BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1822

TRANSCRIPT OF HEARING

NOVEMBER 24, 1959

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IN THE MATTER OF:

CASE 1822 Application of Cities Service Oil Company for approval of automatic custody transfer facilities. Applicant, in the above-styled cause seeks an order authorizing the installation of automatic custody transfer facilities to handle the Caprock-Queen Pool production from the Drickey Queen Sand Unit in Chavez County, New Mexico.

BEFORE:

Elvis A. Utz, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: Case 1822.

MR. PAYNE: Case 1822. Application of Cities Service Oil Company for approval of automatic custody transfer facilities.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, Santa Fe, New Mexico, representing the Applicant. We have one witness, Mr. E. F. Motter.

(Witness sworn)

E. F. MOTTER,

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A E. F. Motter.

Q By whom are you employed and in what position?

A Cities Service Oil Company, assistant division engineer for West Texas New Mexico Division.

Q Mr. Motter, have you testified before the Oil Conservation Commission of New Mexico as a petroleum engineer and had your qualifications accepted?

A Yes, sir.

MR. KELLAHIN: Are the witness' qualifications satisfactory?

MR. UTZ: Yes, sir.

Q Mr. Motter, are you familiar with the application in Case 1822?

A Yes, sir, I am.

Q Would you state briefly what is proposed in that application?

A We are asking that automatic custody transfer facilities be installed in our Drickey Queen Sand Unit in which Cities Service Oil Company is the operator. This Unit was approved some two or three months ago by this Commission. It went into effect October 1st, 1959.

Q In connection with the application, if the Commission please, I would like to point out that the Commission has hereto-

fore approved automatic custody transfer equipment on the Government "B" Lease, which is now a part of the Drickey Queen Sand Unit. That is by virtue of Order R-1326. Included in the present application is an expansion of the facilities and the wells to be served by that Unit, and the installation of two more units.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification.)

Q Now, Mr. Motter, referring to what has been marked as Exhibit No. 1, would you discuss what is shown on that Exhibit?

A Yes, sir. This is the Drickey Queen Sand Unit showing the unit area with the exception of three small tracts which are not numbered by tract number. We hope to bring those into the unit quite soon.

Q Are those the tracts located in Sections 35 and 2?

A That's correct. Township 13, 14 South, Range 31 East. To begin with, we have installed and have had in operation since sometime in August an automatic custody transfer system which is located in the SE of the NW/4 of Section 3, Township 14 South, Range 31 East. We would like to include all production into this unit outlined in red on Exhibit No. 1. To start with, there will be twenty-seven wells, producing wells, and eventually sixteen producing wells. I say that because a considerable number of these wells will be converted to injection wells during the life of our flood. We may not connect all twenty-seven wells into

this unit due to the fact that some of the wells are temporarily abandoned, that will be possibly injection wells at a later date, so I ask not to be held to that figure, but that is the number of producing wells in that particular area. Over in the SW/4 of the NW/4 of Section 2 is a small square numbered 2, and outlined in the blue area is oil production which will go into automatic custody transfer system located in that position. To start off again, there are thirty-three producing wells in this area. Eventually there will be sixteen. This, of course, does not include those three non-participating at this time. Like I say, that number may change somewhat. In the SW/4 of the NW/4 of Section 15, in a small rectangle is the number 3, and we desire to locate automatic custody transfer system to handle all production outlined by green pencil there. I would like to point out one thing, that you'll notice there is a little nonconformity, or at least we didn't stick to section lines in placing these units and also selecting from where the production would come. We were faced with the proposition there that the Caprock goes down almost through the center of this unit, and when it gets into Section 10 it diverts in a southeasterly direction, and we have tried to keep production on top of the cap and down below the cap separate for physical reasons.

(Whereupon, Applicant's Exhibit No. 2 was marked for identification.)

Q Referring to what has been marked Exhibit No. 2, will

you discuss that Exhibit, please?

A Yes, sir. This is a proposal of automatic custody transfer installation. It's very similar to that which we have already installed. The wells will -- production from each well will come through the flow lines, as shown, into a manifold where we can manually divert the wells through a test separator or through a heater treater. The test separator, of course, will measure and record the production of oil, water and gas. Production of oil from the test will be dumped into the treater. Oil from the treater goes over to the automatic custody transfer system which I'll explain in more detail on another exhibit. If the oil is good, it enters a storage tank. Upon reaching certain levels, it comes back to the automatic custody transfer system and goes to pipeline sales. If the monitor system in the automatic custody transfer system indicates the oil is bad, the oil is diverted to the bad oil tank, and upon reaching a certain level in there, it is pumped back through the heater treater for further treating.

