



RAILROAD COMMISSION OF TEXAS

HEARINGS DIVISION

OIL AND GAS DOCKET NO. 8A-0290784

THE APPLICATION OF YUCCA ENERGY, INC. TO CONSIDER UNITIZATION AND SECONDARY RECOVERY AUTHORITY FOR THE PROPOSED WEST REEVES UNIT, REEVES (SAN ANDRES) FIELD, YOAKUM COUNTY, TEXAS

HEARD BY: Karl Caldwell- Technical Hearings Examiner
Marshall Enquist - Legal Hearings Examiner

HEARING DATE: September 12, 2014

APPEARANCES:

REPRESENTING:

APPLICANT:

George C. Neale
Jim Yates
Steve McClain
Doyle Snow
Jennifer Harper
Brian Yates

Yucca Energy, Inc.

EXAMINERS' REPORT AND RECOMMENDATION

STATEMENT OF THE CASE

Yucca Energy, Inc. ("Yucca Energy") requests Commission authority for unitization of the West Reeves Unit ("Unit") and approval of secondary recovery operations on the Unit. The application is unopposed and the examiners recommend approval of the authority for unitization and approval of secondary recovery operations on the Unit.

DISCUSSION OF EVIDENCE

The Reeves (San Andres) Field was discovered in March 30, 1957 at a depth of 5,544 feet. There are numerous operators and numerous producing and injection wells carried on the proration schedule for the field. The Reeves (San Andres) Field rules

provide for 330 feet lease line spacing, 933 feet between well spacing, 40 acre density with 20 acre tolerance, and allocation based on 100% acres. The top allowable is 102 BOPD MER with an allowable gas-oil ratio of 2,000 cubic feet per barrel and a casinghead gas limit of 204 MCF per day. Cumulative production from the Reeves (San Andres) Field through August 2014 is 39.62 MMBO and 11.42 MMCFG.

The unitized formation is the subsurface portion of the Unit area commonly known as the Reeves (San Andres) Field between the subsurface depths of 5,430 and 5,800 feet as shown on the log of the Arco Permian - Nelson 811 Lease, Well #1 (API No. 42-501-34353), Section 811, Block D, A-1676, J.H. Gibson Survey, Yoakum County, Texas.

The proposed West Reeves Unit consists of eighteen tracts which contain 1,839.98 acres. The productive interval contained within the Reeves (San Andres) Formation is a combination structural and stratigraphic trap. Solution gas drive is the primary drive mechanism. The proposed Unit contains all of the productive portions of the Reeves (San Andres) Field, as demonstrated by a cross section and structure map provided by Yucca Energy. The productive portion of the unitized interval has an average porosity of 10.5%, an average permeability of 2 md, an average structural thickness of 40-45 feet, and an oil column of approximately 130 feet.

Yucca Energy has already begun a pilot program to inject, and further proposes to implement a secondary recovery project by utilizing active and inactive wells as the injectors for a waterflood project. Yucca Energy will then inject produced salt water at a rate of approximately 4,750 barrels per day.

Yucca Energy calculated the original oil in place under the proposed Unit to be 14.38 MMBO. Primary recovery from the Unit is estimated to be 1.83 MMBO, or 12.7% of the original oil in place. Yucca Energy estimates that secondary recovery will be equal to 90% of the primary recovery or approximately 1.65 MMBO. The project will result in an ultimate recovery for the proposed Unit of 24.2% of the original oil in place. The total cost to implement and operate the secondary recovery project is expected to be \$5.6 million. The value of the oil to be recovered as a result of the unitization is \$123.5 million. The value of the gas to be recovered is \$6.9 million. The estimated break even point should occur at approximately 4.3% of the ultimate estimated production. These calculations are based on an oil price of \$75 per barrel.

The participation formula for the Unit is comprised of two factors: the first factor is based 75% on cumulative oil production from the unitized formation in each tract as of January 1, 2014; the second factor is based 25% on total gross acreage of each such tract. At the time of the hearing, 99.3% of the working interest ownership, and 84.7% of the royalty interest ownership had signed the Unit Agreement. There are no state owned lands in the proposed Unit. Yucca Energy anticipates nearly 100% sign up of the working and royalty interest ownership by the time the secondary recovery project is initiated, and will allocate production from wells on tracts for which 100% sign-up was not achieved.

