1.
Uplands - Longonot.

Head of Account and Sub Head.	Sub Head.		Main Head.	
	Cost. £.	Rate per Mile. £.	Cost. £.	Rate per Mile. £.
	Brought Forward ..		£220,101.9	
VIII. STATIONS & BUILDINGS.				
a. Station and Offices.			10,860	639.95
b. Workshops and Stores.	3,675	216.66		
c. Staff Quarters.	4,015	236.69		
d. Station Machinery.	3,170	186.80		
IX. PLANT.				
a. Engineering.			2,501	147.4
b. Construction.	2,501	147.4		
c. Locomotive.				
d. Carriage & Wagon.				
e. Station & Office.				
X. FERRIES.				
XI. ROLLING STOCK.				
XII. GENERAL CHARGES				
a. Direction.			12,154	716
b. Engineering.	5,975	352		
c. Accounts.	1,999	118		
d. Stores.	1,283	75		
e. Medical.	946	56		
f. Native Administration.	473	28		
g. Loco and Traffic.	1,478	87		
TOTAL ..			£245,616.9	14,473.59

UPLANDS - NAIVASHA REALIGNMENTS.
(TWO SECTIONS).

PRELIMINARY ESTIMATE.

GENERAL ABSTRACT OF COST OF RAILWAY.

Section No. 2.
Longnot - Naivasha.

Metre Gauge.
Length of Section
11.73 Miles.

Head of Account and Sub Head.	Sub Head.		Main Head.	
	Cost. £.	Rate per Mile. £.	Cost. £.	Rate per Mile. £.
I. PRELIMINARY EXPENSES.			821.1	70
a. Survey Expenses.	821.1	70		
b. Plant.	-	-		
c. Establishment.	-	-		
II. LAND.	1,970	167.94	1,970	167.94
III. FORMATION.			10,700	912.19
a. Earthworks.	9,915	845.87		
b. Tunnels.	-	-		
c. Walling.	-	-		
d. Drains.	490	41.77		
e. Clearing.	250	21.31		
f. Road Diversions.	45	3.84		
IV. BRIDGEWORK.			1,124	95.82
a. Major Bridges.	-	-		
b. Minor Bridges.	-	-		
c. Culverts.	1,124	95.82		
V. FENCING.			283.5	24.13
a. Fencing.	-	-		
b. Boundary Posts.	117.5	10		
c. Gradient Posts.	6	.51		
d. Mile Posts.	5	.42		
e. Level Crossings.	150	12.78		
f. Notice Boards.	5	.42		
VI. TELEGRAPHS.			1,797.0	153.2
a. Poles and Lines.	1,759.5	150		
b. Instruments.	37.5	3.2		
VII. PERMANENT WAY			21,784	1,857.11
A. Main Line.				
1. Permanent Way	16,692.05	1,423.44		
2. Ballast.	3,012.25	256.80		
B. Sidings				
1. Permanent Way.	1,253.35	106.85		
2. Ballast.	286	24.55		
C. Points & Crossings.	533.35	45.47		

Carried Forward ... 238,479.6

Section No.2.
Longnot - Naivasha.

Head of Account and Sub Head.	Sub Head.		Main Head.	
	Cost. £.	Rate per Mile £.	Cost. £.	Rate per Mile. £.
	Brought Forward ..		£238,749.6	
VIII. STATIONS & BUILDINGS.				
a. Station and Offices.	1,260	107.42	2,865	244.24
b. Workshops and Stores.	-	-		
c. Staff Quarters.	1,425	121.48		
d. Station Machinery.	180	15.34		
IX. PLANT.				
a. Engineering.	-	-	2,029	172.97
b. Construction.	1,729	147.40		
c. Locomotive.	-	-		
d. Carriage & Wagon.	-	-		
e. Station & Office.	300	25.57		
X. FERRIES.				
XI. ROLLING STOCK				
XII. GENERAL CHARGES.				
a. Direction.	-	-	8,401	716
b. Engineering.	4,130	352		
c. Accounts.	1,381	118		
d. Stores.	887	75		
e. Medical.	654	56		
f. Native Administration.	327	23		
g. Loco and Traffic.	1,022	87		
TOTAL ..			£51,774.6	4,413.86

1938

38179

CO 533/495
KENYA

38179

Kenya - Uganda RailwayTransport of R. A. F. Stores and Personnel

Previous

28

1939

292

1/10

293

5/10

M. D. B. A. M.

13/10

M. D. B. A. M.

19.10

Col. Bishop

14/10

M. D. B. A. M.

16

298

27/10

299

1

R. 91

11/1

R. 39

4/1

M. D. B. A. M.

12

96

15/1

299

25/1

98

23/1

100

28

FILE A.

CT
KOR
RATE

2
18/1/38
Air Ministry 819/93/28/33
Suggests that in cases stated freight rates and
essential charges for transportation of RAF stores &
personnel over the KOR should be fixed at a point not
materially exceeding operating costs.

There is presumably no reason to raise
any objection to a proposal whereby the
Imperial Govt will receive treatment of
the same kind as the Kenya Govt on
the KOR. The Treasury 'ban' on
rate reductions (pending settlement of the
£1/2 million debt) is scarcely likely to be
exercised in this case; but it will be
necessary to consult them with reference
to No 10 on 381/9/16/37. When this
has been done it will presumably also
be necessary to refer to the High Comm
for verification of the last sentence in
para 3.

