

SECOND REPORT

ON THE

ELECTRIC TELEGRAPH DEPARTMENT,

BY

THE POSTMASTER-GENERAL.

PRESENTED TO BOTH HOUSES OF THE GENERAL ASSEMBLY, BY COMMAND OF
HIS EXCELLENCY.

WELLINGTON.

—
1866.

SECOND REPORT
ON THE
TELEGRAPH DEPARTMENT OF NEW ZEALAND,
BY THE POSTMASTER-GENERAL.

SIR,—

I have the honor to submit, for the information of your Excellency, the following Report on the Telegraph Department for the year ended 30th June, 1866.

I have, &c.,
JAMES PATERSON,
Postmaster-General.

To His Excellency Sir George Grey, K.C.B.,
Governor of New Zealand.

REPORT.

THE system of Telegraphic Communication has made considerable progress during the period that has intervened since the last Report was submitted. At that time the main line did not extend further north than Christchurch, and the stations on the line numbered only eight. Two of these had only been opened for a few weeks. The line has now been extended through the whole length of the Middle Island, and is in full operation from the Bluff at the South to Nelson in the North. The stations have been increased to thirteen, and measures are in progress for the establishment of several more.

The construction of the Northern portion of the line has been attended with considerable difficulty, chiefly owing to the nature of the country it had to pass through; there have also been several interruptions since the opening of the line, caused by floods, especially in the Province of Canterbury, whereby considerable portions of the line were at various times seriously damaged, and the communication temporarily suspended. In the wooded districts also through which the line passes, several interruptions have been caused by the falling of trees, too little space having been at first cleared to admit of such a thing taking place without falling upon the line. Steps, however, are in progress for remedying the latter evil by widening the space on both sides, and it is hoped that the communication may henceforth be maintained without any serious interruption.

The branch line in the Province of Otago from Tokomairiro to the Lakes in the interior, and that in the Province of Canterbury from Christchurch to the West Coast Gold Fields still continue under the control of the respective Provincial Governments; the line from Dunedin to Port Chalmers also continues under the same private management as at the time of its construction. It is a question worthy of consideration whether it would not be advisable that the General Government confine its attention exclusively to the main line throughout the country, and leave the construction and maintenance of all branch lines to the various Provincial Governments who desire to avail themselves of such accommodation, and who can best judge of their necessity, and the nature and extent of their requirements.

From the subjoined Report of Mr. Sheath, the Telegraphic Engineer, it will be seen that while the whole line is at present in complete working order, it is found that in some districts the posts erected in the earlier stages of construction, and some others also of more recent erection, are beginning to exhibit symptoms of decay, and will require ere long to be replaced. This matter will require immediate attention, and measures are now being taken for obtaining the best information on the subject, so that, when the necessity arrives, a suitable substitute of a more substantial nature may be in readiness, whereby the effects of this rapid decay may be avoided, and the works rendered more permanent and effective. It is thought that the substitution of iron for wood, either in whole or in part, may prove an efficient remedy, the comparative advantages of both having been duly ascertained, especially in relation to cost, and the peculiarities of the soil and climate of New Zealand.

The statement of revenue and expenditure submitted in the Appendix to this Report shows the very gratifying fact that the working expenses exceed the revenue by only a very small amount. The rapid increase in the monthly returns since the whole line has been opened, seems to justify the hope that, with additional facilities which further experience may indicate as necessary, the line will not only prove self-sustaining but may shortly become a source of revenue. At the average of the return for the month of June last an annual amount would be realized far in excess of the expenses of the past year. This may reasonably be expected to continue to increase as it has hitherto gradually, month by month, so that not only will current expenses be covered, but something may remain to account of the interest due on the money expended in construction of the line.

The proposal of the Telegraph Engineer to extend the line from Nelson to Greymouth so as to connect the East and West Coasts by two lines, one from Christchurch and the other by way of Nelson, is worthy of consideration, as, in case of accident to one line, communication would still be open by the other. It is also contemplated, should circumstances prove favorable, to extend the line

northward from Wellington until it joins with that established for military purposes between Auckland and Waikato, by which means the country, both North and South, would be united in one line of communication, and the whole connected with the seat of Government at Wellington.

