

**THE REPORT AND RECOMMENDATIONS
OF THE ORPHAN FACILITIES, PIPELINES
AND RECLAMATION SUBCOMMITTEE**

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EXECUTIVE SUMMARY

The Orphan Well Program Administration Subcommittee and the Well Transfer Criteria Subcommittee were established in December 1991. They were given the task of outlining a formal procedure for handling orphan wells. In 1994, the Orphan Facilities, Pipelines and Reclamation Subcommittee (the Subcommittee), was created to incorporate orphan facilities, pipelines and Reclamation into the procedure.

As directed by the Fund Advisory Committee, the Subcommittee has developed a formal procedure, the Orphan Program, through which the abandonment of orphan wells would be extended to include abandonment, decommissioning, and land Reclamation of certain oil and gas production and processing facilities and their associated pipelines. The costs associated with this program will primarily be funded by an annual levy paid by industry.

The focus of the Orphan Program is to strictly minimize the risk of wells and facilities being added to the list of orphans, and to design, schedule and conduct a program to abandon and reclaim the existing list, and new additions of orphans on an acceptable schedule. To this end, the Subcommittee proposes that all multi-well facilities, both new and existing, be licensed by the EUB. In addition, the status and utilization of these facilities will need to be monitored for levy assessment and transfer screening.

This report reflects the recommendations and discussion submitted by the Subcommittee to the Fund Advisory Committee. The Subcommittee recognizes that its recommendations are broad, and that more details will have to be worked out by industry and the regulatory agencies.

A significant amount of information critical to the Orphan Program is contained in the March 1993 document, "Amended Recommendations of the Orphan Well Program Administration Subcommittee". This current report is intended to complement and expand the work initiated through that earlier document.

Where the word Reclamation is used to include abandonment, decommissioning, and land Reclamation it is capitalized, as illustrated below.



RECOMMENDATIONS

The Subcommittee, as appointed by the Fund Advisory Committee (FAC), makes the following recommendations:

1. The expanded Orphan Program (OP) is to be implemented immediately on announcement to industry, with legislative changes to follow.
2. The Orphan Well Program is to be expanded to become the OP, and will include Reclamation of wells, multi-well facilities (MWFs) and infrastructure.
3. The OP is to be developed with the objective of minimizing future orphans and eliminating the current orphan population (including abandoned but unreclaimed sites) within five years.
4. A category of "license" and Unique Facility Identifier (UFI) is to be established for MWFs.
5. A MWF must be tracked, and the transfer of responsibility overseen in a manner similar to that used for well license transfers.
6. Alberta Energy and Utilities Board (EUB), Alberta Environmental Protection (EP) and Alberta Agriculture, Food and Rural Development (AFRD) need to develop, in consultation with industry, and implement the regulations that are necessary for Reclamation of wells, MWFs and infrastructure.
7. The organizational structure and roles are defined to include the following:
 - (a) The FAC should be expanded to include a representative from AFRD, and an additional representative from EP.
 - (b) The FAC should continue to oversee the OP with the EUB administering it in consultation with EP and AFRD.
 - (c) A Working Group (WG) is to be established and is to report to the FAC.
 - (d) The Program Superintendent (PS) is to be contracted by EUB, EP, and AFRD to undertake Reclamation work.
8. The funding for the Reclamation of wells, MWFs, and infrastructure is to be provided by an annual levy on inactive wells, and abandoned but uncertified wells and MWFs.
9. The reserve portion of the OP fund is to be increased from \$2 000 000 to \$5 000 000 during the first four (4) years of the expanded program.

1 INTRODUCTION

C **Recommendation #1: The expanded Orphan Program is to be implemented immediately on announcement to industry, with legislative changes to follow.**

The Orphan Facilities, Pipelines, and Reclamation Subcommittee (the Subcommittee), created in 1994, comprises representatives from both government (AE, EP, AFRD, EUB) and industry. Its goal is to expand the existing program from wellsites to include other facilities (MWFs), as well as the infrastructure associated with these facilities. In addition, the expanded program will include all aspects of Reclamation into the existing process for handling orphan wells. For abandoned but uncertified MWFs and pipelines that are inactive at the startup of the OP, the Subcommittee proposes that the requirements in this document become effective on the day the OP is announced. The Subcommittee recognizes that appropriate changes to Acts and Regulations will be required to fully implement the recommendations in this report.

Through discussions between government and industry, the Subcommittee has developed a process and administrative guidelines for the OP. Although every effort has been made to address the problem of existing and future orphan wells, MWFs, and infrastructure, the Subcommittee recognizes that the process will have to be reviewed by the FAC over time.

2 EXPANDED PROGRAM

C **Recommendation #2: The Orphan Well Program be expanded to become the Orphan Program, and will include Reclamation of wells, MWFs, and infrastructure.**

The present mandate of the Fund Advisory Committee and the scope of the Orphan Well Program are restricted to the downhole abandonment of orphan wells and general lease cleanup. To be consistent with the existing Orphan Well Program, the Subcommittee recommends that, in the case where the Working Interest Owners (WIOs) are defunct, the OP assume financial responsibility for Reclamation of all upstream oil and gas installations recommended for inclusion in the expanded program. The expanded mandate not only includes facilities other than wells, but also adds complexity in terms of determining responsibility. For this reason, the Subcommittee believes it is necessary to provide a list and description of wells, MWFs, and infrastructure that are recommended for inclusion or exclusion, as well as the proposed responsible parties.

The upstream oil and gas-related wells and related facilities, MWFs, and infrastructure listed below **are recommended for inclusion in the OP:**

- C wells,
- C single-well oil/bitumen batteries,
- C multi-well oil/bitumen batteries,
- C gas well facility,
- C group gas facility,
- C non-sulphur recovery gas processing plants,

- C pipelines (excluding transmission lines)-upstream of the producer's custody transfer point to a transporter/carrier,
- C produced water disposal facilities,
- C water/miscible flood injection facilities,
- C lease roads, and
- C satellites.

