



PRINCE EDWARD ISLAND
ÎLE-DU-PRINCE-ÉDOUARD

OIL AND NATURAL GAS ACT OIL AND GAS CONSERVATION REGULATIONS

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For more information concerning the history of these regulations, please see the *Table of Regulations* on the Prince Edward Island Government web site (www.princeedwardisland.ca).

If you find any errors or omissions in this consolidation, please contact:

Legislative Counsel Office
Tel: (902) 368-4292
Email: legislation@gov.pe.ca



OIL AND NATURAL GAS ACT
Chapter O-5

OIL AND GAS CONSERVATION REGULATIONS

Made by the Lieutenant Governor in Council under the *Oil and Natural Gas Act* R.S.P.E.I. 1988, Cap. O-5

PART I — INTERPRETATION

1. Citation

These regulations relating to the drilling for, and production of, oil and natural gas within the jurisdiction of the Province of Prince Edward Island may be cited as the “Oil and Gas Conservation Regulations”. (EC170/74)

2. Definitions

In these regulations

- (a) “**Act**” means the *Oil and Natural Gas Act* R.S.P.E.I. 1988, Cap. O-5;
- (b) “**barrel**” means 34.9723 gallons;
- (c) “**battery**” means a system or arrangement of tanks or other surface equipment receiving the effluents of one or more wells prior to delivery to market or other disposition, and may include equipment or devices for separating the effluents into oil, gas or water and for measurement;
- (d) “**Conservation Engineer**” means a person appointed by the Minister to supervise, jointly with the Chief Officer, the observance of these regulations;
- (e) “**crude oil treater**” means a fired apparatus specifically designed and used for separating gas and water from oil;
- (f) “**gallon**” means the unit of that name defined in the *Weights and Measures Act* (Canada) R.S.C. 1985, Chap. W-6;
- (g) “**gas**” means natural gas as defined in the Act;
- (h) “**gas well**” means in addition to its ordinary meaning, any well so designated by the Conservation Engineer;
- (i) “**maximum rate limitation**” or “**MRL**” means the maximum monthly rate of production prescribed for the avoidance of waste after application of any penalty factor;

- (j) “**oil well**” means any well capable of producing oil and not being a gas well as defined herein;
- (k) “**owner**” means the registered owner of the surface of the land or as the purchaser under an agreement for sale of the surface of the land, and when used with reference to a well includes each person entitled to produce and dispose of oil and natural gas from the well;
- (l) “**separator**” means an unfired apparatus specifically designed and used for separating fluids produced from a well into two or more streams;
- (m) “**service well**” means any well used for the purpose of obtaining water for injection or for injecting natural gas, air, water, or any other substance into an underground formation. *(EC170/74)*

3. Application of regulations

These regulations apply to all wells and operations carried out in the search for, and production of oil and natural gas within the jurisdiction of the Province of Prince Edward Island and are in addition to the provisions of Part IX of the Act. *(EC170/74)*

4. Registered address of owner

- (1) Every owner of a well shall register an address within the Province of Prince Edward Island with the Chief Officer before commencing operations.

Service of notices

- (2) All notices or orders issued under authority of these regulations shall be deemed to have been served upon delivery thereof at the registered address, or, if sent by mail, upon the expiration of the time it would normally take for delivery to the registered address. *(EC170/74)*

5. Contraventions

- (1) No person shall do or omit to do anything, or cause or allow to be done or omitted anything, in contravention of or not in accordance with these regulations.

Compliance with orders

- (2) Where the Conservation Engineer or Chief Officer is authorized to issue an order under these regulations, the person to whom the order is issued shall comply with the order. *(EC170/74)*

6. Seals

- (1) The Conservation Engineer whenever it is considered necessary to do so, may seal or cause to be sealed with a metallic seal any or all valves or meters installed at a well or on any pipeline, tank or other receptacle used for storage or transportation of oil or other fluid produced or withdrawn from the well, and may remove or authorize the removal of such seals.

Notice

- (2) The Conservation Engineer shall notify the operator in writing of the affixing of the seal and the reasons therefor.

Interference with seals

- (3) No unauthorized person shall be permitted to remove or tamper with any seal so affixed.



Emergencies

- (4) Any seal so affixed may be removed without authority in writing from the Conservation Engineer only in case of emergency, and in such a case the Conservation Engineer shall be notified by the quickest means. *(EC170/74)*

PART II — WELL AND TEST-HOLE OPERATIONS

7. Approval of operations

A well shall not be drilled nor a program or structure test-hole drilling be undertaken until notice has been given to the Chief Officer and the written approval of the Conservation Engineer has been obtained. *(EC170/74)*

8. Well survey

Every well to be drilled shall be surveyed in conformity with the requirements of the Director of Surveys. *(EC170/74)*

9. Variation of program

- (1) Subject to subsection (2) no person shall depart from the program of operations that has been approved by the Conservation Engineer, without the further written approval of that officer.

Notice of variation

- (2) Where an immediate change in the approved program of operations is necessary, such changes may be made without the approval of the Conservation Engineer, but notice in writing of the change shall be sent to that officer by the quickest means. *(EC170/74)*

10. Transfer of authorizations

The fee for transferring a well, test-hole or rig license authorization is twenty-five dollars. *(EC170/74)*

11. Rig license

A rig license in the form prescribed shall be displayed prominently at the well site during drilling operations. *(EC170/74)*

12. Removal of drilling equipment

- (1) A drilling rig shall not be removed or caused or permitted to be removed from a well without first obtaining written approval from the Conservation Engineer, unless the well has been completed in accordance with the well authorization, or the drilling operations have been suspended, or the well has been abandoned in accordance with the requirements of these regulations.

Approval

- (2) Where the written approval of the Conservation Engineer is required, such approval may first be given orally. *(EC170/74)*

13. Well identification

- (1) Until the well is permanently abandoned the permittee, or lessee shall mark each of his wells in a conspicuous place with a sign on which is printed, in reasonably large and legible letters, the name of the permittee or lessee, the name of the well and the legal description of the location and he shall keep the sign posted and the lettering clear and unobstructed.

Register of well names

- (2) The well-name register, which shall be maintained by the Chief Officer, shall contain a record of official names, and
- (a) the location of each well and the name thereof, which shall be approved by the Conservation Engineer;
 - (b) the name of the permittee or lessee;
 - (c) the name of the drilling contractor; and
 - (d) any subsequent name or names assigned and approved by the Conservation Engineer.

Official name

- (3) The name of the well last shown in the well-name register shall be the official name and the one by which the well shall be known.

Change of name

- (4) The Conservation Engineer may grant or refuse an application to change the official name and, if the application is granted, the new name shall be entered in the well-name register.

Fee

- (5) The application to change the name of a well shall be accompanied by a fee of twenty-five dollars. *(EC170/74)*

14. Test-hole locations

A test-hole shall not be drilled within

- (a) twenty-five feet of a survey monument;
- (b) fifty feet of a driveway or gateway;
- (c) two hundred and fifty feet of a residence, school, church, or other public building;
- (d) six hundred feet of a domestic water well and one thousand feet of an industrial or municipal well;
- (e) twenty-five feet of any gas, oil or water pipe line, electric cable, transmission line, or utility, and every reasonable precaution shall be taken to ensure that the pipe line, electric cable, or transmission line, or utility is not damaged or its use interrupted. *(EC170/74)*

15. Compliance with authorization

A test-hole shall not be drilled elsewhere than at the test-hole position specified in the test-hole authorization or any amendment thereto. *(EC170/74)*



16. Application for authorization

The applicant for a test-hole authorization shall set out

- (a) the name proposed for the test-hole program;
- (b) the relationship of each test-hole to the nearest corner of the unit or legal subdivision in which the test-holes are located; and
- (c) the ground level of each test-hole in feet above sea-level; and
- (d) a prognosis for each test-hole or group of similar test-holes outlining the proposed hole size and the casing and cementing program and such other information as the Conservation Engineer may require. (EC170/74)

17. Display of authorization

The test-hole authorization, in the form prescribed, shall be displayed prominently at the test-hole site during drilling operations. (EC170/74)

18. Location of wells

- (1) A well shall not be drilled within 250 feet of
 - (a) the right-of-way or easement of any road allowance, surveyed road or public utility;
 - (b) a permanent building, installation or works;
 - (c) a pipe line, or high voltage line;
 - (d) a public place of concourse; or
 - (e) a reservation for national defence,

except only where special circumstances exist that, in the opinion of the Conservation Engineer, justify his granting of written permission to drill a well at a location specified by him.

Domestic water supply

- (2) A well shall not be drilled within six hundred feet of a domestic water well and one thousand feet of an industrial or municipal well.

Aircraft runways

- (3) A well drilled at or near any aircraft runway, or taxiway shall conform to the provisions of the *Aeronautical Act* (Canada) R.S.C. 1985, Chap. A-2 and any regulations made thereunder.