FINDINGS OF FACT

1. Notice of hearing was sent to all operators and royalty interest owners with in an adjacent to the proposed Unit. Notice was published in the *Denver City Press*, a newspaper of general circulation in Yoakum County, for four consecutive weeks beginning August 10, 2014.
2. The proposed West Reeves Unit consists of eighteen tracts which contain 1,839.98 acres.
3. The unitized formation is the subsurface portion of the Unit area commonly known as the Reeves (San Andres) formation between the subsurface depths of 5,430 and 5,800 feet as shown on the log of the Arco Permian - Nelson 811 Lease, Well #1 (API No. 42-501-34353), Section 811, Block D, A-1676, J.H. Gibson Survey, Yoakum County, Texas.
4. The productive interval contained within the Reeves (San Andres) Formation is a combination structural and stratigraphic trap. Solution gas drive is the primary drive mechanism.
5. At the time of the hearing, 99.3% of the working interest ownership and 84.7% of the royalty interest ownership had signed the Unit Agreement. Yucca Energy anticipates nearly 100% sign up of the royalty interest ownership by the time the project is initiated.
6. Secondary recovery operations are expected to result in the recovery of an estimated 1.65MMBO which could otherwise go unrecovered.
7. The total cost to implement and operate the secondary recovery project is expected to be \$5.6 million. The estimated break even point is approximately 4.3% of the ultimate estimated production. The cost does not exceed the value of additional reserves to be recovered.
8. The participation formula for the Unit is comprised of two factors: the first factor is based 75% on cumulative oil production from the unitized formation in each tract as of January 1, 2014; the second factor is based 25% on total gross acreage of each such tract.
9. The secondary recovery project will not be successful unless the area is unitized.
10. Yucca Energy has already begun a pilot program to inject, and further

proposes to implement a secondary recovery project by utilizing active and inactive wells as the injectors for a waterflood project. Yucca Energy will then inject produced salt water at a rate of approximately 4,750 barrels per day.

11. The agreement was voluntarily executed by all parties affixing their signatures thereto and no person has been compelled or required to enter into the agreement. The Unit Agreement binds only those person who have executed it, their heirs, successors, assigns and legal representatives. The rights of all owners of interests in the field will be protected under the operation of the Unit, regardless of whether an owner signed the Unit Agreement.
12. The owners of interests in the oil and gas under each tract of land within the area reasonably defined by development have been given an opportunity to enter into the Unit on the same yardstick basis as owners of interests in the oil and gas under the other tracts in the Unit.
13. The proposed injection program will move hydrocarbons across lease lines, and unitization is necessary in order to protect the correlative rights of the various interest owners.
14. The unitization agreement is necessary to accomplish the purposes of establishing a Unit to effect secondary recovery operations for water injection and to operate cooperative facilities necessary thereto. Other available or existing methods or facilities for secondary recovery operations are inadequate for the purpose of secondary recovery.
15. The Unit Agreement does not provide, either directly or indirectly, for the cooperative refining or marketing if crude petroleum, distillate, condensate, or gas, or any by-product thereof.
16. The Unit Agreement is subject to all valid orders, rules and regulations of the Railroad Commission.
17. The Unit Agreement contains no provision regarding the field rules, nor does it limit the amount of production of oil and gas from the unitized area. The Unit Agreement does not release the operator from his obligation to reasonably develop lands or leases as a whole.
18. The Unit Agreement is a voluntary agreement entered into for the purpose of conducting secondary recovery operations.
19. The Unit Agreement does not provide for the location of wells.

- 20. There are no state owned lands in the proposed Unit.
- 21. The Unit Agreement is in the interest of public welfare as being reasonably necessary to prevent waste and to promote conservation.
- 22. The reservoir described in the Unit Agreement is identified as a single reservoir for Commission purposes and is a suitable reservoir for a secondary recovery project.
- 23. The Unit Agreement contains only the acreage reasonably necessary to accomplish the proposed secondary recovery project.
- 24. Production will be allocated to wells on tracts for which 100% sign-up was not achieved.

CONCLUSIONS OF LAW

- 1. Resolution of the subject application is a matter committed to the jurisdiction of the Railroad Commission of Texas. Tex. Nat. Res. Code § 81.051.
- 2. All notice requirements have been satisfied. 16 Tex. Admin. Code § 1.45.
- 3. Applicant's proposed secondary recovery project satisfies all of the requirements set out in Tex. Nat. Res. Code Ann. §§101.001-052.
- 4. Approval of the proposed unit agreement for secondary recovery operations is in the public interest and is necessary to prevent waste and to promote the conservation of oil or gas or both.

EXAMINERS' RECOMMENDATION

Based on the above filings of fact and conclusions of law, the examiners recommend approval of the proposed West Reeves Unit and secondary recovery operations project as set out in the attached order.

Respectfully submitted,



Karl Caldwell
Technical Examiner



Marshall Enquist
Hearings Examiner