The following facilities **are not recommended for inclusion in the OP:**

- C any well or MWF that is designated as being contaminated pursuant to section 114 of Alberta Environmental Protection and Enhancement Act (EPEA),
- C oil sands mining plants and associated leases and infrastructure,
- C sulphur-recovery gas plants,
- C oilfield waste management facilities,
- C oil transmission pipelines and associated storage, pumping, and measurement facilities,
- C gas transmission pipelines and associated compression and measurement facilities,
- C straddle plants, and
- C refineries.

The facilities not recommended for inclusion represent risks to the fund that, at this time, are unacceptable or inappropriate for inclusion, as the OP is designed to deal with upstream oil and gas industry activities and installations. The Subcommittee recognizes, however, these sites also represent a risk to the province if they are not reclaimed by the responsible parties. How to deal with the potential liability of these facilities should be the subject of other government-industry discussions.

2.1 Wells

For the purposes of this document, wells include the following:

- wells
- single-well bitumen batteries
- single well produced water disposal facilities
- single-well oil batteries
- gas well facilities
- single well gas processing plant

2.1.1 Wells

The licensee/WIO of a well is responsible for the Reclamation of the well (active, inactive, or abandoned).

2.1.2 Single Well Oil/Crude Bitumen Battery

The licensee/WIO of a well is responsible for the Reclamation of any single well battery and infrastructure directly associated with the well.

2.1.3 Gas Well Facility

A gas well facility and a single well oil battery have many features in common. Depending on the nature of the production, the equipment at a gas well facility can vary from a meter to a complex arrangement of separation, dehydration, compression, and liquid storage equipment all servicing one well. Accordingly, the Subcommittee believes the Reclamation of all single well gas facilities is the responsibility of the licensee/WIO of the well with which it is associated.

2.2 Multi-Well Facilities

For the purpose of this document, multi-well facilities include the following:

- multi-well oil battery
- multi-well bitumen battery
- group gas facility
- non-sulphur recovery gas processing plants
- water/miscible flood injection facilities
- satellites
- produced water disposal facilities

2.2.1 Multi-Well Oil/Bitumen Battery

The Subcommittee recognizes that many of the larger batteries are very complex and have associated facilities/equipment located either on-site or at sites remote from the central battery. Well testing equipment, field headers, gas compression, produced water disposal, and water/miscible flood injection are just a few. The Subcommittee believes it would be impractical to attach separate responsibilities to each of these components. Therefore, it recommends that Reclamation of these associated facilities be the responsibility of the licensee/WIO of the battery.

2.2.2 Multi-Well Facility Waste Management Components

The Subcommittee recommends that Reclamation of waste management components of multi-well facilities be the responsibility of the licensee/WIO of the multi-well facility. To qualify as a waste management component included in the OP, as opposed to a waste management facility not included in the OP, the component may only handle waste associated with, and resulting from, production processed at that facility.

Note: Some waste management components (e.g., landfills and some fixed thermal treatment facilities) are not included in the OP and will require a financial security deposit, as described in the EUB's "Oilfield Waste Management Requirements for the Upstream Petroleum Industry - November 1996" (EUB Guide 58).

2.2.3 Group Gas Facility

A group gas facility is synonymous with a multi-well oil battery, providing services for more than one well. In terms of its function, it may provide centralized compression, separation, dehydration, dewpoint control, compression, or water disposal. In addition, it can deliver directly to a gas transmission pipeline or to a gas plant for further processing. As with multi-well

batteries, the Subcommittee recommends that Reclamation of these facilities, and associated offsite components, be the responsibility of the licensee/WIO of the group gas facility.

2.2.4 Non-Sulphur Recovery Gas Processing Plants

The Subcommittee feels that non-sulphur recovery gas processing plants serving multiple wells should be included in the expanded mandate of the OP, even though they were not in the original terms of reference set by the FAC. The Subcommittee believes that the majority of plants in the province do not represent any greater risk to the OP than do the large and complex oil, bitumen and group gas facilities. Therefore, it recommends that the approval holder/WIO be responsible for Reclamation of gas processing facilities.

Note: Gas processing plants that have sulphur recovery and storage facilities are not recommended for coverage by the OP.

2.3 Infrastructure

For the purpose of this document, infrastructure includes the following:

- lease roads
- pig traps
- pipelines
- campsites
- valve sites
- borrow pits

The pipeline licensee has primary legal responsibility for the construction, operation, and Reclamation of a pipeline. If the pipeline licensee is defunct, secondary Reclamation responsibility for a pipeline servicing a well lies with the well licensee/WIO if no other party assumes responsibility through transfer of the pipeline license.

In these cases, the licensee of a pipeline is responsible for Reclamation of the pipeline from the well to the first point where the pipeline joins a group line. Secondary Reclamation responsibility for pipelines into a well or MWF lies with the well or MWF licensee/WIO, if the pipeline licensee is defunct and if no other party assumes responsibility through transfer of the pipeline license. In such cases, the MWF licensee/WIO is responsible for the Reclamation of all pipelines feeding into the MWF from the point where the well licensee/WIO's responsibility ceases.

The Reclamation of roads that either service or are associated with wells and MWFs is the responsibility of the well or MWF licensee/WIO, respectively, if the licensee becomes defunct.

Where the OP is undertaking Reclamation of a facility, the PS will advise the utility company of the abandonment, and request that all electrical utility equipment be removed. The OP assumes no responsibility for third-party utilities, and the costs associated with removal of utility lines are the responsibility of the utility owner.

Note: As wells on a multi-well system are abandoned, the portion of the road/pipeline deemed to be the primary responsibility of a well licensee/WIO may change.

3 ORPHANS

C Recommendation #3: The OP is to be developed with the objective of minimizing future orphans and eliminating the current orphan population (including abandoned but unreclaimed sites) within five years.