Mines and underground facilities

- (4) A well shall not be drilled within two miles of any sub-surface mine working or underground storage facilities except with the approval of the Minister and shall be drilled in accordance with any conditions prescribed by him. (EC170/74)

19. Streams and bodies of water

- (1) No permittee or lessee shall
 - (a) drill a well or cause a well to be drilled; or
 - (b) construct or cause to be constructed a pit for containing fluid from a well,

closer than three hundred feet to the normal high water boundary of a body of water or permanent stream unless the permittee or lessee has obtained prior written approval from the Minister of Development and Technology.

Plans

- (2) The plans referred to in subsection (1) shall
- (a) indicate the elevations of the water and surrounding land; and
 - (b) provide for the particular circumstances to be encountered including
 - (i) the construction and maintenance of dykes, reservoirs, and other installations, as may be required, and
 - (ii) the final disposal of the mud, oil, water and other fluid associated with the well or drilling operation. *(EC170/74; 298/80; 112/84; 639/93)*

20. Well spacing

Every development well shall be drilled within a target area that is within a well spacing area, both of which shall be designated by the Conservation Engineer or in such manner as will permit the well to be drilled into the target area before completion or as approved by the Conservation Engineer. *(EC170/74)*

21. Submission of information and reports

- (1) All information required by the Conservation Engineer connected with or derived from the drilling, production, or other work performed on a well shall be submitted in the form prescribed or approved by the Chief Officer.

Reproduction

- (2) All submissions shall be sufficiently legible to permit reproduction by standard processes. *(EC170/74)*

22. Daily reports

- (1) A daily report in the form prescribed or approved by the Chief Officer shall be kept at the site of a well being drilled or otherwise worked on.

Copy retained by owner

- (2) Legible copies of the daily reports for each calendar week shall be submitted not later than Wednesday of the ensuing week to the Chief Officer, and copies shall be retained by the owner as part of his permanent record.

Idem

- (3) The daily report shall set out complete data on all operations performed during the day, and without restricting the generality of the foregoing, shall include particulars of
- (a) depth at the beginning of and end of each tour;
 - (b) depth to the first competent formation;
 - (c) all casing data, including size, type, grade, weight, whether new or used, and the depth at which it is set;
 - (d) cementing;
 - (e) any water, oil, or gas encountered, even if only small showings;
 - (f) any deviation survey, logs or other tests made;
 - (g) all formation tests, except where the details are submitted on a confidential report form prescribed by the Conservation Engineer;
 - (h) cored interval and recovery therefrom;



- (i) all occasions when the blowout preventers are closed, with the reasons therefor;
- (j) any loss of drilling fluid into the formation;
- (k) allocation of time to each operation;
- (l) name of drilling contractor and rig number; and
- (m) the spud and rig release dates. *(EC170/74)*

23. Well completion reports

- (1) Within thirty days after completion, abandonment, or suspension of a well, a signed well completion report, in the form prescribed shall be submitted to the Chief Officer and formation test service reports, together with copies of the pressure charts, shall be attached thereto.

Supplementary reports

- (2) If the initial completion or abandonment of a well is not carried out within thirty days of the release of the drilling rig, or where a well is subsequently deepened, a signed supplement to a well completion report, in the form prescribed, shall be submitted to the Chief Officer giving details of the operation. *(EC170/74)*

24. Well history reports

- (1) Within sixty days of the completion or abandonment of an exploratory well, a well history report shall be submitted to the Chief Officer and, where an exploratory well is subsequently deepened, a supplemental well history report shall be submitted to that officer, but logs, core analysis, or other records which have been submitted previously need not be included but shall be listed in the index.

Idem

- (2) The well history report shall be compiled in accordance with instructions issued by the Chief Officer. *(EC170/74)*

25. New oil, gas or service well report

A new well report, in the form prescribed, shall be submitted to the Chief Officer with 14 days following the date on which an oil or gas well is placed on continuous production or a service well is placed in continuous use. *(EC170/74)*

26. Work-over reports

A completed work-over report, in the form prescribed, shall be submitted to the Chief Officer within thirty days of the completion date of any work-over. *(EC170/74)*

27. Control of fluids encountered

- (1) Every reasonable precaution shall be taken to prevent a well from flowing uncontrolled.

Report

- (2) Any well flowing uncontrolled shall be reported immediately to the Chief Officer and confirmed by letter. *(EC170/74)*

28. Pressure control

- (1) Unless approval has been obtained from the Conservation Engineer no well shall be drilled beyond any oil, gas or water stratum until the *in situ* pressure of the oil, gas or water in such stratum is controlled by drilling fluid, casing, or cement.

Tests for shut-off

- (2) Where it appears to the Conservation Engineer that a shut-off of oil, gas, or water in a well is not effective, he may order that tests shall be made and remedial measures taken at the well owner's cost.

Method of testing

- (3) The method and duration of the shut-off test shall be as approved by the Conservation Engineer. *(EC170/74)*

29. Blow-out prevention requirements

At all times when a well is being drilled, blow-out prevention equipment shall be maintained that

- (a) consists of a minimum of one annular preventer and one double-ram preventer, the latter to comprise blank rams and rams to close off around drill pipe, tubing, or casing being used in the well; and
- (b) has a working pressure adequate for the pressures expected to be encountered. *(EC170/74)*

30. Blow-out prevention equipment

- (1) Two steel lines separately connected to the blow-out preventer assembly, one for bleeding off pressures and one for killing the well, shall be included in the blow-out prevention equipment, each of which shall be
- (a) located below at least one set of blow-out preventers;
- (b) of a diameter of at least two inches; and
- (c) of components having a working pressure equal to that of the blow-out preventers, except that part of the bleed-off line located downstream from the last control valve.

Bleed-off lines

- (2) The bleed-off line referred to in subsection (1) shall be
- (a) equipped with a gauge connection where well pressures may be measured;
- (b) connected to a suitable manifold containing one positive and one adjustable choke; and
- (c) directed to a pit or tank and securely tied down. *(EC170/74)*

31. Opening valves

At all times when a well is being drilled

- (a) a full opening valve shall be installed in the Kelly assembly; and
- (b) a full opening valve shall be readily accessible which can be connected to the top of the drill pipe or tubing in the well. *(EC170/74)*



32. Wells of less than 3000 ft.

Notwithstanding sections 29, 30 and 31 when a well is being drilled to a depth of less than 3000 feet, or when production casing has been run in a well that is being completed, or worked over,

- (a) either an annular preventer or a double-ram preventer may be employed on the rig; and
- (b) blow-out prevention equipment may be employed that does not meet the requirements of clauses 30(2)(a) or (b) or 31(a). (EC170/74)

33. Controls for blow-out preventers

- (1) Where hydraulically operated blow-out preventers are installed, clearly marked operating controls for each blow-out preventer shall be located at least 75 feet from the well.

Idem

- (2) All manual controls for mechanically operated blow-out preventers shall be located at least two feet out from the substructure and, when such blow-out preventers are used at a cased well that is being tested, completed, or worked over, the controls shall be at least 15 feet from the well. (EC170/74)

34. Pressure sources

- (1) Where fluid under pressure is used to operate the blow-out preventers, a pressure source of sufficient pressure and capacity to close, simultaneously, the annular preventer and one element of the ram preventer shall be used.

Idem

- (2) When nitrogen cylinders are used as an emergency pressure source to operate blow-out preventers, an independent pressure source shall also be provided. (EC170/74)

35. Pressure testing

Prior to drilling out cement from any string of casing, each unit of blow-out prevention equipment shall be pressure tested for a period of ten minutes to at least 1000 pounds per square inch, and until the equipment passes such a test, further drilling shall not proceed. (EC170/74)

36. Daily operation

While a well is being drilled, tested, completed, or worked over, the appropriate blow-out prevention equipment shall be operated daily, and if any equipment is found to be defective it shall be made serviceable before operations are resumed. (EC170/74)

37. Test particulars in daily report

Full particulars of all tests shall be reported in the daily report, and in the case of a pressure test, the pressure applied and duration of the test shall be recorded. (EC170/74)

38. Education of employees in use of equipment

Each person employed on the rig shall have an adequate understanding of, and be able to operate, the blow-out prevention equipment, and the contractor or rig crew, when requested by the Conservation Engineer, shall

- (a) test the operation and effectiveness of the blow-out prevention equipment; and
- (b) perform a blow-out prevention drill in accordance with the Blow-out Prevention Manual of the Canadian Association of Oilwell Drilling Contractors. (EC170/74)

39. Maintenance

Blow-out prevention equipment shall be maintained so that its operation will not be impaired by low temperatures. (EC170/74)

40. Prescription of necessary equipment

The Conservation Engineer, on his own initiative or upon receipt of an application may prescribe any blow-out prevention equipment that he deems necessary. (EC170/74)

41. Casing requirements

- (1) All tools, casing, equipment and materials used in the drilling or production of any well shall be in good condition, and shall be adequate for the purpose for which they are used.

Replacement

- (2) Where it appears to the Conservation Engineer that any tools, casing, equipment and materials used in the drilling and production of a well are inadequate, defective or hazardous, the Conservation Engineer may require the replacement or conditioning of such tools, equipment, casing, and materials and may order orally, confirmed by a signed note on a daily report, that operations be discontinued in whole or in part until the required action is taken.

