

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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In the matter of the application of)
MICHIGAN WISCONSIN PIPE LINE COMPANY)
for a certificate of public convenience)
and necessity for the Capac Storage)
Field.)
_____)

Case No. U-4818

At a session of the Michigan Public Service Commission held at its offices in the city of Lansing, Michigan, on the 29th day of December, 1975.

PRESENT: Hon. Daniel J. Demlow, Chairman
Hon. Lenton G. Sculthorp, Commissioner
Hon. William R. Ralls, Commissioner

ORDER ADOPTING PROPOSAL FOR DECISION

On September 19, 1975, Administrative Law Judge George Schankler issued and served a Proposal for Decision dated September 18, 1975 in the above matter.

On August 1, 1975, the Commission Staff filed with the Michigan Environmental Review Board (MERB) an Environmental Impact Statement (EIS) covering the Capac Field in accordance with the Interim Guidelines for the Preparation of Environmental Impact Statements under Executive Order 1974-4. On September 30, 1975, a Supplement to the EIS was filed with MERB. The EIS and Supplement thereto were reviewed and approved at the November 24, 1975 MERB meeting.

No exceptions to the Proposal for Decision were received.

The Commission has given consideration to the record of the above-entitled

proceedings, including the Proposal for Decision of the Administrative Law Judge dated September 18, 1975 and FINDS that:

a. Jurisdiction in this matter is pursuant to Section 2 of Act 238, P.A. 1923, M.C.L.A. 486.252, as amended by Act 26, P.A. 1973; Act 419, P.A. 1919, as amended, M.C.L.A. 460.51 et seq.; Act 3, P.A. 1939, as amended, M.C.L.A. 460.1 et seq.; Act 306, P.A. 1969, as amended, M.C.L.A. 24.201 et seq.; and the Commission's Rules of Practice and Procedure, 1954 Administrative Code, Supplement No. 54, R 460.11 et seq.

b. The present or future public convenience and necessity requires the acquisition by Applicant of property or interest in that area known as the Capac Field, located in Lynn and Mussey Townships, St. Clair County and Imlay Township, Lapeer County, Michigan, as is more fully described in Figure 3, Applicant's Exhibit A-4, for use as a natural gas storage field.

c. The Capac Field is safe for development and operation of gas storage.

d. The requirements of Executive Order 1974-4 have been met.

THEREFORE, IT IS ORDERED that:

A. The Administrative Law Judge's Proposal for Decision dated September 18, 1975, attached hereto as Exhibit A, is hereby adopted and made a part of this order.

B. A certificate in accordance with the provisions of Act 26, P.A. 1973 (Act 238, P.A. 1923, as amended, M.C.L.A. 486.252) is hereby granted to Michigan Wisconsin Pipe Line Company to acquire property or interest in that area known as the Capac Field, located in Lynn and Mussey Townships, St. Clair County and Imlay Township, Lapeer County, Michigan as is more fully described in Figure 3, of Applicant's Exhibit A-4.

C. The Capac Field shall be developed and operated by Applicant as a gas storage field in accordance with the conditions which are more fully set forth in the Administrative Law Judge's Proposal for Decision dated September 18, 1975 and in the testimony of Curtis L. Lundy.

D. The development and operation of the Capac Storage Field by Applicant shall remain subject to such orders and continuing supervision, including filing of reports, as from time to time are required by this Commission.

The Commission specifically reserves jurisdiction of the matters herein contained and the authority to issue such further order or orders as the facts and circumstances may require.

MICHIGAN PUBLIC SERVICE COMMISSION

/s/ Daniel J. Demlow
Chairman

(S E A L)

/s/ Lenton G. Sculthorp
Commissioner

/s/ William R. Ralls
Commissioner

By the Commission and pursuant to
its action of December 29, 1975.

/s/ Earl B. Klomparens
Its Secretary

S T A T E O F M I C H I G A N
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

In the matter of the application)
of MICHIGAN WISCONSIN PIPE LINE)
COMPANY for a Certificate of) Case No. U-4818
Public Convenience and Necessity)
for the Capac Storage Field.)

PROPOSAL FOR DECISION

In an application filed April 23, 1975, the Michigan Wisconsin Pipe Line Company is seeking as a precondition to the condemnation of certain property interests in the "Capac Field" located in Lynn Township and Mussey Township in St. Clair County and in Imlay Township in Lapeer County, Michigan, a Certificate of Public Convenience and Necessity from this Commission authorizing the use of the Capac Field for natural gas storage. This is pursuant to Section 2 of Act 238 of the Public Acts of 1923 (MCLA 486.252), as amended by Act 26 of the Public Acts of 1973.

