

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
April 28, 1960

EXAMINER HEARING

IN THE MATTER OF:

Application of Shell Oil Company for approval  
of an automatic custody transfer system.

CASE 1954

TRANSCRIPT OF HEARING

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IN THE MATTER OF: )

Application of Shell Oil Company for approval of )  
an automatic custody transfer system. Applicant, )  
in the above-styled cause, seeks an order author- )  
izing the installation of an automatic custody )  
transfer system to handle the production from the )  
Saunders (Permo-Pennsylvanian) Pool from all wells )  
presently completed or hereafter drilled on the )  
State A lease comprising the E/2 of Section 34, )  
Township 14 South, Range 33 East, Lea County, )  
New Mexico. )  
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CASE 1954

BEFORE:

Mr. Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 1954.

MR. PAYNE: Case 1954: Application of Shell Oil Company  
for approval of an automatic custody transfer system.

MR. UTZ: Are there any appearances in this case?

MR. FEDERICI: William Federici of Seth, Montgomery,  
Federici and Andrews for Shell Oil Company. We will have one  
witness, Mr. George Olson.

(Witness sworn.)

MR. PAYNE: Let the record show that the witness was  
sworn for Cases 1954, 1955, 1956, 1957.

(Applicant's Exhibits Nos. 1, 2,  
& 3 marked for identification.)

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MR. FEDERICI: If the Commission please, this is an application for approval of an automatic custody transfer system in each of these cases.

GEORGE W. OLSON

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

DIRECT EXAMINATION

BY MR. FEDERICI:

Q Would you state your name? A George W. Olson.

Q Occupation?

A Mechanical Engineer with Shell Oil Company in Roswell.

Q Have you testified before this Commission before?

A No, I haven't.

Q Will you give the Commission some background on your education and experience?

A I received a Bachelor of Electrical Engineering from the University of Minnesota, 1945, and Bachelor of Science in Electrical Engineering in 1950. I went to work for Shell in 1950 and have remained in their employ since that time. I have been working in the Mechanical Engineering Section and have spent at least three and a half years specializing in the field facilities work, which includes automation.

Q What type of work have you done down here in the Roswell office?

A I have spent approximately a year and a half in Roswell doing general mechanical engineering work on the mechanical aspects



of producing and handling crude oil and gas.

MR. FEDERICI: Does the Commission accept the qualifications?

MR. UTZ: Yes, sir.

Q (By Mr. Federici) Are you familiar with this application No. 1954?

A Yes, sir.

Q Are you generally familiar with the type of installation that is proposed in this application?

A Yes, sir.

Q Does Shell Oil Company have other installations of the type proposed here now in operation?

A Yes, sir. Shell Oil Company has two installations similar to this in operation in New Mexico, and very similar installations and operations in other States.

Q How long have these installations been operating in New Mexico?

A One installation was made in 1958, and the second one was made in 1959.

Q Can you state your opinion as to whether or not these operations have been successful?

A Yes, they have. They have operated successfully and have accurately measured the crude oil sold from the fields and leases involved.

Q I hand you what has been marked Exhibit No. 1, and ask



you to state what that is and to explain the exhibit, please.

A Exhibit No. 1 is a plat showing the State A lease in the Saunders Field, which is located on the East Half of Section 34, Township 14 South, Range 33 East in Lea County, New Mexico. This lease has eight producing wells not shown on the plat, but all eight wells are produced into one single tank battery and it's this tank battery at which we propose to install the automatic custody transfer unit.

Q Is that area involved there already fully developed?

A Yes, sir, it is.

Q What type of wells are those in the area?

A These are all pumping wells. They are powered primarily with gas engines. We have one electrically pumped well, but the rest are gasoline pumped engines.

Q Did you state the production rate of the wells?

A Six hundred barrels of oil per day and four hundred barrels of water per day.

Q Is this proposed installation adequate to handle the expected production from the entire lease?

A Yes, it is.

Q I hand you what has been marked Exhibit No. 2 and ask you to state what that is and explain it, please.

A Exhibit 2 is a schematic drawing and bill of material of the automatic custody transfer skid which we propose to install in the Saunders Field on the State A lease. This drawing shows



charge pump, the B.S. and W. monitor, the meter, the sampler, the electrical controls, and accessory items which make up the automatic custody transfer skid.

This automatic custody transfer unit will be installed downstream of one of the existing stock tanks, which will be used as a surge tank. The oil will be -- that is, the control of flow of oil will be by level controls on the tank which will start the charge pump to pump the oil past the B. S. and W. monitor. If the oil meets pipeline specifications, the monitor will allow the oil to go through the meter, which is Item No. 4 on the skid, and to the pipeline. In the event that the oil is not clean enough for pipeline specifications, the B. S. and W. monitor will reject it and open Valve No. 7 and return the oil to the treating system.

The electrical controls on the skid are designed to monitor the operation of the meter; that is, if the meter fails to register, the system will be shut down.

Valve No. 5 shown on here is a combination back pressure and shut-in valve, which will maintain constant back pressure on the meter to assure accurate measurement and will close at any time the pump has stopped. It is a normally closed type valve. This equipment is very comparable and similar to the type of equipment we are now using in other fields.

