

1968/170

Reprint under section 7 of the Regulations Act 1936 of the Engine Drivers' Examination Regulations 1952 (S.R. 1952/149), as amended by the following amendments:

Amendment No. 1, S.R. 1953/126
 Amendment No. 2, S.R. 1954/234
 Amendment No. 3, S.R. 1959/23
 Amendment No. 4, S.R. 1968/144

THE ENGINE DRIVERS' EXAMINATION REGULATIONS 1952 (REPRINT)

FREYBERG, Governor-General
 ORDER IN COUNCIL

At the Government House at Wellington this 6th day of August 1952

Present:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL

PURSUANT to the Boilers, Lifts, and Cranes Act 1950, His Excellency the Governor-General, acting by and with the advice and consent of the Executive Council, hereby makes the following regulations.

REGULATIONS

1. (1) These regulations may be cited as the Engine Drivers' Examination Regulations 1952.

(2) These regulations shall come into force on the 1st day of September 1952.

2. In these regulations, unless the context otherwise requires,—

“The Act” means the Boilers, Lifts, and Cranes Act 1950:

“Board” means the Board of Examiners appointed under the Act:

“Candidate” means a candidate for examination for a certificate under these regulations:

“Department” means the Marine Department:

“Examinations” means examinations for certificates under these regulations:

“Examiner” means the person for the time being in charge of an examination:

“Secretary” means the Secretary of the Department.

EXAMINATIONS

Conduct of Examinations

3. (1) No persons, other than candidates and those persons whose duties require them to be present, shall be in any room where examinations are taking place.

(2) Candidates for examinations shall be placed so as to prevent one copying from another, and no communication whatever shall take place between the candidates.

4. All books necessary for the use of candidates shall be provided by the Examiner. Candidates shall not take into the examination room any books, papers, or memoranda of any kind whatever:

Provided that slide rules previously approved by the Examiner may be taken into the examination room by candidates.

5. Candidates in drawing shall be provided with drawing boards and T squares, if necessary, but any other drawing instruments which they may require shall be provided by the candidates.

6. Candidates shall be allowed (in the time allotted) to cancel any part of their work, and, when required, additional papers shall be supplied by the Examiner. Candidates shall not work out the problems on anything but the paper supplied by the Examiner. Additional papers shall be attached to and form part of the examination papers.

7. Where any candidate is discovered referring to any unauthorised book or paper, or copying from another, or affording any assistance or giving any information to another, or communicating in any way with another, during the time of examination the candidate shall be regarded as having failed in his examination.

8. If a candidate leaves the examination room before answering any question which he is required to answer, he shall not afterwards be permitted to answer it, but the Examiner may substitute other data or another question.

9. Silence shall be preserved by candidates in the examination room.

10. Any candidate acting in contravention of any of the foregoing regulations, or being guilty of insolence to the Examiner, or of disorderly or improper conduct in or about the examination room, shall be liable to the postponement of his examination, or, in the event of his having passed, to the detention of his certificate for such period as the Board may direct.

11. In order to secure a pass in the written part of the examination which includes drawing, a candidate shall obtain at least two-thirds of the possible marks.

[11A. The following provisions shall apply with respect to the extra first class stationary engineers' examination:

- (a) The examination shall be divided into two divisions; Division A consisting of practical mathematics and drawing, and Division B consisting of engineering knowledge and orals;
- (b) No exemption shall be granted from any of the subjects covered by the examination;
- (c) Subject to complying with all the relevant provisions of these regulations, a candidate may be examined for Division A of the examination;
- (d) A candidate shall pass Division A of the examination before attempting Division B. Where, however, a candidate attempts both Divisions of the examination at the one time, he shall not be credited with a pass in Division B unless he has passed all the subjects in Division A:

- (e) In any case of failure the re-examination shall embrace all subjects in the division attempted:
- (f) Marks shall not be allocated to any subject and each candidate shall be informed of the result of his examination by an indication as to whether he has passed or failed each subject attempted.]

This regulation was inserted by regulation 2 of S.R. 1968/144.

Dates and Places of Examination

12. [(1) Examinations [(except the examination for extra first class stationary engineer)]] shall be held at the offices of the Marine Department as follows:

- (a) [[At Whangarei, Hamilton]], Tauranga, Napier, New Plymouth, Wanganui, Palmerston North, Wellington, Greymouth, Christchurch, Dunedin and Invercargill—on the first working day (except Saturday) of February, May, August, and November in each year:
- (b) At Auckland—on the first working day (except Saturday) after the 14th day of February, May, August, and November in each year:
- (c) At Nelson—on the first working day (except Saturday and Anniversary Day) of February, May, August, and November in each year:
- (d) At Timaru—on the first Tuesday after the 14th day of May and the first Tuesday after the 14th day of October in each year:
- (e) At the following places on the first working day in each year after the dates specified:
 - (i) At Gisborne—the 14th day of February and the 14th day of August:
 - (ii) *Revoked by regulation 2 (b) of S.R. 1959/23.]*

[(1A) The extra first class stationary engineers' examination shall be held at Wellington, commencing on the Tuesday after the third Monday in February and August; at Auckland, commencing on the Tuesday after the third Monday in January and July; at Christchurch, on the second Monday in March and September; and at Dunedin, on the Tuesday after the first Monday in June.]

(2) If necessary, the examinations shall be continued on the days following those specified.

(3) In cases of emergency the Chairman of the Board may authorise examinations to be held at times and places other than those specified in this regulation.

Subclause (1) was substituted for the original subclause (1) (as amended by regulation 2 of S.R. 1953/126) by regulation 2 (1) of S.R. 1954/234.

In subclause (1) the words in the first set of double square brackets were inserted by regulation 3 of S.R. 1968/144.

In subclause (1) (a) the words in double square brackets were substituted for the words "at Hamilton" by regulation 2 (a) of S.R. 1959/23.

Subclause (1A) was inserted by regulation 4 of S.R. 1968/144.

Applications

13. (1) Applications for certificates shall be made on form Marine 376, set forth in the Schedule hereto. Supplies of this form shall be made

available at the offices of the Marine Department at the places specified in regulation 12 (1) hereof.

(2) Applications under these regulations, accompanied by the prescribed fee, references, and other documents required by these regulations, shall be forwarded to the Secretary, Marine Department, Wellington, and in the case of applications for examinations, shall reach him at least 21 days before the date of examination.

(3) The holder of a certificate under the Boilers, Lifts, and Cranes Act 1950 shall, when applying for a certificate of a higher grade, forward his certificate with his application. If the higher certificate is granted, the lower certificate shall be cancelled and retained.

Fees

14. The fees payable in respect of the examinations and certificates shall be the fees prescribed hereunder:

(a) <i>Competency</i> —	\$
Extra first class stationary engineer	4
First class engine driver	3
Second class engine driver	3
Winding engine driver, steam, hydraulic	3
Winding engine driver, electric	3
Locomotive and traction engine driver	3
Traction engine driver	3
Locomotive engine driver	3
(b) <i>Service</i> —	
First or second class engine driver	1
(c) <i>Renewal</i> —	
For replacement of a certificate	1

The references to money in decimal currency were substituted for references to money in the former currency by s. 7 of the Decimal Currency Act 1964.

15. If a candidate is found not to be qualified, the fee shall be either returned to him or placed to his credit until he is qualified. In any case where a candidate, having qualified for examination, becomes incapacitated or dies before having had an opportunity of being examined, the fee may be refunded. No refund shall be made except upon the recommendation of the Board and with the approval of the Secretary.

References and Testimonials

16. (1) Proof of qualifying service shall take the form of a statement by the applicant's employer, which shall contain the dates of duration of each particular period of service. References relating to service in connection with the running of boilers and engines shall also state clearly the classes of boilers and engines concerned, and shall give the horsepower of the boilers and the number and diameter of the cylinders of the engines.

