

VII. NEW YORK STATE OIL, GAS AND SOLUTION MINING REGULATORY PROGRAM

A. INTRODUCTION

Article 23 of the Environmental Conservation law gives DEC the responsibility of regulating oil, gas and solution mining operations in New York State. To carry out the provisions of the law, the Department has adopted regulations on:

- drilling, completion, operation, plugging and abandonment of all oil, gas and solution mining wells and reclamation of the surrounding area
- secondary recovery of oil (waterflooding)
- underground storage of gas
- voluntary and compulsory integration and unitization of adjacent interests
- oil and gas drilling and production waste fluid disposal

The goal of the Oil, Gas and Solution Mining Regulatory Program is to prevent environmentally damaging drilling, operating and plugging practices. Rules and Regulations 6 NYCRR 550 through 559 require well drilling, casing, stimulating, completing, producing and plugging techniques designed to prevent pollution, waste, escape, migration and commingling of oil, gas, brine and fresh water.

Another purpose of the Regulatory Program is the conservation of oil gas and salt that might otherwise be wasted. This was a predominant concern of the Legislature when the law was first enacted in 1963. Mandated drilling, producing, and storage techniques greatly reduce accidental waste of resources. Spacing orders, voluntary and forced lease integration and pool unitization are all programs designed to conserve oil and gas and to increase their ultimate recovery. They make maximum use of the natural circumstances of accumulation and discourage unnecessary development effort and expense. Permit programs for gas storage and supplementary recovery projects produce

similar benefits by assuring adequate planning for and review of each projects's need, suitability, technical design and mode of operation. In addition, maintenance of accurate and current drilling, operating and production records measure the efficacy of these conservation programs.

Another important provision of the Oil, Gas and Solution Mining law is the protection of correlative rights of all parties including landowners, mineral owners and lessees, and the general public. Spacing orders, voluntary and compulsory lease integration and pool unitization are all actions undertaken by the Department to protect correlative rights. When properly designed, each of these actions not only conserves resources but also contributes to the equitable allocation of benefits. When appropriately combined, they ensure that all interests receive compensation commensurate with the proportion of the undeveloped resource they own or lease. Spacing regulations and orders protect adjacent interests from untoward drainage. Lease integration provides all interests with an opportunity to participate in resource development, and pool integration allocates a share of that resource to each participant proportionate to their interest.

1. Administrative Procedures

The regulatory program covered in this GEIS is not restricted to regulations contained in 6 NYCRR 550 through 559. It also includes the administrative procedures that are essential to ensuring compliance with the regulations.

a. Permit Conditions - Permit conditions require operators to undertake mitigation measures. The conditions are based on statute, regulations, and an assessment of probably adverse environmental impacts and are tailored as needed to individual wells. Permit requirements are intended to assure that applicants are aware of their obligations and that they

understand the Department's environmental policies.

b. Inspections - can be carried out anytime during the life of the well. They are done before the permit is issued, when the well is being drilled and post-site inspections are made after drilling is complete. Inspections are also made while the well is being plugged to guarantee regulations are being followed.

c. Reporting Requirements - Operators are required to file reports informing the Department of the procedures they actually followed in: 1) drilling and completion, 2) any remedial or workover changing the permanent well construction, and 3) plugging and abandonment. The information submitted in these reports can be checked against the regulations and permit requirements that applied to the well. Failure to submit reports or submission of fraudulent reports is legally punishable.

In requiring current organizational reports from all persons engaged in the oil, gas and solution mining business, the Department is able to identify the owners and operators of all facilities and to communicate directly with parties responsible for ongoing field operations.

In the case of resource conservation, the Department can evaluate how well correlative rights are being protected through analysis of accurate and current production records collected from industry.

d. Enforcement - Operators who fail to comply with regulations, permit conditions, or Department Orders are subject to enforcement actions and fines. DEC can shut down operations at any well at any time with good cause. Enforcement actions may be taken by DEC Foresters, Conservations Officers, the Bureau of Environmental Conservation Investigation (BECI), DMN program staff or Regional Attorneys.