Surface casing

- (3) Unless otherwise ordered by the Conservation Engineer surface casing shall be set to a minimum depth of 1000 feet and at least 50 feet into a competent formation by an approved method in accordance with good oilfield practice with sufficient cement to fill the annulus to the surface.

Cement

- (4) Surface casing cement shall be allowed to set not less than 12 hours or for such longer time as is required for the type of cement used to develop a minimum compressive strength of 500 psi before the cement plug is drilled out of the casing.

Idem

- (5) If a float collar or float shoe is used, pressure at the surface may be released immediately upon completion of the cement job, and if excessive bleed-back occurs indicating failure of the valve mechanism in the float collar or float shoe, sufficient pressure shall be reapplied to the fluid column in the casing to maintain the cement in its original position for the necessary time required for the cement to set.

Intermediate and producing casing

- (6) Unless otherwise approved by the Conservation Engineer intermediate and production casing shall be cemented through all porous zones, above the casing shoe, and such other zones as may be necessary, and to a minimum of 1000 feet above the casing shoe and tested in



accordance with good oil field practice, and the cement shall be allowed to set at least 24 hours before the cement plug is drilled out of the casing.

Conductor casing

- (7) During drilling operations in areas permanently covered by water, conductor casing shall be set and cemented to a depth of not less than 100 feet below the mudline of the body of water.

Surveys

- (8) When there is any reason to doubt the effectiveness of a casing cementation, a survey shall be made to determine the top of the cement in the annulus and remedial measures shall be taken where necessary.

Approval

- (9) Every casing program other than that specified by the well authorization must be approved by the Conservation Engineer. *(EC170/74)*

42. Removal of casing

- (1) Any casing or other equipment essential to the proper control of a well shall not be removed without the approval of the Conservation Engineer which shall be granted only if that officer is assured that proper control of the well will be maintained.

Recovery of casing

- (2) Casing shall not be recovered from an abandoned well without the approval of the Conservation Engineer.

Plugging hole

- (3) In pulling strings of casing from any oil or gas well the hole shall be securely plugged to the satisfaction of the Conservation Engineer. *(EC170/74)*

43. Provision before well completion

Before any oil or gas bearing zones in a well are to be placed on production, adequate surface facilities for the measurement of fluids and storage of the produced liquids must be provided. *(EC170/74)*

44. Surface and sub-surface equipment

- (1) The surface and sub-surface equipment of a completed well shall be of such nature and so arranged as to permit the ready measurement by the Conservation Engineer or by a person delegated by him of the tubing pressure, production casing pressure, surface casing pressure, and the bottom hole pressure, and to permit any other reasonable test required by the Conservation Engineer, except insofar as a completion practice approved by that officer precludes such measurement or test.

Samples

- (2) The surface equipment shall include such valve connections as are necessary to sample the oil, gas, or water produced.

Record of sub-surface equipment

- (3) A detailed record of all sub-surface equipment in the well shall be kept at all times prior to abandonment, and the record shall be available to the Conservation Engineer. *(EC170/74)*

45. Drill stem tests, pulling drill pipe

When oil or gas has been recovered during a drill stem test, or when in the opinion of the Conservation Engineer there is a possibility of an oil or gas being present in the drill pipe, the drill pipe shall not be pulled during hours of darkness, unless possible steps have been taken to ensure that no possibility of oil or gas being present in the pipe exists. (EC170/74)

46. Samples, oil

- (1) If a sufficient volume of oil or formation water to permit good sampling is recovered on a drill stem test of a well,
- (a) a one quart sample of such oil or formation water shall be taken by means of an acceptable sampling method;
 - (b) all pertinent data shall be recorded on a sample information sheet acceptable to the Conservation Engineer;
 - (c) the samples shall be analysed and two copies of the analyst's report, together with the sample information sheet sent without delay to the Chief Officer, or if an analysis is not desired, the sample information sheet and the sample shall be submitted, carriage prepaid, in accordance with instructions issued by the Conservation Engineer.

Samples, gas

- (2) If the drill stem test on a well is primarily productive of gas,
- (a) a sample of gas shall be taken by means of an accepted sampling method and shall be of a volume consistent with the analysis to be conducted;
 - (b) all pertinent data shall be recorded on a sample information sheet acceptable to the Conservation Engineer;
 - (c) the sample shall be analysed and two copies of the analyst's report sent by the quickest means. (EC170/74)

SAMPLES, CORES AND LOGS

47. Samples of geological sections

- (1) A series of samples of the geological section penetrated and all cores taken at a test-hole shall be forwarded, carriage prepaid, to the Chief Officer as soon as possible after total depth is reached, but not later than 14 days after the date of rig release.

Logs

- (2) Two copies of each log taken at a test-hole shall be submitted to the Chief Officer within 30 days of the date upon which the log was taken. (EC170/74)

48. Samples from test-hole

Unless otherwise directed by the Conservation Engineer, each permittee or lessee, shall cause to be taken, preserved and maintained a series of samples at intervals of depths of ten feet or such other intervals as the Conservation Engineer may require of the various formations that non-coring drilling penetrates in drilling a well or structure test-hole, and the samples shall be washed, dried and preserved in bags accurately labelled with the name of the well, interval, depth, date of sample and shall be forwarded prepaid in accordance with instructions issued by the Conservation Engineer. (EC170/74)



49. Cores

- (1) When requested by the Conservation Engineer a geological zone or formation shall be cored and the cores as well as the information so obtained shall be forwarded to that officer by the quickest means.

Results of analysis

- (2) The Conservation Engineer shall be advised of the interval over which the core was taken, and the results of all analyses made therefrom shall be submitted in duplicate within 30 days of completion of the analysis.

Storage

- (3) All cores taken from the core barrel, shall be stored in book fashion in core boxes and accurately labelled on the body, not the lid, of each box as to the number and interval of the core, top, bottom and footage recovery of the core and the name of the well from which the core was taken.

Boxes

- (4) Boxes shall be prefabricated from strong, waterproof cardboard, or be of light, stout wooden or metal construction. Such boxes shall not exceed three feet in length, and the sides of the boxes shall project above the level of the contained cores and the lids shall be securely fixed to ensure safe transit.

Core forwarded to Conservation Engineer

- (5) Reasonable steps shall be taken to protect boxes containing the cores from theft, misplacement or exposure to the weather and after reasonable time has been afforded the permittee or lessee to carry out examinations and obtain core analyses of them, they shall be forwarded prepaid to the Conservation Engineer when directed by him to do so.

Reboxing

- (6) Core received by the Conservation Engineer and not in compliance with subsections (3), (4) and (5) may be reboxed at the expense of the well owner. *(EC170/74)*

50. Notice for examination

- (1) The Conservation Engineer shall be provided with adequate notice by a person wishing to examine core or samples.

Permission required

- (2) Confidential core and samples may be examined only after permission to do so has been obtained from the Conservation Engineer and the owner.

Breakage of core

- (3) Breakage of core during examination shall be kept to a minimum and core shall not be broken or chips taken without the approval of the Conservation Engineer.

Idem

- (4) Core declared by the Conservation Engineer as being representative of type section shall not be broken or chipped. *(EC170/74)*

51. Destruction, etc. of core

- (1) Unless with the written consent of the Conservation Engineer,

- (a) no core shall be destroyed;
- (b) no core shall be slabbed and otherwise sampled;
- (c) no core shall be slabbed twice without the written consent of the Conservation Engineer.

Removal from the province

- (2) No core shall be taken out of the Province of Prince Edward Island, except for the purpose of laboratory examination where such examination cannot be made within the province but such core removal is subject to the approval of the Conservation Engineer and to the following conditions:
 - (a) when a core is to be slabbed or when confidential core is involved, written authorization must be obtained from the owner;
 - (b) any core removed from the province shall be returned within four weeks and, unless special permission for a longer period of removal is granted by the Conservation Engineer, a daily fee of the lesser of ten dollars per well or forty dollars may be charged after the four week period; and
 - (c) every reasonable precaution shall be taken not to damage or mix the core in core boxes. *(EC170/74)*

52. Logs

- (1) Before a well is completed, suspended or abandoned, a resistivity and porosity log shall be taken from the total depth of the well to the base of the surface casing of the well with all pertinent data recorded on it, unless permission is obtained from the Conservation Engineer to dispense with such logs or part thereof or to substitute a different type of log or logs.

Idem

- (2) The Conservation Engineer may direct the taking of any other log or any other well survey which is generally recognized and is in practical use in the industry for obtaining information pertinent to the well.

Substitution of core

- (3) With the approval of the Conservation Engineer a core may be substituted for the log required under subsection (1) through specified sections of the well.

Copy of log to be submitted

- (4) Two final copies of each log shall be submitted to the Conservation Engineer within 30 days of the date upon which the log was taken, but a field copy of the log shall be made available to the Conservation Engineer upon request. *(EC170/74)*

53. Plugging requirements

A well or test-hole shall not be left unplugged or uncased after it is no longer used for the purpose for which it was drilled or converted. *(EC170/74)*

54. Approval for abandonment of test-hole

- (1) Before abandoning a test-hole, approval of the abandonment program shall be obtained from the Conservation Engineer.