C Recommendation #4: A category of "license" and a Unique Facility Identifier is to be established for MWFs.

C Recommendation #5: A multi-well facility must be tracked, and the transfer of responsibility overseen in a manner similar to that used for well license transfers.

C Recommendation #6: EUB, EP, and AFRD need to develop, in consultation with industry, and implement the regulations that are necessary for Reclamation of wells, MWFs and infrastructure.

3.1 Existing Orphans

The objective of the OP is to minimize the risk of increasing the population of orphan wells and facilities to effectively manage and minimize the liability of the industry as a whole. It is important to note that the identification and confirmation of orphans is a complex process, and must receive greater attention. Confirmation is necessary before all reasonable options of claim can be pursued against a company or against any remaining assets the company may have had prior to the site being included with others for funding under the OP.

The Subcommittee notes that prior to June 1963, there was no requirement for an operator to obtain certification of land Reclamation. It expects there may be instances where further work is necessary, but does not believe it is appropriate that the OP assumes responsibility for these sites.

3.2 Prevention of Future Orphans

The Subcommittee believes that the administrative and legislative changes recommended in this section are critical to ensuring the oil and gas industry is responsible and accountable, and that future liabilities related to the Reclamation of wells, MWFs, and infrastructure are minimized.

The Subcommittee recognizes that the level of effort put into the licensing, transfer/screening, identification of orphans, enforcement of regulations, and pursuit of responsible parties are all critical to minimizing the risks and cost. Further, the Subcommittee recognizes that its proposed administrative processes will require significant development of new and enhanced databases, and a high level of coordination and cooperation between government departments. These changes are essential if the potential for orphans and the overall cost to industry and government is to be limited or controlled.

3.2.1 Licensing New Facilities

The Subcommittee is satisfied that the present requirements and procedures related to licensing wells and pipelines are adequate; therefore, no changes are proposed. In the case of MWFs, however, new licensing requirements and criteria need to be established to more concisely identify each facility and the person(s) responsible for its safe operation and Reclamation. To accomplish this, the actions/requirements listed below will be necessary to implement recommendations #4 and #5.

1. The EUB will issue a license for all MWFs. The Subcommittee expects that the EUB will prefer to issue one license for each facility/site. The EUB must be flexible, however, and be prepared to accommodate complex business agreements involving split ownership of multi-purpose facilities. Accordingly, the Subcommittee believes it would be appropriate for the EUB to issue more than one license where the facility, its ownership and the lease are clearly separate entities.

Note: Industry is advised to consider subdividing a multi-facility lease to ensure that responsibility for Reclamation can properly be proportioned to the facility licensees and/or leaseholders.

2. The holder of a MWF license must be a WIO of the MWF.
3. All applications for a new MWF license must include a declaration of WIO participants.
4. Where an applicant for a MWF license is not the holder of a well license or another MWF license, the applicant will be required to submit a first-time fee of \$10 000 along with a corporate profile, have an EUB Corporate Level Emergency Response Plan (ID 91-2), and be prepared to post a refundable deposit if required.

3.2.2 Reporting and Licensing Requirements for Active and Inactive but Uncertified Multi-Well Facilities

In order to create a database that will concisely identify and inventory active, as well as abandoned but uncertified MWFs, the Subcommittee believes it is necessary to require a "one-time" application (report) from all operators. The Subcommittee acknowledges that the magnitude and cost of these requirements will be substantial to both industry and government, but has not been able to identify an acceptable alternative.

The Subcommittee does not believe that the records in EUB, AEP and AFRD are adequate to provide the information necessary for establishing an initial record. Therefore, it proposes that industry be required to submit the following information for all active and inactive, abandoned and uncertified MWFs:

- C location of the site,
- C present use of the site (e.g., oil battery, satellite, water injection/disposal, gas compression, and/or dehydration),
- C previous or historic use of the site if different from its present use (e.g., former multi-well battery

- is now an equipment storage facility or satellite),
- C maximum historical hydrocarbon throughput or design capacity, whichever is greater,
- C current monthly hydrocarbon throughput,
- C name and address of the present operator/licensee/WIO,
- C list of WIO and ownership interest of each,
- C name of the company/corporation that agrees to be named licensee of facility where no licensee presently exists, and
- C name of any previous owners and/or operators from 1990 on.

The one-time reports will be submitted to the EUB within six months following announcement of the requirement to report. Acquisition of this information is considered critical; therefore, the Subcommittee believes there must be substantial consequences for serious delays in filing, failure to report, and for making false or incomplete declarations.

The Subcommittee considered a number of enforcement alternatives such as cash fines, suspension of operations, and/or withholding of services. It believes, however, that the final decision with respect to compliance and enforcement should be left with the EUB. This will allow the EUB to develop consequences consistent with other compliance/enforcement policies that it administers.

The EUB will need to monitor production throughput and, to some extent, the economic viability of MWFs in the province. This will require the EUB to develop additional database(s), as well as production-volumes monitoring systems. To ensure the necessary information reaches the EUB, the production reporting required of industry may have to be changed in the future.

The EUB will have limited capacity to monitor production volumes initially, and will therefore have to rely on existing systems. The basic well data (BWD) and production injection disposition system (PID) can provide the basis for monitoring well and MWF production; however, PID records include only those facilities and systems (e.g., gas gathering systems (GGSI)) that report production. Facilities such as satellites and some group-gas facilities do not report production and cannot be tracked or monitored in terms of production throughput. In these cases, the EUB will have to supplement its monitoring with facility and/or corporate-level audits. Nevertheless, the Subcommittee believes it is critical to be able to identify facilities whose production volumes are approaching an uneconomic level, since they may pose a significant risk to the fund.

