Guide for Pipelines Pursuant to the Environmental Protection and Enhancement Act and Regulations

March 1994

Effective March 29, 2014, the Alberta Energy Regulator (AER) has taken over jurisdictional responsibility for water and the environment with respect to energy resource activities in Alberta from Alberta Environment and Sustainable Resource Development.

As part of this jurisdictional transfer, the title page of this guide now carries the AER logo. However, no other changes have been made.

For more information, contact the AER Customer Contact Centre at 1-855-297-8311 or inquiries@aer.ca.

GUIDE FOR PIPELINES

Pursuant to the Environmental Protection and Enhancement Act and Regulations

CURRENTLY UNDER REVISION

Alberta Environmental Protection
Environmental Regulatory Services
Land Reclamation Division

March 1994

Further information and copies may be obtained from:

Conservation and Reclamation Review Branch
Alberta Environmental Protection
Environmental Regulatory Services
3rd Floor, Oxbridge Place
9820 - 106 Street
Edmonton, Alberta T5K 2J6

(403) 422-2636

This document may be cited as:

Alberta Environmental Protection, 1994. Guide for Pipelines Pursuant to the Environmental Protection and Enhancement Act and Regulations. Alberta Environmental Protection, Land Reclamation Division, Edmonton, Alberta.

Acknowledgement:

This guide was prepared by the Pipeline Task Group. The task group was established to help develop the regulations and information documents under the Environmental Protection and Enhancement Act. It had representative from government, industry, and the public. Special thanks are owed to Karin Stiles, Ellen Havekotte and Jamie Legarie for their skills and patience in typing and formatting the document.

PARTS OF THE GUIDE

INTRODUCTION TO THE GUIDE

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This Document was developed as a collaborative effort of the Pipeline Task Group, a multi-stakeholder group with representatives from industry, government and the public. The document will be reviewed in the spring of 1995 to ensure it is meeting its objectives.

1. GENERAL

Alberta Environmental Protection administers several acts related to environmental conservation and protection. The major legislation is the Environmental Protection and Enhancement Act and regulations, the Public Lands Act, and the Water Resources Act. The divisions responsible for implementing the acts and regulations are shown in Figure 1.

This Guide will assist in the preparation of pipeline applications and reports required under the Environmental Protection and Enhancement Act and regulations. The intent is to expedite the review and approval of these submissions. Applicants are encouraged to contact the appropriate administrative unit for clarification or assistance, especially during the planning phase of an application or report.

The administrative units that administers the major acts and regulations are shown in Figure 2. Environmental Assessment Division, Land Reclamation Division, Standards and Approvals Division, and Wastes and Chemicals Division are the main divisions within Alberta Environmental Protection that deal with pipelines under the Environmental Protection and Enhancement Act and regulations. Water Resources Administration Division deals with permits, licences, and authorization required under the Water Resources Act. Land Administration Division administers surface dispositions under the Public Land Act. They do this in conjunction with Alberta Agriculture, Food and Rural Development, who are responsible for the management of White Area public lands.

2. OUTLINE OF THE PARTS OF THE GUIDE

The parts of the Guide and the administrative units that deal with them are as follows:

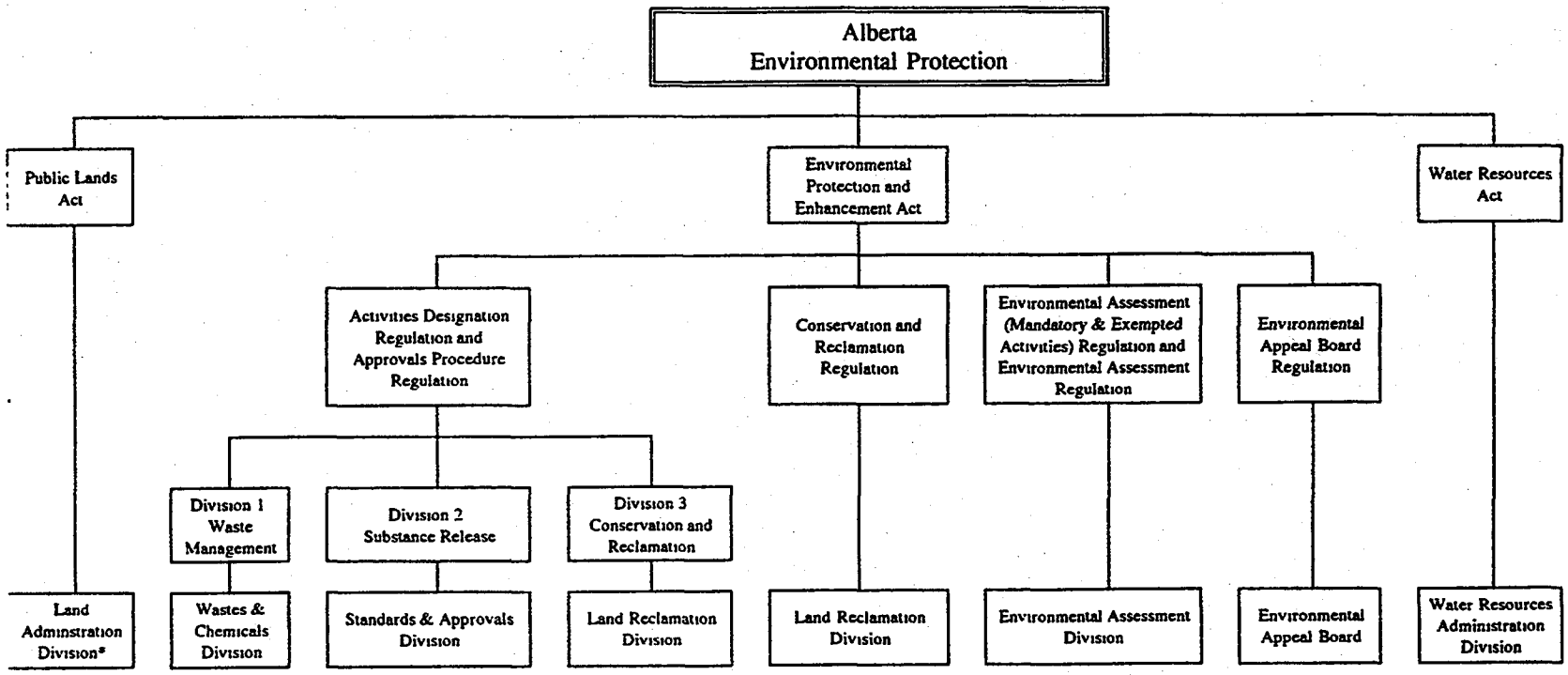
1. Conservation and Reclamation Approval (Part 1). A Conservation and Reclamation Approval is required for pipelines with an index (diameter in millimetres times length in kilometres) of 2690 or greater. Certain pipelines are exempt from the requirements for an approval[1]. Land Reclamation Division coordinates the technical review of applications and makes recommendations to the Director who issues the approvals. Part 1 focuses on the preparation of Conservation and Reclamation Applications. It also addresses the overall regulation of pipelines.

2. Environmental Protection Guidelines (Part 2). The Environmental Protection Guidelines provide direction for the conservation and reclamation of pipelines. The guidelines apply to all pipelines, including those that require a Conservation and Reclamation Approval (Class I) and those that do not (Class II). Adherence to the guidelines is monitored by Conservation and Reclamation Inspectors.

3. Reclamation Certification (Part 3). Operators must reclaim disturbed land and obtain a reclamation certificate to show that reclamation has been successful. In addition, a surface lease on private or public land is not legally terminated unless a certificate has been issued. Conservation and Reclamation Inspectors conduct the inquiries on applications for reclamation certificates.

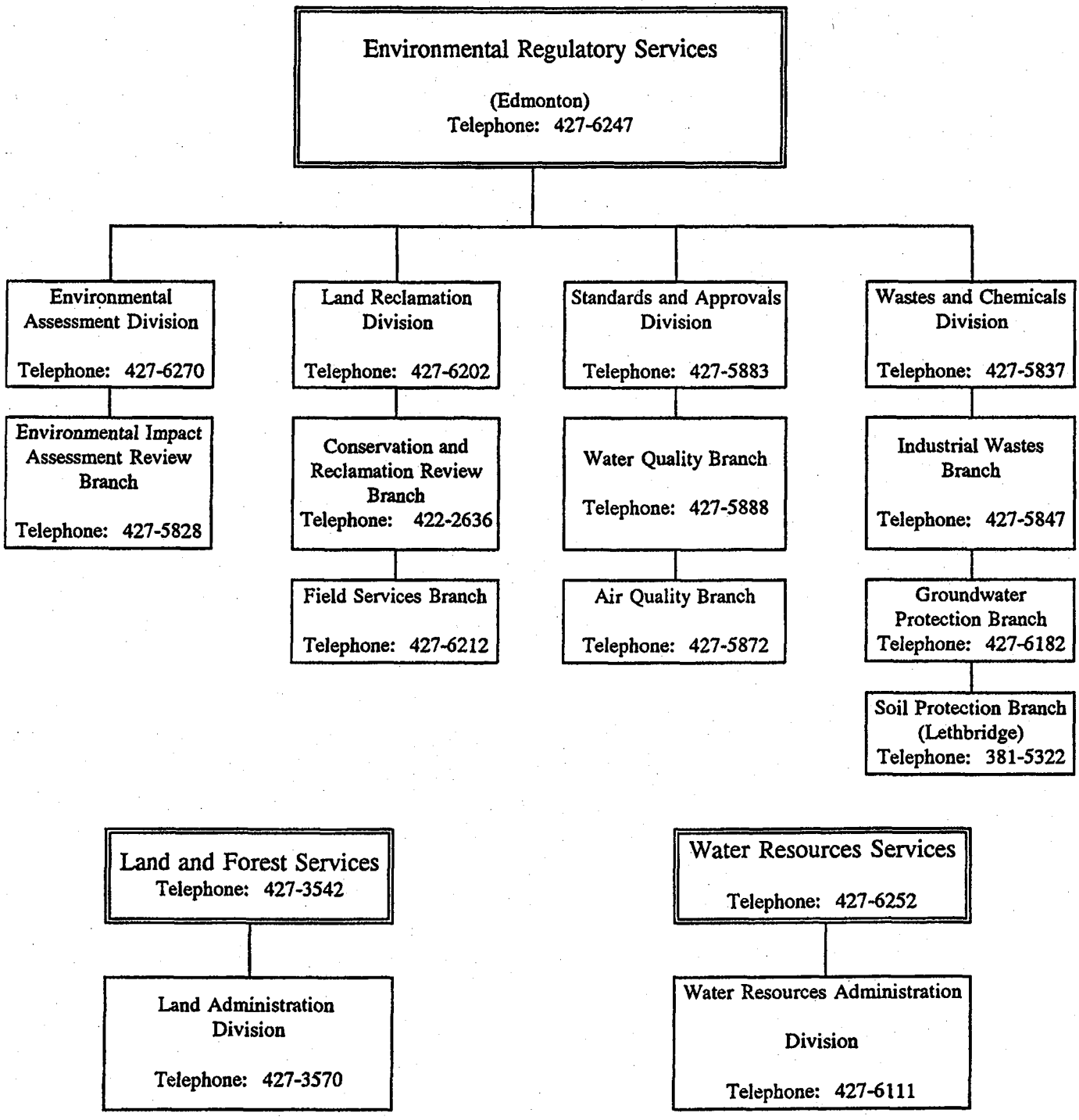
[1] Activities Designation Regulation: Section 1(5)(h).

FIGURE 1: ALBERTA ENVIRONMENTAL PROTECTION LEGISLATION AND ADMINISTRATIVE UNITS



* Administers the Public Lands Act in conjunction with Alberta Agriculture, Food and Rural Development who are responsible for land management on White Area public lands.

FIGURE 2: ADMINISTRATIVE UNITS IN ENVIRONMENTAL REGULATORY SERVICES, LAND AND FOREST SERVICES, AND WATER RESOURCES SERVICES.



PART 1: CONSERVATION AND RECLAMATION APPROVAL: APPLICATION AND REVIEW PROCESS

Further information and copies may be obtained from:

Conservation and Reclamation Review Branch
Alberta Environmental Protection
Environmental Regulatory Services
3rd Floor, Oxbridge Place
9820 - 106 Street
Edmonton, Alberta T5K 2J6

(403) 422-2636

This document may be cited as:

Alberta Environmental Protection, 1994. Guide for Pipelines Pursuant to the Environmental Protection and Enhancement Act and Regulations, Part 1: Conservation and Reclamation Approval: Application and Review Process. Alberta Environmental Protection, Land Reclamation Division, Edmonton, Alberta.

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FIGURES

PART 1 CONSERVATION AND RECLAMATION APPROVAL: APPLICATION AND REVIEW PROCESS

1. INTRODUCTION

1.1 General Information on the Guide

This document is Part 1 of a Guide dealing with the regulation of pipelines under the Environmental Protection and Enhancement Act and regulations. Part 2 of the Guide provides Environmental Protection Guidelines that apply to all pipelines. Part 3 deals with reclamation certification.

Part 1 focuses on the preparation of an application for a Conservation and Reclamation Approval but also addresses the overall regulation of pipelines. The purpose of the application is to address environmental concerns and plan for mitigation of adverse environmental impacts during the construction, operation and reclamation of a pipeline. Depending on the nature and extent of the surface disturbance, the content and level of detail in the application can be reduced or increased as needed. Proponents should discuss their projects as soon as possible with staff of Land Reclamation Division, Alberta Environmental Protection (3rd Floor, Oxbridge Place, 9820 - 106 Street, Edmonton, Alberta, T5K 2J6; telephone 422-2636).

1.2 General Information on the Environmental Protection and Enhancement Act

The objective of all Albertans should be to ensure the protection, improvement, and wise use of our environment now and in the future. The Environmental Protection and Enhancement Act and regulations reflect this objective by emphasizing the conservation and reclamation of land through environmental planning.

The Environmental Protection and Enhancement Act[1] requires an operator to conserve and reclaim specified land and obtain a reclamation certificate. Specified land is land on which an activity (such as the construction, operation and reclamation of a pipeline) is carried on. The Act[2] provides for the issuance of environmental protection orders to ensure conservation and reclamation standards are met during construction, operation, and reclamation of an activity. When a pipeline is reclaimed, the operator must obtain a reclamation certificate to show that reclamation has been successful[1]. Under the Act[3], a surface lease with the landowner is not legally terminated until a reclamation certificate has been issued. Even if the operator owns the land, the pipeline must be eventually reclaimed and a certificate obtained[1].

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1 Section 122.

2 Sections 125 to 128.

3 Section 129.

The Conservation and Reclamation Regulation provides further direction on environmental protection orders, reclamation certification and security. The Activities Designation Regulation requires approvals for activities outlined in the Schedule attached to the regulation. Division 3 of the Schedule requires an approval for pipelines with an index of 2690 or greater (see Section 1.5: Regulatory Framework for Pipelines). This approval is called a Conservation and Reclamation Approval. Certain pipelines are exempted from needing a Conservation and Reclamation Approval[1]. The Approvals Procedure Regulation outlines the review process for approvals issued under the Environmental Protection and Enhancement Act.

1.3 The Objective of Conservation and Reclamation

The objective of conservation and reclamation is to return disturbed land to an equivalent land capability[2]. Equivalent land capability means[3] that the ability of the land to support various land uses after conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land, but that individual land uses will not necessarily be identical. This approach provides sustained levels of land use at least equivalent to those which existed prior to development. The concept provides for flexibility such that individual land capabilities may change, but overall land capability will be equivalent to pre-disturbance conditions.

Land capability is defined[4] as the ability of land (unaltered by future management inputs, activities, or alterations) to support a given land use, based on an evaluation of the physical, chemical, and biological characteristics of the land, including topography, drainage, hydrology, soils, and vegetation. This evaluation determines the inherent or natural ability of land resources to provide for use. It includes any existing abilities and conditions which are the result of alterations or management practices prior to the development.

The reclaimed land capability must be sustainable under normal management. This means that the land has no more soil and landscape limitations to various uses than it did before the disturbance. In the case of linear disturbances such as pipelines, where the landscape is not changed, the focus of capability is on the soil and vegetation.

