BEFORE THE CORPORATION COMMISSION OF THE STATE OF OKLAHOMA

APPLICANTS: MICHAEL EDWARD McADAMS and
JOHN POWELL WALKER

RELIEF SOUGHT: RELIEF FROM IMPROPER	)	CAUSE NO. PUD 980000188
AND EXCESSIVE PURCHASED GAS COSTS	)	

TESTIMONY

PREPARED BY

STEPHEN P. DRESCH

ON BEHALF OF

APPLICANTS

MICHAEL EDWARD McADAMS

AND

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VOLUME ONE

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All Schedules referenced herein are found at the back of this volume.

TESTIMONY OF

STEPHEN P. DRESCH

Volume One of Two

Volume One of this testimony presents evidence concerning the natural-gas supply contract into which Dynamic Energy Resources, Inc., and Oklahoma Natural Gas Company entered on November 9, 1993, including an economic analysis of the implications of that contract for ONG's general system ratepayers. Volume Two, which will be filed subsequently, presents facts concerning the circumstances under which that contract came into existence. To render each volume comprehensible in isolation, the final two substantive questions of Volume One are repeated as the first questions of Volume Two.

Q Will you state your name, please?

A Stephen P. Dresch.

Q Where do you reside, Mr. Dresch?

A The address of my principal residence is 318 Cooper Avenue, Hancock, Michigan. I also maintain a secondary residence at 151 Moore Street SE, Crawfordville, Georgia.

Q What is your current profession or occupation?

A I am an economist. My professional activities include scholarly research and consultation. The latter primarily involves service as a consultant and expert witness concerning economic issues encountered in matters in litigation.

Q Where do you practice this profession?

A My primary residence in Michigan and secondary residence in Georgia provide venues for my professional work. However, that work frequently requires longer or shorter periods in residence with clients and collaborators. My scholarly work is pursued in association with scholars throughout the United States and abroad. My consulting and expert-witness services are provided to geographically-diverse clients and are often provided in collaboration with associates throughout the United States and abroad.

Q What is your educational background, beginning with college?

A I entered Miami University (Ohio) in 1960 and earned the degree of Bachelor of Arts, with a major in philosophy, in 1963. After one year of graduate study and teaching in economics at Miami University, I entered the graduate program in economics at Yale University in 1964 and earned the Yale degrees of Master of Philosophy in 1996 and Doctor of Philosophy in 1970.

Q What is your work experience?

A Between 1963 and 1969 I held teaching positions at Miami University, Yale University and Southern Connecticut State College (now University). In 1969 I was appointed a research associate of the National Bureau of Economic Research, a position which I held until 1977. From 1970 to 1972 I served as a consultant in residence at the Ford Foundation. In 1972 I was appointed director of Research in the Economics of Higher Education and lecturer in the Institution for Social and Policy Studies at Yale University, and in 1975 I became chairman of the Institute for Demographic and Economic Studies, an independent research organization affiliated with Yale University. From 1983 to 1985 I served as a research scholar at the International Institute for Applied Systems Analysis in Laxenburg, Austria. In

1985 I was appointed professor of economics and business and dean of the School of Business and Engineering Administration at Michigan Technological University, where I served as dean until early 1990 and as a professor until I commenced constitutionally incompatible service as an elected member of the Michigan House of Representatives in 1991. Since 1993 I have been selfemployed as an independent scholar and consultant.

Q Have you published any learned treatises or articles?

A My *curriculum vitae*, which is attached [Exhibit SPD-1], presents a virtually complete list of my scholarly and professional publications, which include several books and numerous articles which have appeared in professional journals and books.

Q Will you please list the principal ones of those?

A In my subjective estimation, my most significant published works include:

Substituting a Value-Added Tax for the Corporate Income Tax: First Round Analysis, with An-loh Lin and David K. Stout (Cambridge, Mass.: Ballinger, 1977).

Occupational Earnings, 1967-1981: Returns to Occupational Choice, Schooling and Physician Specialization (Greenwich, Connecticut: JAI Press, 1986).

"Demography, Technology and Higher Education: Toward a Formal Model of Educational Adaptation," **Journal of Political Economy**, June 1975.

"Giants, Pygmies and the Social Costs of Fundamental Research, or, [Derek de Solla] Price Revisited," with Kenneth R. Janson, **Technological Forecasting and Social Change**, vol. 32, no.4, 1987.

"Myopia, Emmetropia or Hypermetropia? Competitive Markets and Intertemporal Efficiency in the Utilization of Exhaustible Resources," **Resources Policy**, vol. 16, no. 2, June 1990.

"The Economics of Fundamental Research," in J. W. Sommer, ed., **The Academy in Crisis: The Political Economy of Higher Education** (New Brunswick & London: Transaction Publishers for Independent Institute, San Francisco, 1995). The volume was the recipient of the 1995 Sir Anthony Fisher Memorial Award.

"Talents, Rewards and Professional Choice: A General Equilibrium Analysis," with Kenneth R. Janson, in Bruce Spencer, ed., **Statistics and Public Policy: I. Richard Savage Festschrift** (New York: Oxford U. Press, 1997).

Q How did you happen to become involved in this case as an expert witness?

A I was asked to serve as an expert witness for the Applicants by their attorney, Russell J. Walker.

Q How did you happen to meet Mr. Walker?

A I was referred to Mr. Walker by his client, Applicant Michael McAdams, whom I had contacted seeking information of possible relevance to an assignment which I had undertaken for the New York and Los Angeles law firm of Mendes & Mount, which was (and is) defending a client in a number of interrelated lawsuits which are unrelated to the matter at issue here. Many of these cases remain open, and I continue to serve as a consultant to Mendes & Mount on these cases.

I have been informed by Mendes & Mount that there is an attorney work product privilege in place which its client has and asserts. Therefore, I can only testify that I was retained as an economic expert by Mendes & Mount on behalf of its client and that I was asked to do certain things within the scope of my expertise which I am not at liberty to discuss.