3.2.3 Suspension/Abandonment Requirements

The Subcommittee notes that the EUB issued suspension guidelines (Information Letter IL 90-4) for wells in 1990 and a related compliance schedule (IL 91-5) in 1991. It is also aware that EUB staff have been working on developing criteria and requirements for the safe suspension and abandonment of oil and gas facilities, including pipelines, gas plants, and other EUB-regulated facilities. The Subcommittee believes it is critical that these requirements be finalized and that, with the assistance of EP/AFRD, Reclamation be incorporated into these criteria. The requirements must encourage operators to reclaim wells, MWFs, and infrastructure as soon as practical. Therefore, the Subcommittee believes the following requirements are appropriate:

- C Facilities and infrastructure must be safely suspended within six months of becoming inactive.

- C Abandoning of facilities must be completed within 1.5 years (18 months) of becoming inactive.
- C Decontamination and land Reclamation must be completed within three years of the facility becoming inactive, or must be in progress according to a plan that provides details of the Reclamation program and the reasons for not being able to complete the work within the specified period.
- C Where abandonment has not occurred within 1.5 years (18 months), or where decontamination and land Reclamation is not complete within three years, the EUB should require a refundable deposit. The deposit would be calculated using the formula of \$50 000 x well equivalency based on facility size, as set out in subsection 3.2.6.

3.2.4 Transfer Requirements and Criteria

The licensee/WIO is responsible for the safe operation and abandonment of a well. Before a well license and associated obligations can be transferred, approval must be obtained from the EUB. The Subcommittee proposes that MWFs and all other facilities that are recommended for coverage by the OP be administered in a similar manner (see EUB ID-93-2: *Requirements for the Issuance of a Well License or Approval of Well License Transfers*).

Note: The proliferation of trusts and third-party operated facilities may pose an increased risk to the fund, and will require additional vigilance on the part of the EUB in monitoring.

3.2.5 Status Classification

For the purposes of the OP, MWFs have been classified as follows:

Active MWF: a MWF still being used to separate, treat, process, measure, store, compress, pump, or otherwise handle well fluids as part of their preparation for sale or disposal. An active MWF operates at greater than 20 per cent of its historical maximum (HM) or "nameplate" capacity.

Note: This classification of MWF is not included in transfer screening determination, nor is it subject to the levy.

Deemed Inactive MWF: a MWF that is operating at less than 20 per cent of its HM or "nameplate" capacity to separate, treat, process, measure, store, compress, pump, or otherwise handle well fluids as part of their preparation for sale or disposal.

Note: This classification of MWF is included in transfer screening determination at the appropriate number of well equivalents (see subsection 3.2.6). This type of facing is not subject to the levy.

Inactive MWF: a MWF that is not operating/has not reported throughput for the previous 12 consecutive months. This classification MWF includes all abandoned and uncertified MWF sites.

Note: This classification of MWF is included in transfer screening determination at the appropriate number of inactive well equivalents (see subsection 3.2.6), and it is also subject to the levy.

Certified MWF: a MWF site that has been decommissioned and reclaimed, and for which a Reclamation certificate has been issued by EP/AFRD.

Note: This classification of MWF is not included in transfer screening determination, nor is it subject to the levy.

3.2.6 Facility Transfer/Screening

The key components established for the Orphan Well Program are the well screening ratio, the well classification methods and the transfer deposit requirements (see EUB ID 93-2). These can be adopted for use in administering the OP. In order to expand the active/inactive well screening ratio to include facilities, the Subcommittee has developed status classifications and well equivalency ratings for MWFs.

Facility Rating: all MWFs that are inactive, suspended, or decommissioned, but which are uncertified are subject to the levy. In addition, these, as well as deemed inactive MFWs, will be included as the appropriate equivalent number of "inactive wells" for the purpose of transfer and screening. The proposed well equivalencies for MWFs are outlined below.

Multi-Well Oil/Bitumen Facilities: rated by maximum hydrocarbon throughput rate as determined from historical records. This rate determines their effective inactive well count equivalency, as set out in the following:

Historic Maximum Throughput	Well Equivalency Rating
0-50 m ³ fluid/day	5
> 50 m ³ ≤ 500 m ³ /day	10
> 500 m ³ ≤ 3000 m ³ /day	20
> 3000 m ³ /day	40

Uncertified sites that were operated as multi-well batteries in the past, but were subject to a change of use (e.g., satellite, equipment/pipe storage) will be considered MWFs for the purpose of the OP.

Non-Sulphur Recovery Gas Processing Plant: rated by their maximum hydrocarbon throughput rate as determined from their nameplate rating. This rate will determine their effective inactive well count equivalency as outlined below.

Historic Maximum Throughput

Well Equivalency Rating

0-900 e ³ m ³ /day	10
>900 e ³ m ³ ≤ 2500 e ³ m ³ /day	20
>2500 e ³ m ³	40

Group Gas Facility (subsection 2.3.2)

Well Equivalency Rating

Any throughput level	5
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3.2.7 Operator Rating

The Subcommittee believes there is a need to develop a rating system for companies which will reflect their overall risk to the fund. The rating will be based on the active-non active screening ratio, but will have added consequences where EUB monitoring or audits show that the screening ratio is less than 1.0. The system proposed is outlined in the following:

- C ratio of ≥ 1.0 will be considered satisfactory,
- C a ratio of < 1.0 but > 0.5 will require the submission of a program and schedule to improve the ratio to > 1.0 within 2 years,
- C a ratio of ≤ 0.5 will result in more severe consequences that may include:
 - a doubling of the annual fund levy,
 - suspension of certain services by the EUB and Alberta Energy (AE), and
 - issuance of orders to abandon by EUB, and/or Environmental Protection Orders (EPO), Enforcement Orders (EO), and pursuit of prosecution by EP.

4 ORGANIZATION, STRUCTURE, AND ROLES

C **Recommendation #7: The organizational structure and roles are defined to include the following:**

- (a) The FAC should be expanded to include a representative from Alberta Agriculture, Food and Rural Development (AFRD), and an additional representative from Alberta Environmental Protection (EP).
- (b) The FAC should continue overseeing the OP, with the Alberta Energy and Utilities Board (EUB) administering it in consultation with EP and AFRD.