(2) In any case where the applicant is the sole owner of the steam plant in connection with which his qualifying service has been performed, the necessary proof of service shall take the form of a statement by a Justice of the Peace, a postmaster, or two persons of good repute who are acquainted with the facts, and any such statement shall contain all details specified by subclause (1) of this regulation.

(3) Every applicant shall furnish a testimonial certifying his sobriety and good conduct for at least the 12 months immediately preceding the date of his application.

(4) Every reference, testimonial, or certificate of service forwarded in support of any application shall be accompanied by a copy, which shall be retained for record purposes and the original returned to the applicant. Any such documents which are forwarded without the necessary copies may be retained by the Department. References which themselves are addressed to the Department will be retained.

(5) Where an applicant is unable to produce written proof of his service, by reason of the loss or destruction of his papers, certificates, or discharges, the Board may accept as evidence of his service a statutory declaration by the applicant giving particulars of his service and of the loss of papers and certificates.

Language Test

17. Every candidate shall satisfy the Board that he can speak and write the English language sufficiently to be able to perform the duties he may be required to perform as the holder of a certificate under the Act.

Age

18. Should any doubt exist as to the age of a candidate, he may be required to produce a certificate of birth.

Service: Miscalculations or Misrepresentations

19. (1) If, after a candidate has passed the examination, it is found that his service is insufficient to entitle him to receive a certificate of the grade in respect of which he has passed, the certificate shall not be granted until he has performed the service in which he was deficient and has been re-examined, unless the Board sees fit to dispense with the re-examination.

(2) Should a candidate's service entitle him to a certificate of a lower grade that certificate may be granted.

(3) If the Board is satisfied that the miscalculation of the candidate's service was not due to any fault or misrepresentation on his part, he may have the fee returned to him or placed to his credit.

(4) In any case where it is discovered that any such candidate has used a false reference as to service in support of his application, or has been guilty of misrepresentation in connection with his service, the examination shall be void and the fee forfeited.

(5) Service which has been performed in contravention of the Boilers, Lifts, and Cranes Act 1950 shall not be accepted in respect of any application.

Medical Certificates

20. (1) Every applicant for a winding, traction, locomotive, or locomotive and traction engine driver's certificate shall forward with his application a certificate, signed by a registered medical practitioner, to the effect that the applicant's eyesight and hearing are satisfactory, that he is free from colour blindness, and that he is not subject to any other infirmity likely to interfere with the efficient discharge of his duties.

(2) Any such certificate, which shall be retained for record purposes by the Secretary, shall be dated not more than 12 months prior to the date upon which the application reaches the Secretary.

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Certificates for Successful Applicants

21. To persons who pass the prescribed examinations, or who qualify for certificates by other means provided for in these regulations, the Secretary on the recommendation of the Board and on being satisfied that the provisions of the Act have been complied with, shall issue certificates of the appropriate class and in the form set forth in the Schedule hereto.

Failure in Examination

[22. (1) If a candidate fails in any examination (other than the extra first class stationary engineers' examination) under these regulations, he shall not be eligible for re-examination until after the expiration of three calendar months from the date of failure.

(2) If a candidate fails the extra first class stationary engineers' examination, he shall not be eligible for re-examination until after the expiration of six calendar months from the date of failure.]

This regulation was substituted for the original regulation 22 by regulation 5 of S.R. 1968/144.

Replacement of Certificates

23. (1) Any person who proves to the satisfaction of the Board that a certificate of which he was the rightful holder has been lost or destroyed may obtain a replacement of the certificate.

(2) All applications for replacement of lost or destroyed certificates shall be made on form Marine 378 set forth in the Schedule hereto.

QUALIFICATIONS REQUIRED FOR CERTIFICATES

STATIONARY ENGINES AND BOILERS

Extra First Class Stationary Engineer (Competency)

24. (1) In accordance with the Act, an extra first class stationary engineer's certificate entitles the holder to drive and have charge of any steam stationary engine (other than a winding engine) and of any stationary boiler.

(2) An applicant for examination for the extra first class stationary engineer's certificate shall—

(a) Be at least 21 years of age:

(b) Hold a first class engine driver's (or equivalent) certificate:

(c) Forward with his application a fee of [£4]:

(d) Furnish a testimonial as required by regulation 16 (3) hereof:

[(e) Produce satisfactory proof of having worked for at least five years in the fitting or the fitting and turning trades as an apprentice or a journeyman in either a workshop or workshops where steam engines, steam turbines or boilers are made or repaired, or on maintenance work associated with large boilers, steam engines or steam turbines.

(f) Pass an examination the syllabus for which is set out in the Second Schedule to these regulations.]

In subclause (2) (c) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

In subclause (2), paras. (e) and (f) were substituted for the original paras. (e)-(n) (para. (e) having been amended by regulation 3 of S.R. 1953/126) by regulation 6 (1) of S.R. 1968/144.

First Class Engine Driver (Competency)

25. (1) In accordance with the Act, a first class engine driver's certificate entitles the holder to drive and have charge of any steam stationary engine (other than a winding engine) and of any boiler.

(2) An applicant for examination for the first class engine driver's certificate shall—

- (a) Be at least 20 years of age;
- (b) Forward with his application a fee of [£3];
- (c) Furnish a testimonial as required by regulation 16 (3) hereof;
- (d) Produce satisfactory proof of one of the following service qualifications:
 - (i) Service for four years as an apprentice engineer in a workshop or workshops where engines are made or repaired, or where work of a similar nature is performed;
 - (ii) Service for three years as a journeyman engineer in a workshop or workshops as above;
 - (iii) Having, while holding the second class engine driver's (or equivalent) certificate, efficiently driven for 12 months a steam engine the cylinder area of which exceeds 144 but does not exceed 200 circular inches;
 - (iv) Having, while holding the second class engine driver's (or equivalent) certificate, had actual charge, for 12 months, of a boiler over 15 horsepower;
 - (v) While holding the second class engine driver's (or equivalent) certificate, having, for 12 months, fired and attended a boiler over 15 horsepower, under the supervision of a first class certificated driver; or
 - (vi) Having, for at least three years outside of New Zealand, been in charge of an engine the cylinder area of which exceeds 144 circular inches, and having passed the examination for the second class engine driver's certificate:
- (e) Be able to work out arithmetical questions connected with safety valves and connections, capacities of coal bunkers and oil tanks, levers, areas of flat surfaces, and consumption of stores:
- (f) Be able to give a satisfactory description of all types of boilers in use on land, how they are constructed and erected; be acquainted with the uses and management of the different valves, cocks, and connections on boilers; be acquainted with the causes and effects of and the usual remedies for scale and corrosion in boilers; be able to explain fully how defects which might arise in the working of boilers should be overcome, and how to effect the necessary repairs both of a temporary and permanent nature; be able to calculate the amount of heating surface of a boiler, and to explain the relation governing the safety valve and the heating surface:
- (g) Be able to solve problems in arithmetic, such as addition, subtraction, multiplication, division, proportion, vulgar and decimal fractions, and the extraction of square roots; be able to solve problems as to coal or oil capacity, store consumption, lever safety valves, capacities of tanks, and similar problems; be able to describe the different parts of steam engines used on land, and how he would remedy defects that might arise in their

working; be able to describe the use of auxiliary appliances such as condensers, the different kinds of pumps used with modern engines, automatic feed water and fuel controls; be able to explain and calculate indicator diagrams and to correct and set slide valves:

- (h) Be able to make an intelligible hand sketch or a working drawing of some one or more of the principal parts of engines or boilers and to mark in, without a copy, all the necessary dimensions in figures so that the sketch or drawing could be worked from.

In subclause (2) (b) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

Second Class Engine Driver (Competency)

26. (1) In accordance with the Act, a second class engine driver's certificate entitles the holder to drive and have charge of any steam stationary engine (except a winding engine), the cylinder area of which does not exceed 200 circular inches, and of its boilers, or of any boiler to which no machinery is attached.