Tenders have been invited from persons willing to lease the line as at present in operation for the purpose of working it. This has been done with a view to test the advantage likely to accrue from the adoption of such a plan, in comparison with that of the Government keeping the management of the line under its own control. There are doubtless other considerations than those of mere finance which are of considerable weight in regard to this question; and while these, though difficult of solution from the absence of a standard of easy application, must not be entirely lost sight of, the test of cost is not unworthy of consideration in coming to a conclusion in regard to it.

The connection of the North with the Middle Island by means of a Submarine Telegraph Cable has been a subject of great interest for some time past. It was fully expected that before this Report should be submitted that important work would have been completed, and the line of communication opened up with the seat of Government. That expectation has, however, not been realized. An accident occurred in the submerging of the cable, which has for a time delayed the completion of the undertaking. Whilst deeply regretting such an untoward event, it is matter of thankfulness that it was accompanied by no more serious consequences than have resulted, and that there is every prospect of the damage being speedily repaired, and the work satisfactorily completed at an early date. A Report has been submitted on the cause and extent of the accident, furnished by the officers entrusted with the charge of superintending the laying of the cable, from which it appears that it was simply one of those events which no foresight could possibly have provided against, and which all similar undertakings are more or less liable to.

JAMES PATERSON,
Postmaster-General.

P.S.—Since the above has been in type, a second attempt has been made to submerge the cable, and, as will be seen from the annexed Report, the attempt has been a successful one.

J. P.

General Government Electric Telegraph Department,
Wellington, 18th August, 1866.

SIR,—

I have the honor to report, for your information, that the portion of the cable remaining on board the "Weymouth" after the late accident of the 28th ultimo, was successfully laid between 3 p.m. of the 15th, and 9 a.m. of 16th instant.

It was intended to have left Lyall's Bay at about 9 a.m., and so cross the Strait during the hours of daylight, but, on raising the cable to cut it and splice it, the chain broke away and the cable was again dropped to the bottom.

It was now necessary to re-grapple the cable, and this caused us from three to four hours delay.

The splice was very successfully made, and the tests for insulation during the whole of the paying out were as near perfection as could be expected.

It now remains to pick up the piece of cable lying between Lyall's Bay and Sinclair's Head, and after thoroughly overhauling it, to complete the two or three miles between the buoyed end of the cable and White's Bay.

The chief portion of the work is now very successfully accomplished, and in the course of the next fourteen days, we may confidently rely upon seeing the two Islands united by electric telegraph communication.

The Hon. the Postmaster-General,
Wellington.

I have, &c.,
ALFRED SHEATH,
Telegraphic Engineer.

General Government Electric Telegraph Department,
Wellington, 16th July, 1866.

SIR,—

I have the honor to furnish you with my Annual Report on the state and prospects of this Department.

The Hon. the Postmaster-General,
Wellington.

I have, &c.,
ALFRED SHEATH,
Telegraphic Engineer.

REPORT.

Construction of Lines.

SINCE furnishing my last Report upwards of two hundred and twenty-seven miles of double line of Electric Telegraph have been erected in the Middle Island, north of the River Hurunui. This portion of the telegraph system passes through the southern part of the Nelson Province along the River Conway to the sea, and, entering the Province of Marlborough, continues along the coast line of road to Blenheim, when, passing through Picton and Havelock it again enters the Nelson Province at Mount Maungatapu, where, passing over this mountain, and along the banks of the River Matai, it terminates at the Post Office of the City of Nelson.

In order to render the system throughout the Middle Island complete, an additional or second wire has been erected between the Bluff and Invercargill.

The cost of erection of lines throughout the year has been six thousand two hundred and seventy-eight pounds thirteen shillings, being at the rate of about twenty-six pounds fourteen shillings and sixpence per mile. The details will be found in Appendix A.

In addition to these works, a line about eight miles in length, has been purchased from the Canterbury Provincial Government, for the sum of five hundred and sixty pounds: this amount includes the Telegraph Station at Lyttelton.