I can state that the substance of my work for Mendes & Mount on behalf of its client has been of no relevance to my work on this matter. At a very early stage of my Oklahoma inquiries I determined that these inquiries were unlikely to have any value to Mendes & Mount's defense of its client, and from that point forward I have pursued these inquiries independently of Mendes & Mount.

Q How are you being compensated for your services in this matter?

A My firm, Forensic Intelligence International, LLC, has been retained by Mr. Walker to provide the services of economic experts at its usual rate of $250 per hour per professional employee plus expenses. For investigative and research services my firm has been retained by Mr. Walker at the rate of $125 per hour per professional employee plus expenses. I will receive my compensation from my firm.

Q What have you done to familiarize yourself with the facts of this case?

A Two interrelated but distinct sets of facts are relevant to this case: (1) Facts regarding the nature and consequences of the Dynamic Energy Resources, Inc. [Dynamic], natural gas supply contract ["the Dynamic contract"] [Exhibit SPD-2A], and (2) facts involving the circumstances under which the contract came into existence.

With regard to the latter, I have studied documents on file at this Commission, court and other public records, news and other reports of events and tape recordings made by a principal of Gage Corp., and I have conducted extensive interviews with persons who participated in the events leading to and flowing from the award of the Dynamic contract.

With regard to the former:

I have reviewed the Dynamic contract. I should point out that the contract which we call "the Dynamic contract" consists of two distinct but virtually identical documents. Both were executed on November 9, 1993. Prior to that date, while Dynamic was negotiating the contract with ONG, Dynamic negotiated the sale of one-half of its side (the gas supply side) of the contract to Associated Natural Gas, Inc. [ANG], now Duke Energy Field Service, Inc. [Duke]. Shortly before the November 9, 1993, contract execution Dynamic sought and received the permission of ONG to bifurcate the contract. On November 9, 1993, ONG signed one contract with Dynamic and one contract with ANG. To verify my assertion Applicants offer the Dynamic contract [Exhibit SPD-2A] and the ANG contract [Exhibit SPD-2B]. Unless otherwise noted, in the balance of my testimony, the term "the Dynamic contract" refers to both contracts taken together.

I have reviewed information regarding monthly sales volumes and prices under the Dynamic contract since its inception.

I have reviewed the terms of all gas supply contracts provided to the Applicants by ONG through discovery. ONG was asked to provide all contracts executed between November 9, 1992, and November 9, 1994. While the precise period is necessarily arbitrary, this two-year period, spanning the date of execution of the Dynamic contract, was selected to identify contracts which were negotiated under reasonably similar market conditions while assuring an adequate sample size for analysis. Confidential, excerpted and redacted copies of some but not all of the relevant contracts have been submitted by ONG in response to a discovery request of the Applicants [Exhibit SPD-3A]. Certain additional contracts have been obtained from the Commission. In support of my testimony summaries of these contracts [Exhibit SPD-3B] have been compiled with Mr. Walker's assistance. Because

ONG has designated them as confidential, the contract summaries and excerpts [Exhibits SPD-3A and -3B] do not accompany this filing of testimony but will be made available to the parties.

I have reviewed the discovery had in this case.

I have studied natural gas pricing generally from 1993 to the present.

I have studied various indicators of financing costs and returns to investment from 1993 to the present.

Finally, I have read certain transcripts of proceedings in this case.

Q How did you first obtain a copy of the Dynamic contract [Exhibit SPD-2A]?

A In the fall of 1999 I requested a copy of the Dynamic contract from the Commission, but that request was denied because the contract was subject to a protective order which had been requested by ONG. When I formally petitioned the Commission to lift the protective order, ONG objected, but, at the Commission's hearing on my request, ONG withdrew its objection, the Commission lifted the protective order, and a copy of the contract was provided to me.

Q Where did you obtain information regarding sales volumes and prices under the Dynamic contract monthly since its inception?

A Prices and volumes have been obtained from tables prepared by staff of the Commission's Public Utility Division [PUD], the most recent of which [Exhibit SPD-4] was attached to a PUD Staff Memorandum dated January 18, 2002. PUD staff have informed me that these data were provided to them by ONG and have provided an ONG submission (dated January 14, 2002) which presents these data for the period April 1998 through November

2001 [Exhibit SPD-5]. PUD staff have not been able to provide earlier data submissions by ONG. In the case of two discrepancies between the PUD staff table of January 18, 2002, and the ONG submission of January 14, 2002 (involving the value of Section 2 WACOG [weighted average cost of gas] for the months of October and November 1999), I have relied on the latter.

To verify the data obtained from PUD staff, Applicants submitted an interrogatory to ONG, and ONG has stipulated that the data compiled in Exhibit SPD-4 are correct.

Exhibits SPD-4 and -5 include monthly values of ONG Section 2 WACOG. From the Commission we have obtained relevant pages of all ONG fuel adjustment clause filings for the years 1993 through 2001. [Because these are available from the Public Utility Division, we have not included them as an exhibit here; however, copies are available from Mr. Walker on request.] I have verified the values of Section 2 WACOG reported by ONG in Exhibit SPD-5 for the months of January 2001 (December 2000 WACOG) through November 2001 (October 2001 WACOG), have requested explanations for discrepancies between the sources in prior months of the Dynamic contract, and am, as of the date of the preparation of this testimony, awaiting these explanations.

Q What other discovery in this case have you reviewed?

A I have reviewed responses to the Applicants' interrogatories provided by officials and employees of ONG. I have attended all depositions of ONG officers and employees conducted by the Applicants in this case and also one deposition conducted by ONG, and I have reviewed transcripts of these depositions. The interrogatories include those of Lawrence Brummett, J. D. Scott, David Kyle, Stephan Guy and John Gaberino.

Depositions include those of Scott, Kyle, Guy, Gaberino and James M. Proctor. The answers to the interrogatories and the transcripts of these depositions are on file in this case.