Information to be supplied

- (2) Sufficient information shall be provided to the Conservation Engineer to allow the effectiveness of the proposed abandonment program to be evaluated, and this information, if requested by the Conservation Engineer, shall include a copy of any log taken in the test-hole.

Requirements

- (3) A test-hole shall be abandoned as soon as possible and not more than 30 days after completion of drilling, and the minimum requirements shall be as follows:
- (a) the test-hole shall be filled with drilling mud and as much of the material obtained during drilling as is possible;
 - (b) a four foot plug shall be inserted in the test-hole so that the top of the plug is at a minimum depth of three feet below the surface;
 - (c) if the plug described in clause (b) is not constructed of cement, a plank two inches thick, one foot wide, and two feet in length shall be placed directly over the plug;
 - (d) a permit tag shall be firmly attached to the top of the plug or the plank;
 - (e) the space above the plank described in clause (c) or above a plug constructed of cement shall be filled with dry cement to a thickness of at least one foot, covered with earth, and tamped; and
 - (f) any porous zones shall be sealed with cement. *(EC170/74)*

55. Abandonment of well

- (1) Before abandoning a well, the owner shall obtain permission from the Conservation Engineer. Application for abandonment shall be made in the prescribed form and written approval of the abandonment program shall be obtained from the Conservation Engineer, but oral approval may first be given.

Information to be supplied

- (2) Sufficient information shall be submitted to allow the effectiveness of the proposed abandonment program to be evaluated, and shall include a summary of drill stem tests and a copy of the logs run if requested by the Conservation Engineer. *(EC170/74)*

56. Requirements

Where a well is to be abandoned, unless otherwise approved by the Conservation Engineer,

- (a) all permeable formation shall be isolated with cement;
- (b) a cement plug of minimum length of 100 feet shall be placed at the bottom of the well;
- (c) cement plugs set in open hole shall be of minimum length of 100 feet;
- (d) a cement plug of a minimum length of 100 feet shall be placed across the shoe of the surface casing;
- (e) all casing shall be cut off three feet below ground level and capped with a five-sack plug and a welded plate;
- (f) the top of all plugs, except the plug placed at the bottom of the well, shall be confirmed and the information shall be recorded in the daily report and, if considered necessary by the Conservation Engineer additional cement shall be used; and
- (g) the top of the plug placed at the bottom of the well shall be confirmed only at the request of the Conservation Engineer. *(EC170/74)*

57. Restoration of surface

Upon the final abandonment of any well and as soon as weather and ground conditions permit

- (a) the area around the well shall be cleared of all refuse material;
- (b) waste petroleum shall be burned or removed;
- (c) excavations shall be drained and filled;
- (d) concrete bases, machinery, and materials shall be removed; and
- (e) the surface shall be levelled and the site left in the condition as nearly as is reasonable to its condition when operations were commenced. *(EC170/74)*

58. Release of information

- (1) All information obtained from a well and recorded with the Chief Officer may be released from confidential status after a period of 30 days from the date of the release of the drilling rig, except for a wildcat well in which case all information may be released from confidential status after a period of one year from the date of release of the drilling rig.

Consent of owner

- (2) Any information may be released at any time with the written consent of the owner.

Surrender of location

- (3) Where a well is drilled on a location and subsequently the location is surrendered, then the information submitted in connection therewith may be released at any time.

Completion date

- (4) For the purpose of these regulations, completion date shall mean the date of release of the drilling rig.

Wildcat well

- (5) For the purpose of these regulations a wildcat well is a well being drilled in search of a new source of supply; or when it is being drilled to test a separate potential pool.

Suspended well

- (6) Where a well has been suspended for more than one year, the completion date is the date of suspension.

Release by Cabinet

- (7) Any information may be released by the Lieutenant Governor in Council at any time when it is deemed to be in the public interest to do so. *(EC170/74)*

PART III — PRODUCTION FACILITIES AND OPERATIONS

59. Battery names

- (1) The length of a battery name, including the number, shall not exceed 36 characters and spaces.

Idem

- (2) The battery name shall not include any code numbers or punctuation marks.



Particulars

- (3) The battery name shall clearly identify by name or approved abbreviation thereof, or by number or letter
- (a) the operating company; and
 - (b) the name of the area which shall be the field name if the battery is within a designated field, or an area name approved by the Chief Officer if the battery is outside a designated field.

Idem

- (4) In addition to the particulars required in subsection (3), a battery name shall contain such other particulars as the applicant proposing the name desires and the Chief Officer approves.

Abbreviations

- (5) A company that may be identified by name in a battery name shall file with the Chief Officer an abbreviation of its name acceptable to the Chief Officer, and only that abbreviation shall be used where it is necessary to abbreviate the name of the company in a battery name.
(EC170/74)

60. Report of battery connections

When two or more wells commence production to a battery, or when any well is added to or deleted from a battery, a report of wells connected to a battery, in the form provided, shall be submitted to the Chief Officer within 14 days. (EC170/74)

61. Report of production facilities

- (1) Upon written request by the Chief Officer, a report of the production facilities of the battery shall be submitted to him, which shall include
- (a) the name and location of the battery;
 - (b) the name of each well that produces to the battery;
 - (c) a plan showing the location of the battery, any satellite test batteries, and the gathering lines connected to the battery; and
 - (d) any further information concerning the battery desired by the Chief Officer.

Idem

- (2) A detailed record of all production facilities of the battery shall be kept at the battery or field office at all times and the record shall be available to the Conservation Engineer and Chief Officer, upon request. (EC170/74)

62. Production of each zone

The production facilities of a battery shall be sufficient to determine, to the satisfaction of the Conservation Engineer, the actual production of each zone of each well. (EC170/74)

63. Commingling of production

- (1) No well shall be completed for production from more than one pool unless such action is approved by the Chief Officer.

Multiple completion

- (2) The method of multiple completion shall be approved by the Conservation Engineer.

Separate measurement for each pool

- (3) The production from one pool shall not be commingled with that from another pool in the same field before measurement without permission from the Conservation Engineer.

Permission for commingled production

- (4) No permittee or lessee shall permit a well to produce either oil or gas from different pools through the same production string or annulus without first receiving written permission from the Conservation Engineer. *(EC170/74)*

64. Disposal of water

- (1) All water produced from a well shall be disposed of by a method acceptable to the Conservation Engineer and the Minister.

Pits

- (2) Not more than one earthen pit shall be used for disposal or storage of water produced to a battery, or produced at a well not connected to a battery, and such pit shall be constructed and maintained in a condition acceptable to the Conservation Engineer.

Storage limits

- (3) Not more than 600 barrels of water shall be disposed of or stored in an earthen pit in any month, provided, however, that the Conservation Engineer may prescribe a greater or lesser amount in any area, having regard to the salinity of the water, the nature of the soil, or other circumstances.

Disposal to underground formation

- (4) All water produced to a battery, or produced at a well not connected to a battery, in excess of the limit specified in subsection (3) shall be disposed of to an underground formation in accordance with a scheme approved by the Conservation Engineer.

Reports

- (5) When water is disposed of to an underground formation, a monthly water receipts and disposal report, in the form provided, shall be submitted to the Chief Officer not later than 25 days after the end of the month reported. *(EC170/74)*

65. Restoration of abandoned batteries

Upon the final abandonment of a battery and as soon as weather and ground conditions permit,

- (a) the area around the battery shall be cleared of all refuse material;
- (b) waste petroleum shall be burned or removed;
- (c) excavations shall be drained and filled;
- (d) concrete bases, machinery, and materials shall be removed; and
- (e) the surface shall be levelled and the site shall be left in the condition as nearly as it is reasonable to its condition when operations commenced. *(EC170/74)*



PART IV — CERTAIN PRECAUTIONARY AND PROTECTIVE PRACTICES

66. Prevention of losses

- (1) During drilling and production operations every reasonable precaution shall be taken in accordance with good conservation practice to prevent loss or waste of oil, gas or water; and when storing, piping, or distributing oil or gas every reasonable precaution shall be taken to prevent leakage or escape of such substances from natural reservoirs, wells, tanks, containers, or pipes.

Operation of valves by unauthorized persons

- (2) Every reasonable precaution shall be taken to prevent the operation of well-head valves by unauthorized persons. *(EC170/74)*

67. Reports of fires, oil spills and gas leaks

A report, stating the location, shall be made immediately to the Chief Officer and confirmed by letter of

- (a) any fire which occurs at an oil or gas well, tank or pipe line;
- (b) any tank struck by lightning; or
- (c) any break or leak in a tank or pipe line from which serious loss of oil or gas has occurred. *(EC170/74)*

68. Smoking

No person shall smoke within 75 feet of any well or any receptacle used for storage, measurement, or processing of oil or gas products. *(EC170/74)*

69. Fire precautions

Suitable fire extinguishing equipment shall be located in readily available positions at each drilling rig and at each boiler house and shall be maintained in good working condition. *(EC170/74)*

70. Storage

Except where gasoline or liquid fuel are held in fuel tanks actually connected to operating equipment, they shall not be stored within 75 feet of a well. *(EC170/74)*

71. Storage receptacles

No oil shall be stored in any area of operations under these regulations in unprotected earth excavations or in storage receptacles that, in the opinion of the Conservation Engineer are inadequate or likely to allow waste, loss, leakage, evaporation, or to constitute a fire-hazard. *(EC170/74)*

72. Dykes and fire walls

- (1) Each tank or battery of tanks shall be surrounded by a dyke or fire wall of a net capacity greater than that of the largest tank within the dyke or fire wall, or such greater capacity as the Conservation Engineer may require, and the dyke or fire wall shall be maintained in good

condition and the area encompassed by it kept free from grass, weeds, or other extraneous combustible material.