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1 Activities Designation Regulation: Section 1(5)(h).

2 Conservation and Reclamation Regulation: Section 2.

3 Conservation and Reclamation Regulation: Section 1(i).

4 Conservation and Reclamation Regulation: Section 1(p).

Having regard to the objective of conservation and reclamation, the concept of "conservation" includes all practical and desirable methods for:

1. minimizing the extent of disturbance, regardless of the ability to reclaim the land.

2. minimizing or mitigating the effects of development on land and soil resources.

3. salvaging soil resources for use in reclamation.

4. controlling wind and water erosion.

The concept of "reclamation" includes all practical and desirable methods for:

1. designing and conducting an operation to enhance the potential for disturbed land to be reclaimed to equivalent land capability.

2. handling material to ensure reconstructed soils have an equivalent soil capability relative to the soils that existed prior to disturbance.

3. contouring the land surface to meet the land capability objective, as well as to ensure stability, to protect the surface against wind or water erosion, to provide for surface drainage, and to minimize hazards.

4. revegetating and managing the land to meet the land capability objective.

5. re-establishing surface water resources to meet the land capability objective.

1.4 Conservation and Reclamation Planning

Planning is the key to successful project development, land and soil conservation, and reclamation. Good planning prior to development will anticipate problems, prevent or minimize environmental impacts, and provide for proper reclamation.

Effective conservation and reclamation planning requires that reclamation objectives be drawn up as early as possible and that they be an integral part of the development plan. The reclamation plan must be developed through consultation with government (municipal and provincial), the public, and landowners.

1.5 Regulatory Framework for Pipelines

1.5.1 Pipelines Requiring a Conservation and Reclamation Approval (Class I)

The Act[1] defines a pipeline as:

> "i. a pipe for the transmission of any substance and installations in connection with that pipe,
>
> ii. a sewer or sewage system and installations in connection with that sewer or sewage system, or
>
> iii. an underground pipe that contains telecommunication lines".

"Installations in connection with that pipe" refers to such facilities as compressor or pumping sites, roads, powerlines, or any other auxiliary mechanisms required for the operation of the pipeline.

Class I pipelines require a Conservation and Reclamation Approval prior to any surface disturbance. Class I lines are those lines with an index[2] of 2690 or greater, unless excluded in the regulations[3] (see Figure 1 and Section 1.5.2: Pipelines Not Requiring A Conservation and Reclamation Approval).

Indices for projects which will have more than one pipe in the trench are calculated using the diameter and length of the largest pipe only. Portions of the system which are to be ploughed into the ground are not used in the calculation of the index. Alterations and extensions which have indices of 2690 or greater will also require a Conservation and Reclamation approval. Figure 2 provides examples of pipelines which require a Conservation and Reclamation Approval.

The Environmental Protection and Enhancement Act[4] requires a Conservation and Reclamation Approval for all pipelines with an index of 2690 or greater and constructed prior to enactment of the Act on September 1, 1993. The Act states that applications for these approvals must be made by January 1, 1995[5]. Applications for these pipelines should outline the route of the pipeline, its purpose, length, diameter, construction dates, and any current right-of-way maintenance problems.

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1 Section 1(vv).

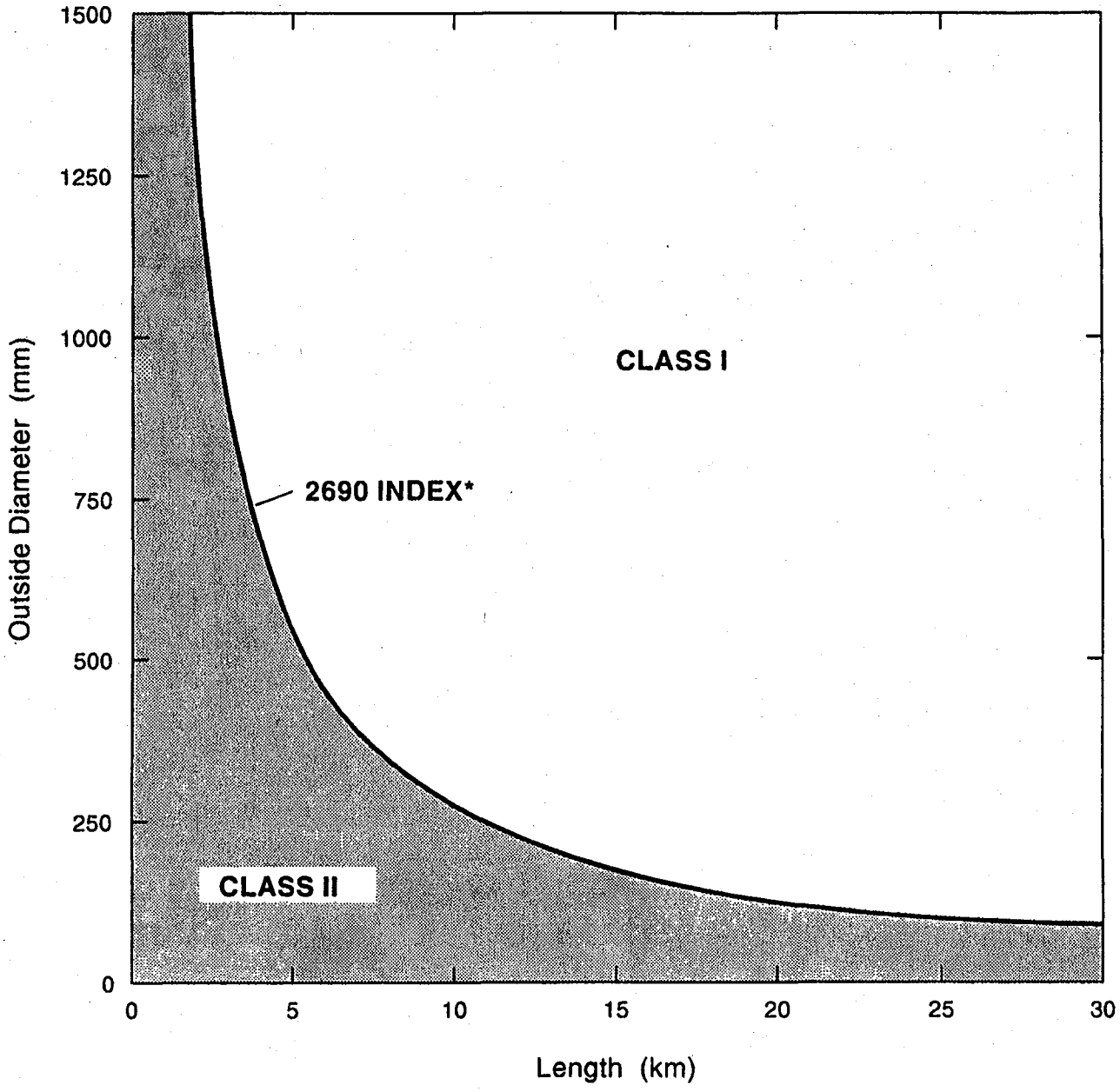
2 Index = outside diameter (mm) x length (km).

3 Activities Designation Regulation: Section 1(5)(h).

4 Section 243(10).

5 The Pipeline Task Group has recommended that approvals not be required for lines constructed and reclaimed prior to the Environmental Protection and Enhancement Act. The Department is pursuing this amendment.

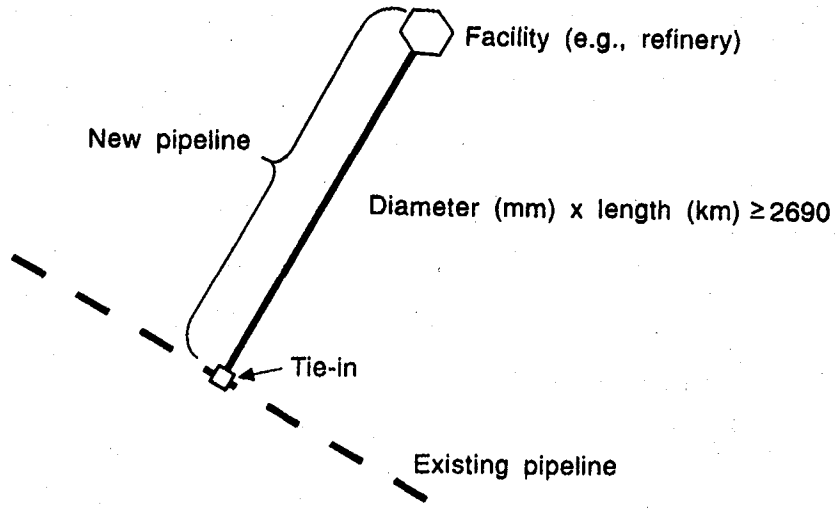
FIGURE 1: CLASS SYSTEM BASED ON PIPELINE INDEX



*Index = outside diameter (mm) x length (km)

FIGURE 2: EXAMPLES OF PIPELINES REQUIRING CONSERVATION AND RECLAMATION APPROVAL

(a) SINGLE PIPELINE (C&R Approval Required)



(b) SINGLE PIPELINE (C&R Approval Not Required)

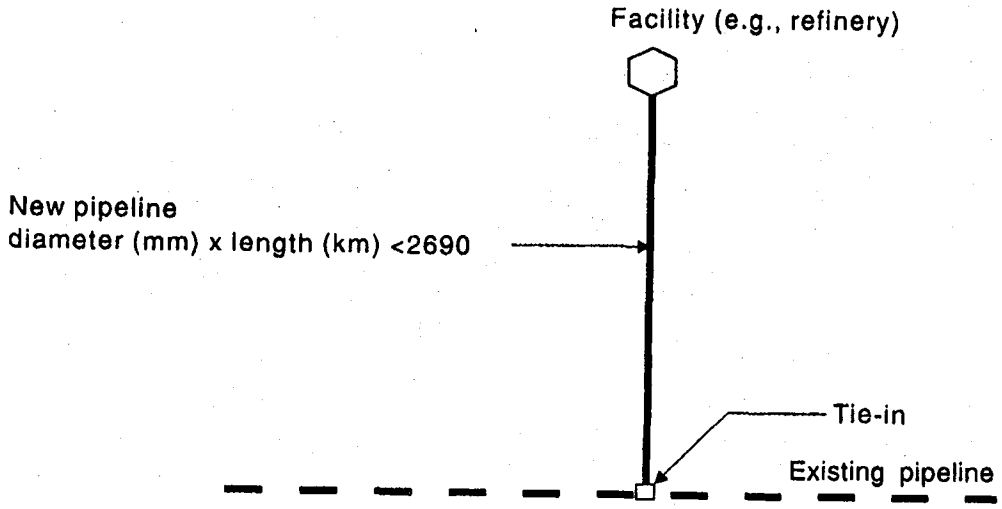
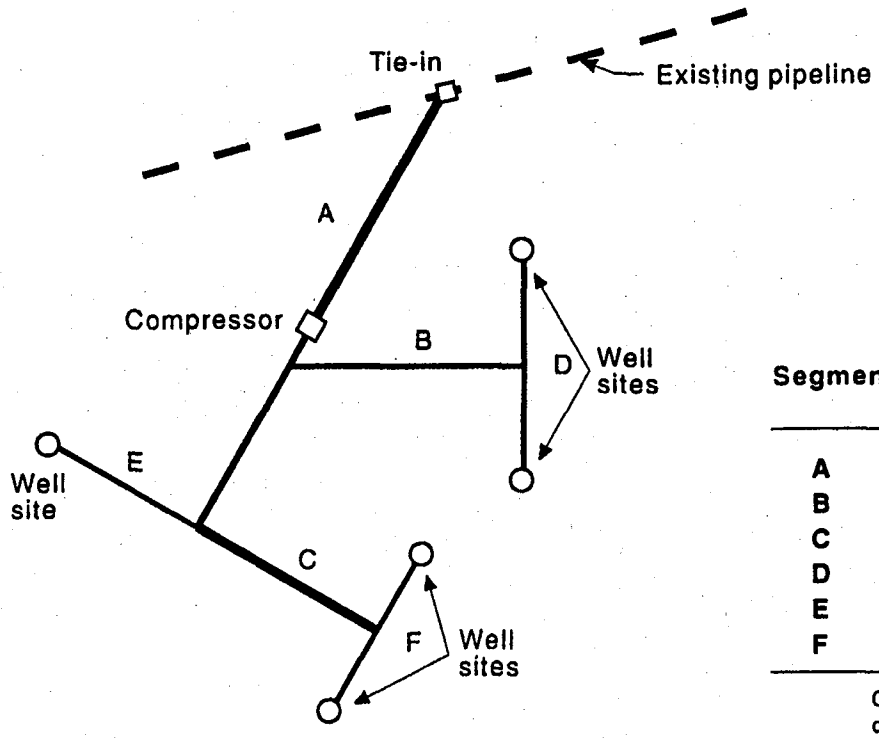


FIGURE 2 CONTINUED

(c) MULTIPLE PIPELINE PROJECT



Segment	Diameter (mm)	Length (km)	Index D x L
A	273	8	2184
B	114	3	342
C	60	6	360
D	165	6	990
E	60	6	360
F	88	4	352

Construction of any combination of segments A thru F which in total are equal or greater than 2690 will *require* C&R approval.

NOTES:

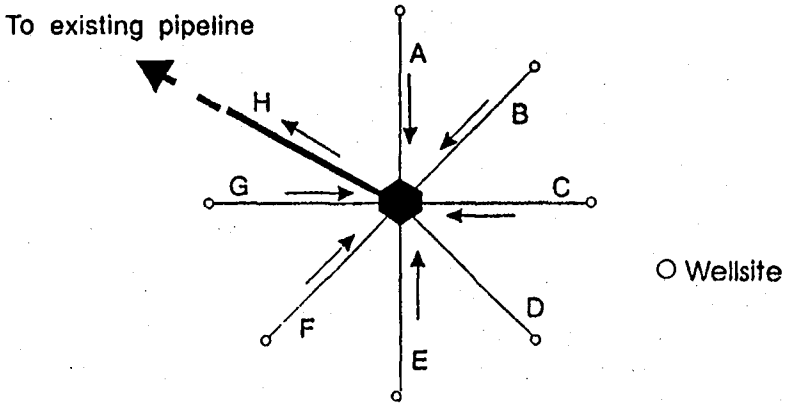
i) If all pipeline segments are built as part of one project (i.e., under the same application to the ERCB) and the cumulative total of the segments is ≥2690, the entire project requires a C&R Approval (Class 1).

ii) If, however, the pipeline segments are built over a period of time as separate projects (i.e., during different construction seasons and under a number of different applications to the ERCB), each segment requires a C&R Approval only when the individual segment is ≥2690.

iii) The 2690 index is not applied retroactively to any of these segments when built independently.

FIGURE 2 CONTINUED

(d) MULTIPLE PIPELINES INTO AN OIL BATTERY



NOTES..

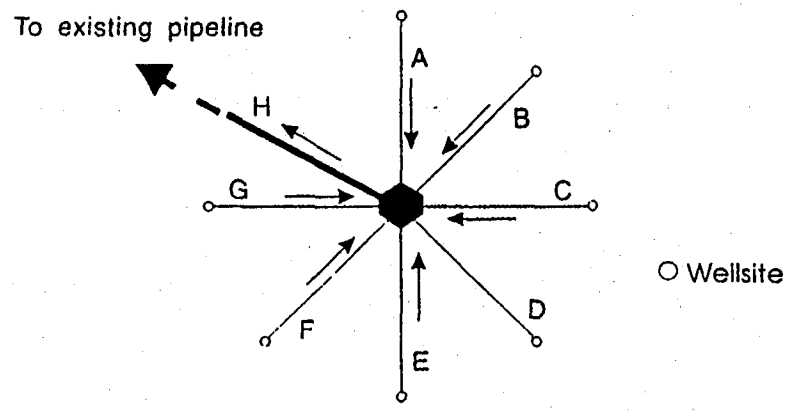
i) a battery or compressor site is part of a pipeline as defined in the Environmental Protection and Enhancement Act.

ii) If all pipeline segments are built as part of one project (i.e., under the same application to the ERCB), and the cumulative total of the segments is ≥2690, the entire project requires a C&R Approval (Class 1).

iii) If, however, the pipeline segments are built over a period of time as separate projects (i.e., during different construction seasons and under a number of different applications to the ERCB), each segment requires a C&R Approval only when the individual segment is ≥2690.

iv) The 2690 index is not applied retroactively to any of these segments when built independently.