(2) An applicant for examination for a second class engine driver's certificate shall—

- (a) Be at least 19 years of age;
- (b) Forward with his application a fee of [**\$3**];
- (c) Furnish a testimonial as required by regulation 16 (3) hereof;
- (d) Produce satisfactory proof of one of the following service qualifications:
 - (i) Having, for at least six months, driven or assisted to drive a steam engine or attended or assisted in attending a boiler; or
 - (ii) Having worked for at least two years as an apprentice engineer or as a journeyman mechanic in a workshop or workshops where engines are made or repaired or where work of a similar nature is performed;
- (e) Show by oral examination that he can describe engines and boilers and their different parts and uses, including the feeding of a boiler and the running of an engine, the keeping of a boiler clean, and explain how he would overcome simple defects that might arise in the management of boilers, engines, automatic feed water and fuel controls.

In subclause (2) (b) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

WINDING ENGINES

Winding Engine Driver: Steam (Competency)

27. (1) A steam winding engine driver's certificate entitles the holder to drive and have charge of any steam, air, or hydraulic machinery used for winding purposes in a mine.

(2) In accordance with the Act, the holder of a steam winding engine driver's certificate is deemed also to be the holder of a second class engine driver's certificate, and he may also drive and have charge of a steam traction engine, a steam locomotive, and a steam log hauling engine and its boiler.

(3) An applicant for examination for a steam or hydraulic winding engine driver's certificate shall—

- (a) Be at least 21 years of age;
- (b) Forward with his application a fee of [£3];
- (c) Furnish a testimonial as required by regulation 16 (3) hereof;
- (d) Furnish a medical certificate as required by regulation 20 hereof;
- (e) Produce satisfactory proof of the following service qualifications:
 - (i) That, for at least six months, he has driven or assisted to drive a steam engine, or attended or assisted in attending a boiler; and
 - (ii) That, for at least 160 hours, he has served as assistant to a certificated winding engine driver in operating a steam, air, or hydraulic winding engine by means of which persons are drawn up, down, or along any shaft, pit, or inclined plane in a mine, or by means of which material is raised or lowered when a shaft is being sunk in a mine;
- (f) Undergo a practical test on a steam, air, or hydraulic winding engine as the case may be, and satisfy an Inspector of Mines and a duly certificated winding engine driver approved by the said Inspector of Mines that the candidate is competent to work the said winding engine in raising and lowering men in a mine;
- (g) Pass an oral examination in the following subjects:
 - (i) The various classes of steam or air machinery used in winding and of their internal and moving parts, and the remedying of simple defects that might arise in the use of any such machinery;
 - (ii) The various appliances and indicators used to show the position of a cage in a shaft or a truck on a plane in which persons are conveyed; also the meaning of the various signals used in mines;
 - (iii) The various kinds of boilers and their connections used to supply steam to winding engines, the effect of impurities in water used in any such boilers and the various methods adopted to keep them clean, the remedying of simple defects that might arise in the use of boilers, and the prevention of priming in boilers;
 - (iv) The power of steam or air machinery;
 - (v) All subjects included in the examinations for the locomotive and traction and second class engine driver's certificates.

In subclause (3) (b) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

Winding Engine Driver: Electric (Competency)

28. (1) An electric winding engine driver's certificate entitles the holder to drive and have charge of any electrically driven machinery used for winding purposes in a mine.

(2) An applicant for examination for the electric winding engine driver's certificate shall—

- (a) Be at least 21 years of age;
- (b) Forward with his application a fee of [£3];
- (c) Furnish a testimonial as required by regulation 16 (3) hereof;

- (d) Furnish a medical certificate as required by regulation 20 hereof:
- (e) Produce satisfactory proof of the following service (except that, if the applicant is the holder of the steam winding engine driver's certificate, this service will not be required): That, for at least 160 hours, he has served as assistant to a certificated electric winding engine driver in operating an electric winding engine by means of which persons are drawn up, down, or along any shaft, pit, or inclined plane in a mine, or by means of which material is raised or lowered when a shaft is being sunk in a mine:
- (f) Undergo a practical test on electric winding machinery and satisfy an Inspector of Mines and a duly certificated electric winding engine driver approved by the said Inspector of Mines that the candidate is competent to work the said electric winding machinery in raising and lowering men in a mine:
- (g) Pass an oral examination in the following subjects:
 - (i) Simple questions connected with electric motors used for winding purposes, and their connections:
 - (ii) The various appliances used to show the position of a cage in a shaft or a truck on a plane in which persons or materials are conveyed; also the meaning of the various signals used in mines or coal mines:
 - (iii) The description and uses of the various brakes used for machinery of this class:
 - (iv) The precautions necessary when dealing with electrical machinery, switchboards, and wiring, and the means to be adopted for the restoration of persons suffering from electric shock.

In subclause (2) (b) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

Winding Engine Driver: Restricted

29. (1) Any person may apply for a winding engine driver's certificate limited in its application to winding engines of a particular class.

(2) Any such certificate (referred to in these regulations as a restricted winding engine driver's certificate) entitles the holder to drive and have charge of a winding engine of the class mentioned in the certificate, when the engine is used for drawing persons up, down, or along any inclined plane or level in any mine or coal mine.

(3) An applicant for examination for a restricted winding engine driver's certificate shall—

- (a) Be not less than 21 years of age:
- (b) Forward with his application a fee of **[\$3]**:
- (c) Provide a testimonial of sobriety and good conduct for at least one year immediately preceding the date of application:
- (d) Produce a medical certificate as required by regulation 20 hereof:
- (e) Produce satisfactory proof of one of the following service qualifications:
 - (i) That for at least six months he has operated a winding engine of the class mentioned in the restricted certificate applied for engaged in hauling persons on an inclined plane or level under a permit issued by the Secretary; or

- (ii) That he is the holder of a first or second class engine driver's certificate issued under the provisions of the Act and has undergone a practical test on a winding engine of the class mentioned in the restricted certificate now applied for in the presence of an Inspector of Mines, and has satisfied the Inspector that the candidate is competent to work the said winding engine when persons are hauled up, down, or along an inclined plane or level; or
 - (iii) That he has had at least 12 months' actual experience assisting in the operation of a winding engine of the class mentioned in the restricted certificate now applied for engaged in hauling on an inclined plane or level, and has undergone a practical test on a winding engine of that class in the presence of an Inspector of Mines and has satisfied the Inspector that the candidate is competent to work the said winding engine when persons are being hauled up, down, or along an inclined plane or level:
- (f) Pass an oral examination in the following subjects:
- (i) A description of a winding engine of a class in respect of which the certificate is sought:
 - (ii) The construction of the said winding engine and the principle on which it works:
 - (iii) The braking system of the said winding engine and how wear may be taken up, how simple defects to the engine can be remedied, how the haulage rope is attached to both load and engine, what precautions should be taken to keep it in good order, and what are likely to be the first indications of excessive wear:
 - (iv) In the case of engines driven by electric power, an elementary knowledge of an electric motor, the system used for starting and controlling the speed of the motor, and how the power of the motor is transferred to the machine. The safety precautions necessary when dealing with electrical machinery, switchboards, and wiring, and the means to be adopted for the restoration of persons suffering from electric shock.

In subclause (3) (b) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

LOCOMOTIVE AND TRACTION ENGINES

Locomotive and Traction Engine Driver (Competency)

30. (1) The holder of the locomotive and traction engine driver's certificate may drive and have charge of any steam engine propelled or moved from place to place by its own motive power or machinery. He is also, in accordance with the Act, deemed to be the holder of a second class engine driver's certificate.