Location of tanks

- (2) Each tank, or battery of tanks or production equipment shall be located so as to comply with any regulations made under the *Fire Prevention Act* R.S.P.E.I. 1988, Cap. F-11, and where no such regulations apply, the installation shall be located not less than 200 feet from any rights-of-way or easement of any road allowance, public utility, building, installation, works, place of public concourse, or any reservation for national defence, unless otherwise approved by the Conservation Engineer.

Idem

- (3) A crude oil storage tank shall not be placed within 150 feet of any well.

Separators

- (4) A separator shall not be enclosed within the fire wall, dyke, or ditch surrounding a storage tank installation. (EC170/74)

73. Flame type equipment

- (1) A flame type stove or heater, crude oil treater, glycol type dehydrator installation, or other flame type equipment shall not be placed within 150 feet of any well, separator, crude oil storage tank, or other unprotected source of ignitable vapours, except where such flame type equipment is equipped with flame arresters adequate for the purpose for which they are used.

Location of boilers

- (2) Boilers and steam generating equipment shall be located at a point not less than 150 feet from any well, separator, crude oil storage tank, or other unprotected source of ignitable vapours, and all boilers and their operation must be approved by the Boiler Inspector.

Location of crude oil treater

- (3) A crude oil treater shall not be placed or remain within 150 feet, shell to shell, of any type of boiler or direct fired heater.

Idem

- (4) A crude oil treater shall not be placed within 10 feet, shell to shell, of any other direct fired crude oil treater or indirect fired heater. (EC170/74)

74. Control valves for shut-off

- (1) All battery piping shall be arranged and provided with control valves to permit the ready-shut-off of oil or gas in the event of fire at any battery installation.

Vents

- (2) All vessels and equipment from which ignitable vapours may issue shall be safely vented to the atmosphere.

Vapour proofing

- (3) Every engine or electric switch within 150 feet of any well, separator, oil storage tank, or other unprotected source of ignitable vapours must be constructed or enclosed so that it is vapour-proof. (EC170/74)



75. Engine exhausts

Where an internal combustion engine is located within 75 feet of any well, separator, crude oil storage tank, or other unprotected source of ignitable vapours

- (a) its exhaust pipe shall be insulated or sufficiently cooled, in a manner acceptable to the Conservation Engineer, to prevent ignition of flammable material, and the end thereof directed away from the well or source of ignitable vapours; and
- (b) its exhaust manifold shall be shielded to prevent its contact with liquids or gases which might otherwise fall thereon. (EC170/74)

76. Diesel engines

(1) Where a diesel engine is located within 75 feet of a well it shall be provided with one of the following:

- (a) an air intake shut-off valve of a type approved by the Conservation Engineer and equipped with a readily accessible remote control;
- (b) a system for inserting an inert gas into the engines cylinders, equipped with a readily accessible remote control;
- (c) a suitable duct so that air for the engine is obtained at least 75 feet from the well; or
- (d) such other device as may be approved by the Conservation Engineer for the purpose of this section.

Stopping tests

(2) Where a valve and remote control have been installed in accordance with clause (1) the stopping of the engine by the remote control shall be tested

- (a) before the cement plug at the shoe of the surface casing is drilled out and at least once in each seven day period during the drilling and completion of the well;
- (b) if the well has been completed, before any service operations commence, the mechanical operation of the shut-off valve and control system shall be tested and thereafter at least once in each seven day period during servicing of the well.

Idem

(3) Where an injection system and remote control have been installed in accordance with clause (b) of subsection (1) the stopping of the engine by the remote control shall be tested at least once in each seven day period during the drilling or servicing of the well. (EC170/74)

77. Electrical installations

All electrical equipment at or near any drilling rig, well, separator, crude-oil storage tank, or other unprotected source of ignitable vapours shall be installed in accordance with the standards prescribed by the Canadian Electrical Code, except where those standards do not conform with the provisions of these regulations. (EC170/74)

78. Location

Instruments requiring electrical power shall not be located in areas where ignitable vapours may be present, unless enclosed in a vapour proof case which conforms with the standards of the Canadian Electrical Code. (EC170/74)

79. Grounding electrodes

Grounding electrodes shall consist of driven rods, pipes, buried metal plates, or other means acceptable for the purpose and shall have a ground contact resistance of not more than six ohms. (EC170/74)

80. *Idem*

In the grounding of drilling and service rigs, the grounding electrode shall be provided at the generator, which shall be connected to the neutral point of the system before energy is supplied to any equipment or apparatus attached to such rig. (EC170/74)

81. Bonding requirements

Upon the erection of the rig substructure, bonding from the metal structure to the neutral point of the system at the generator shall be provided by one of the following methods:

- (a) a continuous metal raceway enclosing the circuit conductors to the derrick structure;
- (b) a separate grounding conductor installed as part of the cable assembly to the derrick substructure; or
- (c) a grounding conductor of at least No. 8 A.W.G. run separately. (EC170/74)

82. *Idem*

The non-current carrying parts of the electrical equipment shall be bonded by one of the methods outlined in section 81 to the neutral point of the system, at the generator or at the supply service location. (EC170/74)

83. *Idem*

The neutral conductor of supply circuits shall not be used for bonding of non-current carrying metal parts of equipment. (EC170/74)

84. Insulation of neutral bar

The neutral bar in the distribution panel on the derrick substructure shall be insulated from the panel frame. (EC170/74)

85. Bonding of panel frame

The panel frame shall be bonded either by direct mounting on the rig structure or by one of the methods outlined in section 81. (EC170/74)

86. Containers and conveyors

The metallic parts of containers or conveyors of flammable liquids shall be bonded and grounded to prevent the development of static electric sparks. (EC170/74)

87. Lighting installations

In lighting installations in any area of operations under these regulations

- (a) all wiring shall be in
 - (i) rigid threaded conduit with threaded vapour-proof fittings, or



- (ii) assemblies of Type S cable with vapour-proof fittings, if approved by the Electrical Inspector;
- (b) all lighting fixtures, switch gear, and overcurrent protective devices installed within 25 feet of a well-bore shall be in vapour-proof enclosures with all conductor raceways properly sealed;
- (c) all extension cords shall be so connected that accidental disconnection is impossible, and when cord receptacles of the lock and switch type are not provided, instructions shall be issued to turn off the current before connecting or disconnecting extension cords;
- (d) all trouble lamps used within 25 feet of the well-bore shall be of the vapour-proof type and shall be protected with approved guards;
- (e) all lamps shall be provided with guards approved by the Electrical Inspector;
- (f) switches and concurrent devices, when unprotected from the weather shall be in totally enclosed, gasketed cabinets, or enclosures wherever situated, including camp installations; and
- (g) the entire installation shall be properly maintained at all times. (EC170/74)

88. Power installations

In power installations in any area of operations under these regulations

- (a) all wiring shall be in
 - (i) rigid threaded conduit or lead-covered armoured cable, or
 - (ii) assemblies of Type S cable with vapour-proof fittings, if approved by the Electrical Inspector,
- (b) all switch-gear, overload or overcurrent protective devices located within 25 feet of a well-bore shall be in vapour-proof enclosures with all conductor raceways properly sealed;
- (c) no electrical generator or electrical heater with exposed elements shall be placed within 100 feet of any well, separator, crude-oil storage tank, or other source of ignitable vapours;
- (d) all electric motors located within 25 feet of the well-bore and those operating shale-shakers shall be
 - (i) approved for Class I, Group D areas if they normally incorporate arcing devices, or
 - (ii) if they do not normally incorporate arcing devices they may be of the totally enclosed non-ventilated or the totally enclosed fan-cooled types;
- (e) all switch-gear and motors located in areas where ignitable vapours may accumulate shall be approved for Class 1, Group D areas. (EC170/74)

89. Power line clearances

Where a power-line of less than 750 volts between conductors is adjacent to an oil or gas well, the horizontal clearance from the pole-line to the well shall be specified in one of the following:

- (a) where the overhead power-line is in line with a well, the clearance between the dead-end of the structure and the well shall be a minimum of 20 feet;

- (b) where the overhead line passes by a well, the horizontal clearance between the line and the well, measured at a right angle to the line, shall be a minimum of 75 feet, except that this clearance may be reduced to
 - (i) not less than 20 feet plus the ground clearance of the line when permission to do so is obtained from the Electrical Inspector, or
 - (ii) not less than 20 feet, provided the line is guyed away from the well in cases where the distance required is not obtainable, and permission is obtained from the Electrical Inspector;
- (c) in all other cases the horizontal clearance between any part of a pumping structure and the power line shall be such that if the power line should fall toward a pumping structure, no energized conductor will fall within 20 feet of the structure. *(EC170/74)*