The main line has been one of unusual difficulty to construct, owing to the rough and uneven nature of the land in many places, and the quantity of timber in others. Where the line has passed through timbered country, as little of the bush has been removed as possible, and this for two reasons. The first was induced by motives of economy. When on the point of commencing the construction of the line, I was informed by the Postmaster-General then in office, that it was contemplated by his Government to stop the telegraph works, owing to the financial state of the Colony; and it was on the direct understanding that the works should be carried on with the strictest economy that they were allowed to be commenced and to continue till I received further instructions. It was, therefore, the object of those concerned in the works, to keep down the expenses, and at the same time to leave the line in as safe a condition as possible. The second reason was to prevent the surrounding timber from falling, for it is well known that when an opening is made in New Zealand bush, the adjacent timber seems to be deprived of the power of supporting itself, and very shortly begins to fall: hence, we had to fell as little timber as possible, or to clear three or four chains in width for protecting the line.

Having received complaints that timber had been felled, and left on the lines of road along which the telegraph passes, I made it my business to ride along the whole line from Christchurch to Nelson, and I fortunately had the honor of the company of a Member of the General Assembly between Picton and Nelson, the part principally complained of. On appealing to this gentleman on the subject, he said he could see no cause of complaint. There are but three places on the line where the slightest cause of complaint can possibly arise, and these are on the Nelson side of the Wakamarina River. These three places are but a few yards in length, and the evil complained of has arisen rather from accident than intentionally. Where the road has been cleared in these localities, the traffic has caused the ground to be cut up, and as the moisture accumulates it has rendered the ground rotten and swampy. In order to avoid these places it is found convenient by travellers to ride into the bush, where the ground is dryer. It is here the timber has accidentally been left, thinking it was out of the way of the open road, which has also become swampy. Several trees have fallen across the road since the line was erected, some of which I have no doubt are attributed to the neglect of the telegraph workmen, but without cause.

I believe it was anticipated by the Provincial Governments that the erection of the telegraph lines would necessitate some two or three chains of bush clearing, and thus be of great assistance in the matter of road-making. Had the roads been the work of the General Government I might have recommended the Government to go to the expense of bush clearing at once, but as road-making is entirely a Provincial work, defrayed by the proceeds of the land revenue, I deemed it prudent to clear as little bush as possible, and thus save the General Government a great expense, for it will be far cheaper to employ an extra man or two for repairs to the line when necessary, than it would have been to have cleared the width of timber necessary for the perfect security of the line.

The road along which timber has been felled is simply a bridle track running through the bush, and as far as I have seen, the timber has been carefully removed from the absolute track.

What clearing has been done in prosecuting telegraph works will be of great advantage to the Marlborough and Nelson Governments when they are called upon to clear the timber for roads, and I really regard the erection of the telegraph as a great boon to these Provinces, owing to the amount of work done for them. I will, however, have the points seen to that I have indicated, and the road will then be left in as good a condition as it was prior to the erection of the telegraph.

The lines for connecting the Cook Strait submarine cable with the existing telegraph system of the Middle Island and the City of Wellington are now in course of construction, and will be brought into next year's accounts. As these works are of a comparatively trifling nature, and as contractors in these localities are unacquainted with such works, I have deemed it prudent to entrust the construction of these branch lines to the foreman of line works. I shall, however, in future recommend that all lines be erected by contract.

A submarine cable has been manufactured in England, and is now on board the "Weymouth" in the Wellington harbour, waiting to be submerged. Judging from the samples I have seen, the cable is one of the best yet manufactured, and the ultimate success of this undertaking may now, I think, be regarded as secure. It affords me great satisfaction to find that my suggestions as to the form and character of the cable have been so nearly carried out, and this fact increases my confidence in final results. The changes lately made in the landing places of the shore ends will, I am convinced, materially diminish the liabilities to accident from the fouling of ship's anchors. Worser's Bay, on the north of the Straits, is a favorite anchorage ground, and Port Underwood is to be avoided for the same reasons. The Papers already printed and laid before the Members of the General Assembly enter fully into the contracts and costs of the cable. The manner in which these contracts have been drawn up, and the satisfactory way in which the works appear to have been carried out reflect the greatest credit on those gentlemen who have acted on behalf of the New Zealand Government in England.

Maintenance and Repairs of Line.

The maintenance and repairs of lines during the past year have been heavier than may in future be expected, and have been owing principally to the extraordinary floods that have lately visited the major portion of the Colony.