(2) An applicant for examination for the locomotive and traction engine driver's certificate shall—

- (a) Be at least 21 years of age:
- (b) Forward with his application a fee of [£3]:
- (c) Furnish a testimonial as required by regulation 16 (3) hereof:

- (d) Furnish a medical certificate as required by regulation 20 hereof:
- (e) Produce satisfactory proof of at least one of the following service qualifications:
 - (i) Having been for at least six months engaged at firing or steering a steam locomotive or steam traction engine; or
 - (ii) Having been for at least six months in charge of a steam engine and boiler:
- (f) Pass an oral examination in the following subjects:
 - (i) The rule of the road, and under what conditions traction engines are allowed to travel on public roads and highways:
 - (ii) The meanings of all the various lights and signals used on railways and railway crossings in New Zealand:
 - (iii) The details of the various parts of a steam locomotive and a steam traction engine, and the use of each part:
 - (iv) How temporary repairs could be effected in case of simple defects to engines or boilers:
 - (v) The use of the various cocks, gauges, valves, and connections on boilers used for locomotive and traction purposes:
 - (vi) The feeding of boilers and the effect of impurities in water used in any such boilers, and the methods used to keep them clean:
 - (vii) The subjects included in the examination for the second class engine driver's certificate.

In subclause (2) (b) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

Locomotive Engine Driver (Competency)

31. (1) The holder of a locomotive engine driver's certificate may drive and have charge of any steam locomotive engine propelled or moved from place to place by its own motive power or machinery. He is also, in accordance with the Act, deemed to be the holder of the second class engine driver's certificate.

(2) An applicant for examination for the locomotive engine driver's certificate shall—

- (a) Be at least 21 years of age:
- (b) Forward with his application a fee of **[\$3]**:
- (c) Furnish a testimonial as required by regulation 16 (3) hereof:
- (d) Furnish a medical certificate as required by regulation 20 hereof:
- (e) Produce satisfactory proof of at least one of the following service qualifications:
 - (i) Having been, for at least six months, engaged at firing or steering a steam locomotive or steam traction engine; or
 - (ii) Having been, for at least six months, in charge of a steam engine and boiler:
- (f) Pass an oral examination in the following subjects:
 - (i) The meanings of all the various lights and signals used on railways and railway crossings in New Zealand:
 - (ii) The details of the various parts of steam locomotive engines, and use of each part:
 - (iii) How temporary repairs could be effected in case of simple defects in a locomotive engine or boiler:

(iv) The use of the various cocks, gauges, valves, and connections on boilers used for locomotive purposes:

(v) The feeding of boilers and the effect of impurities in water used in any such boilers, and the methods used to keep them clean:

(vi) The subjects included in the examination for the second class engine driver's certificate.

In subclause (2) (b) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

Traction Engine Driver (Competency)

32. (1) The holder of a traction engine driver's certificate may drive and have charge of any steam traction engine propelled or moved from place to place by its own power or machinery. He may also drive and have charge, as a stationary engine, of any steam traction engine which he owns or is employed to drive as a traction engine.

(2) An applicant for examination for a traction engine driver's certificate shall—

(a) Be at least 21 years of age:

(b) Forward with his application a fee of [£3]:

(c) Furnish a testimonial as required by regulation 16 (3) hereof:

(d) Furnish a medical certificate as required by regulation 20 hereof:

(e) Produce satisfactory proof of at least one of the following service qualifications:

(i) Having been, for at least six months, engaged at firing or steering a steam locomotive or steam traction engine; or

(ii) Having been, for at least six months, in charge of a steam engine and boiler:

(f) Pass an oral examination in the following subjects:

(i) The rules of the road, and under what conditions traction engines are allowed to travel on public roads and highways:

(ii) The meanings of all the various lights and signals used on railway crossings in New Zealand:

(iii) The details of the various parts of steam traction engines and the use of each part:

(iv) How temporary repairs could be effected in case of simple defects in a traction engine or boiler:

(v) The use of the various cocks, gauges, valves, and connections on boilers used for traction purposes:

(vi) The feeding of boilers and the effects of impurities in water used in any such boilers, and the methods used to keep them clean.

In subclause (2) (b) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

CERTIFICATES OF SERVICE

First and Second Class Engine Driver

33. (1) Subject to the provisions of regulation 34 hereof, the holder of a New Zealand certificate either as river engineer or as steam winding engine driver may qualify, without examination, for the first class engine driver's certificate.

(2) Subject to the provisions of regulation 35 hereof, the holder of the New Zealand certificate as marine engine driver may qualify, without examination, for the second class engine driver's certificate.

(3) Any certificate granted without examination as aforesaid shall be called certificates of service and all other certificates granted under these regulations shall be called certificates of competency.

First Class Engine Driver's Certificate of Service

34. In order to obtain a first class engine driver's certificate of service a person shall—

- (a) Be at least 21 years of age;
- (b) Make application on the form Marine 376 set out in the Schedule hereto;
- (c) Forward with his application a fee of [\$1]:
- (d) Forward with his application his New Zealand certificate as river engineer or steam winding engine driver;
- (e) Furnish a testimonial in accordance with regulation 16 (3) hereof:
- [(f) Produce proof in the form referred to in regulation 16 (1) hereof that, while holding a New Zealand certificate as river engineer, he has, for a period of not less than 12 months in New Zealand, driven and had charge of the engines of a river steamship with cylinder area exceeding 200 circular inches or that, while holding a New Zealand certificate as steam winding engine driver, he has, for a period of not less than 12 months in New Zealand, driven and had charge of a steam stationary engine with cylinder area exceeding 200 circular inches.]

In para. (c) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

Para. (f) was substituted for the original para. (f) by regulation 4 of S.R. 1953/126.

Second Class Engine Driver's Certificate of Service

35. In order to obtain a second class engine driver's certificate of service a person shall—

- (a) Be at least 19 years of age;
- (b) Make application on the form Marine 376 set out in the Schedule hereto;
- (c) Forward with his application a fee of [\$1]:
- (d) Forward with his application his New Zealand certificate as marine engine driver;
- (e) Furnish a testimonial in accordance with regulation 16 (3) hereof:
- (f) Produce proof in the form referred to in regulation 16 (1) hereof, that, while holding a New Zealand certificate as marine engine driver, he has, for at least 12 months, driven and had charge of a steam engine of cylinder area exceeding 144 circular inches.

In para. (c) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

Recognition of Certificates from Outside New Zealand

36. (1) The Secretary may, without examination, grant any certificate of competency under these regulations to any person of good repute who satisfies the Board that he is the holder of a corresponding certificate

of equal status granted after examination by any duly constituted and recognised authority outside New Zealand.

- (2) An applicant for a certificate under these provisions shall—
- (a) Be of the age prescribed for the desired certificate:
 - (b) Make his application on the form Marine 376 set out in the Schedule hereto:
 - (c) Forward with his application a fee of [£3]:
 - (d) Forward with his application a testimonial in accordance with regulation 16 (3) hereof:
 - (e) Forward with his application the certificate from outside New Zealand upon which his application is based:
 - (f) Furnish a medical certificate, in accordance with regulation 20 hereof, if the application is for a winding, a locomotive, a traction, or a locomotive and traction engine driver's certificate.

In subclause (2) (c) the reference to money in decimal currency was substituted for a reference to money in the former currency by s. 7 of the Decimal Currency Act 1964.

Recognition of Railway Engine Driver's Certificates

37. (1) Any person of good repute who has passed the New Zealand Government Railways examination as engine driver, and is or has been employed in the New Zealand Government Railways in driving either a locomotive or a stationary engine, shall be entitled, without examination or payment of fee, to obtain a certificate of competency under these regulations.

(2) A person who has been employed as aforesaid as driver of a locomotive shall be entitled to receive a locomotive and traction engine driver's certificate of competency, and a person who has been employed as driver of a stationary engine shall be entitled to receive a second class engine driver's certificate of competency.