(e) MULTIPLE PIPELINES INTO A PROCESSING PLANT



NOTES.

i) A processing plant is not part of a pipeline as defined in the Environmental Protection and Enhancement Act.

ii) Each segment in itself must be ≥2690 to require a C&R Approval. The C&R Approval would only apply to that segment and not the entire project.

The Activities Designation Regulation[1] states that an approval issued pursuant to the Regulated Oil and Gas Pipeline Surface Operation Regulations is "deemed" to be an approval under the new regulation. Therefore, no application is required for these pipelines.

1.5.2. Pipelines Not Requiring a Conservation and Reclamation Approval (Class II)

Class II pipelines do not require a Conservation and Reclamation Approval. The Activities Designation Regulation[2] lists the following pipelines as not requiring an approval:

i. a pipeline or part of a pipeline located in a city, town, new town, village or summer village;

ii. a pipeline or part of a pipeline located in a plant site at which an activity that requires an approval under this regulation is carried on;

iii. a pipeline with a length in kilometres times diameter in millimetres resulting in an index number of less than 2690;

iv. a pipeline regulated pursuant to the National Energy Board Act (Canada);

v. a pipeline that is a rural gas utility as defined in the Rural Gas Act;

vi. a pipeline that is part of a waterworks system or a wastewater system that has a length in kilometres times diameter in millimetres resulting in an index number of less than 2690;

vii. a pipeline or telecommunication line that is ploughed in;

viii. a pipeline that is used solely for the purposes of an agricultural operation and is located wholly on land that is used for the purposes of an agricultural operation.

For Class II pipelines, Environmental Protection Guidelines (see Part 2 of the Guide) provide the necessary guidance to achieve conservation and reclamation. Figure 3 outlines the regulatory process for Class II pipelines. As with Class I lines, they are subject to environmental protection orders and must obtain a reclamation certificate. Adherence to the guidelines is monitored by Conservation and Reclamation Inspectors. Proponents will find it useful to contact the Conservation and Reclamation Inspectors early in the planning process to discuss their pipeline and the Environmental Protection Guidelines. Contacting the inspectors prior to construction can also be beneficial.

All Class II pipelines on public lands require a surface disposition (Pipeline Agreement or Easement) from the Land Administration Division of Alberta Environmental Protection. In these cases, the guidelines may be supplemented with more specific operating conditions attached to the surface disposition.

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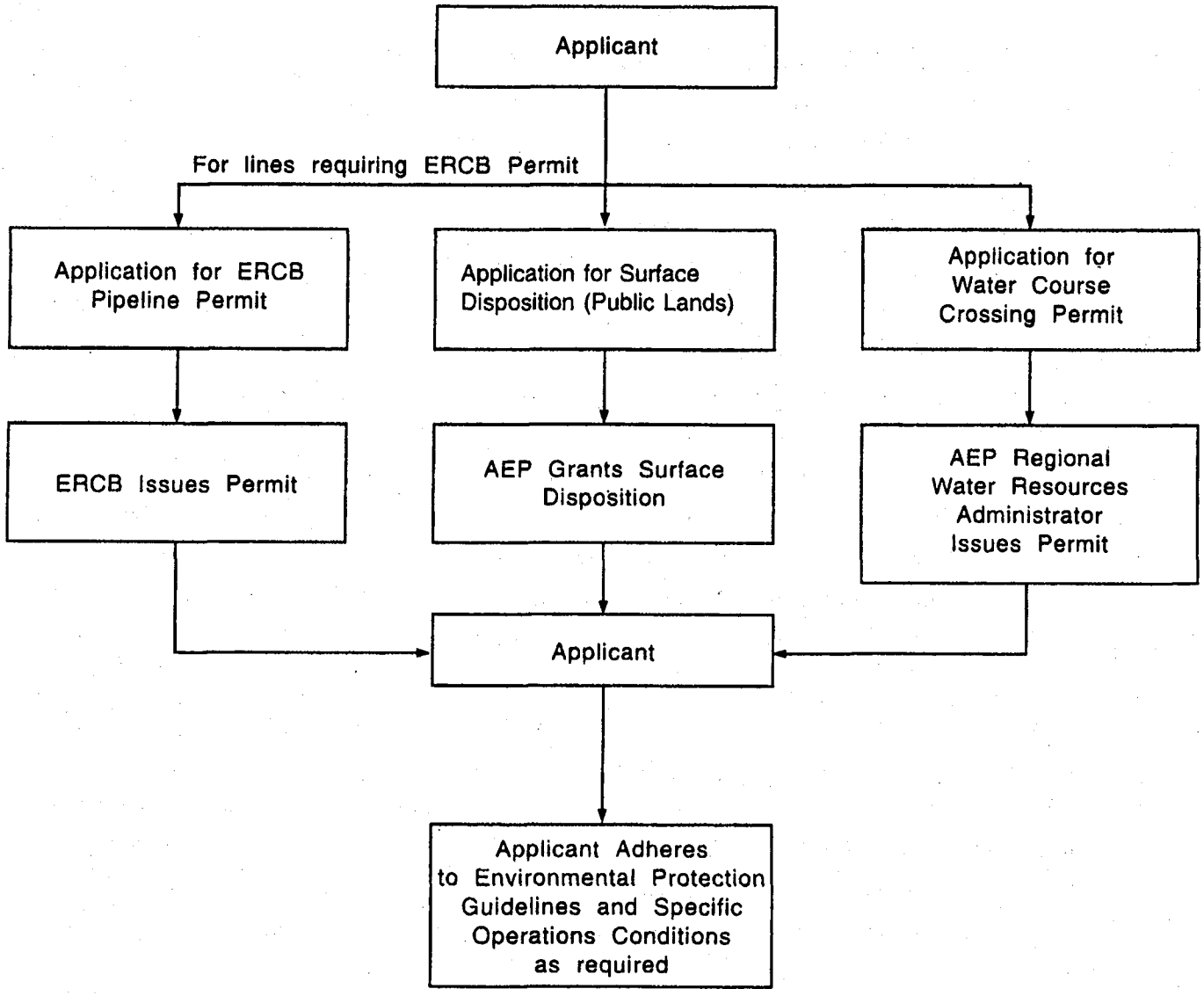
[1] Section 4(8).

[2] Section 1(5)(h).

FIGURE 3: REGULATORY PROCESS FOR CLASS II PIPELINE



NOTES:

AEP - Alberta Environmental Protection
ERCB - Energy Resources Conservation Board
LAD - Land Administration Division

Class II pipelines that cross a watercourse or waterbody with a defined bed and bank require a permit under the Water Resources Act. Permit applications for these crossings are forwarded directly to the appropriate Regional Water Resources Administrator.

1.6 Conservation and Reclamation Review and Approval Process

1.6.1 General

A pipeline or associated activity may require a number of approvals. When more than one approval is required from Alberta Environmental Protection under the Environmental Protection and Enhancement Act, Land Reclamation Division will be the "one-window" to the Department. The major approvals are summarized in the table below:

PIPELINE APPROVALS

Activity	Division 3 C & R Approval AEP	Division 2 Substance Release Approval AEP	Division 5 Potable Water Approval AEP	Water Resources Approval* AEP	Public Lands Surface Disposition Approval AEP	Permit to Construct ERCB	Historical Resources Permit ACM
Pipeline Pursuant to the Pipeline Act	√			√	√	√[1]	√
Sewer Line or Water Main	√		√[2]	√	√		√
Telecommunication Line	√			√	√		√
Compressor and[3] Pumping Station		√[4]			√	√	
Hydrostatic Test		√		√			

* For Waterbody Crossings

ACM = Alberta Community Development
AEP = Alberta Environmental Protection
ERCB = Energy Resources Conservation Board

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1 Pipeline Act: Section 7.

2 Activities Designation Regulation: Division 2, Part 7 (sewer lines) or Division 5 (water mains).

3 Activities Designation Regulation: Section 1(4)(i); defines a compressor and pumping station as a facility that has an oxides of nitrogen emission rate greater than 16 kg/hour.

4 Activities Designation Regulation: Division 2 (Part 9) of the schedule attached to the regulation.

1.6.2 Preliminary Meeting

Proponents are advised to contact the Conservation and Reclamation Review Branch of Land Reclamation Division (3rd Floor, Oxbridge Place, 9820 - 106 Street, Edmonton, Alberta, T5K 2J6; telephone: 422-2636) prior to the preparation of a Conservation and Reclamation Application. A preliminary meeting can be arranged between the proponent and government agencies before submission of the application. The intent of the meeting is to discuss the significant environmental issues previously identified by the proponent. The meeting also enables the proponent to determine the level of detail required for environmental information and to arrange further meetings or field inspections with government staff to facilitate the preparation and processing of the application.

At the preliminary meeting, the proponent should be prepared to present a project overview to government agencies and to initiate discussions on major issues relevant to the project. If possible, the proponent should submit preliminary project information to government agencies prior to the meeting.

1.6.3 Submission of Conservation and Reclamation Application

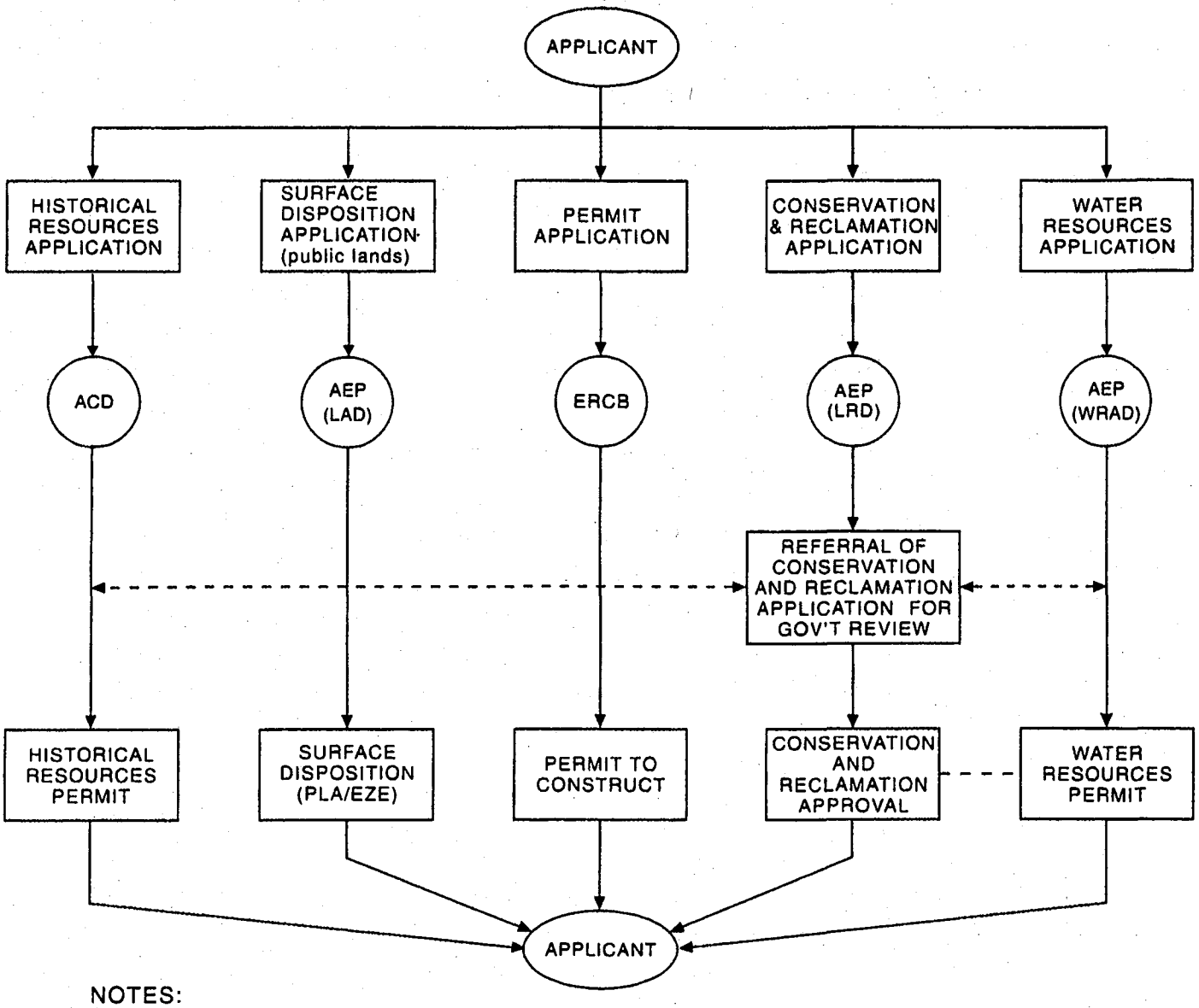
1.6.3.1 Pipelines Requiring Energy Resources Conservation Board Approval under the Pipeline Act. Fifteen (15) copies of the Conservation and Reclamation Application will be required for referral to government agencies and should be sent directly to the Director of Land Reclamation Division of Alberta Environmental Protection (3rd Floor, Oxbridge Place, 9820 - 106 Street, Edmonton, Alberta T5K 2J6; telephone: 427-6202). A copy of the Conservation and Reclamation Application should be sent to the ERCB (in addition to the Energy Resources Conservation Board Application for a Permit to Construct a Pipeline).

1.6.3.2 Other Pipelines. There are types of pipelines such as sewer lines, water mains, and telecommunication lines, which require a Conservation and Reclamation Approval but do not require approval from the ERCB. In these cases, fifteen (15) copies of the Conservation and Reclamation Application will be required for referral to government agencies and should be sent directly to the Director of Land Reclamation Division of Alberta Environmental Protection. A copy of the application is not sent to the ERCB.

1.6.4 Review Process

Figure 4 shows the relationship of the Conservation and Reclamation Approval process, the Energy Resources Conservation Board Permit process, the Water Resources Permit process, the surface disposition process on public lands and the Historical Resources Permit process. Applications to the respective agencies will be reviewed concurrently. The agencies will keep each other appropriately informed of their reviews.

FIGURE 4: RELATIONSHIP OF APPROVAL PROCESSES FOR CLASS I PIPELINES



NOTES:

ACD - Alberta Community Development
AEP - Alberta Environmental Protection
ERCB - Energy Resources Conservation Board
EZE - Easement
LAD - Land Administration Division
LRD - Land Reclamation Division
PLA - Pipeline Agreement
WRAD - Water Resources Administration Division
- - - - denotes notification or communication among agencies

Before submitting a conservation and reclamation application, the proponent should consult with staff of the Land Reclamation Division to ensure that the application will be complete. Information requirements and the procedures and methodologies to be used in preparation of the application should be discussed. The quality and adequacy of information will be major factors in the review of the application.

Figure 5 outlines the review and approval process for a Class I pipeline:

1. The applicant sends fifteen (15) copies of the C & R Application to the Director of Land Reclamation Division (3rd Floor, Oxbridge Place, 9820 - 106 Street, Edmonton, Alberta, T5K 2J6). In some instances more copies may be required. It is the responsibility of the company to provide appropriate information and the name and address of an official company contact.
2. The Director may require the applicant to give notice of the application in the local media[1]. The applicant may be required to hold meetings in the area of the proposed activity for the public to get information about the Conservation and Reclamation Plan for the pipeline[2].
3. If the application requires notice of application, any person who is directly affected by the proposed project may submit to the Director a written statement of concern with respect to the application[3]. A statement of concern must be submitted within 30 days after the notice of application or within any longer period determined by the Director.
4. Upon receipt, the application is referred to the appropriate agencies within government. If the review identifies information deficiencies, the applicant will be asked to provide additional information to allow the review to be completed.
5. When the review is completed, a recommendation is made to the Director to issue or not issue an approval.
6. The Director may circulate the proposed decision, including a draft of any approval, to the applicant and to persons who filed statements of concern[4].