We have also several emergency storage tanks. Our plans are now to install some twenty-four hours capacity of emergency storage. One thing I would like to point out, we do not have any controls to shut in any wells upon failure of the automatic custody transfer system, but the diversion valve on the BS & W monitor will be so designed that upon power failure or any other failure, it will fall in position, which will send all oil from

the treater to the bad oil tank. Once this tank is filled, it will spill on over into emergency storage. We have three switchers plus a supervisor that live in a camp on this particular lease, and we feel that twenty-four hours is adequate storage time. They attend this system several times a day, and any time that they find that bad oil is being diverted or going over into emergency storage, they will correct the situation, and by doing such, we do not feel it is necessary to install any controls on any of our producing wells.

Q Now, in your opinion, will twenty-four hour storage be adequate time?

A Yes. Personally, I feel with attendants throughout the day that probably sixteen hours would be adequate. Twenty-four hours is just a little extra precautionary measure, and if we find that we have some undue trouble,to start with, we may even set storage for more than twenty-four hours.

Q Now, will the testing facility enable you to make adequate tests of the production from the wells in order to keep adequate records on the operation of the water flood project?

A Yes, I believe they will. For instance, if you'll refer again to Exhibit No. 1, eventually there will be only about from sixteen to twenty wells going through one of these installations, and that will mean that the wells could be tested at least once, and most of them which are probably further stimulated or more stimulated can be tested at least twice a month. Now, down

in the automatic custory transfer Unit No. 1, where we start out with forty-four wells, we may find it necessary down there to have test data once a month. We may have to move in some portable test facilities for a short period of time until we get some of the wells down there to put on injection wells, which will allow us to test at least once a month through the permanent equipment.

(Whereupon, Applicant's Exhibit No. 3 was marked for identification.)

Q Referring to what has been marked as Exhibit No. 3, will you discuss that, please?

A Yes, sir. This is a schematic diagram of the automatic custody transfer Unit with an index. I believe it is pretty self-explanatory, and we have nearly all the essential equipment to start with. I may point out a few features. The item No. 8 will be the incoming crude from the heater treater. No. 9 is the valve which is operated by a BS & W monitor which, of course, is located right after the oil enters where it is numbered No. 8. If the oil is found to be good, it discharges through line No. 12 to the good oil tank. If it is bad, it discharges through line No. 10.

Q You have a reversal, don't you?

A No. The good oil goes out No. 12 and if I'm -- that's right, bad oil goes out -- good oil goes out No. 10, bad out No. 12. That's right, I'm sorry. Any good oil, of course, then

enters the pump on the lower right-hand portion of the skid indicated as 15, goes through the strainer indicated as 13, through the deaerator, item No. 11. Item 7 is an A.O.Smith type 12 meter with temperature compensated. Item No. 5 are the prover connections. Item No. 3 is a back pressure valve, and item No. 2 is a -- excuse me -- I've got those reversed. Item No. 3 is a motor valve, and item No. 2 is back pressure valve. Item No. 3 is so designed as to prevent any gravity of fluid through the meter. It is only in an open position when power is on and goes to the pipeline pump by means of certain levers in the good oil tank. Item No. 6 is the sampler, and Item No. 1 is the sampler container.

The pump in the upper right-hand corner of the skid is a bad oil pump which pumps oil back to the heater treater for further treating. Item No. 4, of course, are the BS & W monitors and all the necessary electrical controls for the system.

Q How will the oil be measured as it goes into the pipeline?

A It will be metered through the meter. It is a positive displacement meter which has been approved by this Commission numerous times, and we have had an identical unit in operation in this unit since August. We've found it to be quite satisfactory. The drift on this meter was surprisingly small whenever we tested it. It has been tested as per Commission requirements once each month.

Q Will the same requirement be complied with in the event the application for this installation is approved?

A If it is so desired. We will test upon their request.

Q Have you any indication that the pipeline will be able to handle the oil from this type of installation?

A Yes, sir. Of course, we have gone over this installation in some detail with the pipeline company, and Exhibit No. 4 is a letter from Mr.Botts of the Texas-New Mexico Pipeline Company's Midland office, stating that they will be glad to accept the oil from the two automatic custody transfer installations. I might further add that location of these units as we have proposed in Exhibit No. 1 may be moved a little ways. I still think they will remain in the forty acres as we have described them, but we have not physically been in the field with members of the pipeline. We have only selected these locations under our own understanding, and they may desire that the unit be moved a little ways to perhaps give them better access or some other particular reason. But to the best of our knowledge, they will be located, as close as we can tell right now, where they are.