2 To Treasury accordingly, & interim
reply to A/M. Clatworthy 15/10

It is so obvious that the Treasury would be prepared to approve an arrangement for the transport of R.A.F. stores and personnel on the K.U.M. at cost price, that I do not think they need be consulted.

On the other hand a reply to the Air Ministry that the Secretary of State agrees to their entering into negotiations with the K.U.R. to this end would be tantamount to a decision in favour of the principle, and would narrow down the field of the negotiations to a discussion of the actual rates to be charged in accordance with that principle. I am accordingly inclined to think that before agreeing to these negotiations being undertaken we ought first to write to the High Commissioner as in draft herewith.

J.P. Pannin
19.10.38

Col. Bishop

Any comment from your standpoint?

A.J.M.
19.10

Have told of same discussed.
No comment.

W. M. ...
2. In the Transport 66 (4.1) - same 2.10.38.

To: A.P. (4703) (Whose) 2.11.38

Air Ministry
Request to No. 1
ESTROYED UNDER STATUTE

By: R. ...
24.11.38

B.U. No reply received to No. 1
Jackson P98

7 runner Cloughwhite 4/1

J.P. Pannin
11/1

2. In the Transport 66 (4.1) - same 25.1.39

Air Ministry
Request to No. 1
ESTROYED UNDER STATUTE

We have just received - No 5

B.U. on 25/1 of nothing in

Cloughwhite
same
28/1

G. O.

38175/38 Encls.

Mr. Foshing 19/10/38

Mr.

Mr.

Mr. A. J. Dunn

Sir H. Moore

Sir G. Tomkinson

Sir J. Shackleton

Parlt. U.S. of S.

Parlt. U.S. of S.

Secretary of State

1911/12
3
4
DUNDEE STREET.

2 NOV 1938

Sir,

I am etc. to ask the receipt
of your letter No. 819103/38/P.3 of the
10th of October in which it is proposed
that the Air Officer Commanding should
be authorized to enter into negotiations
with the Admiralty, the Army and
Great Western Railways, for the fixing of rates
(and ~~for~~ other incidental charges)
for the transport of R.A.F. material
and personnel at a point which would not
materially exceed actual operating
costs, and to request you to inform the
Air Council that he has thought it
desirable in the first instance to
obtain the observations of the High
Commissioner for Transport upon this
proposal.

DRAFT.

THE UNDER SECRETARY OF
STATE

AIR MINISTRY.

To Mr. Dunn 21.10.38

FURTHER ACTION.

purposes of Imperial defence, I trust that
you will be able to accept the Air Ministry
proposal, and I request that I may be
furnished with your observations as soon as
possible.

I have, etc.

(Signed) MALCOLM MacDONALD

TELEPHONE: HOLBOEN 3434

EXTR. 1104

Any communications on the subject of this letter should be addressed to:—

THE
UNDER SECRETARY
OF STATE

and the following number quoted:—

819193/38/F.3.



AIR MINISTRY,
LONDON, W.C.2.

3c
19 OCT 1938

10 October, 1938.

Sir,

I am commanded by the Air Council to acquaint you, for the information of Mr. Secretary MacDonald that as a result of discussions which have taken place between the local Railway Administration and the Chief Auditor and Adviser on Expenditure to the Air Officer Commanding, Royal Air Force, Middle East, they have had under consideration the question of charges arising in respect of transportation of Royal Air Force stores over the Kenya and Uganda railway systems.

*Copy to Mr. G. Langford
Shed by 3*

2. Royal Air Force traffic, which flows mainly between Mombasa and Nairobi is, in common with other Government traffic normally charged on the basis of public rates less 15%. On occasion, however, and where large consignments of one class of material have been involved, ad hoc arrangements have been made to apply specially reduced charges.

3. Since the cost of the Royal Air Force in East Africa is being borne by Imperial funds, and as large quantities of traffic will regularly be passing over a well-defined route, it would not seem unreasonable to ask that specially low and favourable terms should be given in respect of Royal Air Force stores. During discussion it was gathered that the Kenya Railway Administration would be prepared to make very drastic reductions in railway freight rates provided Colonial Office authority for the concession was forthcoming.

The Under Secretary of State,
Colonial Office,
Whitehall,
S.W.1.



/I.

4. I am to state that, in view of the circumstances outlined above, the Air Council incline to the opinion that freight rates for Royal Air Force material transported by rail in East Africa should be fixed at a point which will not materially exceed actual operating costs, and to request that you will be so good as to give this matter consideration with a view to authorising negotiations to proceed for the fixing of charges on this basis between the Railway Administration and the Air Officer Commanding, such authority to cover not only actual freight rates but such incidental charges as demurrage, crantage etc.

5. I am also to suggest that similar negotiations should be authorised in respect of the conveyance of Royal Air Force personnel over the railways.

I am, Sir,
Your obedient Servant,

A handwritten signature in dark ink, appearing to be 'A. T. ...', is written over a horizontal line. The signature is somewhat stylized and partially obscured by the line.