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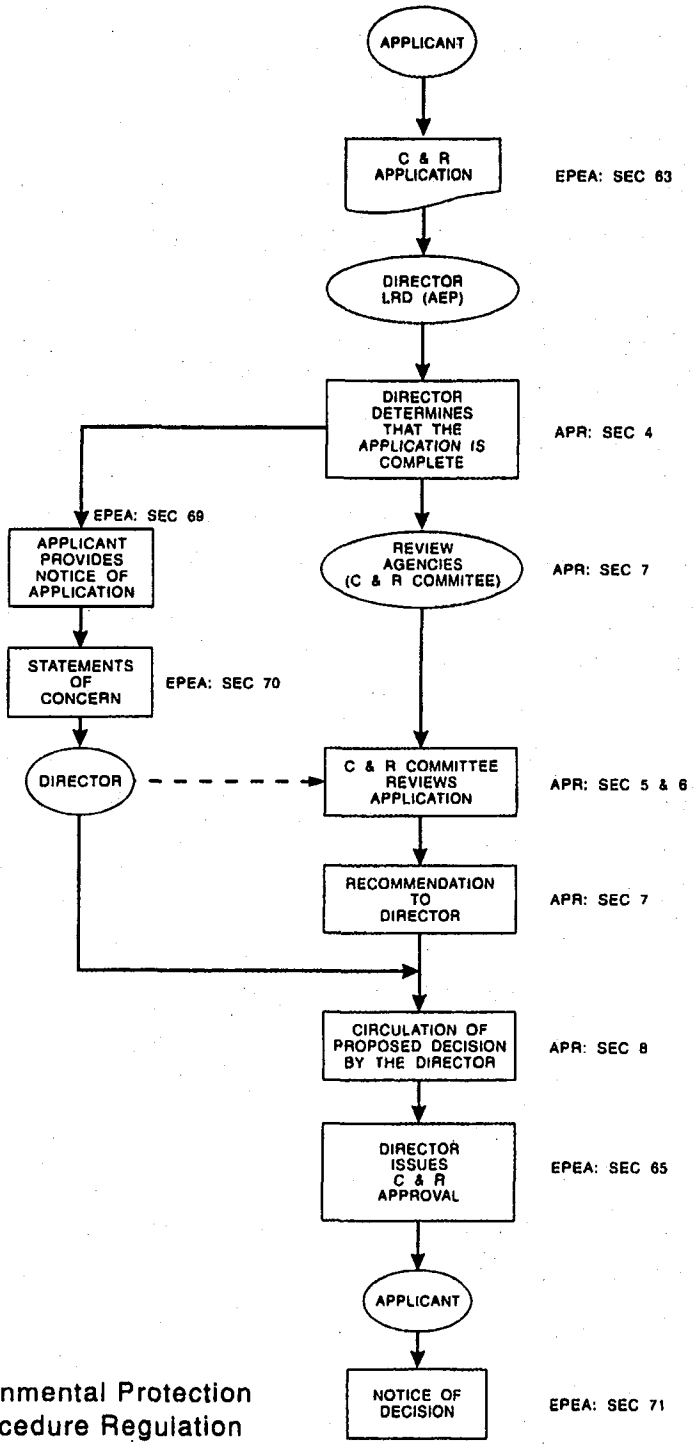
[1] Environmental Protection and Enhancement Act: Section 69(1); Section 69(3) allows notice to be waived in certain instances.

[2] Approvals Procedure Regulation: Section 5(2).

[3] Environmental Protection and Enhancement Act: Section 70.

[4] Approvals Procedure Regulation: Section 8.

FIGURE 5: REVIEW AND APPROVAL PROCESS FOR C & R APPROVAL



NOTES:

AEP - Alberta Environmental Protection
APR - Approvals Procedure Regulation
C & R - Conservation and Reclamation
EPEA - Environmental Protection and Enhancement Act
LRD - Land Reclamation Division

7. In the final step, the Director issues the approval. When notice of the application was given, a notice of the decision to issue the approval is sent to every person who submitted a statement of concern[1]. When a notice of application was not given, the Director must provide for notice of the decision to issue the approval.

Figure 6 provides a more detailed outline of the Conservation and Reclamation Approval process within Alberta Environmental Protection. The agencies within the Department are major stakeholders in the review of Class I pipelines. Other agencies outside the Department would become part of the review process as needed (e.g., Alberta Agriculture, Food and Rural Development; Alberta Transportation and Utilities; Alberta Community Development; Energy Resources Conservation Board). Alberta Environmental Protection compiles the comments from all departments and agencies and sends a response to the applicant. Once all issues regarding route alignment, right-of-way width, pipeline construction, and pipeline reclamation are resolved, the Department issues a Conservation and Reclamation Approval to the proponent. Permits pursuant to the Water Resources Act must be obtained separately from Water Resources Administration Division. The review of Water Resource Permits will be coordinated with the review of approvals required under the Environmental Protection and Enhancement Act (see Section 1.11: Watercourse Crossings).

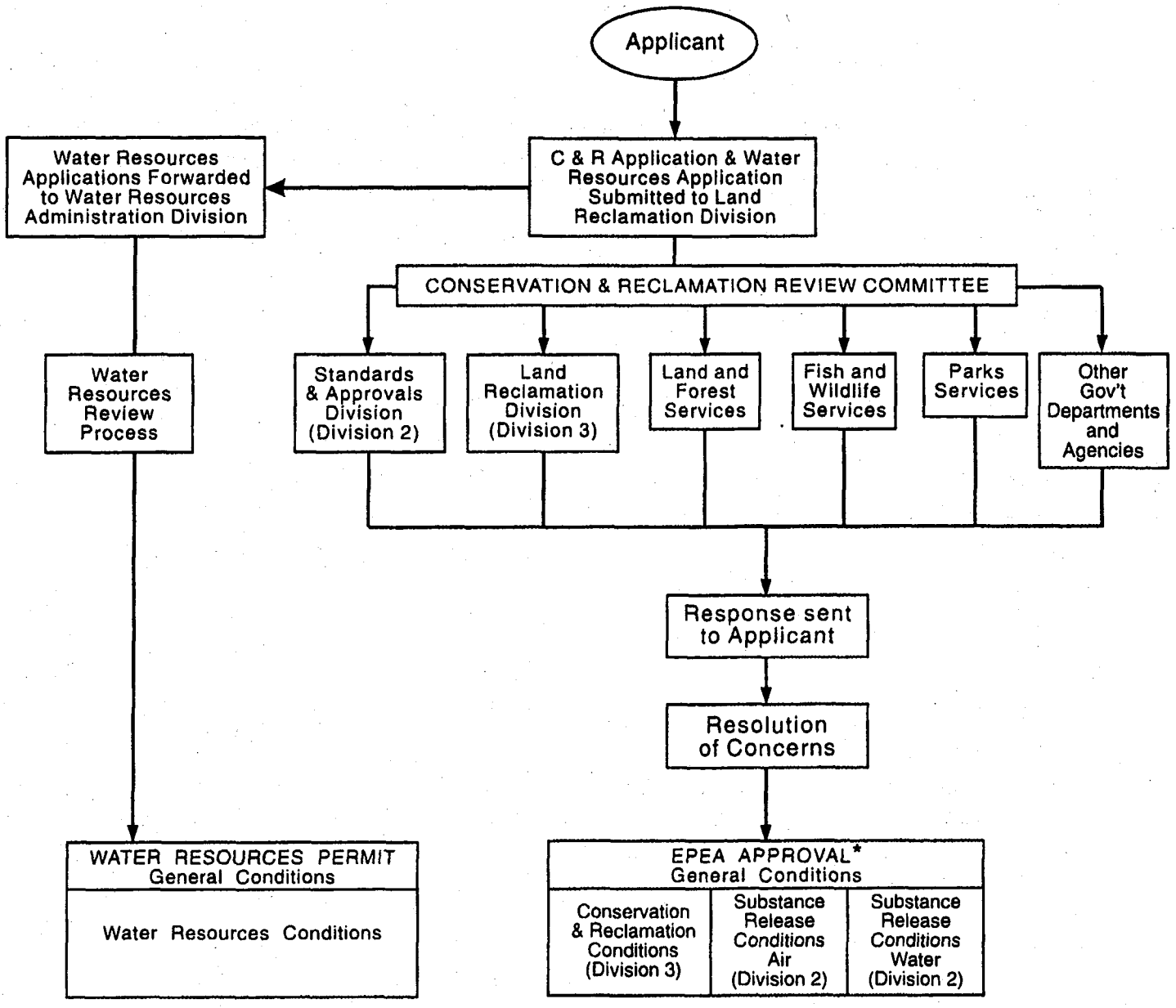
If a public hearing is conducted by the ERCB, Alberta Environmental Protection represents the Crown at the hearing. Alberta Environmental Protection issues a Conservation and Reclamation Approval to the proponent once all the issues regarding route alignment, right-of-way width, environmental protection and landowners are resolved.

The Conservation and Reclamation Application review process takes approximately 45 days after a complete application is received. Incomplete applications or applications submitted in two parts will require additional review time.

1.6.4.1 Public Involvement. The Environmental Protection and Enhancement Act and regulations provide the opportunity for the public to be involved with the regulatory approval process, as is described in the following sections on notices, statements of concern, and appeals. Applicants are encouraged to inform the public of proposed activities and address issues that are raised.

[1] Environmental Protection and Enhancement Act: Section 71(3).

FIGURE 6: INTERNAL ALBERTA ENVIRONMENTAL PROTECTION REVIEW PROCESS FOR C & R APPROVAL



NOTES:

Division 3 is the "window" for an EPEA approval for a pipeline.
Division 2 is the "window" for a compressor site or pumping station when there is no pipeline C&R Approval.

C&R - Conservation & Reclamation
EPEA - Environmental Protection and Enhancement Act

1.6.4.2 Notice of Application and Notice of Decision. An application for an approval or an amendment requires that the applicant provide notice of the application[1]. The notice must be provided in the area where the activity is proposed and contain information respecting the application[2].

The Director can waive the notice requirement when there is an emergency, when the application is considered routine, or when adequate notice of the application has been given[3]. An emergency would include a pressing situation that requires a fast response to avoid or minimize adverse environmental effects. A routine application would be one associated with little or minimal environmental effects. Adequate notice may occur when directly affected persons have been notified of the project and indicated, in writing, that they have no objections to the proposed activity.

When the Director waives the notice requirements for an application, notice of the decision to issue or amend the approval must be provided by the Director or the applicant[4].

1.6.4.3 Statements of Concern. When the applicant provides notice of application, any person who is directly affected by the application can submit a statement of concern to the Director[5]. The statement must be submitted within 30 days of the last date of notice or within a longer period determined by the Director in the notice. Statements of concern will be considered in the review of the application and in the decision by the Director.

1.6.4.4 Appeals. An application for Conservation and Reclamation Approval can be granted, with or without conditions, or refused. An applicant has 30 days to appeal any terms or conditions that are felt to be unreasonable, or to appeal a refusal to grant an approval[6]. When a notice of application was provided, any person who filed a statement of concern has 30 days to appeal the decision to issue an approval or any conditions of the approval that are felt to be unreasonable[6]. When a notice of application was not provided, any person

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1 Environmental Protection and Enhancement Act: Section 69(1).

2 Environmental Protection and Enhancement (Miscellaneous) Regulation: Section 2.

3 Environmental Protection and Enhancement Act: Section 69(3).

4 Environmental Protection and Enhancement Act: Section 71(1).

5 Environmental Protection and Enhancement Act: Section 70.

6 Environmental Protection and Enhancement Act: Section 84(4)(c).

who is directly affected by the decision has 30 days to appeal the approval or any conditions that are felt to be unreasonable[1].

Appeals do not act as a stay of the decision to issue the approval[2]. All appeals are made to the Environmental Appeal Board which makes recommendations to the Minister of Environmental Protection. The Minister may confirm or refuse the approval, vary it, or direct the Director to issue an approval with terms and conditions prescribed by him[3]. On matters of appeal the Minister's decision is final. Please refer to the Environmental Appeal Board Regulations for further information on the appeal process and who is eligible to make an appeal.

1.6.5 Monitoring of Construction and Operations

Once the Conservation and Reclamation Approval is issued, the procedures specified in the proponent's Environmental Protection Plan are enforced under that approval. The proponent is responsible for ensuring that the contractor is fully conversant with the terms of the Conservation and Reclamation Approval and the Environmental Protection Plan. Construction and operation activities documented in the Environmental Protection Plan must be monitored by the proponent.

In many cases, implementation of the Environmental Protection Plan is facilitated by a pre-construction meeting among government personnel (including Conservation and Reclamation Inspectors), the proponent and his contractor. Such meetings help to clarify responsibilities and communication between key construction and monitoring personnel. They also may clarify when and where specific environmental protection procedures are to be applied during pipeline construction.

Construction activities outlined in the Environmental Protection Plan are monitored by the Conservation and Reclamation Inspectors of Alberta Environmental Protection and Alberta Agriculture, Food and Rural Development. The Conservation and Reclamation Approval identifies the appropriate inspector. Where the Environmental Protection Plan and subsequent approval incorporates items that are under the jurisdiction of other government agencies, those items are monitored by the appropriate agency.

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[1] Environmental Protection and Enhancement Act: Section 84(4)(c).

[2] Environmental Protection and Enhancement Act: Section 84(7) and 89(1).

[3] Environmental Protection and Enhancement Act: Section 92(1).

1.7 Reclamation Security

Pipelines will require a reclamation security deposit of $10,000.00 for the construction phase of the line[1]. The security will be returned once the right-of-way is reclaimed, normally within three to five years. For pipelines that have a Conservation and Reclamation Approval and are to be removed at abandonment, security will be required prior to the approval to remove and reclaim the pipeline. If a pipeline is to be removed at abandonment and has an index of 2690 or greater, a Conservation and Reclamation Approval will be required (if not already in place). Security will also be needed. Abandonment security will be based on the cost of reclamation as estimated by the applicant.

1.8 Amendment to Approval

A Conservation and Reclamation Approval for a pipeline authorizes a specific development plan. When a major change to the Conservation and Reclamation Plan is proposed, a formal amendment to the approval is required. A major change would include the addition of new segments with an index of 2690 or greater.

A major amendment is reviewed in the same manner as the initial application and is approved for a specified development sequence. A major amendment would include the final abandonment and reclamation of the line. Only new activities not documented in the initial application need to be described in the amendment. When public land is involved, an amendment to the surface disposition must also be obtained from the Land Administration Division of Alberta Environmental Protection.

Requests for minor amendments are submitted to the Conservation and Reclamation Inspector authorized in the Approval. Approval of minor amendments may be granted in the field by the inspector. If the Conservation and Reclamation Inspector feels the amendment is significant, he may request the operator to apply for a formal amendment from the Director.

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[1] The regulations are being reviewed with the intent of waiving security for pipelines during the construction phase.

1.9 Transitional Approvals for Class I Pipelines

The Activities Designation Regulation[1] states that a Development and Reclamation (D&R) Approval issued before the coming into force of the regulation on September 1, 1993 is deemed to be a Conservation and Reclamation Approval under the Environmental Protection and Enhancement Act. For these approvals, the operator has no further application obligations unless a major addition is proposed (see Section 1.8: Amendment to Approval).

1.10 Land Access

1.10.1 Public Land and Surface Disposition Conditions

Pipelines on public land require a surface disposition (Pipeline Agreement or Easement) under the Public Lands Act to enter upon, occupy, or use the land. The surface disposition application is submitted to the Land Administration Division of Alberta Environmental Protection. The review of the Conservation and Reclamation Application and surface disposition application(s) will be concurrent. The Conservation and Reclamation Approval is forwarded to the Land Administration Division prior to their issuance of a Pipeline Agreement or Easement.