B. DRILLING PERMIT APPLICATIONS AND THE REVIEW PROCESS

1. Preliminary Procedures

Prior to applying for a permit, an operator must file an Organizational Report (Form 85-15-012) with the Division of Mineral Resources office in Albany. Organizational Reports indicate who the responsible parties are in a company and where they can be contacted. The operator must also post a Well Plugging and Surface Restoration Bond or some other form of financial security that the Department can use to properly plug and abandon a well, if necessary.

Financial security is required for any unplugged well, active or inactive, for which the Department issued:

- permit to drill, deepen, plug back or convert, on or after October 1, 1963; or
- acknowledgement of a notice of intention to drill, deepen, plug back, or convert on or after June 5, 1973.

The level of financial security required is determined by the number and depth of unplugged, oil, gas, solution mining, gas storage, brine disposal, geothermal, or stratigraphic wells the operator owns:

- wells less than 2,500 feet require \$2,500 per well on a sliding scale up to a maximum of \$100,000
- wells between 2,500 feet and 6,000 feet require \$5,000 per well on a sliding scale up to a maximum of \$150,000

The regulations allow the Department to adjust either the type or level of financial security required under special circumstances, such as for unusually deep wells (greater than 6,000 feet) or wells that may pose unusual environmental hazards. By requiring well-plugging and surface-restoration bonds, and by allowing the Division to take temporary possession of abandoned but improperly plugged wells, these regulations help to insure that abandoned wells will no longer be allowed to pollute soil, ground and surface water, or

to become a fire, explosion or physical hazard.

2. Permit Application

Once an operator has an approved Organizational Report and adequate financial security on file with the Department he must submit in triplicate, an Application for a Permit to Drill, Deepen, Plug Back or Convert a Well subject to the Oil, Gas and Solution Mining Law (Form 85-12-005). The application must be sent to the appropriate regional office accompanied by: 1) the proposed drilling program, 2) a plat, 3) the permit fee, and 4) an Environmental Assessment Form (EAF).

The drilling program must be submitted for approval with the drilling permit application. The drilling program should include the proposed casing, cementing, completion testing and stimulation procedures. These procedures are all considered part of the action to drill a well under SEQRA.

It is understood that specific details of casing, cementing, completion, testing, and stimulation programs are subject to revision in response to variable geologic conditions which can only be determined after the well has been drilled. The Regional permitting DMN manager must be notified and informed of any substantive change to the originally proposed drilling, casing, cementing, completion testing or stimulation program. Approval of the Regional permitting DMN manager is required for changes resulting in revision to the permanent wellbore configuration proposed in the drilling permit application.

A Plat is a survey map which shows the proposed well location, the boundaries of the lease or unit containing the well and information about other nearby wells. The plat must be drawn to scale and certified as to correctness by a licensed land surveyor or civil engineer.

The permit fee that must accompany the application is based on depth of

the well. The fee starts at \$225 for a well less than 500 feet deep and increases \$125 per 500 feet of well depth.

The Environmental Assessment Form (EAF) that must accompany each permit application is a two-section form. Section A requires a description of the physical setting of the proposed project including the site of the well, pits, access road and staging area. Operators must answer questions on the general character of the land (slope, soil type, vegetation), land use (residential, commercial, agricultural) and indicate the size of each of these areas that will be disturbed.

Section B requires operators to describe the procedures they will follow in constructing the wellsite and access road and developing the well. They must indicate, among other things, how water will be supplied for the drilling operations, how long the rig will be on site, how wastes will be contained and disposed of and their site reclamation plans.

The aforementioned administrative and permitting requirements apply and will be required for geothermal, brine disposal and stratigraphic wells. For geothermal and brine disposal wells, the technical drilling, casing and cementing, completion, and plugging and abandonment requirements will be the same as described in later chapters of this GEIS for oil and gas wells. The techniques used to drill, complete and abandon geothermal and brine disposal wells and the resulting impacts from the above activities are not significantly different from those of oil and gas wells.