- (c) A Working Group (WG) is to be established and is to report to the FAC.
- (d) The Program Superintendent (PS) is to be contracted by EUB, EP and AFRD to undertake Reclamation work.

4.1 Fund Advisory Committee

As a result of areas of responsibility added to the OP, it is recognized that the role of the FAC will be expanded to include the abandonment, decontamination and decommissioning of facilities and infrastructure, and land Reclamation of the sites. The FAC will provide decisions on policy and procedures; sites to be covered by the OP; budget approval and revisions, and changes to the fund; approval of the PS selection; approval of proposals submitted by the PS; and final approval of solutions to non-routine or unusual situations.

To provide the appropriate review and input necessary to the management process, it is recommended the FAC be increased to add participation by AFRD and increase Alberta Environmental Protection's representation. Members of the FAC will continue to act on behalf of their respective industry associations or government agencies, and make decisions on policy, administrative issues, budgets and budget revisions. Where specific matters of the OP require additional discussion, input, or authority FAC members will consult with their association or agency.

The following representation is proposed:

C	CAPP:	4
C	SEPAC:	2
C	EUB:	2
C	EP:	2
C	AE:	1
C	AFRD:	1

4.2 Peer Review Group

The Peer Review Group (PRG) advises the EUB when the EUB is determining who to pursue and when to pay for abandonment. As part of the wider scope of the OP, the role of the PRG must be expanded from addressing downhole abandonment of wells, to include Reclamation associated with facilities included in the OP. The PRG has no formal decision-making role. Membership of the PRG is approved by the FAC, and should comprise representatives from any discipline or agency deemed necessary and appropriate.

4.3 Working Group

The Working Group (WG) will provide expertise in required technical and business areas (e.g., well abandonment, construction, facilities, decontamination, land Reclamation, and accounting). The WG will act as an operator advisory group for the PS. The WG has no formal decision-making role, but will report to the FAC in requesting approval of proposals or recommendations regarding the operational approach and procedure. Membership of the WG will be approved by the FAC and

should comprise industry representatives from any discipline deemed necessary or appropriate. Duties will include the following:

- C develop final job description for the PS for approval by the FAC,
- C recommend to the FAC, the role and responsibilities of the contract PS,
- C assist the PS in developing the strategies and determining the working practices that will guide Reclamation activities,
- provide advice to PS on issues between the OP and the regulatory, industry, or public expectations, and
- C provide advice on extraordinary circumstances as requested by PS or FAC.

The WG will meet at least once a year to review the status of the program, the adequacy of the strategy and working practices, the performance of the PS, and to report to the FAC. The WG will be available to the FAC and PS for consultation at any point.

4.4 Program Superintendent

The Program Superintendent (PS) will organize and direct the actual Reclamation work undertaken directly through the OP. The PS will be contracted jointly by the EUB, EP, and AFRD based on recommendation from the FAC, and under the terms of reference developed by the WG. Conditions in the contract will provide the PS (and subcontractors) with the necessary authority from the EUB, EP, and AFRD to enable access and action on orphan sites. The PS will be an independent contractor, and will act as a general contractor to all subcontractors. This position will be paid directly by the OP.

The PS will have access to files, related information and advice from EUB, EP, AFRD, and industry as needed and as appropriate. Recommended guidelines for administrative and budget duties are in Appendix B.

4.5 Reclamation Program Contractor Bidding Process

All work projects (over \$5 000) shall be submitted to competitive bid. The best total value bid shall be awarded the contract. The best total value will be based on a combination of technical capabilities of each potential supplier and commercial terms established by the PS and WG prior to requesting bids.

Contracts may cover the entire province, a specific geographic area, or be on a task/product basis. Post-season evaluations will be conducted for each contractor annually. The PS will report to the FAC yearly, regarding the results of the work and the effectiveness of the contractors.

4.6 Surface Access Issues

The OP should be prohibited from paying for surface lease arrangements or right of access, but will be permitted to pay for direct damage caused by Reclamation activities. The PS should have the option of retaining a land agent to provide continuity of contact with the landholder. Where Reclamation is necessary due to public or environmental safety, and access is denied by the landowner/land occupant, the PS shall advise the appropriate regulatory agencies and request their assistance in ensuring access. Where there are no significant environmental impacts or safety hazards, and where the

landowner/occupant refuses access, consideration should be given to deferring Reclamation and assigning the project a lower priority.

4.7 Increased Responsibilities/Duties

It is acknowledged that the implementation and operation of the expanded Orphan Program Fund will require a significant increase in the administrative responsibilities and duties on the part of the EUB, AEP, and AFRD. These expanded duties are especially noted in the increased administration required by the EUB in its role as fund administrator and the primary program manager. The duties of these agencies are listed in the appendices.

5 FUNDING AND COST RECOVERY

C Recommendation #8: The funding for the Reclamation of wells, MWFs, and Infrastructure is to be provided by an annual levy on inactive wells, and abandoned but uncertified wells, and MWFs.

C Recommendation #9: The reserve portion of the OP fund is to be increased from \$2 000 000 to \$5 000 000 during the first four (4) years of the expanded program.

The fund is administered by the EUB on a basis that restricts its use to the OP. The funding of payments for the OP comes from an annual fee that is levied on the industry. The Subcommittee believes that the population of inactive wells and abandoned but uncertified MWFs is an appropriate source of funding for the present orphan well fund. The properties that have the highest probability of becoming the responsibility of the OP are those that are inactive, generating no revenue for their owners, and at greatest risk of being ignored or forgotten. Caught by these criteria, however, are those properties that do have value by virtue of unproduced reserves awaiting economic pipeline connection, etc. Nevertheless, the Subcommittee finds the "activity test" appropriate and acceptable for basing the levy.