For Class I pipelines, environmental protection terms and conditions are placed on the Conservation and Reclamation Approval. The surface disposition will focus on the agreement with the Crown to enter onto the land. Site specific operating conditions not addressed in the Conservation and Reclamation Approval may be attached to the surface disposition. The surface disposition will contain a clause making the disposition subject to compliance with the Conservation and Reclamation Approval. For Class II pipelines not requiring a Conservation and Reclamation Approval, site specific operating conditions may be attached to the surface disposition to supplement the Environmental Protection Guidelines.

1.10.2 Private Land

Before commencing development activity on private land, a pipeline operator who does not own the surface must obtain the right to enter upon the land. Normally, this is done through negotiating an agreement with the owner lessees, or occupants of the land. In the event of an objection or concern with the activity, there are mechanism through the Energy Resources Conservation Board and Surface Rights board to resolve concerns and land access.

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[1] Section 4(9).

1.11 Watercourse Crossings

Pipelines which cross a watercourse or waterbody with defined bed and banks require a permit under the Water Resources Act. This permit will apply to that portion of the pipeline under the bed and banks of the watercourse or waterbody. Water Resources Permits may include fisheries timing constraints which may not allow instream pipeline construction during certain times of the year. For Class I pipelines, an application for a Water Resources Permit is submitted as part of the Conservation and Reclamation Application. Land Reclamation Division will forward the permit application to Water Resources Administration Division and coordinate issuance of both approvals. Permit applications for Class II pipelines must be forwarded directly to the appropriate Regional Water Resources Administrator.

In Alberta the bed and banks of watercourses and waterbodies are generally public lands administered under the Public Lands Act. Therefore, surface dispositions (from the Land Administration Division of Alberta Environmental Protection) are required for these pipeline crossings .

1.12 Hydrostatic Testing

Hydrostatic testing of pipelines requires approval from the Energy Resources Conservation Board. In addition, the Activities Designation Regulation[1] requires an approval for the discharge of fluids used in hydrostatic testing of pipelines. The regulation defines hydrostatic testing as tests that generate volumes of water, other than uncontaminated water, greater than 1000 m^3.

Administratively, two situations arise with respect to the discharge of fluids used in hydrostatic testing:

1. a clean, newly constructed pipeline which has never been used for conveying materials and has no coatings on the inside of the pipe.
2. an old pipeline which has been in service and requires a hydrostatic test or has been repaired and requires a hydrostatic test.

In certain instances, an approval may also be required under the Water Resources Act for the withdrawal of water for the test. Please refer to Water Resources Administration Division for further clarification if required.

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[1] Schedule: Division 2, Part 10 (Services)

1.12.1 New Pipeline

This type of testing will not require a separate approval for discharge of test fluids providing the following criteria for exemption are met:

1. the pipeline is newly constructed and has never been placed in service.
2. the inside of the pipe is not coated with rust inhibitors or other chemicals that may become waterborne.
3. prior to hydrotesting the line has been pigged to remove construction contaminants.
4. untreated water is used for the testing and uncontaminated water is discharged.
5. no additives are to be used in the test water.
6. the test water is discharged in a manner such that no flooding or erosion occurs.
7. any post hydrostatic test treatment material is disposed in a manner acceptable to the Director.

1.12.2 Old, In Service Pipe

Hydrostatic testing of pipelines which are, or have been, in service will likely produce contaminated waters. An approval will be needed from Standards and Approvals Division to allow for the discharge of the test fluids, which must meet specified contaminant levels (to be developed). At the same time, companies will be required to obtain an authorization from Water Resources Administration Division to withdraw water for the test. This can be requested by telephone from the appropriate Regional Water Administration Division Office.

In the interim, water quality standards for contaminants will be set for each approval considering the best available practical technology or the assimilative capability of the site specific receiving environment. For guidance when applying for an approval, the applicant should refer to ***Part B, Environmental Guidelines for Hydrostatic Testing of Pipelines in Canada as presented in the manual titled Environmental Regulatory Requirements and Guidelines for Hydrostatic Testing of Pipelines in Canada (Canadian Association of Petroleum Producers, 1993).***

When the hydrostatic test is associated with a line subject to a Conservation and Reclamation Approval, the application (as well as the Water Resources application) should be sent to Land Reclamation Division who will forward it to Standards and Approvals Division. When the test is associated with a line that does not have or require a Conservation and Reclamation Approval, the application can be sent directly to Standards and Approvals Division.

1.13 Compressor or Pumping Station

A compressor or pumping station associated with a pipeline may require a Division 2 Approval[1]. An approval is needed when:

1. the station has a total oxides of nitrogen emission rate greater than 16 kg. per hour.
2. the station transports sour gas[2].

When the station is part of a line with an index of 2690 or greater, the application for a Division 2 Approval can be submitted as part of the Conservation and Reclamation Application. The compressor or pumping station application will be reviewed by Standards and Approvals Division. Any conditions associated with the station will be part of the Conservation and Reclamation Approval.

If a station meets the Division 2 criteria, but does not need a Conservation & Reclamation Approval, (i.e. index < 2690) the Division 2 application must be sent directly to the Director of Standards and Approvals Division (4th Floor, Oxbridge Place, 9820 - 106 Street, Edmonton, Alberta, T5J 2K6; telephone: 427-5883). Standards and Approvals will review the application and issue a Division 2 approval.

2. CONSERVATION AND RECLAMATION APPLICATION FOR CLASS I PIPELINES

This section outlines the information requirements for a Conservation and Reclamation Application for a Class I pipeline. The proponent should contact the Conservation and Reclamation Review Branch of Land Reclamation Division to discuss the detail of information appropriate to the project (3rd Floor, Oxbridge Place, 9820 - 106 Street, Edmonton, Alberta, T5K 2J6; telephone 422-2636).

2.1 Project Description

Provide an overview of the project and include the following:

- purpose of the project.
- length and diameter of line, width of right-of-way, width of ditch, depth of ditch.
- terminal locations and other control points.

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[1] Activities Designation Regulation: Division 2, Part 8 Oil and Gas (h)(vi).

[2] Activities Designation Regulation: Section 1(4)(i).

operating pressure and level of any sour gas facility as defined by ***ERCB Interim Directive 81-3 (Minimum Distance Requirements Separating New Sour Gas Facilities from Residential and Other Development).***

- installations associated with the pipeline (e.g., compressor stations, regulator stations, meter stations, pump stations, tank farms, etc.).
- ancillary facilities such as camps, access roads, and powerlines.
- project schedule.

2.2 Selection of Alternate and Preferred Routes

Identify and document the major environmental, engineering, and economic factors leading to the selection of alternate routes. Evaluate and discuss the major environmental impacts associated with the alternate routes. Comprehensive biophysical inventories of the study area are not normally required.

Document the selection of the preferred route on the basis of the environmental, engineering, and cost factors as well as landowner and public issues. Outline the reasons for selecting the preferred route. Where possible be quantitative. When the route selected is not the environmentally preferred route, document the reasons for doing so.

2.3 Soil Investigations for the Preferred Route

When a preferred route has been chosen which traverses the White Area of the province or Grazing Reserves within the Green Area of the province, provide soil information to identify and describe segments of the right-of-way over which similar soils and soil conservation procedures will occur. For further information consult the document ***Soils Evaluations for Pipelines on Agricultural Land (Alberta Environment, Land Reclamation Division, 1988).***

Develop soil conservation procedures based on the soil evaluation. Contact Land Reclamation Division to determine what soils information is available from previous soils studies done in the project area[1]. Also consult the document ***Soil Handling for Problem Soils During Pipeline Construction, Revised Interim Guidelines (Alberta Pipeline Environmental Steering Committee, Report #APESC 91.1, Revised July, 1992).*** .

[1] Refer to Alberta Environmental Protection Soils Registry

2.4 Environmental Protection Plan

Provide an Environmental Protection Plan that is specific to the project. Document the construction, reclamation, maintenance and abandonment practices designed to minimize the impact of the project on the environment. Site-specific information is essential to the Environmental Protection Plan. It is a "stand alone" document for use by project construction and government personnel.

Describe and illustrate all environmental protection measures on the alignment sheets or on other appropriate plans to ensure that the contractor is aware of the measures to be implemented. For further information, consult the document ***Environmental Handbook for Pipeline Construction (Alberta Environment, Land Reclamation Division, 1988).*** This document is available from the Land Reclamation Division (3rd Floor, Oxbridge Place, 9820 - 106 Street, Edmonton, Alberta, T5K 2J6; telephone: 427-6323).

Present the Environmental Protection Plan in two parts:

- a specifications book that describes in detail the protection measures.
- reference maps that show where specified measures are to be undertaken.

3. PIPELINE ABANDONMENT

A Conservation and Reclamation Approval is required prior to removing a pipeline, or a portion of a line, with an index of 2690 or greater. If an approval is already in place for the pipeline, an application to amend the approval is required. The application should include:

1. the reason for removal of the pipeline.
2. the intended disposition of the pipeline and ownership.
3. soil information and soil handling procedures for conservation and reclamation.

An approval is also needed when a line with an index of 2690 or greater is to be abandoned in place. The application should address:

1. the reason for abandonment.
2. intended disposition and ownership.
3. method of abandonment.
4. reclamation status of the right-of-way.

An operator must also obtain an abandonment approval from the Energy Resources Conservation Board for pipelines and associated facilities under its jurisdiction. The operator must show that the pipeline will be left in a safe condition, that the abandonment is in the public interest, and that it can be done safely and economically. The Energy Resources Conservation Board and Alberta Environmental Protection will coordinate their respective abandonment reviews.

4. RECLAMATION CERTIFICATION

An operator must reclaim land disturbed by a pipeline and obtain a reclamation certificate[1,2]. A surface lease with a private landowner is not legally cancelled until a certificate has been issued[3]. On public land, a surface disposition (Pipeline Agreement or Easement) will not be cancelled until a certificate has been issued. When an operator has abandoned and reclaimed all or part of a pipeline according to the Conservation and Reclamation Approval (Class I) or Environmental Protection Guidelines (Class II), an application can be made for a reclamation certificate. If reclamation is complete, a certificate is issued. See Part 3 of the Guide for details on the certification process and the certification criteria.

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1 Environmental Protection and Enhancement Act: Section 122.

2 The Pipeline Task Group has recommended that certain pipelines which cause minimal disturbance (rural gas lines; oil and gas pipelines and telecommunication lines that are ploughed in and are less than 150 mm in diameter) be exempt from certification. The Department is pursuing the necessary amendments to the Act and regulations.

3 Environmental Protection and Enhancement Act: Section 129.

PART 2: ENVIRONMENTAL PROTECTION GUIDELINES

Further information and copies may be obtained from:

Conservation and Reclamation Review Branch
Alberta Environmental Protection
Environmental Regulatory Services
3rd Floor, Oxbridge Place
9820 - 106 Street
Edmonton, Alberta T5K 2J6

(403) 422-2636

This document may be cited as:

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PART 2 ENVIRONMENTAL PROTECTION GUIDELINES

FIGURES

PART 2 ENVIRONMENTAL PROTECTION GUIDELINES

1. INTRODUCTION

1.1 General Information on the Guide

This document is Part 2 of a Guide dealing with the regulation of pipelines under the Environmental Protection and Enhancement Act and regulations. Part 1 of the Guide describes the application and review process for a Conservation and Reclamation Approval. Part 3 deals with reclamation certification.

These Environmental Protection Guidelines apply to all pipelines. They apply to Class I pipelines, which require a Conservation and Reclamation Approval, as well as Class II pipelines which do not require an approval (see Section 1.3: Regulatory Framework for Pipelines). In the event of a conflict between the Environmental Protection Guidelines and the Conservation and Reclamation Approval, the Approval takes precedence.

The guidelines are of particular relevance to Class II pipelines which do not go through a formal review and approval process under the Environmental Protection and Enhancement Act. Adherence to the guidelines will assist operators in achieving conservation and reclamation standards and obtaining a reclamation certificate (Part 3 of the Guide). All Class II pipelines on public lands require a surface disposition. In these cases, the guidelines may be supplemented by site-specific operating conditions.

1.2 General Information on the Environmental Protection and Enhancement Act and Regulations

The objective of all Albertans should be to ensure the protection, improvement, and wise use of our environment now and in the future. The Environmental Protection and Enhancement Act and regulations reflect this objective by emphasizing the conservation and reclamation of land through environmental planning.

The Environmental Protection and Enhancement Act[1] requires an operator to conserve and reclaim specified land and obtain a reclamation certificate. Specified land is land on which an activity (such as the construction, operation, and reclamation of a pipeline) is carried on. The Act[2] provides for the issuance of environmental protection orders to ensure conservation and reclamation standards are met during construction,

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[1] Section 122.

[2] Sections 125 to 128.

operation, and reclamation of an activity. When a pipeline is reclaimed, the operator must obtain a reclamation certificate to show that reclamation has been successful[1]. Under the Act[2], a surface lease with the landowner is not legally terminated until a reclamation certificate has been issued. Even if the operator owns the land, the pipeline must be reclaimed and a certificate obtained[1].

The Conservation and Reclamation Regulation provides further direction on environmental protection orders, reclamation certificates, and security. The Activities Designation Regulation requires approvals for activities outlined in the Schedule attached to the regulation. Division 3 of the Schedule requires an approval for pipelines with an index of 2690 or greater (see Section 3: Regulatory Framework for Pipelines). This approval is called a Conservation and Reclamation Approval. Certain pipelines are exempted from needing an approval[3] (see Section 1.3: Regulatory Framework for Pipelines). The Approvals Procedure Regulation outlines the review process for approvals issued under the Environmental Protection and Enhancement Act.

1.3 Regulatory Framework for Pipelines

Pipelines in the province are categorized as Class I or Class II lines. Class I pipelines require a Conservation and Reclamation Approval prior to any surface disturbance. Class I lines are those lines with an "index" of 2690 or greater. The index is calculated by multiplying the outside diameter (mm) of the pipe by the length of the line (km). When more than one line will be in the trench, the index is based on the largest pipe only. Portions of the system that are to be ploughed into the ground are not used in the calculation of the index. Please refer to Figure 1 for examples of pipelines which require a Conservation and Reclamation Approval.

Class II pipelines do not require a Conservation and Reclamation Approval. The Activities Designation Regulation[4] lists the following pipelines as <u>not</u> requiring an approval:

i. a pipeline or part of a pipeline located in a city, town, new town, village or summer village;

ii. a pipeline or part of a pipeline located in a plant site at which an activity that requires an approval under this regulation is carried on;

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1 Section 122.

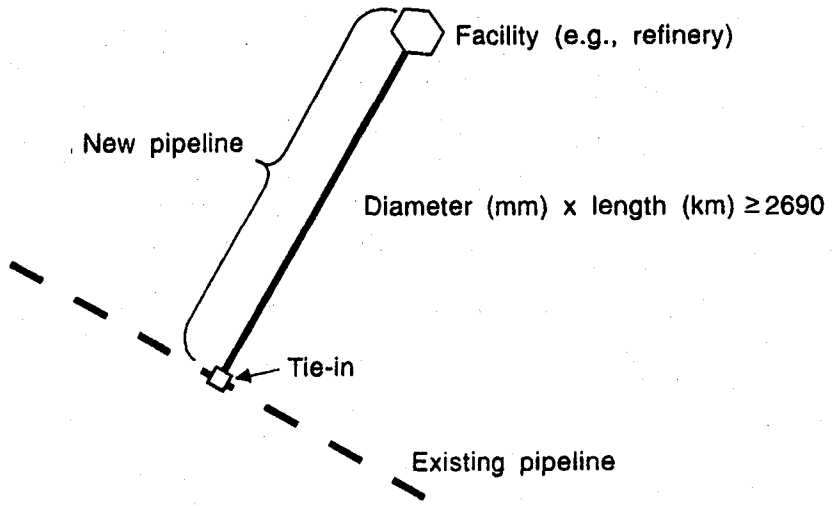
2 Section 129.