(3) The provisions of subclauses (1) and (2) of this regulation shall, with the necessary modifications, extend and apply to engine drivers employed on any railway in the United Kingdom or on any railway the property of the Government of any part of the British Commonwealth.

(4) The following provisions shall apply to applicants for certificates under this regulation:

- (a) In the case of an application for the locomotive and traction engine driver's certificate by a person having had service in the New Zealand Government Railways, the applicant shall—
 - (i) Make application on the form Marine 376 set out in the Schedule hereto:
 - (ii) Forward a reference in accordance with regulation 16 (3) hereof:
 - (iii) Furnish a medical certificate in accordance with regulation 20 hereof:

Provided that if the applicant is at the date of his application still in the employ of the New Zealand Government Railways, the provisions of subparagraphs (ii) and (iii) hereof shall not apply:

- (b) In the case of an application for the second class engine driver's certificate by a person having had service in the New Zealand Government Railways, that person shall—

(i) Make application on the form Marine 376 set out in the Schedule hereto:

(ii) Forward a reference in accordance with regulation 16 (3) hereof:

Provided that if the applicant is at the date of his application still in the employ of the New Zealand Government Railways, the provisions of subparagraph (ii) hereof shall not apply:

(c) For the purposes of paragraphs (a) and (b) hereof the necessary details of the qualifications and service of the applicant shall be obtained by the Secretary from the General Manager of the New Zealand Government Railways:

(d) In the case of an application for the locomotive and traction engine driver's certificate by a person with service on a British railway outside New Zealand, that person shall—

(i) Make application on the form Marine 376 set out in the Schedule hereto:

(ii) Furnish a reference in accordance with regulation 16 (3) hereof:

(iii) Furnish a medical certificate in accordance with regulation 20 hereof:

(iv) Produce a certificate of service from the management of the railway, giving details of his service, and showing that the applicant has qualified as a locomotive driver and has actually been employed in that capacity on the railway:

(e) In the case of an application for the second class engine driver's certificate by a person with service on a British railway outside New Zealand, that person shall—

(i) Make application on the form Marine 376 set out in the Schedule hereto:

(ii) Furnish a reference in accordance with regulation 16 (3) hereof:

(iii) Produce a certificate of service from the management of the railway, giving details of his service, and showing that the applicant has qualified as a stationary engine driver and has actually been employed in that capacity on the railway.

38. (1) The Regulations for Examinations for Certificates, made under the Inspection of Machinery Act 1928 on the 31st day of August 1931, and published in the *Gazette* of the 3rd day of September 1931 at page 2501, and the Amending Regulations for Examinations for Certificates, made under the Inspection of Machinery Act 1928 on the 7th day of October 1931, and published in the *Gazette* of the 12th day of October 1931 at page 2497, are hereby revoked.

(2) Without limiting the provisions of the Acts Interpretation Act 1924, it is hereby declared that the revocation of any provision by these regulations shall not affect any document made or any thing whatsoever done under the provisions so revoked or under any corresponding former provision, and every such document or thing, so far as it is subsisting or in force at the time of the revocation, and could have been made or done under these regulations, shall continue and have effect as if it had been made or done under the corresponding provision of these regulations and as if that provision had been in force when the document was made or the thing was done.

SCHEDULES
FIRST SCHEDULE

(MARINE DEPARTMENT
NEW ZEALAND)

Marine 376

APPLICATION FOR ENGINE-DRIVER'S CERTIFICATE

IMPORTANT: Please read carefully instructions printed on back of this form.
APPLICANT TO COMPLETE SECTIONS A, B, C, D, E.

(A)—Certificate Required

Type of Certificate (see Instr. 4).	Post Office to Which Certificate is to be Sent
Place of Examination (see Instr. 5).	

(B) Name of Applicant

(1) Christian Names in Full			(2) Surname			(3) Address		
DATE OF BIRTH			PLACE OF BIRTH					
(4) Day of Month	(5) Month	(6) Year	(7) Name of Place	(8) Country in Which Situated				

(C)—Particulars of Certificates Held and of Previous Failures

IF POSSESSED OF ANY CERTIFICATE, GIVE PARTICULARS			IF FAILED PREVIOUSLY FOR CERTIFICATE NOW REQUIRED, STATE HERE		
(9) No.	(10) Description and Class	(11) Date of Issue	(12) Place	(13) (Date)	

(D)—Statement of Qualifying Service of Which Proof is Submitted Herewith

(14) Employer	(15) Address	DATES OF SERVICE		(18) Capacity in Which Employed	(19) If Driving or Attending to Steam Plants, State Here Particulars Including H.P. of Boilers, and Number and Diameter of Cylinders of Engines
		(16) From	(17) To		

(E)—Declaration by Applicant

I hereby apply for the above-mentioned certificate, and declare that the particulars contained in divisions (B), (C), and (D) of this form are correct, complete, and true to the best of my knowledge and belief.

Signature of Applicant:.....

Date:..... 19.....

(After completion, this form, together with other necessary papers and the prescribed fee, is to be forwarded to the Secretary, Marine Department, Wellington.)

(F)—Certificate as to Receipt of Fee

I certify that the fee of
has been received on Receipt No.

\$ Date:..... 19..... Receiver,

(G)—Certificate of Examiner

DATE AND PLACE OF EXAMINATION		PASSED OR FAILED		(24)
(20) Date	(21) Place	(22) Working Questions	(23) <i>Viva Voce</i>	Remarks

Personal Description of Candidate

HEIGHT		(27) Complexion	(28) Personal Marks or Peculiarities (if any)	COLOUR OF	
(25) Feet	(26) Inches			(29) Hair	(30) Eyes

I certify that the above is a true account of the examination of this candidate for the certificate mentioned in division (A).

..... Examiner. Date:..... 19.....

TO BE COMPLETED BY APPLICANT

HEAD OFFICE USE

EXAMINERS USE

FIRST SCHEDULE—*continued*

INSTRUCTIONS TO CANDIDATES

(1) Dates for Receipt of Applications

In cases of examination, applications must reach the Secretary, Marine Department, Wellington, at least **21 days** before the date of examination. Each candidate must obtain from the Department an examination permit, which he will be required to hand to the Examiner before being admitted to examination.

To avoid delay in the issue of the permit, please attend carefully to the requirements of the following instructions:

(2) Testimonials or References

(a) **COPIES**—Each and every reference or testimonial forwarded in support of any application must be accompanied by a copy which will be retained when the original is returned.

(b) **CHARACTER**—In every case the applicant must submit a testimonial of sobriety and good conduct, covering at least the 12 months immediately prior to the date of application. Form below may be used if desired. This testimonial does not necessarily require to be from a firm or person by whom applicant has been employed.

(c) **SERVICE**—All necessary qualifying service must be proved by employers' references, which must state definitely the dates of duration of service. Such references, when they cover service attending to boilers or engines, or both, must state clearly the class of boilers and engines in connection with which the service has been performed, also the horsepower of boilers and the number and diameter of the cylinders of the engines.

(d) **WHEN APPLICANT IS OWNER**—In the case where the applicant is the owner of the plant in connection with which the qualifying service has been performed, the necessary reference must take the form of a statement by a Justice of the Peace, or Postmaster, or two other persons of good repute who are acquainted with the facts, and such statement must include all details as outlined in paragraph (c) of this section.

(3) Medical Certificates

An applicant for a Winding, Traction, Locomotive, or Locomotive- and Traction-engine Driver's Certificate is required to forward with his application a certificate, signed by a registered medical practitioner, to the effect that the applicant is neither wholly or partially deaf, that his eyesight is not defective, that he is free from colour-blindness, and that he is not subject to any other infirmity likely to interfere with the efficient discharge of his duties as such driver.