5.1 Levy Base

The Subcommittee recommends that the following assets be made subject to the levy:

- C inactive wells,
- C inactive MWFs,
- C abandoned but uncertified wells, and
- C abandoned but uncertified MWFs.

In subsection 3.2.6, the Subcommittee recommended a well equivalency rate for MWFs. It is further recommended that these equivalencies be used for levy purposes with the following refinement to acknowledge partial Reclamation where wellbore abandonment has been completed:

Site	Well Count for Levy
Inactive well	1
Abandoned but uncertified wellsites	1/2
Inactive MWF	as per subsection 3.2.6
Abandoned but uncertified MWF	as per subsection 3.2.6

5.2 Levy Amount

The levy on a well equivalency basis should continue to be established by the FAC. Consideration needs to be given to the total annual cash requirement of the OP, as established by the annual budget requirements, divided by the total inactive well equivalency.

The subcommittee recommends that the reserve portion of the OP fund be increased from \$2 000 000 to \$5 000 000 during the first four years of the expanded program. This is in recognition of the additional responsibilities that are part of the expanded OP, and the increased possibility of unanticipated, therefore unbudgeted but necessary expenditures in any given year.

5.3 Cost Recovery

Where a party pays for the abandonment or Reclamation of a well or a facility, he may apply for a defunct working interest participant's share of costs in accordance with the EUB's IL 95-03 "*Abandonment Costs Order Application Reimbursement Application*". The procedures for such cost recovery by the Licensee/WIO are appropriate, but the present application forms must be modified to recognize the expanded scope of the possible claims.

6 CHAIRMAN'S COMMENTS

The Subcommittee is satisfied that it has met its mandate, and has balanced the risks to the industry, regulators and the public-at-large, as created by orphan facilities, while minimizing disruption to appropriate business activities.

The recommendations contained in this report have significant ramifications for industry and regulators. The committee recognizes there are significant increased work and cost implications for all concerned. The report has made no attempt to identify the resources that will need to be allocated to implement the recommendations. While industry, EP, and AFRD will be undertaking significant work concerning reporting and database modifications, etc., the most profound changes will take place at the EUB. This agency will assume a central coordinating role that will require the dedication of significant new resources., As such, it is essential that adequate administrative support be in place as the program is implemented to allow the recommendations to achieve their desired results.

It is anticipated that some aspects of the recommendations may need to be implemented in phases in recognition of the development of databases and other work, and to minimize disruption and cost for all concerned. The Subcommittee recommends, however, that immediate implementation take place for the orphan prevention aspects of the program, and the PS be hired so fieldwork can begin on identified orphan sites.

APPENDIX A

Acronym List and Glossary of Terminology

AE:	Alberta (Department of)Energy
AFRD:	(Alberta) (Department of) Agriculture, Food and Rural Development
BWD:	basic well data
CAPL:	Canadian Association of Petroleum Landmen
CAPP:	Canadian Association of Petroleum Producers
EP:	(Alberta) Environmental Protection
EPEA:	(Alberta) Environmental Protection and Enhancement Act
EO:	Enforcement Order
EPO:	Environmental Protection Order
EUB:	(Alberta) Energy and Utilities Board
FAC:	Fund Advisory Committee
GGs:	Gas Gathering System
HM:	historical maximum
OP:	Orphan Program
PID:	Production Injection Disposition (system)
PRG:	Peer Review Group
PS:	Program Superintendent
MWF:	multi-well facility
SEPAC:	Small Explorers and Producers Association of Canada
WIO:	working interest owner
WG:	Working Group

abandonment: The dismantlement of the licensed facility so that it is permanently incapable of its EUB licensed use. This includes leaving downhole or subsurface structures in a permanently safe and stable condition in accordance with EUB requirements; the removal of equipment, structures and appurtenances; the removal of all produced liquids; and the removal or appropriate land filling of base pads, structural concrete and surfacing materials.

battery: A system or arrangement of tanks or other surface equipment receiving the effluents of one or more wells prior to delivery to market or other disposition, and may include equipment or devices for separating the effluents into oil, gas or water, and for measurement.

conservation: The planning, management, and implementation of an activity with the objective of protecting the essential physical, chemical, and biological characteristics of the environment against degradation.

contamination: The state of material caused by a substance release or escape that results in impairment of, or damage to, the environment, human health, safety, or property after removal or on-site treatment of waste or spills.

decommissioning: The closure of an industrial facility followed by the removal of process equipment, buildings and structures, and surface and subsurface decontamination.

decontamination: The removal or neutralization of substances, dangerous oilfield waste and/or hazardous materials from a site so as to prevent, minimize, or mitigate any adverse effects on the environment now or in the future.

defunct parties: A non-performing company that has been struck from the corporate registry, is in the process of being struck, has no employees, or no visible assets. Occasionally it will include a company for which a Receiver or a Trustee has been appointed.

inactive: Where a well, its facilities, or a MWF has not operated for its intended purpose for a period of at least 12 months.

infrastructure: The basic underlying framework, facilities, and systems of an installation. In this document, infrastructure includes lease roads, pig traps, pipelines, campsites, valve sites, and borrow pits.

land Reclamation: The stabilization, contouring, maintenance, conditioning, or reconstruction of the surface of the land to a state that permanently renders the land with a capability equivalent to its predisturbed state or existing, adjacent land use.

licensee: The holder of a license according to the records of EUB.

multi-well facility: (refer to subsection 2.2)

operator: Any person who carries on, or has carried on, an activity on or in respect of specified land pursuant to an approval or otherwise under EPEA.

orphan facility: A facility or portion thereof where the licensee/WIO is defunct or missing.

Peer Review Group: A group comprising representatives of CAPP, SEPAC, EUB, EP, and AFRD, who assist EUB staff in determining if the OP should pay for non-performing companies, and the degree of pursuit for reimbursement. Their objective is to provide a peer review process for assisting EUB staff in determining existing defunct companies (orphan wells), and the degree of pursuit of these companies, thereby limiting the number of files that have to be referred to the FAC for decisions on WIO claims or being added to the orphan well list.