3 Activities Designation Regulation: Section 1(5)(h).

4 Section 5(h).

FIGURE 1 EXAMPLES OF PIPELINES WHICH REQUIRE A C & R APPROVAL

(a) SINGLE PIPELINE (C&R Approval Required)



(b) SINGLE PIPELINE (C&R Approval Not Required)

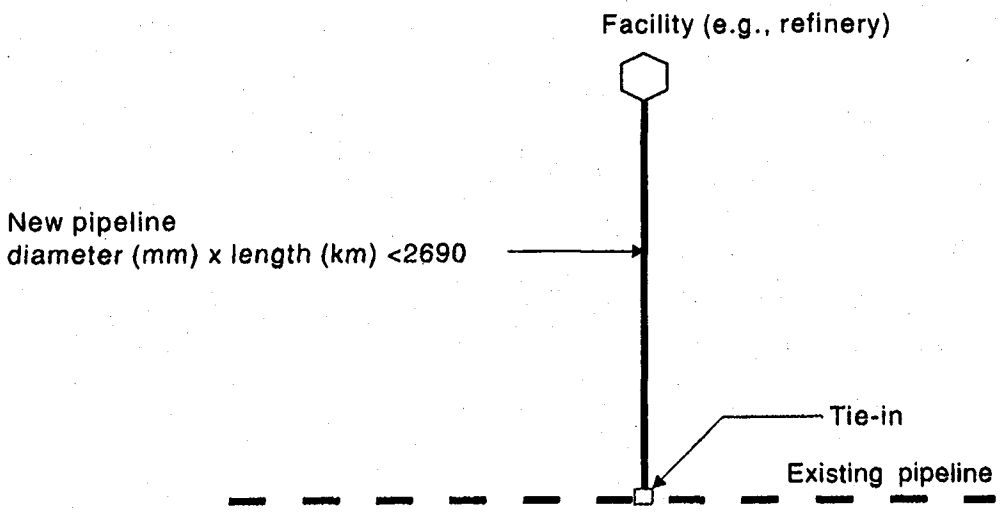
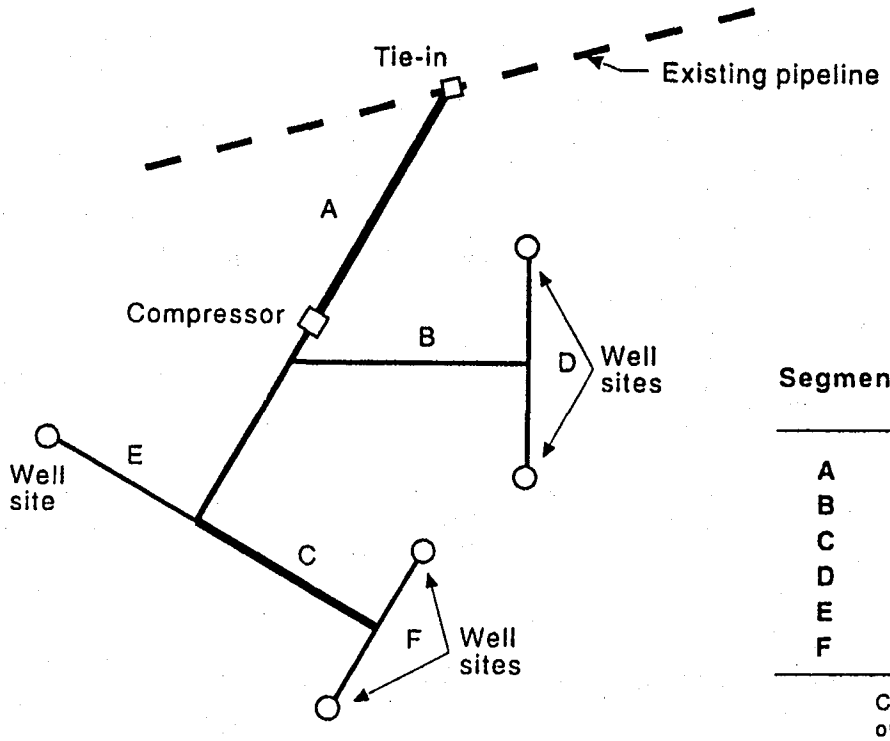


FIGURE 1 CONTINUED

(c) MULTIPLE PIPELINE PROJECT



Segment	Diameter (mm)	Length (km)	Index D x L
A	273	8	2184
B	114	3	342
C	60	6	360
D	165	6	990
E	60	6	360
F	88	4	352

Construction of any combination of segments A thru F which in total are equal or greater than 2690 will *require C&R approval.*

NOTES:

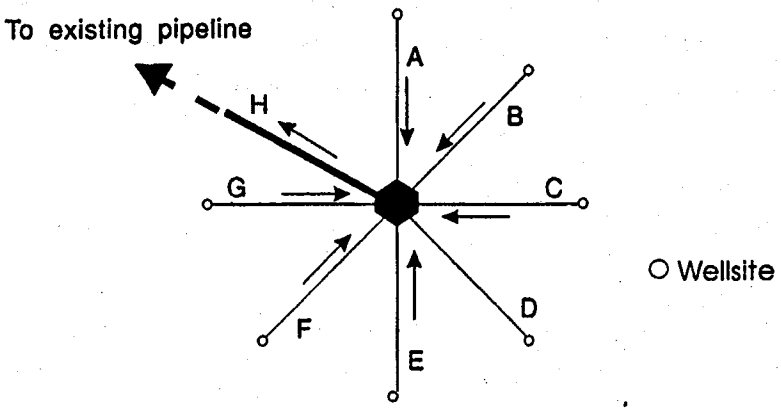
i) If all pipeline segments are built as part of one project (i.e., under the same application to the ERCB) and the cumulative total of the segments is ≥2690, the entire project requires a C&R Approval (Class 1).

ii) If, however, the pipeline segments are built over a period of time as separate projects (i.e., during different construction seasons and under a number of different applications to the ERCB), each segment requires a C&R Approval only when the individual segment is ≥2690.

iii) The 2690 index is not applied retroactively to any of these segments when built independently.

FIGURE 1 CONTINUED

(d) MULTIPLE PIPELINES INTO AN OIL BATTERY



NOTES:

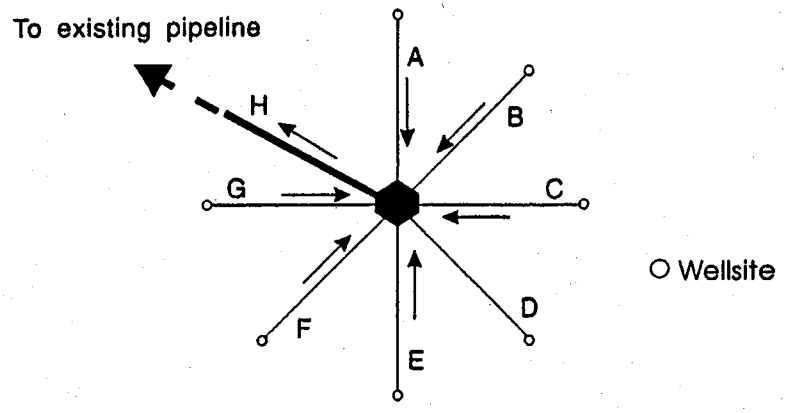
i) a battery or compressor site is part of a pipeline as defined in the Environmental Protection and Enhancement Act.

ii) If all pipeline segments are built as part of one project (i.e., under the same application to the ERCB), and the cumulative total of the segments is ≥2690, the entire project requires a C&R Approval (Class 1).

iii) If, however, the pipeline segments are built over a period of time as separate projects (i.e., during different construction seasons and under a number of different applications to the ERCB), each segment requires a C&R Approval only when the individual segment is ≥2690.

iv) The 2690 index is not applied retroactively to any of these segments when built independently.

(e) MULTIPLE PIPELINES INTO A PROCESSING PLANT



NOTES:

i) A processing plant is not part of a pipeline as defined in the Environmental Protection and Enhancement Act.

ii) Each segment in itself must be ≥2690 to require a C&R Approval. The C&R Approval would only apply to that segment and not the entire project.

iii. a pipeline with a length in kilometres times diameter in millimetres resulting in an index number of less than 2690;

iv. a pipeline regulated pursuant to the National Energy Board Act (Canada);

v. a pipeline that is a rural gas utility as defined in the Rural Gas Act;

vi. a pipeline that is part of a waterworks system or a wastewater system that has a length in kilometres times diameter in millimetres resulting in an index number of less than 2690;

vii. a pipeline or telecommunication line that is ploughed in;

viii. a pipeline that is used solely for the purposes of an agricultural operation and is located wholly on land that is used for the purposes of an agricultural operation.

For Class II pipelines, Environmental Protection Guidelines provide the necessary guidance to achieve conservation and reclamation. As with Class I lines, they are subject to environmental protection orders and must meet the criteria for reclamation certification. Adherence to the guidelines is monitored by Conservation and Reclamation Inspectors. Figure 2 show the regulatory process for Class II pipelines. Proponents will find it useful to contact the Conservation and Reclamation Inspectors to discuss their pipeline and the Environmental Protection Guidelines.

All Class II pipelines on public lands require a surface disposition (Pipeline Agreement or Easement) from the Land Administration Division of Alberta Environmental Protection. In these cases, the Environmental Protection Guidelines may be supplemented with more specific operating conditions attached to the surface disposition. The Land Administration Division issues dispositions in the White Area of the province in conjunction with Alberta Agriculture, Food, and Rural Development, who are responsible for land management in this area.

Class II pipelines that cross a watercourse or waterbody with a defined bed and bank require a permit under the Water Resources Act. Permit applications are forwarded directly to the appropriate Regional Water Resources Administrator.

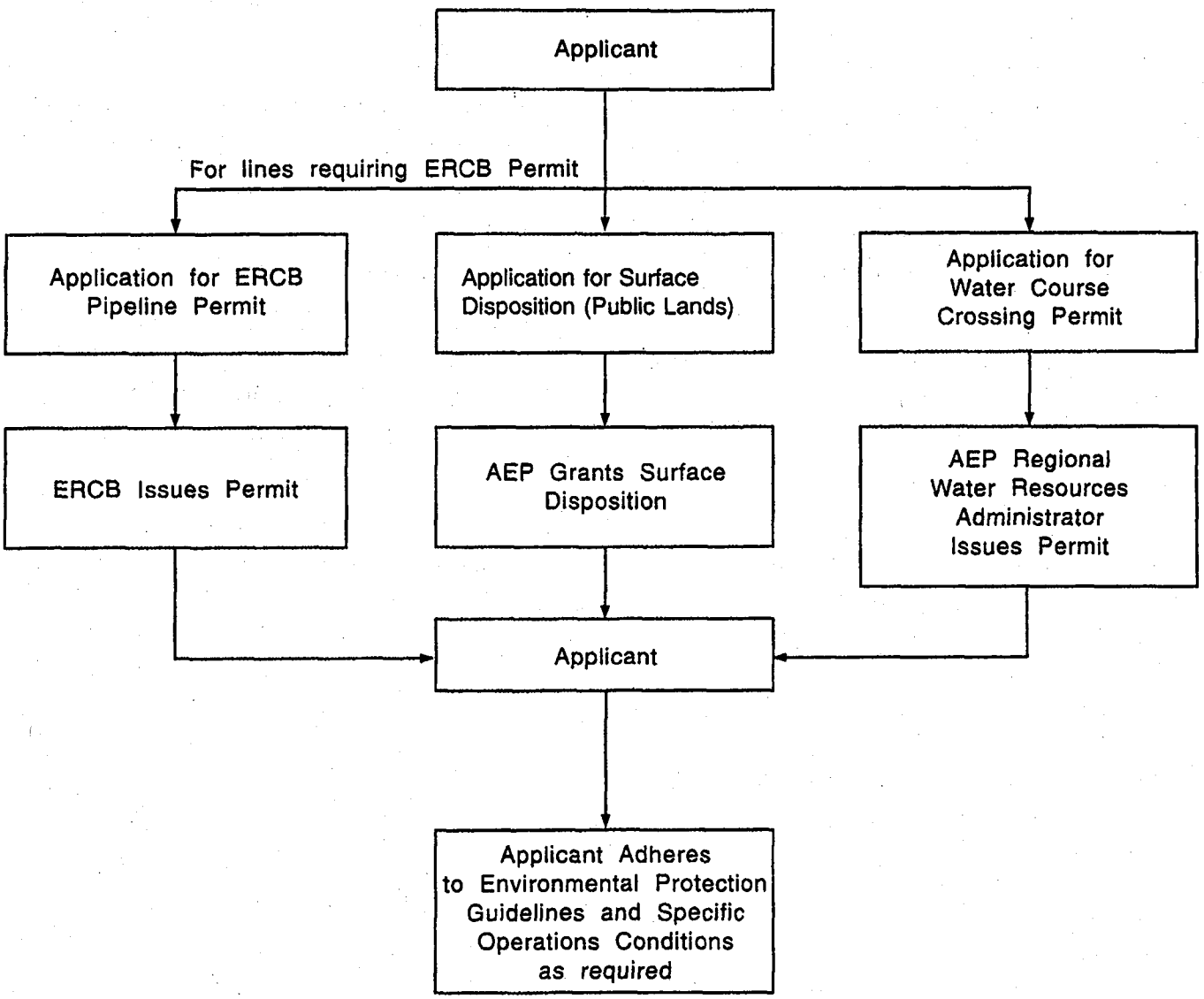
1.4 The Objective of Conservation and Reclamation

The objective of conservation and reclamation is to return disturbed land to an equivalent land capability[1]. Equivalent land capability means[2] that the ability of the land to support various land uses after

[1] Conservation and Reclamation Regulation: Section 2.

[2] Conservation and Reclamation Regulation: Section 1(i).

FIGURE 2: REGULATORY PROCESS FOR CLASS II PIPELINES



NOTES:

AEP - Alberta Environmental Protection
ERCB - Energy Resources Conservation Board
LAD - Land Administration Division

conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land, but that individual land uses will not necessarily be identical. This approach provides sustained levels of land use at least equivalent to those which existed prior to development. The concept provides for flexibility such that individual land capabilities may change, but overall land capability will be equivalent to pre-disturbance conditions.

Land capability is defined[1] as the ability of land (unaltered by future management inputs, activities, or alterations) to support a given land use, based on an evaluation of the physical, chemical, and biological characteristics of the land, including topography, drainage, hydrology, soils, and vegetation. This evaluation determines the inherent or natural ability of land resources to provide for use. It includes any existing abilities and conditions which are the result of alterations or management practices prior to the development.

The reclaimed land capability must be sustainable under normal management. This means that the land has no more soil and landscape limitations to various uses than it did before the disturbance. In the case of linear disturbances such as pipelines, where the landscape is not changed, the focus of capability is on the soil and vegetation.

Having regard to the objective of conservation and reclamation, the concept of "conservation" includes all practical and desirable methods for:

1. minimizing the extent of disturbance, regardless of the ability to reclaim the land.
2. minimizing or mitigating the effects of development on land and soil resources.
3. salvaging soil resources for use in reclamation.
4. controlling wind and water erosion.

The concept of "reclamation" includes all practical and desirable methods for:

1. designing and conducting an operation to enhance the potential for disturbed land to be reclaimed to equivalent land capability.
2. handling material to ensure reconstructed soils have an equivalent soil capability relative to the soils that existed prior to disturbance.

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[1] Conservation and Reclamation Regulation: Section 1(p).

3. contouring the land surface to meet the land capability objective, as well as to ensure stability, to protect the surface against wind or water erosion, to provide for surface drainage, and to minimize hazards.
4. revegetating and managing the land to meet the land capability objective.
5. re-establishing surface water resources to meet the land capability objective.

1.5 Conservation and Reclamation Planning

Planning is the key to successful project development, land and soil conservation, and reclamation. Good planning prior to development will anticipate problems, prevent or minimize environmental impacts, and provide for proper reclamation.

Effective conservation and reclamation planning requires that reclamation objectives be drawn up as early as possible and that they be an integral part of the development plan. The reclamation plan must be developed through consultation with government (municipal and provincial), the public, and landowners.