Q **Are you familiar with and have you previously worked with information on natural gas prices, production and consumption?**

A I have worked with data on natural-resource (including natural gas) prices, production and consumption recurrently since the early 1970s, when I first developed a highly disaggregated model of the U.S. economy, initially for the United Nations with further development and elaboration for the Economic Development Administration of the U.S. Department of Commerce. In the course of this work I reviewed and utilized data from the Federal Preparedness Agency (later Federal Emergency Management Administration), the Bureau of Economic Analysis and the Bureau of the Census of the U.S. Department of Commerce, and other government and private agencies.

In mid-1980s I initiated a major study of long-term movements in the prices of "exhaustible resources," including energy and mineral resources, in the course of which I reviewed data from public and private sources covering periods as long as 400 years; this work culminated in my publication of "Myopia, Emmetropia, ..." (referenced above).

On the basis of this prior work I consider myself well acquainted with sources of data on natural gas prices, production and consumption.

Q **Where did you derive information on natural gas pricing generally since 1993?**

A For my present assignment I have reviewed natural gas price, production and consumption data from the Energy Information Administration of the U.S. Department of Energy, the Federal Energy Regulatory Commission, **Platts Inside FERC** and **Inside FERC's Gas**

Market Report (the source of the "Oklahoma Index," the spot price measure referenced in many of ONG's gas purchase contracts, including Dynamic's) [Exhibit SPD-6 provides a sample issue dated January 19, 2001], **Natural Gas Intelligence** and **NGI's Daily**, **Weekly** and **Bidweek Surveys**, and other sources.

Q What indicators of the opportunity cost of capital since 1993 have you reviewed?

A I have reviewed the record of the Commission's most recent reviews of ONG's rates, including its assessment of ONG's cost of equity and weighted average cost of capital. I have also reviewed information on returns to U.S. equity securities (price appreciation and dividends), returns to a range of financial assets (U.S. government bonds and notes, corporate bonds, commercial paper, etc.), and rates charged on the obligations of private individuals (consumer loans made by commercial banks, credit-card balances, mortgage-secured loans, the late payment penalty charged general system ratepayers by ONG, etc.).

Q Where have you derived this information?

A A primary source of these data is the Federal Reserve Board. Additional sources include the U.S. Treasury, the Census Bureau, individual Federal Reserve banks and private organizations.

In my analysis I utilize the following specific data:

The total return to equity securities (S&P 500 stocks), provided by Global Financial Data, Inc. (http://www.globalfindata.com/trial/10040.php3) [Exhibit SPD-7].

Information concerning ONG's cost of capital, obtained from Commission Order No. 388124 [Exhibit SPD-8].

Rates on two-year consumer loans of commercial banks, obtained from the Federal

Reserve Board (http://federalreserve.gov/releases/g19/hist/cc_hist_tc.html) [Exhibit SPD-9].

Rates on one-month nonfinancial commercial paper, obtained from the Federal Reserve Board (http://federalreserve.gov/releases/h15/data/m/cp1m.txt) [Exhibit SPD-10A], supplemented with data for all financial and nonfinancial commercial paper (http://federalreserve.gov/releases/h15/data/m/hcp1m.txt) [Exhibit SPD-10B], for the period prior to September 1997, also obtained from the Federal Reserve Board. While rates on nonfinancial commercial paper are most relevant to a company such as ONEOK, prior to September 1997 the Federal Reserve published only a consolidated (financial and nonfinancial) series of commercial paper rates. Thus, the 11/1993 to 11/2001 series which I will refer to as "one-month nonfinancial commercial paper rates" will actually reflect rates on all one-month paper (financial and nonfinancial) prior to 9/1997.

ONG's late-payment charges to general system ratepayers, set forth in item 13 of Rate Schedule 1041, Miscellaneous Special Charges (authorized by Commission Order No. 441549, May 30, 2000). See, http://www.ong.com/downloads/1041_8-01.pdf) [Exhibit SPD-11].

Q **Have you been assisted by anyone in assembling the documents and data which you have reviewed in preparation for your testimony in this case?**

A Yes.

Q **By whom have you been assisted, and how have they assisted you?**

Russell Walker, counsel for Applicants, and his law firm, Walker & Walker, have provided me with a number of documents and Commission records and have assisted in analyzing the terms of natural gas supply contracts (including the Dynamic contract) discovered by Applicants. James Proctor, a utility consultant who resides in Lawrence, Kansas, and who was previously director of the Public Utility Division of the Oklahoma Corporation Commission and, later, part-time aide to Commissioner Anthony, has been of assistance. Mr. Proctor has assisted Mr. Walker with understanding the regulation of public utilities in general and that regulation in Oklahoma in particular. Mr. Proctor has been similarly helpful to me in directing me to certain data and documents, particularly data and documents found at the Commission. The Public Utility Division and the Office of the General Counsel of the Commission have been helpful in identifying and providing necessary documents in response to Open Records requests.

Q Have you been assisted by anyone in the preparation of your testimony in this case?

A Yes.

Q By whom have you been assisted, and how have they assisted you?

Mr. Proctor has explained to me and to Mr. Walker the nature and expected format of pre-filed testimony in a case of this type before the Commission. Mr. Walker has explained to me the laws of Oklahoma which, in his opinion, are applicable to this case, has told me what elements of proof are, again in his opinion, necessary to substantiate the claims of Applicants in this case, has discussed pre-filed testimony and its form with me, has assisted me in formulating the questions asked and answered in his testimony, has helped me draft answers in the proper legal form, and has reviewed and recommended certain changes in the written testimony after I drafted it.

Q Has anyone helped you form the conclusions which you present through this testimony?

A No, the conclusions are entirely my own.

Q Have you ever met, spoken to or corresponded with the (or any) witness for the Commission's Consumer Services Division in this case?

A No.

Q In general, in your own terms, how do you understand the claims made by the Applicants in this case?

A The Applicants, on behalf of themselves and all other general-system ratepayers of ONG, request "relief from improper and excessive purchased gas costs." Specifically, they allege that the costs of natural gas acquired by ONG under the Dynamic contract are excessive by comparison to the costs associated with alternative sources of supply which were universally available when this contract was awarded by ONG and remain available today and that the pass-through of these excessive costs to ONG's general-system ratepayers is therefore improper.

