

**UNIT OPERATIONS, ENHANCED RECOVERY PROJECTS,
AND STORAGE OF LIQUID HYDROCARBONS**

401. AUTHORIZATION

- a. No person shall perform any enhanced recovery operations, cycling or recycling operations including the extraction and separation of liquid hydrocarbons from natural gas in connection therewith, or operations for the storage of gaseous or liquid hydrocarbons, nor shall any person carry on any other method of unit or cooperative development or operation of a field or a part of either, without having first obtained written authorization from the Commission to perform the aforementioned activities or operations. No person shall commence construction of a well for use in either enhanced recovery operations or for storage of gaseous or liquid hydrocarbons without having first obtained written authorization from the Commission to do so. These provisions shall not apply to existing gas storage projects or to projects that have received approval of the Federal Energy Regulatory Commission; provided however, that a copy of such application and approval shall be submitted to the Commission and made a part of their records.
- b. Persons wishing to obtain such authorization shall file an application for authorization with the Commission. The application may be filed by any one or more of the parties involved, or by the operator of the project for which authorization is sought. The application shall include the following:
 - (1) A plat showing the area involved, together with the well or wells, including drilling wells, dry and abandoned wells located thereon, all properly designated. If the plan of operation involves injection of fluids for enhanced recovery operations, or storage of liquid hydrocarbons, such plat shall show the names of owners of record within one-quarter (1/4) mile of the injection well or wells indicating whether they are surface owners, mineral interest owners, or working interest owners. The application shall also include information regarding the need for remedial action on wells penetrating the injection zone within one-quarter (1/4) mile of each injection well and a plan for the performance of any such remedial work.
 - (2) A full description of the particular operation for which authorization is required.
 - (3) Copies of the unit or co-operative agreement and operating agreement, unless these agreements have already been provided to the Commission.
 - (4) Where injection of fluids for enhanced recovery operations or storage of liquid hydrocarbons is proposed, the application shall also contain:
 - A. the name, description, thickness and depth of the following formations: those from which wells are producing or having produced; those which will receive any fluids to be injected; those capable of limiting the movement of any fluids to be injected;
 - B. the name and the depth to the bottom of all underground sources of drinking water which may be affected by the proposed activity or operation;
 - C. a resistivity log, run from the bottom of the surface casing to total depth of the injection well or wells, or a resistivity log of any well within one (1) mile together with a log from that well that can be correlated with a similar log of the injection well. If the injection well is to be drilled, a description of the

typical stratigraphic level of the injection formation and any other available logging or testing data;

- D. a description of the casing of the injection well or wells or the proposed casing program, including a schematic drawing of the surface and subsurface construction details of the system and a full description of cement jobs already in place or proposed;
- E. a statement specifying the type of fluid to be injected, chemical analysis of the fluid to be injected, the source of the fluid, the estimated amounts to be injected daily, the anticipated injection pressures, water analysis of receiving formation, any available data on the compatibility of the fluid with the receiving formations and known or calculated fracture gradient (maximum authorized surface injection pressure will be set by the Director);
- F. a description of any proposed stimulation program;
- G. the name and address of the operator or operators of the project and those persons notified by the applicant.

(5) This Rule does not apply to gas storage projects in existence on August 18, 1986.

402. NOTICE AND DATE OF HEARING

Upon the filing of any application, the Commission shall issue notice thereof, as provided by the Act and these regulations. Said application shall be set for public hearing at such time as the Commission may fix.

403. ADDITIONAL NOTICE

If injection of fluids is proposed by said application, in addition to the notice required by the Act, a copy of such application shall be given in person or by first class mail to each owner of record of the reservoir involved within one-quarter (1/4) mile of the proposed intake well or wells. Such delivery, whether in person or by mail, shall take place on or before the date the application is filed. An affidavit shall be attached to the application showing the parties to whom the notice has been given and their addresses.

404. CASING AND CEMENTING OF INJECTION WELLS

Wells used for injection of fluids into the producing formation shall be cased with safe and adequate casing or tubing so as to prevent leakage, and shall be so set or cemented that damage will not be caused to oil, gas or fresh water resources. (Each injection well must satisfactorily pass a mechanical integrity test in accord with Rule 326 prior to injection.)

405. NOTICE OF COMMENCEMENT AND DISCONTINUANCE OF INJECTION OPERATIONS

The following provisions shall apply to all injection projects whether or not they are approved by the Commission:

- a. Immediately upon the commencement of injection operations, the operator shall notify the Commission of the injection date.
- b. Within ten (10) days after the discontinuance of injection operations the operator shall notify the Commission of the date of such discontinuance and the reasons therefore.

- c. When any well in an approved enhanced recovery unit operation is converted to or from an injection status, notice shall be given on a Sundry Notice, Form 4, within thirty (30) days.
- d. Before any intake well shall be plugged, notice shall be given to the Commission by the owner of said well, and the same procedure shall be followed in the plugging of such well as is provided for the plugging of oil and gas wells.