Pipeline: Any pipeline licensed by the EUB (excluding transmission lines) upstream of the producers custody transfer point to a transporter/carrier, including, but not limited to, associated valve sites, pig traps, campsites, and borrow pits.

reasonable steps: Steps will vary in each case and must be determined by the FAC; however, they should include options under existing CAPL agreements and/or court action, including action to recover on a judgment.

Reclamation: The term is defined in EPEA to mean any or all of the following:

- the removal of equipment or buildings or other structures or appurtenances;
- the conducting of investigations to determine the presence of substances;
- the decontamination of buildings or other structures or other appurtenances, or land or water;
- the stabilization, contouring, maintenance, conditioning, or reconstructing of the surface of the land;
- or
- any other procedure, operation, or requirement specified in the regulations.

Note: For the purposes of this report, the definition has been expanded to include downhole abandonment.

suspension: The cessation of normal production, operation, or injection activities at a facility pursuant to its EUB licensed use. The facility need not be rendered permanently incapable of its licensed use, but must be left in a safe and stable state during this period of suspension, as prescribed by the appropriate EUB regulations and guidelines.

uncertified: Used in reference to a well, its related facilities or infrastructure, or to MWFs, any state or status (inactive, abandoned, etc.) prior to the site being certified as being acceptably Reclaimed.

upstream oil and gas facilities: All wells licensed by the EUB, including oil production sites as defined in EPEA; pipelines, flow lines and associated equipment; satellites, batteries, metering stations, compressor stations, pump stations, truck unloading stations; gas plants; and oilfield waste facilities.

well: A well licensed by the EUB, and shall include related campsites, borrow pits, remote sumps, and any surface leases.

working group: The Working Group comprises representatives of industry appointed by the FAC to act as technical advisors to the Program Superintendent and the FAC.

working interest owner: Any party under a joint operating or other agreement under which the party is entitled to a proportionate share of cash flow as well as costs.

APPENDIX B

Program Superintendent

All contractors, full service abandonment firms and consultants must carry appropriate insurance or provide indemnification before initiating Reclamation work on behalf of the OP.

Administrative Duties

- C provide budget estimates to the FAC (based on a two-cycle budget year),
- C develop, in consultation with the WG, the OP's strategy that will guide activity,
- C work with WG to determine qualification requirements and selection standards for subcontractors, as well as bid procedures, for approval by the FAC,
- C develop and direct the work program,
- C provide or subcontract assessment, design, and inspection services,
- C subcontract the physical work,
- C address urgent findings, problems, or requests from regulators,
- C provide accounting, cost control, and reporting,
- C provide quality control assurance, and review and reporting for all activities, especially to ensure compliance with regulatory and industry standards,
- C maintain a database of site work and status, reporting to the FAC each quarter,
- C as requested by the FAC, review cost and quality control of operator Reclamation activities funded under the WIO provision, and
- C annual contractor evaluations.

Specific duties of the PS are as follows:

- C prepares a list of requirements and standards for contractors,
- C screens applicants based on qualifications and prepares an approved list for presentation to the FAC,
- C subcontracts consultants or full service firms and assesses work,
- C ensures that programs meet all industry and regulatory standards,
- C oversees the bid process for service companies,
- C handles all matters pertaining to the use of consultants and full service Reclamation firms,
- C handles all problems incurred in Reclamation of orphan facilities,
- C determines timing of Reclamation if the land is under lease and has access restrictions, or if the site is prioritized as an emergency,
- C plans the budget and handles budget revisions for FAC approval,
- C prepares paced Reclamation proposals for FAC approval,
- C responds to emergency situations brought to EUB's attention, and
- C negotiates with landowners and regulatory agencies any facilities or features to be left in place and not removed or reclaimed.

Budget Duties

The annual operating budget will be based on a calendar year. The FAC will submit a list of confirmed orphan locations to the PS by the end of January. This will include a discussion of the relative priorities based on available site information. The PS will consolidate this list with ongoing work from the previous year and prepare a first-cycle budget estimate by the end of February. This budget will include reasonable estimates of all work requirements. The budget will be reviewed, adjusted, and approved by the FAC before the end of March, and be used in establishing the current years levy. The budget will include the following:

- C ongoing Reclamation work and monitoring,
- C work required on previously assessed sites,
- C "stage 1" assessments of new sites,
- C follow-up assessments on active jobs (e.g., "stage 2" and interim or final Reclamation phase),
- C estimated Reclamation costs based on the assumption that site conditions will be routine, and
- C site-specific costs and relative priorities.

A second budget cycle will be set as a contingency fund to address significant, non-routine work requirements. This will be reviewed following a full year cycle. The contingency aspect may be included as part of the first-cycle budget estimate, thereby eliminating the need for a second budget cycle.

APPENDIX C

Energy and Utilities Board

The EUB is responsible for regulating suspension and decommissioning and abandonment activities. It is envisioned that the EUB will play an integral role in administering the levy and the fund, and in handling WIO searches for possible orphan facilities. With the expansion of the OP, the responsibilities of the EUB (with respect to orphan wells) will be expanded to cover orphan facilities and Reclamation. These include the following:

Expanded Duties

- C cosign contracts with AEP/AFRD to hire PS,
- C coordinate and report to the FAC on issues, proposals and problems relating to abandonment, Reclamation, and fund issues,
- C make payment from the fund,
- C prepare and maintain a list of orphan well sites and facilities in order of priority,
- C investigate, identify, and locate responsible parties or WIOs for facilities,
- C inspect sites and investigate assets of operators, including those where sites have been abandoned but not reclaimed,
- C pursue delinquent, reluctant, or missing licensees relating to abandonment, conservation, and Reclamation issues,
- C keep records and track compliance to optimize enforcement actions where warranted,
- C screen transfer of facilities, and
- C screen new licensees and operators and collect fees.