Q What law do you understand to govern those claims? Please explain your answer.

A The Constitution of the State of Oklahoma mandates that the prices and other terms of service of transportation and transmission companies be "reasonable and just." The purpose of the Oklahoma Corporation Commission, as established by the Constitution, is to regulate transportation and transmission companies in order to accomplish this mandate and to prevent abuse and extortion by such companies. In numerous Commission and Oklahoma Supreme Court rulings over almost a century, it has been determined that costs incurred by a utility can permissibly be passed on to its ratepayers only if the utility's incurrance of these costs was necessary to the utility's provision of its regulated service. There are also, I understand, Oklahoma statues which establish a mechanism for the automatic, direct passthrough to ratepayers of fuel costs – and only fuel costs – incurred by utilities in provision of their regulated service. This is, I understand, the fundamental legal standard against which the proper cost of natural gas incurred by ONG under the Dynamic contract and passed forward to its general system ratepayers is to be evaluated. Finally, I understand that certain statutes (and by implication the state Constitution) direct that the Commission order refunds to any ratepayers who have been overcharged by a public utility.

Q **Do you understand how the cost of natural gas incurred by ONG is charged by ONG to its general system ratepayers?**

A Yes, I believe that I do.

Q **Please explain your understanding of that process.**

A In its regulation of ONG's charges to its general system ratepayers the Commission disaggregates costs into two broad categories: (1) the cost of natural gas itself, which ONG acquires and resells to general system ratepayers, and (2) all other costs necessary for the provision of natural gas services. The latter consists largely of capital costs and the costs of day-to-day operations.

Costs in the second category, including the costs of equity and other capital, after an audit by the Commission in the course of its rate-setting procedures, are incorporated in rates which are charged either per account (fixed costs) or relative to the volume of gas purchased by the ratepayer (variable costs).

The Commission, by rule, and later the State, by statute, have provided that the costs of natural gas will be passed through directly to general system ratepayers in the form of a purchased gas adjustment (PGA) under ONG's Fuel Purchased Power and Purchased Gas Adjustment Clause (FAC). For each month ONG computes its weighted average cost of gas (WACOG), and this cost, with a lag (about which we are, as of the preparation of this testimony, seeking additional information from ONG), is passed forward to general system ratepayers. The Commission's routine review of ONG's PGA/FAC consists only of verifying that the costs of gas were actually incurred by ONG and the arithmetic accuracy of computation of the PGA. The Applicants are asking the Commission to find that at least a portion of the costs of natural gas incurred by ONG under the Dynamic contract and incorporated in the PGA/FAC are not just and reasonable and, hence, should not be passed through to ratepayers by the mechanism of the PGA/FAC.

Q You have referred to WACOG. Do you mean "Section 2 WACOG"? If so, please explain the meaning of "Section 2 WACOG."

A My reference to WACOG was to "Section 2 WACOG." In the form on which ONG reports its monthly calculations to the Commission, "Section 2" simply refers to the section of the form which provides the calculation of WACOG for ONG's general system ratepayers.

Q Are all ONG customers charged for gas at Section 2 WACOG?

A No. Large industrial customers and certain other classes of customers are designated by the Commission as eligible to receive lower-cost natural gas. Section 2 WACOG is the weighted average cost of gas charged to general system ratepayers after the low-cost gas provided to these preferred customers has been removed from ONG's natural-gas-supply pool.

Q Do you have an opinion as to whether that system is inherently likely to result in the type of abuse or extortion by public utilities which the Oklahoma Constitution charges the Commission with preventing?

A Yes, I do have such an opinion.

Q What is your opinion in that regard?

A My opinion is that, because most consumers are not free to choose among competing natural-gas suppliers, the system described above by which ONG's general system ratepayers are charged for the cost of natural gas is inherently likely to result in the type of abuse or extortion which your state Constitution charges the Commission with preventing.

Q Please explain your answer.

A If consumers were free to choose among competing utilities, then each utility would have an incentive to secure the lowest-cost source of natural-gas supply and thus offer natural gas to general system ratepayers at the lowest possible price. Any utility which paid an excessive price for gas, and, as a result, attempted to charge its ratepayers an excessive price would lose ratepayers to its competitors. Thus, market competition would serve to prevent overpricing at any level of the supply chain.

In contrast, ONG is the only source of natural-gas supply to its general system ratepayers, and the law requires general system ratepayers to pay for natural gas whatever ONG pays its suppliers, unless the Commission disallows the charge in discharge of its constitutional mandate to prevent abuse and extortion and of its statutory duty to order refunds of overcharges.

Thus, gas and electric public utilities have almost no ratepayer-driven incentive to purchase fuel at any particular price – including the lowest price. I say “almost no” incentive for the following reason: In the long run, if a public utility is completely cavalier about its cost of fuel, its customers (ratepayers) may switch to a different, lower-cost source of heat or power. In the short and medium terms, the individual ratepayer is constrained from shifting from one source of power to another, both as a result of insufficient pricing information (the price of gas being chosen by the utility for the ratepayer without the ratepayer’s input regarding or knowledge of the choice) and as a result of the ratepayer’s fixed investment in appliances and equipment which are fuel-specific (for example, one cannot convert costlessly and instantaneously from gas to electric home-heating). So, as you can see, in the case of a natural gas supply utility such as ONG, while fuel costs may have a significant effect on consumer satisfaction, their effect on ratepayer retention is minimal, at least in the short and intermediate terms.

The Winter of 2000-2001 presents a classic example of this phenomenon. Natural gas costs sky-rocketed. It has been asserted that certain practices of ONG contributed to the dramatic rise in the cost of natural gas which ONG acquired on behalf of its general system ratepayers, or at least that ONG failed to shield general system ratepayers from the dramatic rise. Ratepayers complained bitterly and experienced severe difficulty in paying their natural gas bills; and yet, all (or virtually all) are still natural gas general system ratepayers of ONG.