2. OVERVIEW OF THE GUIDELINES

The Environmental Protection Guidelines apply to the construction, operation, maintenance, and reclamation of pipelines in Alberta. They apply to all disturbance associated with the pipeline, including infrastructure (roads, compressor sites, pump stations, work camp sites, etc.). The guidelines are of particular relevance to Class II pipelines which do not go through a formal review and approval process related to conservation and reclamation. Conservation and Reclamation Inspectors will expect to see the guidelines being followed in the field. Following the guidelines will help ensure successful conservation, reclamation and certification. The inspectors or operator may request modifications in the procedures in order to deal with site-specific conditions.

The guidelines promote and encourage:

- The return of a disturbed site to a land capability equivalent to the pre-disturbance land capability.
- Acceptance of pre-development soil, landscape and vegetation conditions as the standard for post-development conditions.

- Identification of potential environmental concerns through pre-construction site assessments and pre-planning.
- Protection of the environmental characteristics of the project site to minimize post-construction remedial requirements.
- Awareness of the value of soil, the sensitivity of soil to disturbance, and the difficulty of reclaiming degraded soils.
- Awareness of the importance of native vegetation and the need for protection and rapid reestablishment of vegetation that is similar to, or compatible with, the adjacent land.
- Monitoring and on-site supervision by personnel responsible for environmental quality control of all activities to ensure a complete record of conservation, degradation, mitigation and reclamation events.
- Site assessments following reclamation which provide a complete evaluation of soil, landscape and vegetation conditions and compare them to pre-development conditions, prior to application for a reclamation certificate.
- Monitoring during the operating life of the facility to ensure that integrity of the environment on and adjacent to the site is maintained.

Conditions in a Conservation and Reclamation Approval or a surface disposition from Alberta Environmental Protection will take precedence over these guidelines. **The project proponent is responsible for determining if the activity requires a Conservation and Reclamation Approval**[1] (see Section 1.3: Regulatory Framework for Pipelines).

The following sections outline Environmental Protection Guidelines for project planning, construction, and reclamation, operations and maintenance, and hydrostatic testing. Further information can be obtained from regional Conservation and Reclamation Inspectors.

3. PROJECT PLANNING

The objective of planning a pipeline route is to establish a continuous right-of-way which is economic, minimizes environmental impacts and offers a secure right-of-way. A secure right-of-way ensures the integrity and safety of the buried pipeline during construction, operation and final abandonment. This planning process

[1] Environmental Protection and Enhancement Act: Sections 58 and 59

should identify and evaluate environmental constraints (physical, biological and cultural), engineering and operations options, and economic considerations.

Advance planning and discussions with regulatory authorities and landowners will lead to a smooth operation with few surprises. Planning should minimize the overall development impact and promote the return of equivalent land capability. Plans should be flexible to allow for unforseen events (e.g., adverse weather).

3.1 Communication

Objective: To ensure that all affected parties understand what is planned and what is happening on the pipeline and have the opportunity for input into conservation and reclamation planning.

Considerations:

- Establish early and ongoing discussions with landowners, occupants, regulatory authorities, Conservation and Reclamation Inspectors, and other affected parties to identify and address potential problems before construction begins. Address all stages of the project (construction, operation, abandonment, reclamation).
- Educate on-site construction and operation personnel about environmental concerns, mitigative measures to be implemented, and the Environmental Protection Guidelines.

3.2 Route Selection

Objective: To locate a route that considers engineering, economic, and environmental constraints (physical, biological, and cultural) and minimizes disturbance and adverse environmental effects:

Considerations:

- Avoid environmentally sensitive areas such as:
  - sensitive soils (eg. erodible soils, saline or sodic soils)
  - unstable slopes
  - waterbodies and wetlands
  - streams
  - areas likely to have rare plant or animal species

- areas of importance to wildlife such as breeding grounds, nesting areas or winter range
- areas designated as having regional, provincial or national importance.

- Where avoidance is impractical, develop site specific measures to mitigate environmental impacts.
- Determine right-of-way width by considering the number of pipelines and their diameters, working space requirements (eg. road crossings, stream crossings), slash disposal, soil salvage, and time of year for construction.
- Limit the line of sight along the right-of-way in forested areas of high aesthetic or wildlife value.

3.3 Documentation

Objective: To ensure that the documents associated with the pipeline are in place, understood, and accessible.

Considerations:

- Obtain the appropriate approvals and ensure that all approval conditions are clearly understood by company employees and contractors.
- Identify on appropriately scaled drawings of the pipeline alignment, public and private land, environmentally sensitive areas and other relevant information. Ensure that the drawings are readily accessible for reference.
- Develop, maintain, and document emergency contingency plans for immediate implementation when required.

3.4 Scheduling and Timing

Objective: To schedule activities to avoid adverse environmental affects and interference with landowners' activities. Scheduling of a project should take into consideration all those components (physical, biological, and cultural) that could be impacted by the project so that the environmental impacts are minimized.

Considerations:

- Avoid weather conditions that are not suitable for soil material handling.

- Time revegetation efforts to take advantage of favourable moisture and temperature conditions.
- Contact appropriate agencies regarding timing constraints for fish and wildlife.
- Accommodate private landowner and public landowner concerns (including lessees of public land such as grazing patrons) regarding restrictions on timing of operations.

4. CONSTRUCTION AND RECLAMATION

Construction activities should be designed and carried out in a manner that minimizes environmental impacts on and adjacent to the right-of-way. It must be recognized that for successful reclamation, disturbance should be minimized. The reconstructed right-of-way should conform to, or blend into, the surrounding land unless otherwise approved by the regulatory authorities and the landowner.

4.1 General

- Prior to construction ensure that all approvals or permits have been received and the conditions specified in those approvals or permits are understood by company personnel and all contractors. Ensure that landowner requirements are clearly understood.
- Plan and control all construction and operation activities to prevent and minimize environmental impacts to soil, vegetation, water, fish and wildlife resources, and archaeological or historical sites. If archaeological or historical sites are identified during construction, suspend activity at the location until permission to proceed is granted by the Archaeological Survey of Alberta.
- Confine construction activities to the right-of-way, designated access roads (shoo-flies) and ancillary sites. If additional working space is required during construction, obtain prior written approval from the landowner and appropriate regulatory authorities.
- De-water the pipeline or pipeline trench in a manner which prevents soil erosion and damage to the beds and shores of waterbodies. Check with Water Resources Administration Division of Alberta Environmental Protection to determine if authorizations are required to withdraw or dispose of water for hydrostatic testing of a pipeline (see Section 6: Hydrostatic Testing). For further information refer to the ***Environmental and Regulatory Requirements and Guidelines for Hydrostatic Testing of Pipelines in Canada (Canadian Association of Petroleum Producers, 1993).***

4.2 Clearing

Objective: To create a right-of-way while minimizing erosion potential, disturbance of adjacent forest cover, and loss of merchantable timber.

Considerations:

- Restrict tree and shrub clearing to only those portions of the right-of-way required for the trench, working side and spoil storage.
- On slopes, selectively clear only what will be directly in the way of trenching and working.
- Clear steep, erodible slopes by hand if possible.
- Maintain shrubs and vegetation on stream banks where grading or ditching is not required.
- Minimize soil loss during clearing by using appropriate equipment, procedures, and scheduling.
- Avoid falling timber into standing timber or streams.
- Consult the ***Alberta Timber Management Regulations***, administered by Land and Forest Services (Alberta Environmental Protection) for specific requirements for timber salvage on public lands.

4.3 Topsoil Salvage

Objective: To conserve topsoil for future replacement and reclamation. To minimize the degradation of topsoil through compaction, rutting, loss of organic matter, or soil mixing so that successful reclamation of the right-of-way can occur.

Considerations:

- It is highly recommended that the operator conduct a soil inventory to guide soil salvage and to provide documentation for future reclamation certification.
- Selectively salvage and store topsoil for future replacement, unless otherwise approved by the Conservation and Reclamation Inspector. Make every effort to maximize topsoil salvage. On forested land, the top 15 cm of mineral soil and surface organic material is to be salvaged unless otherwise approved.
- Prevent excessive soil handling and overstripping.

- Discuss in advance and agree upon soil handling procedures with the regulatory authorities and the land owners.
- Protect stored soil materials to prevent loss or degradation.
- Store soil materials a minimum of 3.0 m from banks, slumps, cuts, pits, waterbodies, and contaminant sources.
- Separate grade or spoil materials from stored topsoil and subsoil by at least 1.0 m.
- In forested areas, maintain a minimum 1.0 m separation between soil piles and standing forest cover.
- Do not store graded materials in watercourses and do not block drainage.

4.4 Grading

Objective: To develop a right-of-way that allows the passage of equipment and meets the bending limitations of the pipe. In doing so it is important to remember that improper grading has the potential to result in increased erosion, slope instability and sedimentation. These in turn can impact the success of reclamation.

Considerations:

- Prepare material handling plans well in advance of construction to prevent excessive soil handling.
- Minimize grade changes requiring excessive cuts and fills.
- Minimize disturbance of natural drainage channels during grading. Avoid blocking channels with graded material.

4.5 Trenching

Objective: To provide a sufficiently wide and deep trench for the pipeline recognizing that the trench width and depth is determined principally by pipe diameter and weight, separation between multiple lines, tie-ins or crossings, soil type and type of trenching equipment used.

Considerations:

- Keep the trench width to a minimum thereby reducing the amount of disturbance.

- Where problem soils (e.g., salts, gravels) are encountered in the field, you are encouraged to follow the guidelines contained in the document ***Soil Handling Procedures for Problem Soils During Pipeline Construction, Revised Interim Guidelines (Alberta Pipeline Environmental Steering Committee, Report # APESC 9.1, Revised July, 1992)***

4.6 Lowering In and Backfilling

Objective: To ensure that pipeline integrity is maintained. To ensure that subsoil and topsoil are replaced with minimal mixing or loss of topsoil.

Considerations:

- Do not use topsoil for padding the pipe.
- Confine backfill activities to the right-of-way.
- Compact the backfilled spoil, where feasible.
- Roach the trench sufficiently to compensate for settlement, without changing natural drainage patterns.
- Allow time for subsoil settlement if the trench was excavated during frozen conditions.

4.7 Water Crossings

Objective: To select a crossing technique based on environmental protection, as well as technical and economic considerations. To install the crossing as quickly as possible and to minimize environmental impacts during installation.

Pipeline operators should refer to the specific conditions in the Water Resources Permit (Alberta Environmental Protection, Water Resources Administration Division) and the Navigable Water Protection Act Permit (Canadian Coast Guard, for navigable waters only).

Considerations:

- Consult the document ***Watercourse Crossing Guidelines for Pipeline Systems (Canadian Association of Petroleum Producers, 1993).***

- In selecting a water crossing technique, for both the pipeline and vehicle crossings, consider the following factors:
  - pipeline diameter
  - watercourse crossing width, depth and flow
  - environmental sensitivity
  - geotechnical concerns
  - engineering constraints
  - substrate composition
  - availability of working space
  - navigation
  - regulatory constraints (eg. timing constraints)
  - construction schedule
  - costs
- In determining the type of vehicle crossing, also consider the following factors:
  - equipment availability
  - proximity of vehicle crossing alternatives
  - frequency and duration of use
  - weight, width of equipment
- In selecting the crossing techniques, use the above considerations to derive the most practical crossing technique. The preferred technique is usually the technique that provides the required environmental protection for the lowest cost.
- Obtain the approval of Fish and Wildlife Services and the Water Resources Administration Division prior to any construction.
- Implement the following measures, when applicable, during construction of the crossing:
  - Schedule construction to occur during periods of lowest sensitivity.
  - Abide by timing construction windows.
  - Prepare contingency plans for fuel and hazardous waste spills, stream bank erosion, storm runoff, and river floods.
  - Change oil, refuel and lubricate mobile construction equipment a minimum of 100 m from waterbodies or watercourses to minimize the potential for water pollution. Collect spent oils, lubricants and filters, etc. and dispose at an approved location and in an appropriate manner.
  - Store fuel containers within containment berms constructed to a capacity of 110% of the fuel stored.

- Do not store hazardous materials, chemicals, fuels, or lubricating oils, nor perform concrete coating activities, within 100 m of stream banks. Suitably berm all such storage areas.
- Minimize equipment activity within the wetted perimeter of any stream. Ensure that hydraulic, fuel and lubrication systems are in good repair to avoid leakage.
- Remove any aquatic plants uprooted or cut during excavation and dispose of them on land in an approved disposal site. Do not deposit these plants in another body of water.
- Check for and remove aquatic or riparian noxious weeds which construction equipment could carry forward from an infested to a clean area.
- Locate sources of clean gravel, cobble and rip rap prior to construction and place them on site for stabilization and restoration.
- Ensure sufficient extra working space is taken on the approach slopes and at the watercourse crossing. Clearly mark the boundaries of the working space.
- Limit the size of the staging area to the minimum needed to construct the stream crossing.
- Identify the location and burial depths of existing lines, especially hot lines.
- Retain timber for rip rap, logfill crossings, temporary bridges, and corduroy as required. Only use timber approved by a Forestry Officer or the landowner. Place the material where it will not hinder crossing construction.
- Dispose of all non-merchantable timber and slash not used for corduroy or rollback to the satisfaction of the landowner and the regulatory authorities. Methods of disposal include burning, chipping and mulching, or bucking and stockpiling (firewood). Combinations of methods may be necessary depending on the site and regulatory conditions.
- Avoid the use of explosives during periods of high biological sensitivity, such as spawning periods or overwintering areas, when numbers of fish are concentrated in relatively small areas.

4.8 Clean-up

Objective: To prepare the right-of-way, and other disturbed areas, for reclamation.

Considerations:

- Start final cleanup as soon as possible after backfilling the trench.
- For pipeline construction in late fall or winter, delay final cleanup until spring when soils are dry and thawed enough to allow travel (except muskeg areas).
- Recontour the right-of-way to minimize erosion and subsidence.
- Replace topsoil only after contouring is complete and subsidence is no longer a concern.
- Restore surface and subsurface drainage to conform to the adjacent drainage system.
- Install erosion control structures such as diversion berms and cross ditches on steep slopes.
- Remove and dispose of slash used as corduroy unless otherwise requested by the landowner.
- Remove and properly dispose of rocks, construction garbage and debris.
- Remove crossing structures prior to freeze-up (for summer construction) and prior to break-up (for winter construction). Remove structures by physical means. Crossing structures may be left in place for final touch up only if they are designed to handle spring break-up and no other access is possible.
- Start clean-up of construction at watercourses immediately following backfill and erosion control operations. Complete all phases of clean-up as quickly as possible. Where winter clean-up is hampered by frozen spoil and topsoil piles, complete rough clean-up prior to break-up. Complete final clean-up after break-up.

4.9 Reclamation

This section refers to the reclamation of the site after construction and clean-up. When clean-up is complete, reclamation should start.

Objective: To return the areas disturbed by pipeline construction to a land capability equivalent to the pre-construction state through replacement and preparation of soil materials and the establishment of a protective vegetative cover.

4.9.1 Spills and Contaminants

Objective: To ensure levels of contaminants on the disturbed areas do not form a hazard to human or animal health, do not detrimentally affect water quality and do not affect germination, growth, survival or management of the vegetation used for site reclamation.

Considerations:

- Take all measures to prevent spills.
- Document and report all spills to the appropriate authorities.
- Contain any spills on-site and clean up all spills as soon as possible.
- Undertake remediation on-site unless otherwise authorized.
- Remediate chemical contamination to meet the requirements of Alberta Environmental Protection, and where applicable, the Energy Resources Conservation Board.
- Resample soils following remediation to confirm that remediation goals have been met.

4.9.2 Soil Replacement

Objective: To replace salvaged soil material so that soil depth and quality is equivalent to the original or representative undisturbed land.

Considerations:

- Alleviate subsoil compaction, before topsoil replacement, to help establish suitable subsoil conditions and rooting depth.
- Replace topsoil only after contouring is complete and subsidence is no longer a concern.
- Replace salvaged topsoil evenly across the right-of-way.
- In cultivated lands, cultivate the entire right-of-way to a depth adequate to alleviate compaction and in a manner acceptable to the landowner.
- Consult with the landowner prior to working the replaced topsoil and seeding.
- Apply soil amendments when needed to return soil capability.

