



Application for an Enhanced Recovery Scheme other than a Waterflood

1 An application under section 17.1 of *The Oil and Gas Conservation Act* for approval of an enhanced recovery project or expansion of an existing project shall include:

- (a) A complete description of the proposed recovery scheme including any available results from previous tests using the same process. If the process has not been previously used in Saskatchewan, an explanation of why it should be considered by the department as enhanced oil recovery shall also be included.
 - (b) The results of reservoir studies showing:
 - (i) the original oil and gas in place in the total project area and the expansion area alone, if an expansion is being applied for;
 - (ii) the recovery predicted under the existing producing mechanism;
 - (iii) the recovery predicted for the proposed project or project expansion;
 - (iv) details of the recovery prediction under the proposed plan including sweep efficiencies, displacement efficiencies and economic limits;
 - (v) future production rates, gas-oil ratios and water-oil ratios predicted for existing and proposed producing mechanisms;
 - (vi) details of reservoir fluid properties, including bubble-point pressure;
 - (vii) details of the geology in the plan area accompanied by geological cross sections, structure contour and isopach maps;
 - (viii) criteria used in determining the well spacing proposed for the project.
 - (c)
 - (i) A discussion of the source and conditioning of the injected fluid or form of energy and evidence of its compatibility with the formation rock and formation water;
 - (ii) a brief development and production history of the reservoir including initial and current pressure data;
 - (iii) a list of the injection wells with proposed injection rates and expected wellhead pressures;
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- (iv) an estimate of the reservoir pressure at which the scheme will operate;
 - (v) the proposed timetable for design, construction, operation and possible expansions of the project (include the estimated lifetime for a pattern as well as for the project);
 - (vi) a discussion of the degree and nature of the effect of the project on the reservoir outside of the plan area;
 - (vii) a list of observation wells if any will be used;
 - (viii) an estimate of the capital and operating costs for the project as well as the expected natural gas requirements and source.
- (d) Maps showing:
- (i) the plan area with existing and proposed wells (include proposed observation wells and indicate patterns, if used);
 - (ii) the lessors (mineral owners) and lessees within and adjoining the plan area.
- (e) A sketch showing by cross section the subsurface equipment and completion details of the production, injection and water source wells if used.
- (f) A sketch showing all surface equipment including wellhead, piping, pumps, storage, metering, and treating or conditioning facilities.
- (g) Proposed internal and external corrosion protection for the entire surface and subsurface systems.
- (h) A description of the project monitoring facilities including the proposed data collection and analysis system.
- (i) A discussion of the status of surface lease negotiations.
- (j) Copies of covering letters for related submissions to Sask Water and Saskatchewan Environment and Resource Management.
- 2 The submission shall be in written and illustrated form, signed by an officer of the company making the application, and appropriately bound.
- 3 The applicant shall, upon request, provide additional copies of the submission to any owners or operators directly affected.
- 4 Submit four (4) copies of each application to:
- Engineering Services Branch
Saskatchewan Industry and Resources
200 - 2101 Scarth Street
Regina, Saskatchewan S4P 2H9
- 5 For further information contact Garth Simmons at (306) 787-2601.