Q How might it arise that a public utility such as ONG might overpay for fuel, in this

case natural gas, which it purchases on behalf of its general system ratepayers?

A Because there are virtually no short or medium term incentives to contain fuel costs, sheer ineptitude – that is to say, incompetence and poor business practice – may result in a utility's acquisition of fuel – in the instant case natural gas – on behalf of its ratepayers at a price greater than necessary, i.e., greater than required to call forth sufficient quantities of natural gas to meet demand at that price.

Q Other than incompetence, are there reasons that a utility might agree to purchase fuel at a higher-than-necessary price?

Beyond incompetence, there may be conscious (albeit generally unethical or criminal) motives for a public utility to overpay for fuel and to pass through to its ratepayers the inflated costs.

For example, a utility's fuel purchase contract may be less than arm's length. Thus, a utility might purchase fuel from company insiders (officers, directors, or their relatives) at inflated prices, permitting these insiders to reap windfall profits. While not directly involving fuel acquisition, Enron and its special-purpose entities, in which high Enron officers had personal interests, may provide an example of the general phenomenon.

Q Can you identify any mechanisms which serve to prevent or correct a utility's payment of excessive costs for fuel when these costs are simply passed on to general system ratepayers?

Whether overpayment is conscious or simply the result of incompetence, the fact that the utility is shielded from competition is the significant factor. Facing competitors, a firm which overpaid would find itself undercut by its competitors. Either it would be forced to cease purchasing overpriced supplies or it would face bankruptcy.

Because a firm in a competitive industry could not simply pass on to its customers its excess costs, these inflated costs would reduce returns to equity, giving stockholders (and independent members of the company's board) an incentive to identify and correct unjustified, cost-inflating actions of the management.

For example, a number of years ago stockholder-initiated legal action brought to light the fact that the CEO of a major international oil company had arranged for the company to contract at prices greatly above prevailing rates for tanker services provided by a company controlled by his son; because the oil company could not simply pass the inflated costs on to its customers, the CEO's award of sweetheart contracts to his son directly reduced profits, motivating stockholders to identify the problem and initiate corrective action.

No similar incentive is operative in the public-utility sectors, in which a stipulated return to capital is virtually guaranteed, insuring that stockholders are not harmed by the incompetent or venal actions which result in the incurrance of excess costs.

Only a public utility shielded from competition will be able to continue to pay (and pass through to its ratepayers) inflated prices over any significant period of time without inducing effective ratepayer or stockholder resistance. And this is precisely the justification for the state Constitution's mandate to the Commission that it insure that the prices charged by utilities are reasonable and just.

Q Do you consider it likely that incompetence explains ONG's award of the Dynamic contract? Please explain your answer.

A No. If ONG had nothing to gain from the Dynamic contract, then incompetence might be a plausible explanation. But, the evidence suggests that ONG, or its parent, ONEOK, had very specific objectives in awarding the contract to Dynamic. Moreover, those objectives were realized.

Q Can you identify an objective of ONG/ONEOK which would justify award of a contract which required ONG to pay an inordinately high (greater than necessary) price for fuel?

A When ONG agreed in the Dynamic contract to pay Dynamic the price called for in the contract, ONG was acquiring not merely natural gas but something else as well. Whether that "something else" was something for which ONG's general system ratepayers should have paid under Oklahoma's regulatory scheme is an open issue on which I can opine but which the present proceeding need not – indeed, cannot – resolve. Such issues are properly addressed by the Commission in ratemaking hearings. What we can address here – indeed, what the Commission is constitutionally mandated to address here – is whether that "something" represents part of a just and reasonable charge for natural gas and should be allowed as a PGA/FAC charge to the ratepayer or constitutes an unjust or unreasonable portion of the ratepayer's charge for natural gas and should be disallowed as part of ONG's PGA/FAC pass-through charge for natural gas.

State statutes and the Commission's rules concerning the function of PGA/FAC appear clear: The purchased gas adjustment is a Commission-reviewed means by which ONG's cost of natural gas -- ***and natural gas alone*** -- is passed through to ratepayers. Whatever ONG acquired from Dynamic beyond natural gas, its cost cannot legitimately be imposed on general system ratepayers as a purchased-gas charge. To attempt to do so is to transform a nonfuel cost into what appears to be, but is not, the cost of natural gas.

In summary: Either the "something else" which ONG acquired from Dynamic was necessary for its provision of utility services, in which case its cost should be recovered through Commission-authorized rates for service, but only after being thoroughly reviewed in a rate-setting proceeding, or this "something else" was not necessary to the provision of utility service, in which case the Commission should not permit the cost to be recovered through utility rates. But, in neither case should the cost be camouflaged as a cost of natural gas and incorporated in the PGA/FAC passthrough of natural-gas purchase costs to general system ratepayers.

Q What did ONG acquire by its entry with Dynamic into the gas supply contract about which the Applicants in this case complain?

A First, it is absolutely clear that ONG did in fact acquire natural gas pursuant to that contract. In fact, from November 9, 1993, the date of the contract, through November, 2001, ONG acquired in excess of 42 million MMBTUs of natural gas under the contract. [Schedule SPD-3A]

What else ONG acquired is not entirely clear. Based upon the extensive investigations which I have undertaken, of which I have been a part and which I have monitored, I conclude that ONG, through the Dynamic contract, acquired many extras over and above natural gas.

ONG's acquisition of some of those extras cannot be conclusively proven, and, therefore, though they will be discussed in Volume Two of my testimony, they have not figured into my analysis of the impropriety of gas costs incurred under the Dynamic contract which have been passed through to the ratepayers.

However, there is one extra which we know that ONG acquired under the Dynamic contract because ONG has on a number of occasions admitted that the Dynamic contract purchased this extra for it. See, for example, the statement of John Gaberino, general counsel of ONEOK, before the Commission [Exhibit SPD-12]. The one provable extra which ONG acquired by way of the Dynamic contract was the settlement of expensive, time-consuming, potentially disastrous litigation in which ONG was involved. We will discuss this "something else" at the conclusion of this volume and in Volume Two of my testimony.

