



COALEX STATE INQUIRY REPORT - 277

March 1994

Karen Jacobs, Esquire
Illinois Department of Mines and Minerals
300 West Jefferson Street - Suite 300
P.O. Box 10137
Springfield, Illinois 62791-0137

TOPIC: DEFINITION OF "IN SITU PROCESSES"

INQUIRY: Please locate any state or federal administrative or judicial opinions of legislative histories dealing with the meaning of "in situ processes" as defined in 30 CFR 701.5, and particularly, what is meant by "in situ gasification"? We are looking for information on the extraction of methane gas from underground coal seams. We will also be looking at who owns the mineral estate: Does the owner of "all minerals" also own the gas?

SEARCH RESULTS: Research was conducted using the COALEX Library and other materials available in LEXIS. One 1993 Alabama case was identified that addressed the question of mineral rights to coalbed methane gas. Also retrieved were an ALR Annotation on mineral rights and a Texas uranium case. Definitions or discussions of "in situ processing" were found in excerpts from legislative and regulatory history items and articles from industry publications.

Copies of the items listed below are attached.

STATE REGULATIONS

A review of state codes available in LEXIS indicated that with the exception of Wyoming, the states rules regulating in situ processing are "substantially identical" to the federal rules. Wyoming had the only rules which state that some of in situ mining is regulated by another agency - Wyoming oil and gas conservation commission. A call to the state clarified their division of regulation:

WYOMING

If underground coal is burned to get gas, the process is covered by mining regulations: something is physically being done to the coal; therefore, SMCRA is the controlling



regulation. If methane already existing in a coal bed is being released by drilling and pumping in water, it is regulated by oil and gas regulations.

CASE LAW

A brief search in state and federal case law identified a relevant ANNOTATION, "Grant, Reservation, Or Lease Of Minerals And Mining Rights As Including, Without Expressly So Providing, The Right To Remove The Minerals By Surface Mining", 70 ALR 3d 383 (1993), plus several additional cases.

NCNB TEXAS NATIONAL BANK, N.A. v WEST, 631 So 2d 212 (Ala 1993).

"The issue is whether a deed conveying all the coal and connected mining rights owned by the grantor, but specifically reserving the grantor's rights to all of the gas on the property, also reserves to the grantor all of the coalbed methane gas."

The court affirmed "that part of the trial court's judgment holding that the appellee coal owners/lessees have the exclusive right to produce and own coalbed methane gas from horizontal boreholds and vertical degasification wells drilled directly into the source coal seam. Because the right to recover coalbed gas from the gob area above the source coalbed properly belongs to the gas estate, however, we reverse that part of the trial court's judgment holding that the appellee coal owners/lessees have the exclusive right to produce and own all of the coalbed methane gas that has been, or that will be, produced from gob wells on the property."

UNITED STATES STEEL [USS] CORPORATION AND N.M. URANIUM, INC. v WHITLEY, 636 SW 2d 465 (Tex Ct Ap 1982).

The court ruled on USS's requirement to pay royalties on uranium recovered using "in situ leaching", a technique that was not known when the original lease was executed.

"It is clear from a reading of the lease contract that the parties intended to pay and receive royalties based on the first salable product that was in 'raw, crude form.' The rawest, crudest state of recovery from 'in-situ leaching' is yellowcake, which is in raw, crude form. While it may be said that yellowcake from 'in-situ leaching' plants has been 'processed' to some extent, this type of preliminary processing (leaching) can also be compared in some degree to the processing done in strip mining. In strip mining, uranium ore in its mineral state can be found, mined and brought to the surface. After this 'processing' has been done, the ore from the mine is hauled away to the mill for further processing."

The following materials are included for background:

LEGISLATIVE HISTORY



Excerpts are included from hearings, congressional reports and the Congressional Record. The technology for in situ gasification was new during many of the early hearings (1972). These excerpts indicate a concern for clean water and air.

REGULATION HISTORY

43 FR 41662 (SEPTEMBER 18, 1978). Proposed rules. [Excerpts]

Part 828 Special permanent program performance standards - In situ processing.

"The proposed rules for in-situ processing are intended to provide environmental protection performance standards for operations which use coal in place or recover coal by means of processing fluids injected into the coal-bearing strata."

