

# Innovative Energy Technologies Program

## FINAL PROJECT REPORT REQUIREMENTS

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1. **Report abstract** (150 words maximum), i.e. an executive summary of the report.
2. **Summary Project Status Report:**
  - 2.1. Members of the project team (identifying all personnel from project inception to finish).
  - 2.2. A chronological report (in point form) of all activities and operations conducted since the project was initiated up to completion, with separate reference to what occurred in the various years for which details are provided in subsequent sections of the final report (as outlined below)
  - 2.3. By month, calendar year and cumulative total, actual production, and material and energy balance flow sheets (see attached guide), and compared to what was estimated when the project was approved.
  - 2.4. A final project-end estimate of reserves, identifying how this number compares with estimates at the time of project approval.
3. **Well information (Initial planned and final actual).**
  - 3.1. Well layout map.
  - 3.2. Drilling, completion and work-over operations and any difficulties encountered.
  - 3.3. Well operation.
  - 3.4. Well list and status.
  - 3.5. Wellbore schematics.
  - 3.6. Spacing and pattern.
4. **Production performance and data for each project calendar year and cumulative project totals, including:**
  - 4.1. Injection and production history on an individual well and composite basis.
  - 4.2. Composition of produced / injected fluids.
  - 4.3. Comparison of predicted versus actual well / pilot performance and a discussion regarding the difference.
  - 4.4. History of injection, production and observation well pressures and average reservoir pressure.
5. **Pilot data**
  - 5.1. In addition to production and performance data (Section 4), data for activities conducted in each reporting year, such as
    - Geology and Geophysical data
    - Laboratory studies.
    - Simulations.
    - Pressure, temperature, and other applicable reservoir data.
    - Any other measurements, observations, tests or data pertinent to the pilot.
  - 5.2. Interpretation of pilot data.

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**6. Pilot economics (by year and cumulative project total)**

- 6.1. Sales volumes of oil, natural gas and by-products.
- 6.2. Revenue.
- 6.3. Capital costs (include a listing of items with installed cost greater than \$10,000).
- 6.4. Direct and indirect operating costs by category (e.g. fuel, injectant costs, electricity).
- 6.5. Crown royalties, applicable freehold royalties, and taxes.
- 6.6. Cash flow.
- 6.7. Cumulative project costs and net revenue.
- 6.8. Explanation of material deviations from budgeted costs

**7. Facilities**

- 7.1. Description of major capital items (including new facilities and additions /modifications to existing facilities) incurred in the reporting year
- 7.2. Capacity limitation, operational issues, and equipment integrity.
- 7.3. Process flow and site diagram identifying major facilities, including production
- 7.4. Equipment, connected pipelines, gathering and compression facilities.

**8. Environment/Regulatory/Compliance**

- 8.1. Summary of project regulatory requirements and compliance status, including as required.
  - Procedures to address environmental and safety issues.
  - Plan for shut-down and environmental clean-up

**9. Summary - Operating Plan**

- 9.1. Actual Project schedule including deliverables and milestones.
- 9.2. Changes in pilot operation (planned versus actual), including production operations, injection process, and cost
- 9.3. Optimization strategies.
- 9.4. Salvage update

**10. Interpretations and Conclusions**

- 10.1. An assessment of the overall performance of the pilot, including:
  - Lessons learned
  - Difficulties encountered.
  - Technical and economic viability.
  - Overall effect on overall gas and bitumen recovery.
  - Assessment of future expansion or commercial field application and discussion of reasons.

## **Energy & Material Balance Information for Final Project Report**

The purpose of this information is to help understand material and energy balances for various purposes such as scale-up potential, understanding costs for commercial applications, and identifying “pinch points”. The information requested should only apply to the IETP project, and not other activities on lands or leases that are not part of the approved IETP project.

### Gross balances:

Electricity consumed (KWh)

- Identify the source of power as well (grid, self generated etc)

Steam (for each boiler if more than one)

- Rating; pressure (MB); capacity (Tonnes/hour); firing rate (GW)
- actual monthly (includes charts)
  - o mean operating pressure (MB)
  - o mean quality(%) & GJ
  - o fuel (GJ)
  - o Boiler Feed water: Tonnes; mean temperature; mean salinity; % fresh water

In-Situ combustion air (for each compressor, not instrument)

- Rating: Volume (M3 at NPT); pressure (MB); power GW
- Actual: Volume M3; Mean Pressure; GJ

Process air (e.g. flotation but not instrument)

- Rating: Volume (M3 at NPT); Pressure (MB); power GW
- Actual: Volume M3; Mean Pressure; GJ

Fresh Water

- Total (M3)
- Steam generation (M3)

### Produced Materials

Produced water M3

Volume disposed M3

For each disposal well (Geological descriptor and map coordinates)

Produced oil: Volume(M3); API

Diluent (purchased): M3, mean density

Sales Oil: Volume(M3); API; volume: % diluent

Produced Sand (M3)

Produced gas (M3 GJ)

- Natural gas
- Combustion gases (in-situ, process)

Other

July 26, 2010