The details of this expenditure will be found in Appendix A.

The Canterbury rivers have been sources of great difficulty, for the sudden manner in which they change their courses on the occasion of a fresh, renders at times all ordinary works dangerous, and

often useless. After a fresh the former river beds are left perfectly dry, and acres of the surrounding country are washed away, notwithstanding the banks are of a considerable height. Thoroughly to appreciate these rivers it requires them to be known. It is, however, to be hoped that steps will shortly be taken by the Provincial Government to bridge some of the worst of these rivers—such as the Waitaki and the Rakaia; but if this be delayed I should feel disposed to propose to the Government the erection of timber structures sufficiently elevated to carry the wires across these rivers at a single stretch.

Another cause of breakage on the lines is the falling of timber, and this evil will be lessened every year, as the timber along the lines of roads is fast being removed by the owners of property. I have been surprised to see the amount of clearing that has been effected in some Provinces since the construction of the electric telegraph, and that of timber of the most dangerous character.

I have but little apprehension of serious inconvenience in this regard, for where the felling of timber is going on, I send a lineman to the spot to repair any damage that may occur, and thus prevent serious interruptions.

The route chosen for the line has proved of great advantage, owing to the absence of snow and severe frosts, which are generally very destructive to telegraphic lines.

I am informed by linemen that the posts between the Bluff and Invercargill are beginning to show symptoms of decay, and that many will shortly have to be replaced. These posts are saplings, and have been in the ground about three years. Such being the case, we may expect the timber in some of the drier districts to last but a short time longer, possibly not more than four or five years. It behoves me, therefore, to turn my attention to the best method of meeting this difficulty. I am in consequence obtaining all the information I can procure on the best and lightest form of iron posts, and I hope by the time we shall require them to be able to recommend iron posts or iron sockets suitable for our purposes.

Purchase of other Lines.

As great inconvenience is now experienced both by the Department and the public generally, owing to the divided management of the telegraph lines of the Colony, great benefit would be afforded by the working of the whole of the lines under one general management and under one system.

It is a matter of great importance to possess stations at the various ports, as facilities are thus afforded to captains of vessels, and business brought to the line. The system of transferring telegrams from one line to another often causes delays, and greatly increases the cost of the telegram.

The union of the West Coast of the Middle Island with the existing lines of the East Coast is a matter of so great importance that I should be inclined not only to recommend the Government to purchase the existing West Coast line from the Canterbury Province, but also to adopt measures to secure an uninterrupted communication by erecting a new line from Nelson along the West Coast. The present West Coast line is very liable to interruptions during the winter months, owing to the heavy snows, and the rivers have proved themselves frequent sources of interruption during the season of freshes. A great amount of business is transacted on the West Coast line, and the lines of the General Government derive much of their support from this source.

The station at Hokitika may be classed with those of Dunedin and Christchurch, and as most of the business is destined for stations on your lines, it will be seen that any interruptions to the communication must be a matter of great importance to the General Government. It is for that reason I recommend the construction of a second or auxiliary line, which may ensure, as far as possible, uninterrupted communication, while the existing line, if purchased, may be used as long as it is in repair and working order, mainly for the Southern portion of the island, thus saving delay.

Amount of Revenue, and Business done.

The number of telegrams forwarded along the lines during the year is 27,237, and the gross revenue returnable for these telegrams is £6,045 2s. 4d., being £4,679 19s. 8d. for ordinary or private telegrams, £563 0s. 11d. for Press telegrams, and £318 18s. 7d. for Provincial Government telegrams. Thus the cash business done for the year has amounted to £5,561 19s. 2d., while the value of General Government telegrams for the same period amounts to £483 3s. 2d. (See Appendix B.)

The laying of the submarine cable across Cook Strait may reasonably be expected to produce a great increase of business, and as the public become acquainted with the use and advantage of the electric telegraph the amount of revenue will be greatly augmented.

Working Expenses.

The working expenses of the Department (see Appendix C.) may be set down at £3,934 3s. 4d. for the salaries and travelling expenses of officers, which, taken with the amount paid for maintenance and repairs of lines, £2,443 2s. 11d., shows a total of £6,377 6s. 3d. to be paid out of the revenues of the Colony. This amount exceeds the revenue returnable (see Appendix D.) by the trifling amount of £332 3s. 9d., and this deficiency in revenue may be attributed to losses suffered by the damage done to the lines at the rivers mentioned above. Had these accidents not occurred the revenue would greatly have exceeded the working expenses even during the first year the lines have been opened to the public.