This provision reads in part as follows:

". . . Upon application being filed with the Public Service Commission for a certificate required by this Section, the Commission shall set the matter for hearing and shall give reasonable notice of the hearing thereon to all interested parties as in the Commission's judgment may be necessary under rules prescribed by the Commission. Before any certificate is granted, the Commission shall examine and inquire into the necessity of

the natural gas storage field and determine that the natural gas storage field will serve the present or future public convenience and necessity, and that the field is safe for development and operation of gas storage . . ."

The issues in this matter are, therefore, the necessity for the proposed natural gas storage fields and the safety of the Capac Field for development and operation for gas storage.

In addition to the participation of the Staff and the Applicant, Michigan Wisconsin Pipe Line Company, in this proceeding, several parties were granted leave to intervene in this matter. Intervenors James Armstrong and Irene Armstrong and Donald Gerlach, Landowners in the proposed Capac Storage Field, were represented during the proceedings by their attorney, William B. Beier. Intervenors Harvey and Gladys Dafoe, M. & M. Cook, G. Abraham, M. & G. Stamman, D. & G. Kegler, M. & G. Kemper, A. Cinader, Mr. & Mrs. William Corbin, A. & D. Stuever and S. & N. Ross were represented during the proceedings by their attorney, John B. Nahan. Lewis R. Hellman and David P. VanNote represented the Applicant at this proceeding, and Staff was represented by Donald Keskey and Arthur D'Hondt.

Hearings were held in this matter on June 18 and July 24, 1975. At the hearings, Michigan Wisconsin presented three witnesses and introduced four exhibits in support of the application for a Certificate of Public Convenience and Necessity.

Staff presented two witnesses and no exhibits in this matter. Intervenor presented no testimony, but Mr. Beier introduced one exhibit into evidence during the proceedings.

FACTS

Michigan Wisconsin operates a natural gas supply system which includes a pipeline network moving natural gas from production areas in Texas, Oklahoma and Louisiana, for resale to various gas utilities who make distribution to ultimate consumers. Since summer use requirements are less than pipeline deliveries, the excess summer supplies are placed in underground storage facilities maintained by Michigan Wisconsin and are then withdrawn during the winter peak usage period in order to meet requirements which then exceed pipeline deliveries.

Michigan Wisconsin's current storage operations include 12 storage fields with a total planned working storage capacity of 151.1 billion cubic feet. These 12 fields include 11 depleted natural gas reservoirs and 1 oil reservoir. Merton W. Lincoln, Assistant Vice President in charge of Marketing and Customer Services for Michigan Wisconsin, testified that Michigan Wisconsin withdrew 33.2% of its January 7, 1974 peak day deliveries of approximately 3.5 Bcf from its storage facilities. On this peak day over 45% of Michigan Wisconsin's total system sales were made to utilities for resale to Michigan consumers. Michigan Wisconsin also serves utilities in Wisconsin, Illinois, Ohio, Indiana, Iowa, Missouri, Kansas and Tennessee. Mr. Lincoln projected that

Michigan Wisconsin would have a gas supply deficiency of 27.9 billion cubic feet in the 1976-77 winter period and 30.8 billion cubic feet in the 1977-78 winter period. He further testified that, if Capac is fully developed by 1977-78, the winter deficiencies could be reduced to 7.9 billion cubic feet in the 1976-77 winter and 1.4 billion cubic feet in the 1977-78 winter.

Mr. Lincoln described Michigan Wisconsin's underlying supply problems. He stated that domestic pipeline suppliers have been declining in their deliveries and further curtailments are anticipated. Michigan Wisconsin supplies from Canada are also subject to some curtailment, and deliverability from older reservoirs in the southwest are also continuing to decline. Mr. Lincoln explained that Michigan Wisconsin's utility customers would, by restricting deliveries to interruptible industrial customers during the summer, divert off-peak gas to storage for later winter delivery during peak periods. This would aid in meeting requirements affected by the reduction of pipeline deliveries during the winter. Michigan Wisconsin maintains that an increase in storage capacity, which would be possible through the use of the Capac Field, is necessary in order to meet estimated increases in winter requirements of customers. Furthermore, the availability of storage capacity will enable the pipelines to run at higher capacity throughout the calendar year, which would result in a lower unit cost for gas due to the spreading of fixed capital costs for the pipelines over a larger volume of gas.

Mr. Lincoln further explained that the gas to be stored in the Capac Field would go to Canada while gas which would normally be flowed through Great Lakes Gas Transmission Lines to Canada would be diverted to Michigan customers in the Upper Peninsula.