Q Prior to addressing ONG's quid pro quo for the Dynamic contract, will you briefly outline the terms of that contract?

A In summary terms, the gas-purchase contract awarded by ONG to Dynamic Energy Resources, Inc. [Dynamic], on November 9, 1993, had the following notable features:

(1) The contract was assignable by Dynamic, subject to the approval by ONG.

(2) The contract does not stipulate any quantity of natural gas that the seller is required to deliver under the contract but states (at Article III) that "Seller ... dedicates and commits to the performance of this Agreement" 5,000 MMBTU per day during "summer" months (April – September), and 25,000 MMBTU per day during "winter" months (October – March).

(3) The contract specifies prices (per MMBTU) equal to (a) the greater of $2.78 or ONG's unadjusted Section 2 WACOG during the "summer" months and (b) the greater of $2.78, spot (Oklahoma Index) plus $0.40, or unadjusted Section 2 WACOG during

the "winter" months.

(4) Within certain constraints the contract permits the delivery of gas "at such ... mutually agreeable points on Buyer's or Buyer's affiliates' intrastate pipeline systems as may be agreed to in the future by the parties, such agreement on the part of Buyer not to be unreasonably withheld."

(5) The contract has a term of ten years, and all of the above provisions are fixed for this ten-year period.

Q Can you briefly summarize the history of the Dynamic contract?

Prior to the signing of the contract, on November 9, 1993, ONG permitted Dynamic's assignment of one-half of the contract to Associated Natural Gas, Inc. [ANG], later Pan Energy, and now Duke. ANG paid Dynamic $7.5 million for this half of Dynamic's ONG contract. [Exhibit SPD-13A, obtained from Duke in response to discovery propounded by Applicants in this case.]

Approximately four months after the award of the contract, in March 1994, Dynamic assigned the remaining half of the contract to Enogex, Inc., for a price of $11.25 million. [Exhibit SPD-13B, excerpted from testimony of Enogex in Commission Cause PUD No. 200000073.]

Thus, in a period of less than five months after the award of the ONG contract Dynamic realized an $18.75 million gross profit from the sale of that contract.

The Dynamic/ANG and Dynamic/Enogex contracts remain in force today and will not expire until November 9, 2003.

Q What conclusions, if any, do you draw from the history of the Dynamic contract?

A It can be presumed that ANG and Enogex decided to purchase their respective halves of the Dynamic-ONG contract on the basis of an evaluation of the terms of the contract, not of the identity of the seller of the contract. Therefore, because Dynamic was able to sell its ONG contract to ANG and Enogex for $18.75 million, then, by implication, ONG could have sold the contract directly to ANG and Enogex for $18.75 million. Clearly, if ONG were selling contracts with excessively favorable terms to its natural-gas suppliers and then passing the consequently inflated gas costs forward to its general system ratepayers, this would not, except under the conditions described in the next sentence, be recognized by this Commission as reasonable and just. ONG has admitted that to handle such a transaction correctly the proceeds to ONG of any such sale by ONG would be credited to the general system ratepayers through the PGA/FAC. See Deposition of David Kyle, p. 110, line 21, to p. 114, line 23 (where the word "yes" at p. 113, line 25, should read "gas.")

In short, the simple fact that Dynamic was able, virtually simultaneously, to enter into and to sell the ONG contract and reap an apparent $18.75 million windfall in the process is irrefutable evidence that the contract did not result in gas charges which have been "reasonable and just," as required by the Oklahoma Constitution.

Q Have you examined and analyzed ONG's natural gas purchases under the Dynamic (ANG and Enogex) contracts?

A I have.

Q Can you summarize that examination and analysis?

A Schedule SPD-3A presents, for each month from November 1993 (the award of the Dynamic contract) through November 2001 (the latest month for which ONG has provided data):

(1) the volume of gas purchased by ONG under the Dynamic contract (Column A);

(2) the spot price (Oklahoma Index) (Column B); the meaning of the term "spot price" is explained below beginning at p. 29, line 19; various entities conduct surveys of the spot price actually being paid for natural gas on an on-going basis and make that information available to interested parties through various publications; in my testimony the terms "spot price" and "Oklahoma Index" refer, where indicated by the context, to the spot price identified by a McGraw-Hill publication entitled **Platts Inside FERC's Gas Market Report** [Exhibit SPD-6] in a table found therein called "Daily Prices of Spot Gas Delivered to Pipelines" for "ONEOK Gas Transportation LLC [ONG Transmission Company]";

(3) the three possible Dynamic contract prices (per MMBTU), of which the maximum is payable under the contract, i.e.,

(a) the Oklahoma Index plus $0.40 (operative in the months of October through March only) (Column C),

(b) the minimum contract price of $2.78 (Column D), and

(c) ONG's Section 2 WACOG (Column E);

(4) the price actually paid under the Dynamic contract (Column F, being the maximum of Columns C, D and E);

(5) the total amount paid by ONG under the Dynamic contract (Column G, equal to Column A multiplied by Column F);

(6) the total amount which ONG would have paid for the gas supplied under the

Dynamic contract if ONG had paid the spot price for that gas (Column H, equal to Column A multiplied by Column B); and

(7) the total premium over spot paid by ONG for the gas supplied under the Dynamic contract (Column I, equal to Column G less Column H).

Over the eight years and one month covered by Schedule SPD-3A, ONG has paid $154.352 million for natural gas purchased under the Dynamic contract. Had ONG paid the spot price for this volume of gas, its total outlay would have been only $109.525 million. Thus, ONG's purchased gas costs under the Dynamic contract, which have been passed through to its general system ratepayers, includes, in my professional opinion, excess gas charges of $44.827 million. This excess charge represents the cumulative excess of the costs of gas under the Dynamic contract over the costs of identical quantities of gas had these quantities been acquired on the spot market (at prices equal to the so-called "Oklahoma Index").