"In-situ processing of coal, an underground method of extracting fluids from coal in place, has many similarities to underground mining, and it is proposed that in-situ processing meet the general performance standards for conventional underground mining."

"A potential major impact from in-situ processing is the contamination of water systems by the processing fluids.... The proposed rules would alleviate this problem by imposing general restrictions on the discharge of processing fluids (Subsection 828.11(a))."

44 FR 14902 (MARCH 13, 1979). Final rule. [Excerpts]

Only "minor editing" changes were made to the definition published in the proposed regulations.

45 FR 32715 (MAY 19, 1980). Geological Survey. Proposed rule. [Excerpts]

"Production means recovering coal or commercial byproducts from a mine using surface, underground, auger methods, or in situ gasification."

47 FR 28574 (JUNE 30, 1982). Revision of AML rules. [Excerpts]

"In situ coal mining means activities conducted on the surface or underground in connection with in-place distillation, retorting, leaching or other chemical or physical processing of coal. The term includes, but is not limited to, in situ gasification, in situ leaching, slurry mining, solution mining, bore hole mining, and fluid recovery mining. At this time, Part 870 considers only in situ gasification."

48 FR 20392 (MAY 5, 1983). Final rule. Support facilities and coal preparation plants. [Excerpts]

Enclosed for background.



IN RE: PERMANENT SURFACE MINING REGULATION LITIGATION, 21 ERC (BNA) 1193, NO. 79-1144 (Consolidated Cases) (D DC July 6, 1984). [Excerpts]

The court ruled that in the definition of coal processing, "in situ" modified distillation or retorting not leaching or other chemical or physical processing. This analysis was supported by the legislative history.

50 FR 28180 (JULY 10, 1985). Proposed rule. Coal preparation plants. [Excerpts]

Proposed rules implementing the court's order.

52 FR 17724 (MAY 11, 1987). Final rule. Coal preparation plants. [Excerpts]

Final rules implementing the court's order.

NWF v HODEL, 839 F 2d 694 (DC Cir January 29, 1988). [Excerpts]

Enclosed for background.

NWF v LUJAN, 928 F 2d 453 (DC Cir March 22, 1991). [Excerpts]

Enclosed for background.

58 FR 40116 (JULY 27, 1993). DOE. Notice of inquiry and request for comment. [Excerpts]

Enclosed for background.

ARTICLES FROM INDUSTRY PUBLICATIONS

Articles from a variety of energy-related publications are included for background on coal gasification.

"Groundwater Contamination Seen as Most Serious UCG Environmental Concern", Clean-Coal/Synfuels Letter, June 11, 1982.

Article discusses a study, "Environmental Effects of In Situ Coal Gasification" presented at a meeting of the American Institute of Chemical Engineers.

"Gulf Thinks Underground Coal Gasification can be Profitable Business", Clean-Coal/Synfuels Letter, September 9, 1983.

This article discusses underground coal gasification field tests conducted by Gulf Research & Development Co. in conjunction with DOE in "steeply dipping coal beds" in Wyoming. The process of gasification is described. The outcomes of the tests are



analyzed in terms of use and marketability of the gas produced as a result of the coal gasification.

"Here are definitions study group offered; World Petroleum Congress; petroleum industry terms", The Oil Daily, May 7, 1987.

"NON-CONVENTIONAL GAS: a natural gas found in unusual underground conditions such as very impermeable reservoirs which require uneconomic massive stimulation in order to be recovered, or in underground occurrences of gas hydrates, or dissolved in formation water, or gas from in situ gasification of coal."

"NCR: Chemical engineering R & D vital", Oil & Gas Journal, May 8, 1989.

Article on the outlook for US chemical engineering:

"Alternate fuels. Economically producing shale oil and converting coal to gaseous or liquid fuels top the petroleum industry's chemical engineering research needs in developing alternate fuels for the U.S....."

"DOE pressing clean coal technology research", Oil & Gas Journal, November 2, 1987.

DOE earmarked money to participate in demonstrations projects involving clean coal technologies. Energy International, Inc., Pittsburgh participated with DOE in an in situ gasification project of steeply dipping coal seams. The gas was to be used as feedstock to produce ammonia and urea.