The Capac Field is located in what is termed the Niagran Reservoir and ranges in depth at the Capac location from 4300 to 4800 feet. Curtis L. Lundy, Manager of Storage Geology for Michigan Wisconsin, described the geology of the Capac Field and the methods by which the field would be secured and improved for storage purposes. Producing and abandoned wells will be evaluated for cement bonding and casing conditions. Dry holes will be plugged. Production casing will be hydrostatically tested and all casings will be reinforced and corrosion inhibitors employed. All existing wells will receive new wellhead assemblies, and welds will be cut off and replaced with microwired and x-rayed welds. Mr. Lundy stated that it was his opinion that the Capac Field can be safely used for storage purposes given the nature and extent of the cap rock and the precautions to be taken by Michigan Wisconsin in preparing the field for storage. Mr. Lundy further stated that the water supply from wells in the Capac area will be regularly monitored in order to insure that no contamination would result from the use of the Capac Field for storage purposes. Mr. Lundy also committed Michigan Wisconsin to avoid all archeological sites which may be encountered in the course of preparing the area for storage.

Leon R. Strait, Supervisor of Gas Production and Transmission

Section in the Utilities Division of the Commission, concurred with Mr. Lundy that the Capac Field can be safely operated according to the Company's proposed plans for gas storage. Mr. Strait noted that 90% of Michigan's annual gas requirements are imported from out-of-state over pipelines. Mr. Strait explained that the use of storage capacity in the summer months would allow use of the pipelines transporting such gas from out of state at full capacity all year around, meaning more efficient and economical use of the facilities and a correspondingly lower unit cost for gas. Therefore, Mr. Strait testified that abandonment of any gas field capable of storing gas would be a priori wasteful. Consequently, Mr. Strait supported the application of Michigan Wisconsin for a Certificate of Public Convenience and Necessity on the basis that storage capacity increases in Michigan are necessary in order to meet the gas requirements of Michigan consumers during the winter peak periods.

According to J. Randolph Buck, Manager of the Reservoir Engineering Department of Applicant, the Capac Field would be operated for storage at a maximum pressure at the wellhead of 2480 PSIG. This would provide an ultimate working storage capacity of 30 billion cubic feet in the Capac Field. Mr. Buck testified that the original recoverable reserves in the Capac Field were approximately 28.8 Bcf and that the recoverable reserves as of January 1, 1975 total about 7.1 Bcf. With an average pressure of 700 PSIG at the wellhead, Mr. Buck estimated a recoverable base gas volume of 12.2 Bcf. With the addition of the 30 Bcf storage volume after full development, Mr. Buck estimated that the total

recoverable gas volume at full development would be 42.2 Bcf.

Up to the date of hearing in this matter, Michigan Wisconsin had acquired storage rights from 186 of the 251 owners of land and storage interests. The acquired storage rights constitute about 8,900 acres out of a total of 12,386 acres in the field. Michigan Wisconsin had not acquired storage interests from 25.9% of the total storage interest owners in the Capac Field.

There are currently 48 wells in the Capac Field. Phase #1 of the proposed development of the field for storage purposes would create an additional 25 wells and ultimately there would be 75 wells in addition to these. Therefore, after full development, there would be a total of about 150 wells in the Capac Field. Mr. Buck explained that, given a maximum pressure of 2813 PSIG at the cap rock level, gas will not migrate to the surface due to the opposition of hydraulic pressure and the capacity of the cap rock to resist such migration. Mr. Buck estimated that it will be necessary to take about 1/2 acre permanently for each well in the Capac Field. Also, a 30 to 40 foot strip would be necessary for the laying of pipeline where necessary. After the line is in place, however, any crops which may have been disturbed could be replanted, and Michigan Wisconsin will pay for those crops removed during the period of construction.

Allen F. Crabtree, Environmental Specialist with the Commission's Office of Policy, testified as to the environmental impact of the proposed gas storage field. Mr. Crabtree testified that the Michigan Department of State has notified him that there

is a "high potential" that archeological sites may exist in the area. He felt, therefore, that an order granting a Certificate of Public Convenience and Necessity in this matter should require that the company coordinate its operations with the Department of State in order to avoid disturbing such archeological sites. Mr. Crabtree estimated that the proposed facilities will affect between 300 and 500 acres of land, which represents about 4% of the total acreage in the Capac Field. Mr. Crabtree stated that there would be some agricultural disruption but that most of it would be temporary. In addition, Mr. Crabtree noted that there would be some noise impact from the compressor station involved in this proposed operation but that the impact would not be significant. Furthermore, there would be no air pollution either from emissions from the machinery or from the wells themselves.