The prospects of the Department may, therefore, be regarded as in a most flourishing condition, and the Government may confidently rely upon finding it ultimately a source of revenue.

The Staff.

The officers of the Department, as a rule, have been called upon to perform very arduous duties, and at the chief stations they must have been subjected to great inconvenience, owing to the amount of business they have had to perform. I have, therefore, found it necessary to propose an additional officer at Dunedin and Christchurch to hold the appointment of counter clerk. The duties of these officers will be to receive telegrams from the public during the busy hours of the day, namely, between 10 a.m. and 5 p.m., and also to keep the accounts of these stations.

As we experience great difficulty in filling up vacancies when they occur, owing to there being no supernumeraries on the staff, I would propose as a precautionary measure that the clerks at the Chief Post Offices throughout the Colony be instructed in the art of telegraphy, so that they might be able not only to take appointments in the Telegraph Department when required, but in order that future Postmasters may be enabled to perform the duties of telegraphists in connection with their other offices.

Changes in the Tariff Rates, and Hours of Business.

Owing to certain representations made to me by merchants and others using the telegraph, I was induced to propose a new tariff, which, as far as I have been able to learn from those most frequently using it, has given satisfaction. The extending of the hours of business has also given great satisfaction, and will prove in most cases a great advantage to the Department. Some of the minor stations might, however, have the hours of business curtailed, and placed on the original footing without injury to the public service, and with advantage to the Department. I should, therefore, propose making the hours of business at the following stations the same as those of the post offices, namely, from 9 a.m. till 5 p.m. These stations are Tokomairiro, Oamaru, Timaru, Heathcote, Kaiapoi, and Picton, and this change will reduce the salary expenditure of the Department by £250, the amount of salary necessary for five extra messengers required by the long hours, an outlay not at all commensurate with the advantages to be derived.

Wellington, 16th July, 1866.

ALFRED SHEATH,
Telegraphic Engineer.

Appendix A.

RETURNS showing the ITEMS of EXPENDITURE on account of LINE WORKS, for the Year ended 30th June, 1866.

<i>Erection of Works.</i>						£	s.	d.
Travelling expenses	...	...	...	...	...	308	19	4
Carriage and freight	...	...	...	...	...	2,401	19	10
Salaries and labour	...	...	...	...	...	3,230	4	1
Contingencies	...	...	...	...	...	337	9	9
Total	...	...	...	...	...	£6,278	13	0
<i>Maintenance and Repairs of Lines.</i>						£	s.	d.
Travelling expenses	...	...	...	...	...	789	4	3
Carriage and freight	...	...	...	...	...	301	18	1
Salaries and labour	...	...	...	...	...	772	15	0
Contingencies	...	...	...	...	...	579	5	7
Total	...	...	...	...	...	£2,443	2	11
Purchase of Port Lyttelton Line	...	...	...	...	...	£560	0	0

ALFRED SHEATH,
Telegraphic Engineer.

Appendix B.

RETURN of BUSINESS TRANSACTED at each STATION of the ELECTRIC TELEGRAPH DEPARTMENT, for the Year ended 30th June, 1866.

STATION.	No. TELEGRAMS.	O. T.	PRESS.	P. G.	G. G.	TOTALS.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Bluff	1,863	176 3 11	236 11 3	13 6 10	45 6 5	471 8 5
Invercargill	2,571	499 7 11	20 9 9	68 14 7	44 1 3	632 13 6
Tokomairiro	314	30 1 5	0 13 6	0 19 10	1 9 10	33 4 7
Dunedin	6,795	1,475 5 8	153 1 7	54 3 11	128 4 10	1,792 16 0
Oamaru	1,897	353 3 3	3 2 11	4 13 4	7 16 2	368 15 8
Timaru	1,140	207 19 3	0 13 6	22 10 0	32 16 0	263 18 9
Christchurch	6,746	1,159 0 1	107 8 9	113 0 0	110 18 4	1,490 7 2
Lyttelton	4,269	505 11 8	13 2 2	31 17 7	91 19 2	642 10 7
Heathcote	117	10 8 6	...	7 5 8	...	17 14 2
Kaiapoi (opened in January)	318	31 18 8	...	1 2 4	0 6 10	33 7 10
Blenheim (opened in June)	86	13 14 10	...	0 13 6	0 12 4	15 0 8
Picton	303	58 1 0	...	...	10 3 2	68 4 2
Nelson (opened in April)	818	177 3 6	27 17 6	0 11 0	9 8 10	215 0 10
Totals	27,237	4,679 19 8	563 0 11	318 18 7	483 3 2	6,045 2 4