The Wyoming project was subsequently terminated because of cost overruns. ("Wyoming coal gasification project halted", Oil & Gas Journal, January 22, 1990.)

"Researchers say Eastern coal does not gasify easily", Coal, June, 1986.

Researchers in New Mexico indicate problems encountered with the underground gasification of Eastern bituminous coal.

"Directional drilling spinoffs could help methane drainage", Coal, May, 1988.

A project used a new drilling technique to research ways to drain methane from coal seams.

"Center for advanced mining proposed at Colorado School of Mines", Coal, January, 1988.



The Senate Appropriations Committee approved money "to establish a new center aimed at developing new technologies that would revolutionize coal and mineral mining processes." Specifically included was research on in situ mining.

"Abstracts; Coal Mining", Mining Magazine, July, 1990.

This abstract, discussing coal reserves in Germany, describes the exploration required in order to utilize coal gasification.

"DOE Seeking to Acquire Fossil Energy Research & Development Efforts", Clean-Coal/Synfuels Letter, December 12, 1986.

ATTACHMENTS

1. Wyo Stat Sec. 35-11-103 (1993).
2. ANNOTATION, "Grant, Reservation, Or Lease Of Minerals And Mining Rights As Including, Without Expressly So Providing, The Right To Remove The Minerals By Surface Mining", 70 ALR 3d 383 (1993).
3. NCNB TEXAS NATIONAL BANK, N.A. v WEST, 631 So 2d 212 (Ala 1993).
4. UNITED STATES STEEL [USS] CORPORATION AND N.M. URANIUM, INC. v WHITLEY, 636 SW 2d 465 (Tex Ct Ap 1982).
5. Excerpts from hearings, congressional reports and the Congressional Record.
6. 43 FR 41662 (SEPTEMBER 18, 1978). Proposed rules. [Excerpts] Part 828 Special permanent program performance standards - In situ processing.
7. 44 FR 14902 (MARCH 13, 1979). Final rule. [Excerpts]
8. 45 FR 32715 (MAY 19, 1980). Geological Survey. Proposed rule. [Excerpts]
9. 47 FR 28574 (JUNE 30, 1982). Revision of AML rules. [Excerpts]
10. 48 FR 20392 (MAY 5, 1983). Final rule. Support facilities and coal preparation plants. [Excerpts]
11. IN RE: PERMANENT SURFACE MINING REGULATION LITIGATION, 21 ERC (BNA) 1193, NO. 79-1144 (Consolidated Cases) (D DC July 6, 1984). [Excerpts]
12. 50 FR 28180 (JULY 10, 1985). Proposed rule. Coal preparation plants. [Excerpts]
13. 52 FR 17724 (MAY 11, 1987). Final rule. Coal preparation plants. [Excerpts]
14. NWF v HODEL, 839 F 2d 694 (DC Cir January 29, 1988). [Excerpts]
15. NWF v Lujan, 928 F 2d 453 (DC Cir March 22, 1991). [Excerpts]
16. 58 FR 40116 (JULY 27, 1993). DOE. Notice of inquiry and request for comment. [Excerpts]
17. "Groundwater Contamination Seen as Most Serious UCG Environmental Concern", Clean-Coal/Synfuels Letter, June 11, 1982.
18. "Gulf Thinks Underground Coal Gasification can be Profitable Business", Clean-Coal/Synfuels Letter, September 9, 1983.
19. "Here are definitions study group offered; World Petroleum Congress; petroleum industry terms", The Oil Daily, May 7, 1987.
20. "NCR: Chemical engineering R & D vital", Oil & Gas Journal, May 8, 1989.



21. "DOE pressing clean coal technology research", Oil & Gas Journal, November 2, 1987.
22. "Wyoming coal gasification project halted", Oil & Gas Journal, January 22, 1990.
23. "Researchers say Eastern coal does not gasify easily", Coal, June, 1986.
24. "Directional drilling spinoffs could help methane drainage", Coal, May, 1988.
25. "Center for advanced mining proposed at Colorado School of Mines", Coal, January, 1988.
26. "Abstracts; Coal Mining", Mining Magazine, July, 1990.
27. "DOE Seeking to Acquire Fossil Energy Research & Development Efforts", Clean-Coal/Synfuels Letter, December 12, 1986.