As reported in the final rows of the table, over this 97-month period the weighted average price which ONG has paid under the Dynamic contract is $3.67 per MMBTU, while the weighted average spot price has been only $2.60 per MMBTU. Thus, on average the Dynamic price has represented a $1.07/MMBTU, or 41 percent, markup over spot.

Of the 97 months covered by my analysis, the Dynamic price has exceeded the spot price in 93 months. The Dynamic price has exceeded WACOG in 46 months and has been equal to WACOG in 51 months. Without consideration for season (and thus for whether or not the spot plus $0.40 was a contract minimum), the Dynamic price has exceeded spot plus $0.40 in 78 months. Of the 19 months for which spot plus $0.40 might have set the price, only 11 of these months fell in the winter, when spot plus $0.40 was an operative minimum. The Dynamic price has been equal to the contract floor price of $2.78 in 35 months.

Q On a number of occasions ONG representatives have argued that, when it values gas entering its general system at WACOG, that source of gas supply is "neutral" with respect to ONG's PGA charges and, thus, has no consequence for ratepayers. For, example, this argument was employed by ONG to justify the valuation at WACOG of payment-in-kind [PIK] gas which ONG acquired from shippers and then supplied to its general system ratepayers. Please comment on this argument.

A This argument is fundamentally flawed. When ONG takes natural gas from any given source into its general system, the effect of the price or other valuation of that gas on PGA charges to ratepayers will depend not only upon the price or valuation of that gas but also on the price at which ONG could have replaced that gas with gas from other sources. For example (purely hypothetically), assume that WACOG (excluding PIK gas) is $2 (per MMBTU) and that ONG sells PIK gas to its general system ratepayers at $2. WACOG remains $2, and ONG claims that the PIK gas had no effect on the cost of gas to ratepayers. However, if the spot price is $1, then, had ONG purchased gas at spot rather selling PIK gas to ratepayers, WACOG would fall; e.g., if the PIK gas accounted for one-half of ONG's total sale of gas to ratepayers, then the replacement of the PIK gas by gas purchased at spot would reduce WACOG from $2 to $1.50. Clearly, in this hypothetical example, ONG's supply to ratepayers of PIK rather than spot gas is hardly "neutral."

By way of a generalized hypothetical example, when WACOG is greater than spot, which is true in 81 of the 97 months analyzed here, if ONG were to credit shippers at spot for PIK gas provided in payment for transportation services, then, if it sold that gas to general system ratepayers at WACOG, ONG would reap a windfall equal to the difference between WACOG (charged to ratepayers) and spot (credited to shippers). Under these circumstances, if it had not acquired PIK gas, ONG could have obtained a comparable quantity of gas on the spot market, and the valuation of this gas at its spot purchase price would have resulted in a reduction in WACOG.

Q Then, you do not agree that, in those months in which the Dynamic price has been equal to WACOG, the acquisition of natural gas under the Dynamic contract has been "neutral" from the vantage point of ratepayers?

A That is correct; I definitely do not agree that the acquisition of Dynamic gas has had a neutral (i.e., no) effect on ratepayer charges in those months. The Dynamic price exceeded spot (the Oklahoma Index) in 93 of the 97 months under review here. In all of those months WACOG would have been lower had ONG not purchased gas from Dynamic but purchased at spot instead.

For example, consider the month of November 2001. In that month the spot price of gas was $3.01, WACOG was $5.981, the Dynamic price was equal to WACOG, and ONG's gas purchases under the Dynamic contract equaled about 15 percent of its total natural gas requirements in that month. Assume that those prices and rates of consumption had persisted (permitting us to ignore lags between price determination, purchase and resale to ratepayers). If ONG had replaced the Dynamic gas with gas purchased on the spot market, WACOG would have fallen from $5.981 to $5.535, i.e., by 7.5 percent. This reduction in WACOG would have passed directly to ratepayers through the PGA.

Only on those rare occasions (four months of the 97 analyzed here) when the Dynamic price has been less than the spot price have purchases under the Dynamic contract had the effect of reducing WACOG. On average, the price of Dynamic gas has exceeded the spot price by $1.066, or 40.9 percent. Thus, by comparison to spot purchases, the Dynamic gas has had a significant positive impact on WACOG (and, thus, a negative effect on ratepayers).

Q Schedule SPD-3A appears very similar to the PUD staff analysis presented in Exhibit SPD-4. Have you simply copied that table?

A Exhibit SPD-4, with corrections for discrepancies between it and its source (Exhibit SPD-5, provided by ONG), is the primary source of data for Schedule SPD-3A. Thus, Schedule SPD-3A and Exhibit SPD-4 necessarily appear similar; in fact, for common elements, they are identical except for the corrections of erroneous entries.

Q Why do you use the spot (Oklahoma Index) price as the basis for determining the excess cost of gas under the Dynamic contract?

A Three significant justifications can be offered for employing the spot price as the benchmark against which to compare the Dynamic contract price.

Q Please explain the first justification for your employment of the spot price as the benchmark for analysis of the Dynamic contract.

A The primary justification for the use of the spot market price of natural gas as the benchmark is conceptual. The spot price at any point in time is that price at which unconstrained transactions for approximately contemporaneous delivery are in fact occurring. In spot transactions, neither the buyer nor the seller is constrained by prior commitments (to either purchase or sell), and the commitment entailed by entry into a spot transaction does not extend beyond the completion of that transaction, generally very shortly after the commitment is made.

The entirely voluntary nature of spot transactions implies that the spot price will respond immediately to any emerging shortages or surpluses. Demands for quantities greater (less) than those available at the spot price will lead to an increase (decrease) in price in order to bring quantities supplied and demanded into balance.

Thus, the spot price can be viewed as the "market-clearing" price. Transactions pursuant to longer term contracts will occur at whatever price was specified in the contract at some point in the past. These predetermined contract prices provide no information concerning the current state of the market. In contrast, the spot price provides an instantaneous measure of the price required to clear the market, equating quantities supplied and demanded.