ALFRED SHEATH,
Telegraphic Engineer.

Appendix C.
COMPARATIVE MONTHLY RETURN of BUSINESS TRANSACTED at each STATION during the Year ended 30th JUNE, 1866.

STATIONS.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	TOTALS.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Nelson ...	...	...	...	...	...	...	...	...	24 1 3	61 18 8	59 8 3	69 12 8	215 0 10
Picton ...	...	...	...	...	...	5 15 0	4 8 0	6 11 0	7 10 6	14 15 1	11 14 7	17 10 0	68 4 2
Blenheim ...	...	...	...	...	...	...	...	...	...	...	...	15 0 8	15 0 8
Kaipoi ...	...	...	...	...	...	...	...	4 0 0	5 11 6	7 12 2	7 3 2	9 1 0	33 7 10
Christchurch ...	112 9 0	100 10 3	118 10 0	109 17 9	102 9 6	95 15 9	52 2 6	56 18 0	181 12 0	185 3 0	188 17 11	186 1 6	1,490 7 2
Heathcote ...	1 18 0	0 7 0	2 19 6	2 5 6	1 19 6	1 1 0	1 19 0	0 6 0	1 2 0	0 8 4	1 17 6	1 10 10	17 14 2
Lyttelton ...	65 13 10	61 9 6	53 9 6	55 14 5	54 9 0	41 18 0	39 7 0	44 0 0	63 7 6	46 19 10	54 13 2	61 8 10	642 10 7
Timaru ...	15 7 0	23 5 6	21 4 0	14 14 0	23 1 6	17 2 6	7 19 0	3 19 0	35 2 6	36 6 7	32 7 6	33 9 8	263 18 9
Oamaru ...	19 9 6	32 16 0	29 14 0	32 11 6	28 4 0	25 12 0	26 9 0	24 8 2	35 12 11	38 5 10	37 0 3	38 12 6	368 15 8
Dunedin ...	151 4 6	145 6 2	134 8 3	162 14 2	177 9 8	152 7 10	90 9 10	80 17 3	187 6 2	162 4 9	174 16 7	173 10 10	1,792 16 0
Tokomairiro ...	...	...	...	...	...	...	...	0 19 6	7 12 6	8 7 4	7 5 3	9 0 0	33 4 7
Invercargill ...	70 16 6	51 1 6	44 16 0	45 10 6	60 7 0	56 15 0	42 1 0	42 19 0	64 2 6	35 17 6	64 8 0	53 19 0	632 13 6
Campbell Town ...	48 4 9	40 15 8	52 6 6	25 7 7	51 9 0	25 7 0	28 2 7	20 14 0	47 14 8	36 9 10	51 5 7	34 11 3	471 8 5
	485 3 1	464 11 7	457 7 9	448 15 5	499 9 2	421 14 1	292 17 11	285 11 11	660 16 0	634 8 11	690 17 9	703 8 9	6,045 2 4

ALFRED SHEATH,
Telegraphic Engineer.

Appendix D.

RETURN showing the WORKING EXPENSES of the ELECTRIC TELEGRAPH DEPARTMENT for the Year ended 30th June, 1866.

<i>Salaries.</i>					£	s.	d.
General Superintendent and Engineer's Department	...	...	...	...	1,102	17	0
Accounts and General Management	...	...	...	...	496	11	0
Signals Department	...	...	...	...	2,275	0	4
Travelling Expenses	...	...	...	...	59	15	0
Total	...	...	...	...	£3,934	3	4

ALFRED SHEATH,
Telegraphic Engineer.