Mr. Crabtree stated that the proposed facilities could seriously disrupt agricultural production in some instances if the facilities are not properly placed along fence lines and roadways in order to avoid such disruption. Mr. Crabtree, therefore recommends that the company make a commitment to cooperate in placement of its facilities and to submit regular status reports to the Commission. However, Mr. Crabtree acknowledged that, with a few exceptions, the placements indicated on the company's map of the field, Exhibit I-5, appear to be proper. With the commitments and recommendations made by Mr. Crabtree, he stated that he did not oppose, on the basis of environmental impact, the use of the Capac Field as a storage facility.

FINDINGS & CONCLUSION

The testimony and evidence on the record in this matter indicates that, once developed, the Capac Field can be safely operated as a storage field for natural gas. Given the contemplated pressure for the stored gas and the permeability of the cap rock, the depth of the reservoir and the estimated hydraulic pressure, there is no danger that gas will migrate from the reservoir to the surface. The Commission Staff, having examined the Applicant's plans for plugging wells and securing the field for storage, supports Applicant's contention that the Capac Field can be safely operated under Applicant's proposed plans for development of natural gas storage capacity. The Administrative Law Judge, therefore, finds that the Capac Field can be safely operated for the purpose of natural gas storage as proposed by Applicant in this matter.

The testimony and evidence on the record also shows that during peak winter periods in the next few years there will be a substantial shortfall in the ability of Michigan Wisconsin to meet the peak capacity needs of its natural gas customers. Deliveries during the winter peak periods simply cannot keep up with the demand for natural gas at those times. Accordingly, the only method available to Michigan Wisconsin and its utility customers for meeting such needs is the setting aside of gas during the summer periods, by placing it in storage, for use during the winter peak periods. The evidence clearly shows that current storage capacity is not sufficient to meet the projected needs during winter peak

periods in the coming years. Hence, the addition of the storage capacity of the proposed Capac Storage Field is necessary in order to diminish the projected natural gas shortages for the coming years. The Capac Field would add 30 billion cubic feet to the current storage capacity of Michigan Wisconsin and, therefore, would significantly affect Michigan Wisconsin's ability to meet winter peak period needs in future years. Accordingly, the Administrative Law Judge finds that there is a public necessity for the development of the Capac Storage Field for natural gas storage as proposed by the Applicant herein.

There would be further benefit to the people of the State of Michigan in the development of storage capacity by Michigan Wisconsin Pipe Line Company in that, as has been related, the ability of Michigan Wisconsin to store gas during off-peak summer periods permits use of pipeline facilities at full capacity all year round. This lowers the unit cost for gas supplied to Michigan Wisconsin and, therefore, lowers the ultimate cost of gas to consumers in the State of Michigan. Therefore, the Administrative Law Judge finds that the public will benefit from the development of the Capac Field for gas storage and that the public convenience would be served by such development.

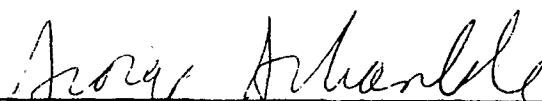
Staff has expressed some concern over agricultural disruption and possible encounters with archeological sites in the Capac Field vicinity. However, Mr. Crabtree of the Staff has stated that with the cooperation of Applicant and proper placement of facilities such disruption can be minimized to the extent

that it would not seriously disrupt agricultural production in the area nor damage potential archeological sites in the vicinity of the Capac Field. The disruption of agricultural production that would necessarily occur in the development of the storage field would be largely temporary, as well. Other environmental impacts such as pollution and stream crossings are minimal and would be avoided with the employment of proper procedures during development. The Applicant has agreed to cooperate with the Staff in this respect. Mr. Crabtree recommends, however, that, as a condition to a grant of a certificate as requested herein, the Applicant be required to cooperate with the Department of State in locating and protecting and preserving archeological sites in the Capac Field. The Administrative Law Judge finds, therefore, that agricultural activities in the Capac Field will neither be seriously nor permanently disrupted by the development of the Capac Field for natural gas storage and that there will be no other significant adverse environmental effects from the proposed operations. Further, the Administrative Law Judge finds that cooperation with the Department of State in the development of the natural gas storage capacity of the Capac Field would be beneficial to the public in aiding in the preservation of archeological sites which may be potentially located in the Capac Field.

Consistent with the findings and conclusions contained herein, and having examined and considered the testimony, evidence, files and records in this matter, the Administrative Law Judge

recommends that the Commission enter an Order granting to Michigan Wisconsin Pipe Line Company a Certificate of Public Convenience and Necessity authorizing the development of the Capac Field, as defined herein, for use for natural gas storage, subject to the condition that Michigan Wisconsin Pipe Line Company fully cooperate with the Department of State of the State of Michigan in order to preserve potential archeological sites which may be encountered in the area of the Capac Field.

September 18, 1975.


GEORGE SCHANKLER
Administrative Law Judge

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