90. *Idem*

Where a power line of 750 volts or more between conductors is adjacent to an oil or gas well, the horizontal clearance between the power line and the well, measured at a right angle to the line, shall be a minimum of 75 feet. *(EC170/74)*

91. **Wiring**

Wiring of equipment such as pressure switches, which is frequently moved or disconnected for well-servicing operations, shall be connected by means of Type S or equivalent flexible cord of as short a length as is practicable. A ready means of connection and disconnection of flexible cords shall be provided by the use of cord connectors or fittings approved for the location. *(EC170/74)*

92. **Control equipment**

Control equipment shall be substantially supported independent of the conduit. *(EC170/74)*

93. **Damage**

Where wiring is installed in other than rigid conduit, adequate protection from mechanical damage shall be provided. *(EC170/74)*

94. **Warning sign**

A warning sign must be posted on pumping units which are automatically controlled, with the wording similar to the following:

WARNING

This equipment is automatically controlled and the main switch must be disconnected before work is done on the equipment. *(EC170/74)*

BATTERY INSTALLATIONS

95. **Hazardous locations Class 1, Division 1 indoor areas**

Areas within buildings or housings enclosing treaters, separators, manifolds, or other equipment which may result in hazardous concentrations of flammable gases or vapours



continuously, intermittently, or periodically under normal operating conditions, shall be considered as Class 1, Division 1, hazardous locations. (EC170/74)

96. Class 1, Division II, outdoor areas

Outdoor areas within 10 feet of the outer confines of buildings or housing in which the conditions outlined in section 95 may exist shall be considered in Class 1, Division II, hazardous locations. (EC170/74)

97. *Idem*

Outdoor areas more than 10 feet from, but within 25 feet of, the outdoor confines of buildings or housings in which the conditions outlined in section 95 may exist shall be considered as Class 1, Division II, locations to a point 2 feet above grade. (EC170/74)

98. Use of gasketed equipment

Totally enclosed gasketed equipment with threaded hubs shall be used in areas more than 10 feet from, but within 25 feet of, the outdoor confines of buildings or housings, in which conditions outlined in section 95 may exist, above the 2 feet level. (EC170/74)

99. Areas in proximity to tanks

Areas within 10 feet of oil storage or surge tanks shall be considered as Class 1, Division II, hazardous locations, and the hazardous area shall be considered as extending to the perimeter and height of dykes or fire-walls enclosing such tanks. (EC170/74)

100. Other outdoor areas

Outdoor or unhoused areas within 10 feet horizontally and 6 feet vertically of pumps, manifolds, treaters, separators and associated automatic custody transfer units which incorporate valves, checks, meters, or any potential source of leakage shall be considered as Class 1, Division II, hazardous locations. (EC170/74)

101. Electrical equipment

Electrical equipment in outdoor areas more than 10 feet, but less than 25 feet, from pumps, manifolds, treaters, separators, and associated automatic custody transfer units which incorporate valves, checks, meters, or any potential source of leakage shall be of the totally enclosed gasketed type with threaded hubs. (EC170/74)

102. Class 1, Division II inside areas

The interior of buildings or housings in which no source of hazard exists but which are wholly or partially within an area designated under this regulation shall be considered as Class 1, Division II, areas. (EC170/74)

103. Electrical apparatus & wiring

Electrical wiring apparatus and equipment installed in hazardous areas or locations classified as Class 1, Division I or II, under this regulation shall comply with the requirements of the Canadian Electrical Code for the class, group, and division of the hazardous location and atmosphere concerned. (EC170/74)

104. Pole lines

Pole lines shall not cross over hazardous locations or areas, and horizon clearances of pole lines passing such areas shall be maintained so that should the pole line fall toward the hazardous location or area, no energized conductor will fall or come within 10 feet of the area limitation. *(EC170/74)*

105. Cabins

Each cabin or trailer shall have an approved service switch and branch circuit panel or equivalent approved assembly of circuit breakers. *(EC170/74)*

106. Circuits

The number of branch circuits shall be adequate to supply all equipment which is liable to be used. *(EC170/74)*

107. Service equipment

The service equipment shall be in a readily accessible location. *(EC170/74)*

108. Service wires

From the service box, the service wires may be run with non-metallic sheathed cable and shall be so equipped with weather-proof polarized plugs and receptacles that in the event of accidental disconnection, no parts will be exposed that carry electrical current. *(EC170/74)*

109. Conductors

The service conductors and receptacles shall have adequate current-carrying capacity to carry the load of the cabin or trailer. *(EC170/74)*

110. *Idem*

The service conductors shall normally be run with Type S cable terminating in a polarized female plug cap of adequate current-carrying capacity for the cabin or trailer load, and at each such receptacle provision shall be made to prevent strain on the mobile home supply cord from being transmitted to the connection between the plug of the supply cord and the receptacle. *(EC170/74)*

111. Cables

The service cables shall be carried overhead to protect them from mechanical damage. *(EC170/74)*

112. Wiring

Branch-circuit wiring may be run in non-metallic sheathed cable. *(EC170/74)*

113. Grounding

The neutral conductor shall not be grounded at the cabin or trailer. *(EC170/74)*



114. *Idem*

The metal frame of the cabin or trailer shall be grounded. (EC170/74)

115. Explosives

Explosives of every kind and description shall be stored only in properly constructed magazines, situated not less than 500 feet from any place where any drilling or production operation is being undertaken. (EC170/74)

116. Flare pits and sumps

Unless otherwise approved by the Conservation Engineer

(a)

- (i) all waste oil and refuse from tanks or wells must be drained into adequate pits, sumps, or proper receptacles located not less than 150 feet from tanks, wells, or buildings and burned immediately or transported from the site and disposed of in a manner acceptable to the Conservation Engineer,
- (ii) fires used for burning refuse shall not be located less than 75 feet from any well or any place where oil is stored, and
- (iii) all fires used for any purpose shall be safe-guarded by sufficient mechanical or other means so that no hazard to surrounding property shall be created;

(b) all flare lines shall be securely anchored over their entire length;

(c) a flare pit or the end of a flare line shall not be located nor remain nearer than

- (i) seventy-five feet to a crude oil treater,
 - (ii) one hundred and fifty feet to any well, separator, crude oil storage tank, or other unprotected source of ignitable vapours, or
 - (iii) two hundred and fifty feet to any right-of-way, easement of any road allowance, public utility, any building, installation, or works, any place of public concourse or any reservation for national defence, except only where there may exist, special circumstances that, in the opinion of the Conservation Engineer justify the location at a greater or lesser distance.
- (EC170/74)

117. Hydrogen sulphide

(1) Whenever any operations are being carried out at a well or battery and the hydrogen sulphide content of the gas exceeds one percent, the owner of the well or battery shall be responsible for posting suitable signs on or near the rig or battery warning of the presence of poisonous gas.

Precautions

(2) Whenever operations subsequent to the drilling of a well are being carried out at a well or battery and the hydrogen sulphide content of the gas exceeds one percent,

- (a) the owner of the well or battery shall maintain, and supply to all personnel involved in the operations, respiratory equipment acceptable to the Conservation Engineer which shall be checked each week to insure safe condition;
- (b) shall not permit discharge to the atmosphere of any gases produced unless they are discharged from a flare line and burned;

- (c) the flare line shall terminate with a vertical riser of at least forty feet or such greater height as the Conservation Engineer considers necessary in a particular case;
- (d) the flare line shall be adequately anchored and provided with a suitable means to prevent extinction of the flame;
- (e) when the flow is intermittent, the flare line shall be provided with an ignition device to ensure continuous ignition of any gases; and
- (f) the requirements of clauses (c), (d) and (e) may be waived by the Conservation Engineer if the area is remote or a fire stack creates a fire hazard. (EC170/74)

118. Disposal of drilling and production material

Formation water, oil, drilling fluid, waste, chemical substances, or refuse from a well, tank, or other production installation shall not be permitted

- (a) to create a hazard to public health or safety;
- (b) to run into or contaminate any fresh water stratum or body of water or to remain in a place from which it might contaminate any fresh water or body of water;
- (c) to run over or damage any land, highway, or public road;
- (d) to pass into any body of water or stream that flows into such water, nor on ice over either such waters, except that water-base drilling fluids may be discharged into the ocean from drilling operation; or
- (e) to pass into any body of water frequented by migratory waterfowl or that flows into such water, nor on ice over either such waters. (EC170/74)

PART V — MEASUREMENT, ANALYSES AND SURVEYS

119. Measurement of oil

- (1) A measurement of a volume of oil required by the Act or these regulations shall be computed as the number of barrels it would occupy at a temperature of 60 F.

Idem

- (2) When the temperature differs from 60 F. conversion of the volume at the temperature under which the measurement is made to 60 F. shall be made in accordance with Table 7 of Petroleum Measurement Tables published jointly by the American Society of Testing Materials and the American Petroleum Institute, and designated by them respectively as D1250 and 200. (EC170/74)

120. *Idem*

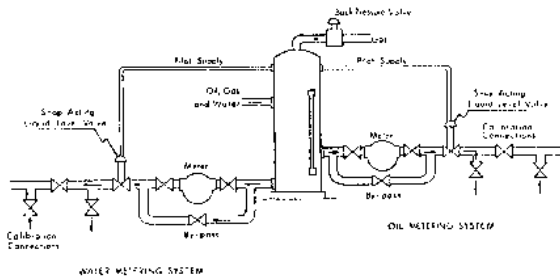
- (1) Oil produced from a well, or group of wells to a battery or oil shipped from a battery shall be accurately measured by either manual gauging or an oil meter approved by the Conservation Engineer.