Q Now, were Exhibits 1, 2 and 3 prepared by you or under your supervision?

A Yes, sir, they were.

(Whereupon, Applicant's Exhibit No. 4 was marked for identification.)

Q Is Exhibit No. 4 a copy of a letter received by your

Company from Texas-New Mexico Pipeline Company?

A That is correct, it is a copy. I might add also that we have advised the U.S.G.S. of this application. We've advised the State Land Office, and we feel that advertisement of this matter was adequate information to the few royalty owners holding fee land in this unit.

MR. KELLAHIN: At this time we would like to offer in evidence Exhibits 1, 2, 3 and 4.

MR. UTZ: Without objection, they will be accepted.

(Thereupon, Applicant's Exhibits Nos. 1,2,3 and 4 were received in evidence.)

Q Now, Mr. Motter, the entire area you have been discussing is subject to a unit agreement, is it not?

A That is correct.

Q And the only exceptions to that are those exceptions which you mentioned at the outset,of non-participating areas?

A Yes. Of course, I might point out that our unit area is much larger than this and anybody that was included in the original unit area can come into this unit upon request. I believe that under the terms of our unit agreement, that after six months they can be negotiated back into the unit. We feel that these, the northeastern portion of the unit, will probably come in in a short time, and there are some properties to the south

which may come in.

Q The point I'm getting at, Mr. Motter, in operation of this custody transfer system, there will be no problem in accounting to royalty owners or overriding royalty owners or any accounting problems?

A No, sir. All production from this unit was paid on a percentage participation basis regardless of whether the production is taken from the unit.

MR. KELLAHIN: That's all the questions I have.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Motter, will all these wells be pumping or flowing wells?

A They will all be pumping wells. I might add one thing not there. I say they are pumping wells. We have had occasions on our Tract No. 6, Well No. 8, which is the inside location of our pilot, has kicked off and flowed several times. There is pumping equipment on the well, however.

MR. PAYNE: That was without applying back pressure on it?

A That is correct.

Q (By Mr. Utz) What's the flow line operating pressure ordinarily?

A Well, it would be the separator pressure which normally would be about fifteen pounds.

Q Do you feel that is too low a pressure to properly operate a low cut switch?

A Well, we could probably operate low cut switches, but we have investigated this situation to quite some extent, and we find that in properly equipping wells so that they will shut down upon failure of the equipment or if there was an undue or unforeseen flow line break, that this expense would probably run somewhere in the neighborhood of four hundred to six hundred dollars per well, and then we actually would not have any. There is no reason to believe why they wouldn't be absolutely safe due to the fact that this, that the crude in this field carries a very high paraffin content, and in the winter months it becomes quite viscose, and we feel that that alone would probably increase our flow line pressures considerably from the separator to the wellhead. In so doing, if we install such equipment, we will probably have to go around at least twice a year and adjust that equipment to protect the flow lines. We feel it is easier protected by the use of emergency storage.

Q Do you think that this entire patch will be inspected once every day?

A I wouldn't say every flow line is inspected even today, but at least we have three men running over there, and they will visit each one of these automatic custody transfer units. They will read the meters each day, and if there is any loss, they will certainly go out and see where it is.

Q Each well wouldn't be metered separately?

A No, but the total production coming in for each unit will be metered, and if for some reason or another we have lost some production from what it normally runs, the boys will usually go out and test to see if there are any wells or if there are any flow line breaks or for what reason it did occur.

Q In other words, that is the manner in which you detect a flow line break?

A Yes, sir. It would be no different than what we are doing right now. Our only reason for this request is to deliver to the pipeline automatically. We see no reason to automate the lease operations any further.

MR. PAYNE: On a malfuncation, your emergency storage would take care of that situation?

A That's correct. Emergency storage will be kept. The tanks will be kept empty until there is some malfunction to put storage in there. I probably did not state, but this equipment is so equipped that any time there is bad oil going to the bad oil tank, if there is not a power failure, there will be a light to show that bad oil is going to the tanks. Of course, if the power is off, it automatically diverts to bad oil, but we don't have any power to show that the light was burned itself. Any time a switcher visits the automatic custody transfer unit, it is only a matter of looking at the diversion valve, which diverts the good and bad oil,to tell in which position it is flowing the

oil.

MR. UTZ: Any other questions of the witness? If not, the witness may be excused.

(Witness excused)

MR. UTZ: Any statements in this case? The case will be taken under advisement, and the hearing is adjourned.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, J. A. Trujillo, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in Stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal this, the 9th day of December, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1822, heard by me on Nov. 24, 1959.

Elvis A. Utz, Examiner
New Mexico Oil Conservation Commission