(4) Fees

The following are the fees payable in respect of the various certificates:

(a) COMPETENCY—	\$	(b) SERVICE—	\$
Extra First-class Stationary Engineer	4	First- or Second-class Engine-driver under section 44 of the Boilers, Lifts, and Cranes Act 1950	1
First-class Engine-driver	3		
Second-class Engine-driver	3		
Winding-engine Driver { Steam	3		
{ Electric	3		
Locomotive- and Traction-engine Driver	3	(c) REPLACEMENT—	
Traction-engine Driver	3	For replacement of lost or destroyed certificate	1
Locomotive-engine Driver	3		

(5) Dates and Places of Examination

(a) Examinations [(except the examination for extra first class stationary engineer)] are held at the offices of the Engineer Surveyors at Whangarei, Hamilton, Tauranga, Napier, New Plymouth, Wanganui, Palmerston North, Wellington, Greymouth, Christchurch, Dunedin, and Invercargill, on the first working-day (excepting Saturday) in February, May, August, and November, and at Auckland on the first working-day (excepting Saturday) after the 14th of those months; at Nelson on the first working-day (except Saturday and Anniversary Day) of February, May, August, and November; at Timaru on the first Tuesday after 14 May and the first Tuesday after 14 October, and at Gisborne on the first working-day (except Saturday) after 14 February and 14 August.

[(b) The extra first class stationary engineers' examination shall be held at Wellington, commencing on the Tuesday after the third Monday in February and August; at Auckland, commencing on the Tuesday after the third Monday in January and July; at Christchurch, on the second Monday in March and September; and at Dunedin, on the Tuesday after the first Monday in June.]

(6) Drivers required for Stationary Boilers and Engines (other than Winding)

(a) A certificated driver is not required for an engine whose cylinder-area does not exceed 144 circular inches, or for a boiler of 15 horsepower and under.

(b) A second-class driver is required for an engine whose combined cylinder-area exceeds 144 but does not exceed 200 circular inches, and for any boiler of over 15 horsepower.

(c) A first-class driver is required for an engine the combined cylinder-area of which exceeds 200 circular inches.

(Note.—Circular inches = the square of the diameter of a cylinder in inches.)

(7) Replacement of Certificates

(a) Any person who proves to the satisfaction of the board that a certificate of which he was the rightful holder has been lost or destroyed may obtain a replacement of the certificate.

(b) All applications for lost or destroyed certificates shall be made on form Marine 378.

FIRST SCHEDULE—continued

(8) Testimonial of Good Conduct and Sobriety

I have known Mr _____ for at least 12 months immediately preceding the date of this application (as shown in section E of this form) and can certify to his good conduct and sobriety over that period.

Signed: _____

Address: _____

Date: _____]

This form was substituted for the former form (as amended by regulation 5 of S.R. 1953/126 and regulation 3 of S.R. 1954/234) by regulation 3 of S.R. 1959/23.

The references to money in decimal currency was substituted for references to money in the former currency by s. 7 of the Decimal Currency Act 1964.

In clause (5) (a) the words in double square brackets were inserted by regulation 7 (a) of S.R. 1968/144.

In clause (5), para. (b) was added by regulation 7 (b) of S.R. 1968/144.

[Marine—378

Marine Department

NEW ZEALAND

APPLICATION FOR REPLACEMENT OF ENGINE DRIVER'S CERTIFICATE

(After completion, this form, together with the prescribed fee of \$1., is to be forwarded to the Secretary, Marine Department, Wellington.)

(A) Name, etc., of Applicant

(1) Christian Names in Full	(2) Surname	(3) Address

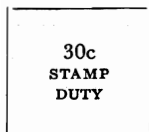
Date of Birth			Place of Birth	
(4) Day	(5) Month	(6) Year	(7) Name of Place	(8) Country in Which Situated

(B) Particulars of Certificate of which Replacement Desired

(9) Number	(10) Description and Class	(11) Competency or Service	(12) Date of Issue	(13) If Unable Accurately to Complete Columns (9) and (12), Give Here Some Information as to When Certificate Obtained

FIRST SCHEDULE—*continued*

(C) Declaration to be Made by Applicant



[Stamps to the value of 30c must be affixed and cancelled]

Caution—Every person who makes a false representation for the purpose of obtaining a certificate either of competency or service is liable to imprisonment . . . for a period not exceeding two years.

I, [Full name] of, do solemnly and sincerely declare that—

(1) My certificate, particulars of which are given in division (B) of this form, was lost* [destroyed] at, on [Date] under the following circumstances: [Give full details].

(2) The statements made herein, and in divisions (A) and (B) of this form are correct and true to the best of my knowledge and belief; and I make this solemn declaration conscientiously believing the same to be true, and by virtue of [the Oaths and Declarations Act 1957].

Signature:

Declared at, in the Dominion of New Zealand, this day of 19..... before me—

Justice of the Peace [or Solicitor].

*Indicate whether lost or destroyed.

(D) Certificate as to Receipt of Fee

(For use by Department)

The fee of [one dollar] has been received this day, on Receipt No.

....., Receiver.

\$1

Date: 19.....

In Part C the words "with hard labour" were omitted by s. 40 (1) of the Criminal Justice Act 1954.

The references to money in decimal currency were substituted for references to money in the former currency by s. 7 of the Decimal Currency Act 1964.

The Oaths and Declarations Act 1957 being the corresponding enactment in force at the date of this reprint, has been substituted for the repealed Justices of the Peace Act 1927.

In Part C the reference to 30c stamp duty is now obsolete as stamp duty on declarations was abolished by s. 7 (1) of the Stamp Duties Amendment Act 1953.

FIRST SCHEDULE—continued

[Front]

NEW ZEALAND

Signature of holder of certificate:

[The Seal of the Marine
Department, N.Z.]

No.....

CERTIFICATE OF COMPETENCY AS EXTRA FIRST CLASS STATIONARY
ENGINEER

To

WHEREAS it has been reported to me that you have passed an examination and satisfied the Board of Examiners that you are duly qualified to hold a certificate as an Extra First Class Stationary Engineer, I do hereby, in pursuance of the Boilers, Lifts, and Cranes Act 1950, grant you this Certificate of Competency.

This certificate entitles the holder thereof to drive and have charge of any stationary steam engine (other than a winding engine), and of any stationary boiler.

Given under the seal of the Marine Department of New Zealand, at Wellington, this day of 19.....

Registered:

....., Secretary.

[Back]

PERSONAL DESCRIPTION OF HOLDER OF CERTIFICATE AND THE DATE
AND PLACE OF HIS BIRTH

Height		Complexion	Personal Marks or Peculiarities (If Any)	Colour	
				Hair	Eyes
ft	in.				
Date of Birth			Place of Birth		
Day	Month	Year	Town	Country	

FIRST SCHEDULE—*continued*

[Front]

NEW ZEALAND

[The Seal of the Marine
Department, N.Z.]

No.....

CERTIFICATE OF COMPETENCY AS FIRST CLASS ENGINE DRIVER

To

WHEREAS it has been reported to me that you have satisfied the Board of Examiners that you are duly qualified to fulfil the duties of First Class Engine Driver, I do hereby, in pursuance of the Boilers, Lifts, and Cranes Act 1950, grant you this Certificate of Competency.

This certificate entitles the holder thereof to drive and have charge of any stationary steam engine (other than a winding engine), and of any stationary boiler.

Given under the seal of the Marine Department of New Zealand, at Wellington, this day of 19.....

Registered:

....., Secretary.

Signature of holder of certificate:.....

[Back]

PERSONAL DESCRIPTION OF HOLDER OF CERTIFICATE AND THE DATE
AND PLACE OF HIS BIRTH

Height		Complexion	Personal Marks or Peculiarities (If Any)	Colour	
				Hair	Eyes
ft	in.				
Date of Birth			Place of Birth		
Day	Month	Year	Town	Country	

FIRST SCHEDULE—continued

[Front]

NEW ZEALAND

[The Seal of the Marine
Department, N.Z.]

No.