Draft and Implement legislation to:

- C address (and direct) the abandonment of facilities,
- C amend the OP rules to provide for the decommissioning and Reclamation of facilities,
- C require licensing and transfer approval of all facilities,
- C change responsibility for operation of a facility from the operator to the licensee, and
- C assign responsibility for abandonment and decommissioning of single well facilities, associated pipelines and infrastructure.

Develop policy for:

- C licensing and transfer approval requirements for all facilities,
- C reporting requirements, and
- C transfer and Reclamation deposit requirements.

Develop processes and implement compliance enforcement actions to:

- C advise licensees with screening ratio less than 1 but greater than 0.5, that there are certain requirements and follow up on all requirements or take additional enforcement action,
- C review plan to address the 1 to 0.5 screening ratio when submitted,

- C determine when a facility has been inactive for 6 months, and require suspension and abandonment in accordance with subsection 3.5 of this report,
- C determine when a MWF is reaching 20 per cent of historical maximum or less for the purpose of transfer/screening and operator rating,
- C initiate and enforce closure and abandonment orders for suspended facilities,
- C ensure that all facilities file the one-time report (application),
- C deal with adjudication requirements arising from the expanded scope of the OP,
- C coordinate enforcement of abandonment and Reclamation orders with EP/AFRD, and
- C develop programs and integrated databases in order to implement recommendations in the report.

Current Duties

- C recommend a list of orphan wells in order of priority for abandonment based on pre-set criteria that include technical problems affecting public safety, environmental problems, mineral rights, loss of surface lease, right-of-entry issues, social problems, and the opportunity to recover fund expenditures,
- C identify orphan wells requiring abandonment and decommissioning, and carry out and/or coordinate the investigation work to identify and locate WIOs¹,
- C determine the degree of pursuit of viable WIOS, with advice from the PRG and EP,
- C coordinate the pursuit of delinquent, reluctant, or missing licensees and/or WIOs, and make decisions as to who should be pursued and to what extent. Assess and decide how far to carry the search based on costs and likelihood of success,
- C investigate assets of operators and WIOs,
- C monitor long-term/chronic situations,
- C report to the FAC on issues, proposals, rules, levies, and problems,
- C receive and process abandonment cost order applications and reimburse applicants,
- C provide advice to FAC in administering liens, collecting debts, and initiating court action,
- C supervise collection proceedings and associated legal action,
- C recommend which cases go to court for judgment based on probability of success, and determine how far to pursue execution of judgment in each individual case, again based on probability of success,
- C determine when a mandatory injunction should be obtained for a licensee or WIO, and
- C decide to whom abandonment orders should be sent (e.g., Licensees, WIOS, or Receivers).

¹ If outside consultants are hired for this purpose, their fees would be paid from the fund.

APPENDIX D

ALBERTA ENVIRONMENTAL PROTECTION/AGRICULTURE, FOOD AND RURAL DEVELOPMENT

The Departments of Environmental Protection and Agriculture, Food and Rural Development are responsible for regulating conservation and Reclamation of wellsites and associated facilities in accordance with the Environmental Protection and Enhancement Act (EPEA). Reclamation certificates are issued when satisfactory Reclamation is completed on disturbed sites. Responsibility for issuing Reclamation certificates is as follows:

- C Public land in the Green Area - Land and Forest Services, EP
- C Public land in the White Area - Public Lands, AFRD
- C All other land - Land Reclamation Division, EP

Sites do not require a Reclamation certificate if they have not been disturbed after June 1963, and if no contamination exists. The regulatory agencies accept the fact that there are an unidentified number of uncertified older sites that have been abandoned, and which may not require any action.

The regulatory roles of EP and AFRD will be carried out consistently, whether or not the Reclamation involves a site that is orphaned. EP and AFRD will work cooperatively with all stakeholders to ensure that reasonable Reclamation is completed.

New Duties

In addition to the current duties, new duties must be considered if the recommendations of the Subcommittee are accepted. These include the following:

- C provide a list of orphan wellsites and facilities to the EUB, in order of priority based on complaints, inspections, and severity of disturbance,
- C provide the EUB with any available information on identifying and locating responsible parties or WIOs,
- C provide the EUB with any information available on sites to assist in planning and undertaking Reclamation,
- C assist the EUB in the pursuit of delinquent, reluctant, or missing licensees/WIOS as they relate to conservation and Reclamation issues,
- C assist the EUB, through the use of "lookback" where appropriate, to prevent dumping or transfers (e.g., to shell companies or non-operating companies),
- C cosign, with the EUB, contracts for hiring a PS,
- C report to FAC on issues, proposals, and problems related to conservation and Reclamation issues,
- C assist in establishing a common database between EP/AFRD/EUB,
- C coordinate record keeping and industry tracking with the EUB to optimize enforcement where warranted, and
- C initiate legislation changes to facilitate effective conservation and Reclamation enforcement.

Current Duties

- C where required, issue Emergency Environmental Protection Orders (EEPO) to stop an activity that is causing a significant and adverse environmental effect,
- C issue Environmental Protection Orders and Enforcement Orders (EPO, EO),
- C where possible, issue an EPO before a site goes into receivership,
- C order an operator to reclaim a site (including contamination remediation) within a specified time frame where required,
- C follow through with court orders or prosecution when orders are not complied with,
- C determine, in conjunction with the EUB and FAC, who to issue orders to, including the possible use of "lookback" provisions, as described in section 119 of EPEA,
- C issue Conservation and Reclamation Notices where necessary to ensure proper conservation and Reclamation (including contamination remediation),
- C establish conservation and Reclamation criteria,
- C conduct field inspections of active sites upon receipt of any public complaint and for compliance monitoring,
- C deal with referrals from the EUB concerning conservation and Reclamation issues at a facility,
- C issue Reclamation certificates to appropriate party, and
- C assume Reclamation costs after operator certification and liability has expired (except for contamination).