Oil meters

- (2) Unless otherwise approved by the Conservation Engineer each oil meter shall be installed in accordance with this section so that
 - (a) the meter is located upstream from a snap acting control valve that will maintain a reasonably uniform flow-rate through the meter;
 - (b) if prover tabs are installed they shall be located downstream from the control valve;



- (c) the installation shall conform to the following design:



(EC170/74)

121. Calibration of meter, test oil production

- (1) Each oil meter installed at a well, battery, or group of wells shall be calibrated within the first three months of operation by a meter calibration comprising four consecutive runs, each within a tolerance of plus or minus 1.5 percent of the mean factor.

Use of different wells

- (2) For the four consecutive test runs required by subsection (1) different wells shall be used if possible, with adequate purging time allowed for the proving system and the wells selected shall include those with the widest variation in gas-oil ratio or other producing characteristics.
(EC170/74)

122. Annual calibration

- (1) Following the initial meter calibration, each test oil meter shall be proven in accordance with section 121 and at least once each year thereafter or immediately following any change or repairs to the installation which might affect the meter factor.

Test meter installation

- (2) The test meter installation calibrations may be made with a tank or other approved method or device which will provide a meter factor. (EC170/74)

123. Record

A permanently legible and conspicuous tag or label on which is recorded the date of last calibration, the meter serial number, and the meter factor shall be attached to each meter.
(EC170/74)

METERING OF TOTAL OIL PRODUCTION

124. Calibration, total oil production

- (1) Each group oil meter installation in service shall be calibrated within the first month of operation, using a suitable proving device.

Idem

- (2) Three consecutive runs shall be used when proving in accordance with subsection (1) each with a tolerance of plus or minus 0.25 percent of the mean factor. Following a meter

calibration, the average meter factor shall be applied to meter readings until the next meter calibration.

Idem

- (3) If a consistent meter factor is unattainable, the meter shall be replaced. *(EC170/74)*

125. Three monthly calibration

Following the initial proving,

- (a) each group oil meter shall be calibrated at least every three months for which one run is sufficient if the new meter factor is within 0.5 percent of the previous mean factor; and
- (b) if the new meter factor is not within 0.5 percent of the previous meter factor, the meter shall be calibrated in accordance with subsection 124(2). *(EC170/74)*

126. Record

A record of the calibration of the oil meter installation shall be made available to the Conservation Engineer. *(EC170/74)*

127. Measurement of gas

- (1) A measurement of a volume of gas required by the Act or these regulations shall be computed as the number of cubic feet it would occupy at standard conditions of 14.65 pounds per square inch absolute and 60 F.

Idem

- (2) Whenever the conditions of pressure and temperature differ from the standard conditions described in subsection (1), conversion of the volume from the conditions under which measurement is made to the standard conditions shall be made in accordance with the Ideal Gas Laws and corrected for deviations from the Ideal Gas Laws.

Corrections

- (3) Correction for deviations from the Ideal Gas Laws shall be based on tables of the American Gas Association published in Gas Measurement Committee Report No. 3 or by such other method as the Conservation Engineer may approve. *(EC170/74)*

128. Gas meters

- (1) All gas produced from a well, battery, or group of wells shall be accurately measured with a gas meter approved by the Conservation Engineer.

Waiver

- (2) The Conservation Engineer, under special circumstances and upon receipt of an application in writing may waive the requirement to meter the gas produced at a well, subject to the condition that he is supplied with acceptable estimates of the volume of such gas. *(EC170/74)*

129. Correction of reports

Upon the discovery of any gas metering error, the meter shall be corrected immediately and a report of the corrected production for the period during which the meter measured incorrectly shall be submitted. *(EC170/74)*



130. Maintenance of meters

- (1) Where gas is produced from a well or battery
 - (a) the meter shall be maintained in good operating condition;
 - (b) the meter shall be suitably safeguarded from weather and from interference by unauthorized persons;
 - (c) where there is a bypass around a meter, valves shall be installed that, when closed, will effectively stop all flow of gas through the bypass; and
 - (d) when a bypass around a meter is opened or when, for any other reason, the full gas stream does not reach the meter, a suitable entry in the daily report of the well and on the meter chart shall be made.

Gas flow temperature corrections

- (2) Whenever the volume of gas at a well or battery requires correction for flowing temperature and there is no continuous recording of gas flow temperature, each meter run shall be equipped with a thermometer well and the temperature of the gas stream shall be taken and recorded on the chart or in the daily report at least once a week.

Estimate of unmetered production

- (3) A reasonable estimate of all unmetered gas production from a well or battery shall be included in the gas volume computation for the period covered by a chart, meter, index counter, or data printout. *(EC170/74)*

131. Orifice meters

- (1) Where an orifice meter is used to measure gas production, the meter shall be equipped with a chart record and the meter shall be installed in accordance with the provisions of the Code of the American Gas Association, published as Gas Measurement Committee Report No. 3.

Chart drives

- (2) Unless otherwise directed by the Conservation Engineer, either a circular chart drive, not slower than seven days per cycle, or a strip chart drive of an equivalent speed shall be used for the measurement of gas production from a gas well.

Idem

- (3) Unless the Conservation Engineer, upon receipt of an application and upon being satisfied that gas production can be accurately determined, permits the use of a slower clock drive, a 24-hour chart drive shall be used to measure the gas produced at an oil well. *(EC170/74)*

132. Data recorded

- (1) Where an orifice meter is used, the installation shall be arranged so as to permit ready inspection of the orifice plate by the Conservation Engineer, or a person delegated by him, and the following data shall be recorded on the chart
 - (a) identification of the gas stream being metered;
 - (b) the size of the orifice plate in use;
 - (c) the size of the meter tube;
 - (d) the time of orifice plate changes;
 - (e) the time and the date of start and finish of the record; and
 - (f) the flowing gas temperature.

Dimensions

- (2) The measured inside diameter of each orifice meter tube in inches to two decimal places shall be marked on the tube or flange.

Idem

- (3) The bore in inches to three decimal figures shall be stamped on each orifice plate. (EC170/74)

133. Computation period

- (1) Unless otherwise required by the Conservation Engineer, the computation period for the gas volumes measured shall be for the period of the chart rotation.

Application of A.G.A. Code

- (2) All gas volumes shall be computed in accordance with the Code of the American Gas Association, published as Gas Measurement Committee Report No. 3, using all the factors in the following gas flow formula taken from the report:

$$Q = F_b \times F_r \times Y \times F_{pb} \times F_{tb} \times F_{tf} \times F_{gx} \times F_{pv} \times F_m \times (h_w \times P_f)^{1/2} \times \text{op. hrs.}$$

(EC170/74)

134. Waiver of chart record

Upon application, the Conservation Engineer may, where special circumstances warrant, waive the requirement for a chart record on an integrating orifice meter. (EC170/74)

135. Retention of charts

Charts shall be retained by the owner for a period of one year. (EC170/74)

136. Other approved devices

Devices other than orifice meters used to measure gas production may be employed with prior approval and subject to the conditions prescribed by the Conservation Engineer. (EC170/74)

137. Measurement of water

A measurement of water required by the Act or these regulations shall be computed as a number of barrels and shall be made by measuring equipment considered adequate by the Conservation Engineer for the conditions of service. (EC170/74)

138. Metering

Produced water, separated by a treater, shall be accurately gauged or metered. (EC170/74)

139. Calibration of meters

- (1) Where a water meter is used to determine water production
- (a) the meter shall be calibrated within the first three months of operation;
 - (b) the meter shall be calibrated immediately following any repairs to the meter or at the end of a one year period since the last calibration; or
 - (c) the meter shall be calibrated upon request by the Conservation Engineer.



Particulars

- (2) The calibration details, including the date of calibration, the meter serial number, and the meter factor, shall be kept at the battery in which the meter is installed.

Waiver of calibration

- (3) A calibration or recalibration required by subsection (1) shall be made in the shop or field against a prover tank, check meter, or other approved device, and with a minimum of four consecutive runs each within a tolerance of plus or minus 1.5 percent of the mean factor.
(EC170/74)

140. Samplers

- (1) Where a proportional sampler is used to determine water production
- (a) a representative sample shall be obtained; and
 - (b) the percent water content shall be determined by an accurate analysis of the fluid sample according to the American Society of Testing Materials Procedures.

Analysers

- (2) Where a product analyser is used to determine water production, it shall be maintained in accurate calibration. (EC170/74)

141. Measurement of test water production

- (1) Where the test water production of an oil well is 10 percent or more of the total liquid production and there are no test-treater facilities available, the water content may be determined by
- (a) continuous proportional sampling of the produced liquids and accurately analysing the sample; or
 - (b) an approved product analyser.