Q Would you describe, or tell the Examiner what the purpose of this application for installation of an automatic custody transfer system is?



A We propose to install this automatic custody transfer unit in order to conserve gravity, which in turn will conserve volume of oil which is normally lost in conventional operation with stock tanks. With the reduced time, retention time in the surge tank, we do not anticipate as much vapor loss as we now have. We also expect to reduce operating costs, and thereby permit us to operate the lease longer and produce a larger volume of oil. Also we will salvage a number of stock tanks which we will be able to then use on other leases.

Q Do I understand that this system does not change anything except the method for measuring the oil, is that correct?

A That is correct. The handling of the wells, the treating of the oil, the testing of the wells, all the operations up to the point of measuring the oil for shipment to the pipeline will be unchanged.

Q Do I understand that all of the production under this application is from one lease?

A That is correct, to the best of my knowledge.

Q Has the pipeline been notified of this application?

A Yes, sir, they have.

Q Will you examine Exhibit No. 3 and state what that is?

A Exhibit No. 3 is a letter from Service Pipe Line Company stating that the proposed facilities are satisfactory to them and they are agreeable to receive oil from the locations here listed, the State A lease in the Saunders Pool.



Q Does the system which is proposed to be installed tend to reduce the loss of volatile gas?

A Yes, sir.

Q Is that a significant factor in a system of this type?

A We believe this is the most significant factor and the greatest reason for selling automatic custody transfer.

Q Does it thereby tend to prevent waste?

A Yes, sir.

Q In your opinion is this in the interest of conservation and prevention of waste?

A I believe it is.

Q These Exhibits 1, 2, and 3, were they prepared under your supervision?

A Yes, they were.

MR. FEDERICI: We offer the exhibits in evidence.

MR. UTZ: Without objection the Exhibits 1, 2, and 3 will be accepted in the record.

#### CROSS EXAMINATION

BY MR. UTZ:

Q How many tanks do you have on this lease at the present time, Mr. Olson?

A We have six 500 barrel tanks.

Q How many will you have with this automatic custody transfer system?

A We will have two 500 barrel tanks.





Q That will be interconnected with equalizers and so forth?

A Yes, they will.

Q Will they have switch mechanism on one of the tanks to activate the automatic custody transfer system?

A Yes, one of the tanks will have the control. The other will be a reserve tank.

Q The bad oil will go back to the control tank or another tank?

A No, it will go back to the treating system, to the settling tank.

Q Is that a third tank in the system?

A That's right. We have a 750 barrel acetylene tank or gun barrel ahead of the two 500 barrel tanks. The bad oil will go back to the treating system and not to the other surge tank.

Q What controls will be on this one 500 barrel tank, control tank?

A We will use a pressure type liquid level switch to control the automatic custody transfer unit. That is the pressure switch which senses the level of the fluid in the tank and will start the automatic custody transfer skid in operation at a certain level and stop it at a certain level. It is the same type of level control we are now using in one of our present automatic custody transfer units.

Q How about an emergency high level switch in case this switch should fail?



A We do not have an emergency high level switch proposed, because we have sufficient capacity to hold all the oil we would anticipate we could possibly produce between the time that the lease operator will be on the lease and observe the operation. The lease operator will be on the lease and observe the operation at a minimum of once a day, and we have in excess of twenty-four hours surge capacity available.

Q What's the cost of installation of an emergency high level switch?

A Oh, approximately I'd say about \$200.00 or so, including the labor and all, installation and materials.

Q You said these are all pumping wells, didn't you?

A Yes, sir.

Q You just have ordinary line pipe lead from the wells to the tank, then?

A Yes, sir.

Q What kind of pressure do these lines have to stand?

A We normally have pressures in the order of fifty pounds, more or less.

Q There will be very little chance of line breakage under such pressure?

A Yes, sir. I don't think there's any problem in that respect.

MR. UTZ: Any other questions of the witness? Oh, I have one more. Are all these wells non-marginal wells?



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A No, sir. We have only one well that's top allowable.

Q Which well is that?

A I cannot tell you, I do not have the information here.  
I don't know which one it is.

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

(Witness excused.)

MR. UTZ: Any other statements in this case? If not,  
the case will be taken under advisement and we will proceed to  
Case 1955.

MR. FEDERICI: I wonder if we could go to 1956 and 1957,  
which are very similar to this one. There's a very little differ-  
ence in 1955.

MR. UTZ: All right. We will take Case 1956. Are  
all the automatic custody systems the same as this one?

MR. OLSON: 1956 and 1957 are the same; 1955 is only  
slightly different.

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STATE OF NEW MEXICO     )  
                                   ) ss  
 COUNTY OF BERNALILLO    )

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing was reported by me in Stenotype, and that the same was reduced to typewritten transcript under my personal supervision and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

DATED this 8th day of May, 1960, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

*Ada Dearnley*  
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 NOTARY PUBLIC

My Commission Expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1954, heard by me on April 27, 1960.

*[Signature]*  
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 Examiner  
 New Mexico Oil Conservation Commission

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