CERTIFICATE OF COMPETENCY AS SECOND CLASS ENGINE DRIVER

To

WHEREAS it has been reported to me that you have satisfied the Board of Examiners that you are duly qualified to fulfil the duties of Second Class Engine Driver, I do hereby, in pursuance of the Boilers, Lifts, and Cranes Act 1950, grant you this Certificate of Competency.

This certificate entitles the holder to drive and have charge of any steam stationary engine (except winding), the cylinder area of which does not exceed 200 circular inches, and of its boilers, or of any boiler to which no machinery is attached.

Given under the seal of the Marine Department of New Zealand, at Wellington, this day of 19.....

Registered:

....., Secretary.

Signature of holder of certificate:

[Back]

PERSONAL DESCRIPTION OF HOLDER OF CERTIFICATE AND THE DATE AND PLACE OF HIS BIRTH

Height		Complexion	Personal Marks or Peculiarities (If Any)	Colour	
				Hair	Eyes
ft	in.				
Date of Birth			Place of Birth		
Day	Month	Year	Town	Country	

FIRST SCHEDULE—continued

[Front]

NEW ZEALAND

Signature of holder of certificate:

[The Seal of the Marine
Department, N.Z.]

No.

CERTIFICATE OF SERVICE AS FIRST CLASS ENGINE DRIVER

To

WHEREAS it has been reported to me that you have satisfied the Board of Examiners that you are entitled to a Certificate of Service as First Class Engine Driver, I do hereby, in pursuance of the Boilers, Lifts, and Cranes Act 1950, grant you this certificate.

This certificate entitles the holder thereof to drive and have charge of any stationary steam engine (other than a winding engine), and of any stationary boiler.

Given under the seal of the Marine Department of New Zealand, at Wellington, this day of 19.....

Registered:

....., Secretary.

[Back]

PERSONAL DESCRIPTION OF HOLDER OF CERTIFICATE AND THE DATE AND PLACE OF HIS BIRTH

Height		Complexion	Personal Marks or Peculiarities (If Any)	Colour	
				Hair	Eyes
ft	in.				
Date of Birth			Place of Birth		
Day	Month	Year	Town	Country	

FIRST SCHEDULE—*continued*

[Front]

NEW ZEALAND

[The Seal of the Marine
Department, N.Z.]

No.

CERTIFICATE OF COMPETENCY AS LOCOMOTIVE AND TRACTION
ENGINE DRIVER

Signature of holder of certificate:

To

WHEREAS it has been reported to me that you have satisfied the Board of Examiners that you are duly qualified to fulfil the duties of Locomotive and Traction Engine Driver, I do hereby, in pursuance of the Boilers, Lifts, and Cranes Act 1950, grant you this Certificate of Competency.

This certificate entitles the holder thereof to drive and have charge of any steam engine propelled or moved from place to place by its own motive power or machinery. He is deemed also to be the holder of the Second Class Engine Driver's Certificate.

Given under the seal of the Marine Department of New Zealand, at Wellington, this day of 19.....

Registered:

....., Secretary.

[Back]

PERSONAL DESCRIPTION OF HOLDER OF CERTIFICATE AND THE DATE
AND PLACE OF HIS BIRTH

Height		Complexion	Personal Marks or Peculiarities (If Any)	Colour	
				Hair	Eyes
ft	in.				
Date of Birth			Place of Birth		
Day	Month	Year	Town	Country	

FIRST SCHEDULE—continued

[Front]

NEW ZEALAND

[The Seal of the Marine
Department, N.Z.]

No.

CERTIFICATE OF COMPETENCY AS STEAM WINDING ENGINE DRIVER

Signature of holder of certificate:

To
WHEREAS it has been reported to me that you have satisfied the Board of Examiners that you are duly qualified to fulfil the duties of Steam Winding Engine Driver, I do hereby, in pursuance of the Boilers, Lifts, and Cranes Act 1950, grant you this Certificate of Competency.

This certificate entitles the holder thereof to drive any steam or air winding machinery and have charge of any steam engine (other than a land stationary engine, the area of cylinder or combined area of cylinders of which exceeds 200 circular inches) and of any boiler. He is deemed also to be the holder of a second class engine driver's certificate.

Given under the seal of the Marine Department of New Zealand, at Wellington, this day of 19.....

Registered: Secretary.

[Back]

PERSONAL DESCRIPTION OF HOLDER OF CERTIFICATE AND THE DATE AND PLACE OF HIS BIRTH

Height		Complexion	Personal Marks or Peculiarities (If Any)	Colour	
				Hair	Eyes
ft	in.				
Date of Birth			Place of Birth		
Day	Month	Year	Town	Country	

FIRST SCHEDULE—continued

[Front]

NEW ZEALAND

Signature of holder of certificate:

[The Seal of the Marine
Department, N.Z.]

No.

CERTIFICATE OF COMPETENCY AS ELECTRIC WINDING ENGINE
DRIVER

To

WHEREAS it has been reported to me that you have satisfied the Board of Examiners that you are duly qualified to fulfil the duties of Electric Winding Engine Driver, I do hereby, in pursuance of the Boilers, Lifts, and Cranes Act 1950, grant you this Certificate of Competency.

This certificate entitles the holder to drive and have charge of any electrically driven machinery used for winding purposes in a mine.

Given under the seal of the Marine Department of New Zealand, at Wellington, this day of 19.....

Registered:

....., Secretary.

[Back]

PERSONAL DESCRIPTION OF HOLDER OF CERTIFICATE AND THE DATE AND PLACE OF HIS BIRTH

Height		Complexion	Personal Marks or Peculiarities (If Any)	Colour	
				Hair	Eyes
ft	in.				
Date of Birth			Place of Birth		
Day	Month	Year	Town	Country	

FIRST SCHEDULE—continued

[Front]

NEW ZEALAND

[The Seal of the Marine
Department, N.Z.]

No.

CERTIFICATE OF COMPETENCY AS LOCOMOTIVE ENGINE DRIVER

Signature of holder of certificate:

WHEREAS it has been reported to me that you have satisfied the Board of Examiners that you are duly qualified to fulfil the duties of Locomotive Engine Driver, I do hereby, in pursuance of the Boilers, Lifts, and Cranes Act 1950, grant you this Certificate of Competency.

This certificate entitles the holder to drive and have charge of any steam locomotive engine propelled or moved from place to place by its own motive power or machinery. He is deemed also to be the holder of the Second Class Engine Driver's Certificate.

Given under the seal of the Marine Department of New Zealand, at Wellington, this day of 19.....

Registered:

....., Secretary.

[Back]

PERSONAL DESCRIPTION OF HOLDER OF CERTIFICATE AND THE DATE AND PLACE OF HIS BIRTH

Height		Complexion	Personal Marks or Peculiarities (If Any)	Colour	
				Hair	Eyes
ft	in.				
Date of Birth			Place of Birth		
Day	Month	Year	Town	Country	

FIRST SCHEDULE—continued

[Front]

NEW ZEALAND

[The Seal of the Marine
Department, N.Z.]

No.

CERTIFICATE OF COMPETENCY AS TRACTION ENGINE DRIVER

To

WHEREAS it has been reported to me that you have satisfied the Board of Examiners that you are duly qualified to fulfil the duties of Traction Engine Driver, I do hereby, in pursuance of the Boilers, Lifts, and Cranes Act 1950, grant you this Certificate of Competency.

This certificate entitles the holder to drive and have charge of any steam traction engine propelled or moved from place to place by its own motive power or machinery. He may also drive and have charge, as a stationary engine, of any steam traction engine which he owns or is employed to drive as a traction engine.

Given under the seal of the Marine Department of New Zealand, at Wellington, this day of 19.....

Registered:

....., Secretary.