Idem

- (2) Where the water production of an oil well is less than 10 percent of its total liquid production and no test-treater facilities are available, the water content of the oil may be determined by centrifuging two samples taken at well-spaced intervals during each test and averaging the results. (EC170/74)

142. Measurement of total water production

- (1) Where the total water production at a well or battery exceeds 300 barrels per month and the water cut is in excess of 0.5 percent of the total liquid production the water shall be separated from the oil and accurately gauged or metered.

Idem

- (2) Where the total production of water from a multi-well battery is less than 300 barrels per month, the water production may be determined by totalling the calculated water production for each well based on its individual test rate as determined in accordance with section 141.

Idem

- (3) Where the total water production from a single well is less than 300 barrels per month, the water production may be determined by centrifuging three-spot or proportional samples taken at well-spaced intervals during the month and averaging the results.

Approval of other devices

- (4) Upon receipt of test data showing that water production can be determined accurately, the Conservation Engineer may approve other devices for the measurement of group water production. *(EC170/74)*

143. Metering of water production at gas well

- (1) Water production that is separated at a gas well or group facility shall be gauged or metered.

Idem

- (2) Subject to subsection (4), the water production shall be separated and accurately gauged or metered if it is in excess of 300 barrels per month, or two barrels per million cubic feet.

Calculation

- (3) Where water at a gas well does not require measurement under either subsections (1) or (2) the rate of water production shall be determined semi-annually, either by a representative test or by an engineering estimate, and the total water production shall be calculated for each month on the basis of this information.

Exemption

- (4) The Conservation Engineer may exempt a well or pool from water measurement upon receipt of a written application including evidence to indicate that
- (a) the water production is fresh water of condensation; or
 - (b) the gas reservoir is of such type that water coning will not be a problem. *(EC170/74)*

144. Measurement of injection water

Where the measurement of injected water is required by the Conservation Engineer, water meters shall be calibrated in accordance with section 139. *(EC170/74)*

145. Measurement of injection fluids

- (1) Where gas, air, water, or other substance is injected through a well to an underground formation, it shall be continuously measured by a method acceptable to the Conservation Engineer.

Annual tests

- (2) Annual tests shall be conducted by a method approved by the Conservation Engineer to confirm that segregation is maintained between the injection fluid and the annulus at all fluid injection and disposal wells, and the Conservation Engineer shall be notified at least three days in advance of any segregation test at a well. *(EC170/74)*

146. Tests, analyses, surveys and logs

- (1) The Conservation Engineer may at any time require any reasonable test, analysis, survey, or log to be made at the owner's cost and the information so obtained shall be submitted to him.

Tests results to be submitted

- (2) The data and results in duplicate of
- (a) each bottom hole sample analysis or other pressure volume temperature analysis;



- (b) each measurement made on a well for the purpose of ascertaining the level of the liquid column in the well bore; and
 - (c) any other reservoir or sub-surface test or tests taken by or on behalf of the owner
- shall be submitted by the quickest means to the Conservation Engineer. (EC170/74)

147. Samples

The Conservation Engineer may at any time require a sample of any oil, gas, or formation water produced from a well. (EC170/74)

148. Gas well stream analysis

- (1) At least once a year during the first two years of production and at such other times as requested by the Conservation Engineer samples shall be taken and analysed, the tests conducted and measurements made in a manner prescribed by or acceptable to the Conservation Engineer to determine the nature and the proportion of the constituents of the fluids, except water, being produced by a gas well.

Report

- (2) Within 30 days of the completion of the sampling and testing, a report of the results, which shall include analyses of the liquids and gas produced by the well and a statement of the proportions in which they were produced, shall be submitted to the Chief Officer.

Idem

- (3) The report shall show the results of the tests and the analyses expressed in a form and units acceptable to the Conservation Engineer or as may be directed by him from time to time.

Notice of test

- (4) The Chief Officer shall be notified at least 24 hours in advance of the date and time at which the test under subsection (1) will be carried out. (EC170/74)

149. Static bottom hole pressure measurements

- (1) Unless otherwise approved by the Conservation Engineer, the static bottom hole pressure of each producing well shall be measured annually.

Reports

- (2) All static bottom hole pressures and the duration of the shut-in period thereof shall be reported to the Chief Officer within 30 days of the date upon which the pressures were measured.

Method of measurement

- (3) When static bottom hole pressures are measured, the surveyed wells shall remain shut-in until the reservoir pressure has been attained in the well bore or until sufficient data are available to calculate the reservoir pressure, and in the latter case, details of the calculations shall be included in the report required under subsection (2). (EC170/74)

150. Alternative calculation

- (1) The Conservation Engineer may permit the static bottom hole pressure of a gas well to be calculated from the shut-in well head pressure measured by a dead weight gauge.

Instructions

- (2) The Conservation Engineer may issue general or special instructions concerning the measurement of static bottom hole pressures in oil wells. *(EC170/74)*

151. Calibration of bottom hole pressure bombs

All bottom hole pressure bombs used in the province shall be calibrated to the standards of the Conservation Engineer. *(EC170/74)*

152. Reservoir surveys

- (1) The Conservation Engineer may require reservoir data to be obtained in addition to normal production data, so that reservoir engineering studies may be performed. The reservoir data may include
- (a) reservoir pressure surveys;
 - (b) well productivity data;
 - (c) compositional or PVT analysis or reservoir fluid;
 - (d) special core analyses; and
 - (e) such other data as the Conservation Engineer may require.

Person delegated to make test

- (2) Where it is required that reservoir data be obtained according to subsection (1) a person delegated by the Conservation Engineer shall be permitted or assisted in the making of any or all tests or surveys that may be required by the Conservation Engineer;

Liability

- (3) The Crown is not liable for any damage incurred as a result of making any such test or survey. *(EC170/74)*

153. Notice of survey

In the case of any test or survey on any well, when requested by the Conservation Engineer, reasonable notice of the time of the test shall be given in order that it may be witnessed by him or by a person delegated to so do. *(EC170/74)*

PART VI — PRODUCTION TESTS AND RATES

154. Notification of initial production or potential tests

The Chief Officer shall be notified at least 24 hours in advance of any initial production or potential test in order that the test may be witnessed by the Conservation Engineer or a person delegated by him. *(EC170/74)*

155. Maximum rate limitation

- (1) The Conservation Engineer may establish a procedure for the assignment of a maximum rate limitation on a well or pool basis.



Production

- (2) The monthly production from a well or pool shall not exceed 120 percent of the maximum rate limitation.

Reduction in following period

- (3) Where monthly production occurs in excess of the maximum rate limitation the well operator shall take immediate action to ensure that the over production is reduced to nil within the following six month period. *(EC170/74)*

156. Gas-oil ratio

- (1) The gas-oil ratio penalty schedule shall be determined by the Conservation Engineer.

Penalty

- (2) Where the maximum rate limitation for an oil well or pool is subject to a gas-oil ratio penalty, the penalty factor is determined by applying the gas-oil ratio to the appropriate gas-oil ratio penalty schedule. *(EC170/74)*

157. Production tests of oil wells

- (1) Each new or recompleted oil well shall be tested initially for a period of not less than eight consecutive hours, and a report shall be submitted to the Chief Officer at the end of each calendar week during the test, showing the oil production, net gas-oil ratio, water production, and the A.P.I. gravity of the oil.

Idem

- (2) Regular production tests shall be made on oil wells as directed or approved by the Conservation Engineer. *(EC170/74)*

158. Gas well tests

- (1) The potential of each gas well shall be determined by a method approved by the Conservation Engineer.

Idem

- (2) Unless otherwise approved by the Conservation Engineer, the potential of each gas well shall be tested and the test approved by him,
 - (a) within one year of the rig release date for the well;
 - (b) prior to the well being placed on production;
 - (c) after one year of production and every five years thereafter; and
 - (d) after each work-over performed on the well.

Advance notice of test

- (3) The Chief Officer shall be notified at least 24 hours in advance of any test referred to in subsection (2), in order that the test may be witnessed by the Conservation Engineer, or a person delegated by him.

Procedure

- (4) A standard test procedure or any other procedure, including the method of calculation, approved by the Conservation Engineer shall be used for all gas wells in the pool or field.

Report

- (5) A detailed report of the well potential test, in a form acceptable to the Conservation Engineer, shall be certified and submitted to the Chief Officer within 30 days of the date upon which the test was completed. *(EC170/74)*

159. Emergency gas supply

The Conservation Engineer, in the event of a gas supply emergency, may adjust or remove restrictions on gas production for a temporary period. *(EC170/74)*

160. Records

Complete and accurate records of quantities of oil and natural gas that are produced, sold, purchased, acquired, stored, transported, refined, or processed shall be kept and maintained in the Province of Prince Edward Island, which shall be available for examination and copying at all reasonable times by any person authorized by the Conservation Engineer, and the Conservation Engineer may require that the records are filed with the Chief Officer. *(EC170/74)*

PART VII

161. Enhanced recovery schemes

Where approval has been issued for an enhanced recovery scheme pursuant to section 86 of the Act, the operator shall file reports with the Chief Officer in accordance with the requirements of the approval. *(EC170/74)*