4.9.3 Revegetation

Objective: To ensure the establishment and growth of species compatible with the intended land capability and end land use. The vegetation should be self-sustaining in uncultivated areas or sustainable under normal management practices in cultivated areas.

Considerations:

- Discuss species selection and methods and rates of seeding and fertilizing with the landowner or public land manager.
- Where required, use native species or mixes that will allow the establishment of native species. Consult the document ***Petroleum Activity on Native Prairie: Guideline for Surface Disturbance (Energy Resources Conservation Board Informational Letter IL 93-12).***
- Minimize the introduction of undesirable species and eliminate those that are inconsistent with the adjacent land.

5. OPERATIONS AND MAINTENANCE

Pipeline operators should remember that operations and maintenance programs such as vegetation control, pipeline integrity surveys, hydrostatic testing or other programs can have an impact on the final reclamation of the right-of-way upon abandonment.

Objective: To ensure that the integrity and reclamation of the right-of-way is maintained from the time of construction to final abandonment.

Considerations:

- Monitor the pipeline right-of-way and all stream crossings for erosion, encroachment or other potential problems that could affect the integrity of the pipeline.
- Identify and immediately reclaim areas with erosion problems.
- Regrade trench depressions and excessive roaches which may interfere with natural drainage, vegetation establishment or land use.
- Reseed areas which have not successfully revegetated.
- Implement weed control measures in conjunction with the landowner or the Conservation and Reclamation Inspectors. Where applicable, allow natural encroachment of shrubs by minimizing vegetation control practices.
- Maintain contact with the landowner or occupant throughout the operating life of the pipeline.

6. HYDROSTATIC TESTING

Objective: To discharge test fluids used in hydrostatic testing in a manner that prevents contamination of surface water, as well as to prevent flooding or erosion problems.

Considerations:

- When testing old, in service pipelines, obtain an approval from Standards and Approvals Division (Alberta Environmental Protection).
- For new lines, obtain an approval when necessary (i.e., when there is a potential for the discharge of contaminated water).
- Discharge only clear, uncontaminated water to surface waters.
- Discharge in a manner that prevents or minimizes flooding and erosion.
- Refer to the manual entitled ***Environmental Regulatory Requirements and Guidelines for Hydrostatic Testing of Pipelines in Canada (Canadian Association of Petroleum Producers, 1993)***

7. RECLAMATION CERTIFICATION

An operator must reclaim land disturbed by a pipeline and obtain a reclamation certificate. A surface lease with a private landowner is not legally cancelled until a certificate has been issued. On public land, a surface disposition (Pipeline Agreement or Easement) will not be cancelled until a certificate has been issued. When an operator has abandoned and reclaimed all or part of a pipeline according to the Conservation and Reclamation Approval (Class I) or Environmental Protection Guidelines (Class II), an application can be made for a reclamation certificate. If reclamation is complete, a certificate is issued. An operator should ensure that all site conditions meet the required criteria before requesting a certificate. See Part 3 of the Guide for details on the certification process and the certification criteria.

PART 3: RECLAMATION CERTIFICATION (INTERIM)

Further information and copies may be obtained from:

Conservation and Reclamation Review Branch
Alberta Environmental Protection
Environmental Regulatory Services
3rd Floor, Oxbridge Place
9820 - 106 Street
Edmonton, Alberta T5K 2J6

(403) 422-2636

This document may be cited as:

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PART 3 RECLAMATION CERTIFICATION (Interim)

FIGURES

PART 3 RECLAMATION CERTIFICATION (Interim)

1. INTRODUCTION

1.1 General Information on the Guide

This document is Part 3 of a Guide dealing with the regulation of pipelines. It addresses the reclamation certification process[1]. Part 1 of the Guide describes the application and review process for a Conservation and Reclamation Approval. Part 2 deals with Environmental Protection Guidelines for pipelines.

1.2 General Information on the Environmental Protection and Enhancement Act and Regulations

The objective of all Albertans should be to ensure the protection, improvement, and wise use of our environment now and in the future. The Environmental Protection and Enhancement Act and regulations reflect this objective by emphasizing the conservation and reclamation of land through appropriate environmental planning.

The Environmental Protection and Enhancement Act[2] requires an operator to conserve and reclaim specified land and obtain a reclamation certificate. Specified land is land on which an activity (such as the construction, operation, and reclamation of a pipeline) is carried on. The Act[3] provides for the issuance of environmental protection orders to ensure conservation and reclamation standards are met during construction, operation, and reclamation of an activity. When a pipeline is reclaimed, the operator must obtain a reclamation certificate to show that reclamation has been successful[1]. Under the Act[4], a surface lease with the landowner is not legally terminated until a reclamation certificate has been issued. Even when the operator owns the land, the pipeline must be reclaimed and a certificate obtained[1].

The Conservation and Reclamation Regulation provides further direction on environmental protection orders, reclamation certification and security.

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1 The Pipeline Task Group has recommended that certain pipelines which cause minimal disturbance (rural gas lines; oil and gas pipelines and telecommunication lines that are ploughed in and less than 150 mm in diameter) be exempt from certification. The Department is pursuing the necessary amendments to the Act and regulations.

2 Section 122.

3 Sections 125 to 128.

4 Section 129.

1.3 The Objective of Conservation and Reclamation

The objective of conservation and reclamation is to return disturbed land to an equivalent land capability[1]. Equivalent land capability means[2] that the ability of the land to support various land uses after conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land, but that individual land uses will not necessarily be identical. This approach provides sustained levels of land use at least equivalent to those which existed prior to development. The concept provides for flexibility such that individual land capabilities may change, but overall land capability will be equivalent to pre-disturbance conditions.

Land capability is defined[3] as the ability of land (unaltered by future management inputs, activities, or alterations) to support a given land use, based on an evaluation of the physical, chemical, and biological characteristics of the land, including topography, drainage, hydrology, soils, and vegetation. This evaluation determines the inherent or natural ability of land resources to provide for use. It includes any existing abilities and conditions which are the result of alterations or management practices prior to the development.

The reclaimed land capability must be sustainable under normal management. This means that the land has no more soil and landscape limitations to various uses than it did before the disturbance. In the case of linear disturbances such as oil production sites, where the landscape is not changed, the focus of capability is on the soil and vegetation.

2. REVIEW AND APPROVAL PROCESS FOR A RECLAMATION CERTIFICATE

The objective of land reclamation is the return of equivalent land capability. Class I pipelines (those with an index of 2690 or greater and requiring a C & R Approval), use the reclamation criteria developed for pipelines, but in addition will be evaluated according to the approved plans and conditions of the Conservation and Reclamation Approval. Class II lines (those with an index less than 2690 and not requiring a Conservation and Reclamation Approval) use the reclamation criteria developed for pipelines.

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[1] Conservation and Reclamation Regulation: Section 2.

[2] Conservation and Reclamation Regulation: Section 1(i).

[3] Conservation and Reclamation Regulation: Section 1(p).

2.1 Review Process

The process for reclamation certification is shown in Figure 1. An operator can apply for a reclamation certificate when the reclamation obligations have been met on part or all of the land disturbed by an activity. For pipelines within the jurisdiction of the Energy Resources Conservation Board, the application for a certificate would occur after the Board's abandonment approval. Reclamation certification will consider the reclamation requirements at the time of disturbance, including approved plans and conditions in the Conservation and Reclamation Approval. The application and supporting documentation are submitted in accordance with Table 1.

Once a complete application for a reclamation certificate is received, it is forwarded to the Conservation and Reclamation Inspectors. At their request the technical information is evaluated by staff in the Land Reclamation Division or other agencies as required. Once the Conservation and Reclamation Inspectors are satisfied with the technical evaluation, they will hold an inquiry.

Upon completion of the inquiry, which is conducted with the applicant and the landowner(s), the Conservation and Reclamation Inspectors will issue a reclamation certificate or provide direction for additional work or an additional waiting period[1]. The direction for further work can be done informally through a letter or formally through an environmental protection order.

2.2 Appeal Procedures

An operator can appeal to the Environmental Appeal Board concerning the issuance of an environmental protection order[2]. The operator has 30 days to file an appeal[3]. The owner of the land can appeal a reclamation certificate[4]. A landowner has one year to file the appeal[5]. Please refer to the Environmental Appeal Board Regulations for further information on the appeal process and who is eligible to make an appeal.

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1 Conservation and Reclamation Regulation: Section 14.

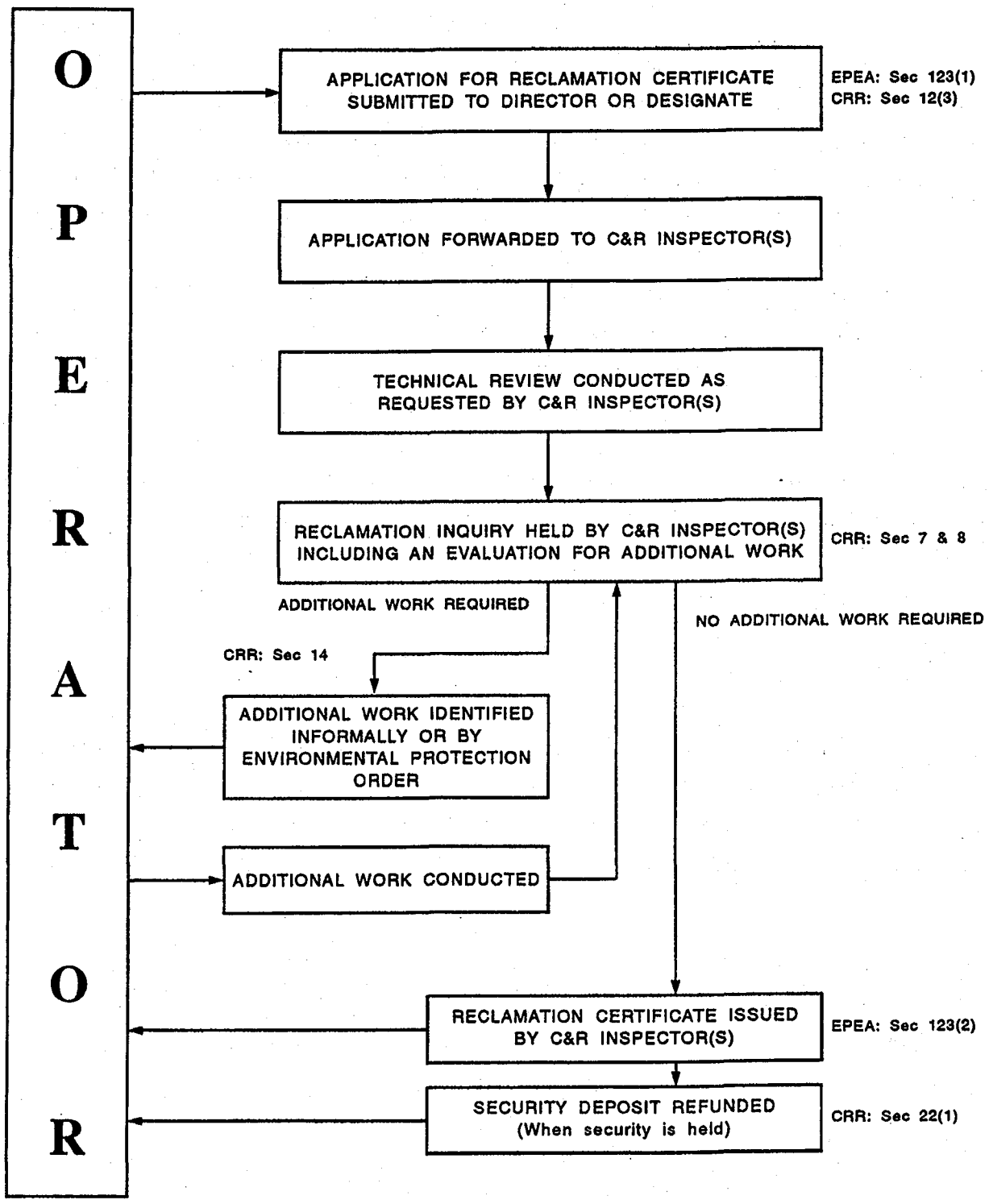
2 Environmental Protection and Enhancement Act: Section 84(1)(h).

3 Environmental Protection and Enhancement Act: Section 84(4)(c).

4 Environmental Protection and Enhancement Act: Sections 84(1)(i).

5 Environmental Protection and Enhancement Act: Section 84(4)(b).

FIGURE 1: APPLICATION AND REVIEW PROCESS FOR RECLAMATION CERTIFICATES



NOTES:

C&R - Conservation and Reclamation
CRR - Conservation and Reclamation Regulation
EPEA - Environmental Protection and Enhancement Act

TABLE 1: SUBMISSION OF RECLAMATION CERTIFICATE APPLICATION

1. Pipelines with a Conservation and Reclamation Approval.
   Pipelines without a Conservation and Reclamation Approval and located on non-public land.

   Director, Land Reclamation Division
   Alberta Environmental Protection
   3rd Floor, Oxbridge Place
   9820 - 106 Street
   Edmonton, Alberta T5K 2J6
   Telephone: 427-6202

2. Pipelines without a Conservation and Reclamation Approval and located on public land in the Green Area.

   Director, Forest Management Division
   Alberta Environmental Protection
   9th Floor, Bramalea Building
   9920 - 108 Street
   Edmonton, Alberta T5K 2M4
   Telephone: 427-8474

3. Pipelines without a Conservation and Reclamation Approval and located on public land in the White Area.

   Head, Public Land Management Branch
   Alberta Agriculture, Food and Rural Development
   2nd Floor, J.G. O'Donoghue Building
   7000 - 113 Street
   Edmonton, Alberta T6H 5T6
   Telephone: 427-3595

2.3 Relationship Between Reclamation Certificate and Abandonment Approval

An operator must obtain an abandonment approval from the Energy Resources Conservation Board for pipelines and associated facilities under its jurisdiction. The operator must show that the pipeline will be left in a safe condition, that the abandonment is in the public interest, and that it can be done safely and economically. The Energy Resources Conservation Board and Alberta Environmental Protection will coordinate their respective abandonment reviews.

The applications for abandonment approval and reclamation certification may occur simultaneously and can be coordinated between the Energy Resources Conservation Board and the agency responsible for certification (see Table 1). This would involve coordination of information requirements and joint inspections. In other instances, the two processes may not be linked. Even in these instances there would be communication between the Energy Resources Conservation Board and the agency responsible for certification to ensure a coordinated approach.

3. INFORMATION REQUIREMENTS

The information requirements for a reclamation certificate application are outlined in the Conservation and Reclamation Regulation[1]:

1. A map, with references to legal boundaries, showing the land for which the certificate is being requested and the status of adjacent land.
2. Documentation of the characteristics and properties of the reclaimed land including topography, drainage, soils, vegetation, and land capability.
3. Documentation of conservation and reclamation procedures.
4. Documentation of the history of surface disturbance.
5. Documentation of any surface improvements to be left on the reclaimed land and acceptance of the improvements by the landowner or occupant.
6. Documentation of compliance with any terms and conditions of any approval in effect for the site.
7. The name, address and telephone number of any landowners or occupants.

[1] Section 14.

8. Documentation of any surface lease or right of entry order for the site.
9. A declaration of any substances that may cause, are causing or have caused a significant adverse effect that are present on the site.[1]
10. Any additional information requested by the Director.

4. RECLAMATION CRITERIA (Interim)

The fundamental principle of reclamation criteria is that any changes to the landscape, soil or vegetation caused by project activities should be measured against the original or representative site conditions. In most cases, the land, soil and vegetation adjacent to your site will be used as a comparison. However, in special cases, you may have to find representative land, soil and vegetation a short distance from your site. The certification criteria describe the allowable changes in site conditions that will still maintain equivalent land capability.

Specific criteria for pipelines have not yet been developed. Reclamation criteria for well sites and associated facilities will provide guidance on the type of assessment required for certification. Government, industry, and the public will continue to work toward the development of criteria for pipelines.

[1] This would include documentation of any spills and clean-up with respect to the pipeline right-of-way.