Signature of holder of certificate:

[Back]

PERSONAL DESCRIPTION OF HOLDER OF CERTIFICATE AND THE DATE
AND PLACE OF HIS BIRTH

Height		Complexion	Personal Marks or Peculiarities (If Any)	Colour	
				Hair	Eyes
ft	in.				
Date of Birth			Place of Birth		
Day	Month	Year	Town	Country	

[SECOND SCHEDULE

SYLLABUS FOR EXAMINATION AS EXTRA FIRST CLASS STATIONARY
ENGINEER

Practical Mathematics

(Two papers of 2½ hours duration. The first paper will deal with items (a) to (l) and the second paper with items (m) to (z). Five out of six questions are to be attempted on each paper.)

The questions shall be concerned with:

- (a) Application of areas and volumes to problems dealing with the weight of power plant components:
- (b) Force and its units. Moments and couples. Practical applications of the triangle and polygon of forces. Centroids and centres of gravity. Conditions for the equilibrium of solids:
- (c) Laws of dry friction. Angle of friction. Friction on the inclined plane. Energy and power lost due to friction in simple bearings, screw threads, and other parts of machinery:
- (d) Newton's laws of motion. Linear and angular motion. Standard equations for displacement, velocity, and uniform acceleration. Vector change of velocity.
- (e) Energy, work, and power. Potential and kinetic energy. Effect of inertia. Centrifugal force. Power transmitted by belts and gears. Relationship between belt tensions:
- (f) Calculations on simple machines. Velocity ratio, mechanical advantage, and efficiency.
- (g) Direct and shear stress and strain. Moduli of elasticity and rigidity. Working stress, proof stress and factor of safety. Strength of simple connections such as screwed or riveted joints. Effect of direct loading of compound bars. Stress due to restricted expansion and contraction. Suddenly applied loads:
- (h) Cantilevers and simply supported beams with both concentrated and distributed loading. Construction of shear force and bending moment diagrams. Stresses in beams of simple section. Use of strut formulae:
- (i) Torque and stress relationship in circular shafts. Horsepower transmitted by shafts and couplings:
- (j) Stresses in thin shells. Use of boiler and pressure vessel design formulae. Joint efficiency:
- (k) Archimedes' principle. Specific gravity. Variation of fluid pressure with depth. Forces due to liquid pressure on immersed surfaces. Centre of pressure:
- (l) Flow of liquid through pipes and orifices under constant head. Bernoulli's equation applied to simple flow conditions. Pump horse power and efficiency:
- (m) First law of thermodynamics and its application to steady flow conditions. Joule's equivalent. Conduction, convection, and radiation:
- (n) Properties of steam. Sensible and latent heat. Wet, dry-saturated, and superheated steam. Use of steam tables. Specific volume of steam under various conditions. Boiler and plant efficiencies. Equivalent evaporation:

SECOND SCHEDULE—*continued*

- (o) Hypothetical and actual steam engine indicator diagrams. Diagram factor. Indicated and brake horse power. Mean referred pressure. Reuleaux valve diagram. Thermal, mechanical, and overall engine efficiencies. Heat balance for engine and boiler trials:
- (p) Calculations on basic steam turbine cycles. Blade diagrams for impulse and reaction turbines. Determination of horse power and overall efficiency:
- (q) Standard laws for perfect gases. Isothermal and adiabatic processes. Specific heats of gases. Calculations for expansions and compressions in I.C. engines, air compressors, and air storage:
- (r) Theoretical engine cycles. Open and closed cycles for gas turbines. Indicated and brake thermal efficiencies:
- (s) Solid and liquid fuels. Calculation of calorific value. Determination of theoretical amount of air required. Excess air. Avogadro's hypothesis. Composition of flue gases:
- (t) Vapour compression refrigeration cycle. Machine capacity. Co-efficient of performance:
- (u) Electrical units and their relationship with those of heat and mechanical energy:
- (v) Ohm's law. Calculations on D.C. series and parallel circuits. The Wheatstone network bridge:
- (w) Conductor resistance, effect of length, area, material, and temperature. Specific resistance. Temperature coefficient of resistance:
- (x) Faraday's and Lenz's laws. Magnitude and direction of induced E.M.F. Force produced on a current carrying conductor:
- (y) Alternating current. The sinusoidal wave, frequency, maximum, r.m.s. and average values. Vector representation of A.C. quantities:
- (z) Simple calculations on A.C. circuits. Effect of inductance and capacitance. Relationship between resistance, reactance, and impedance. Simple treatment of power factor.

Working Drawing

(One question of 6 hours duration.)

The drawing paper is a test of the ability of the candidates to apply the principles of projection. The candidates will be required to produce a drawing to scale and thoroughly understand the principles of projection involved. They shall be required to draw an elevation, plan, or section or a combination of these views of a piece of power plant machinery from an isometric view or views supplied. All the required information for the completion of the drawing is given on the question paper.

Engineering Knowledge

(Two papers of $2\frac{1}{2}$ hours duration. The first paper will be concerned with items (a) to (n) and the second paper with items (o) to (z). Five out of six questions to be attempted on each paper.)

The questions will be concerned with:

SECOND SCHEDULE—*continued*

- (a) The manufacture, constituents, and properties of the more common metals and materials used in engineering:
- (b) Properties of steam, fuel, lubricants, refrigerants, and other liquids and gases used in power plants:
- (c) The basic principles, constructional details, operation, and maintenance of boilers in general use:
- (d) Use and management of boiler fittings, mountings, and associated equipment with particular reference to water gauges and safety valves:
- (e) The constructional details, operation, and maintenance of coal and oil burning systems used in boiler plants and their associated control equipment:
- (f) Testing and treatment of boiler feed water:
- (g) Precautions against fire and explosion:
- (h) Spontaneous combustion of coal. Explosive properties of gases given off by coal:
- (i) Danger of explosive gases given off by fuel and lubricating oils and their accumulation in confined spaces:
- (j) Hazards due to oil spillage and leakage from tanks, pipelines, and oil burning equipment:
- (k) Dangers due to escape of refrigeration and other gases:
- (l) Fire detection. Methods of dealing with fire. Action and maintenance of fire fighting appliances and associated equipment:
- (m) The administrative duties of an engineer in charge of a power plant. Reports on plant management:
- (n) Responsibilities of the supervising engineer under the Boilers, Lifts, and Cranes Act:
- (o) The principles and construction of steam engines and turbines. Starting procedures and attention during operation. Determination of power developed:
- (p) Constructional arrangement and principles of action of pumps, condensers, heaters, air compressors, and other auxiliary equipment used in power plants:
- (q) The principles and main constructional details of internal combustion engines and gas turbines for use in power plants. Methods of starting and operation:
- (r) Principles, details, and operation of refrigeration machinery:
- (s) Maintenance procedures adopted in power plants. Alignment of machinery parts and the correction of defects:
- (t) Arrangements and maintenance of steam, water, and air distribution systems:
- (u) Electrical installations used in power plants. Operation of switch-gear and protective devices:
- (v) Basic principles and construction of alternators. Method of excitation, synchronisation, and load sharing:
- (w) Construction and application of induction and synchronous motors. Methods of starting. Power factor:
- (x) Elementary principles and general description of transformers:
- (y) Application of D.C. generators and motors:
- (z) Principles and function of switchboard indicating instruments.

SECOND SCHEDULE—*continued*

Oral Examination

The oral examination shall be largely based on the practical aspects of the examination and shall include questions on the operation and maintenance of boilers and machinery and the duties of the supervising engineer.]

This Schedule was added by regulation 8 of S.R. 1968/144.

T. J. SHERRARD,
Clerk of the Executive Council.

*Certified for the purposes of section 7 of the Regulations Act 1936,
this 11th day of September 1968.*

J. R. HANAN, *Attorney-General.*

Issued under the authority of the Regulations Act 1936.
Date of notification of principal regulations in *Gazette*: 7 August 1952.
These regulations are administered in the Marine Department.