Stratigraphic wells differ greatly in type and purpose. Thus, the stratigraphic well technical requirements for the above activities will be determined on the basis of the site-specific drilling permit application. In addition, the permit application for stratigraphic wells should also contain a proposed plugging and abandonment plan or an alternate use proposal. This is necessary because of the relatively short life of a stratigraphic well; in

most cases the well is plugged very soon after it is drilled. A total review of the well can thus be conducted and site specific factors can be taken into consideration.

3. Application Processing

After the office receives the application, it is reviewed for completeness, logged in, and assigned both a permit number and an API number. The application then goes through a review process that includes an on-site inspection, technical review by DEC Division of Mineral Resources staff, DEC Division of Regulatory Affairs staff and other Government Agency staff if needed.

If other permits are required, such as Freshwater Wetlands Permits, Floodplain Permits (local or state) or, Stream Crossing Permits, the Drilling Permit cannot be granted until the other permits are issued.

Using the plat, the EAF and the information gathered from the Pre-Site Inspection, the proposed project is reviewed for its potential impacts on a number of environmental resources including but not limited to: surface waters, watershed areas, municipal water supplies, primary aquifers, agriculture, stream disturbance, erosion and sedimentation, historic and archeologic resources, significant habitats, floodplains, freshwater wetlands, state lands, coastal areas. Staff also check to make sure the proposed well location meets the minimum setback requirements for streams, surface bodies of water, other wells, public roads, private residences and public buildings or areas. Finally, a review of the technical aspects of the well is made to ensure that proper casing and cementing techniques will be used during drilling and completion.

The Department has 15 days to review and analyze the pertinent environmental data and to determine if it may have a significant environmental

impact. If the Department finds that it does not possess sufficient information to make a determination on the environmental significance of the project, the Department may request the applicant to supply additional information. Once this information is received, the agency must make its determination within 15 calendar days. If DEC determines that the proposed operations will not have a significant effect on the environment, the Department makes a "negative determination" which result in the issuance of a negative declaration. A negative declaration is often given for a permit which contains conditions requiring the applicant to conduct mitigative measures to minimize environmental impacts.

If after review of all relevant data, the Department finds that the project may cause a significant environmental impact, the Department will issue a "positive declaration". Issuance of a positive declaration indicates that the project may pose a significant environmental impact, as described in Part 617 of the State Environmental Quality Review (SEQR) Act Regulations, and therefore requires that a draft Environmental Impact Statement (EIS) be prepared. The Finding Statement prepared by the Department at the end of the EIS process would be used to determine whether or not project will be permitted and if so, under what conditions, if any.

One purpose of this GEIS is to address the conditions for acceptable oil gas, solution mining, gas storage, geothermal, brine disposal, and stratigraphic well activities. Also addressed are the circumstances under which an additional site specific environmental review, such as a supplementary EIS, might be necessary.

C. PHASES OF WELL DEVELOPMENT

There are five major phases in the life of a well: (1) Siting and Construction, (2) Drilling, (3) Completion, (4) Production and (5) Plugging and Abandonment. Within this overall scheme, variations exist in both the

procedures followed and the potential environmental impacts from the well. For example, a typical gas well and an oilfield waterflood injection well may be drilled in much the same manner, but are operated differently and have different potential environmental impacts.

Chapters 8 through 11 focus on the five major phases of well development. Each chapter outlines:

- the procedures followed in that stage of a well's life
- the potential environmental impacts of those procedures
- the regulatory measures in place to prevent those environmental impacts

Suggested improvements to the Regulatory Program are also included based on staff analysis of program needs.

Additional information is given in Chapters 12 through 14 on the variations in procedures, potential environmental impacts and regulatory measures that apply to:

- oilfield waterflood operations (ch. 12)
- solution mining operations (ch. 13)
- underground storage operations (ch. 14)
- interagency coordination concerning brine injection and disposal and oil spill investigations (ch. 15).
- brine disposal well permitting and operational guidelines (Appendix 7).

The regulatory changes discussed in Chapters 8 through 14 are only proposals. Comments on these proposals, as with all parts of the GEIS, are both welcomed and encouraged.