Moreover, ceteris paribus (all else equal), when spot and longer-term contract transactions are occurring simultaneously, if both the buyer and seller under the long-term contract are engaging in both contract and spot transactions, then an unanticipated action which invalidates the long-term contract will have no consequences for the spot price. Both buyer and seller will enter the spot market to buy/sell the natural gas which they would otherwise have exchanged under the terms of the suddenly terminated contract, i.e., quantities supplied and demanded in the spot market will be increased equally, and no change in the spot price will be observed. In economic parlance, the spot transactions are the *marginal* transactions, while the contract transactions are *inframarginal* and have no impact on the market-clearing spot price.

In analyzing the alternatives to the Dynamic contract, the question is, where would ONG have obtained natural gas if, suddenly and unexpectedly, the commitments of the Dynamic contract had been lifted from both parties. The obvious answer is the spot market, and, if Dynamic and ONG both enter the spot market to complete transactions in which they would otherwise have engaged under the contract, then the transactions will have no effect on the market-clearing spot price.

Q Please explain the second justification for your employment of the spot price as the benchmark for analysis of the Dynamic contract.

The second justification for employing the spot price as the benchmark for assessing the propriety of the Dynamic contract price is that, in fact, the vast majority of ONG natural-gas supply contracts are de facto spot contracts. As documented in Exhibit SPD-3A, most of the contracts into which ONG entered between November 9, 1992, and November 9, 1994 (40 out of 52 examined thus far, with five others providing no price), provided for a price in the range of spot (Oklahoma Index) to spot plus $0.04 (per MMBTU). What I will characterize as the "modal" (most common) contract (17 of 52) provided for a contract price equal to the spot price, while the median (half above and half below) contract price (found in 12 contracts) was spot plus $0.02. This demonstrates the possibility to purchase natural gas at a spot price during the time periods relevant to the Dynamic contract.

Q Please explain the third justification for your employment of the spot price as the

benchmark for analysis of the Dynamic contract.

A The third and final consideration dictating the employment of the spot price as the benchmark for assessment of the Dynamic contract is that the initially contracting seller in fact had no source of supply by which to fulfill the Dynamic contract other than the spot market.

In 1980, when ONG originally contracted to purchase gas from Creek Systems (which eventually became ONG's tormentor – see Volume Two of my testimony), according to ONG's Gaberino [Cause PUD No. 980000188, Transcript of Proceedings of May 7, 1998, p. 5, lines 18-23], "production [from the wells to which the Creek system was attached] began at about a million and a half cubic feet a day." But, in late 1993, when ONG determined to give Dynamic Energy the lucrative gas supply contract which is the subject of this case, "these wells were old, depleted wells that were oil well [sic], gas or stripper gas wells. ..." In short, Dynamic Energy itself owned no gas production or gathering facilities (in fact, prior to November 9, 1993, it owned nothing at all) and would, when it acquired Creek Systems, own virtually no production or gathering capability. Therefore, it is obvious that Dynamic Energy could, at least in the short run, acquire gas to fulfill the contract only on the spot market. Further, there is no evidence that Dynamic's successors, ANG and Enogex, had access to dedicated wellhead or gathering system gas in the requisite quantities. Therefore, the sellers had no recourse other than to acquire gas for resale to ONG on essentially spot-market terms.

This conclusion is supported by a letter amendment issued on November 8, 1993, to ANG as purchaser of one-half of the Dynamic contract [Exhibit SPD-14]. That amendment specifically permitted the delivery of spot-market gas to ONG over the early months of the contract. See p. 35, line 18 et seq. below. We have reason to believe that other letter amendments may have extended this authorization and that similar letter amendments were issued to Enogex, which, in March 1994, acquired the other half of the Dynamic contract. The Applicants have requested copies of all such amendments and are awaiting ONG's reply.

Q **Although you argue that the appropriate alternative to the Dynamic price is the spot price (Oklahoma Index), if the Commission were to determine that, in its estimation, spot plus $0.02 (as provided by the median ONG gas-purchase contract executed over the period 11/9/1992-11/9/1994) were a more appropriate comparison, have you determined ONG's excess gas charges on that basis, i.e., relative to an alternative price of spot plus $0.02?**

A Yes, I have, and that analysis is presented in Schedule SPD-3B, which is virtually identical to Schedule SPD-3A with the exception of the addition of a column presenting spot plus $0.02 (Column C) and its use of that column in the computation of the alternative cost of gas and of the premium paid under the Dynamic contract.

Q **In your answer to a preceding question you referred to the "modal" and "median" prices reflected in other contracts approximately contemporaneous to the Dynamic contract. How would you compare the pricing provisions of the Dynamic contract to those of the modal or median contract?**

A Clearly, the Dynamic price (the maximum of $2.78, WACOG and, except in the six "summer" months, spot plus $0.40) is generally significantly more generous than the modal or median contract prices (spot and spot plus $0.02).

Q With reference to purchase and sale commitments of the buyer and seller, respectively, is the Dynamic contract similar to other contracts?

A Under 40 of the 52 contracts examined to date the seller was nominally required to offer to ONG up to the full amount of natural gas available to it (from the wells, gathering systems, or other sources specified in the contract), which quantity ONG then had the option (but not the obligation) to purchase. [See Exhibit SPD-3B for a full summary.] Formally, the purchase and sale obligations of the Dynamic contract appear similar to those of the most common contracts. However, ONG officials have repeatedly testified under oath [e.g., statement of David Kyle before the Commission, Exhibit SPD-15] that ONG is required to take up to the specified daily quantity of gas under the Dynamic contract, while Dynamic (i. e., ANG and Enogex) has no obligation to provide gas to ONG under the contract. Moreover, ONG has performed ***as if*** it is required to purchase all gas supplied under the contract. Thus, in contrast to the most common contracts of the 11/1992-11/94 period, the Dynamic contract is treated by ONG as a "take" contract, under which ONG is required to purchase the gas supplied, even if this gas constitutes an inordinately high-cost supply. Thus, in November 2001, when the Dynamic price ($5.98) exceeded the spot price ($3.01) by $2.97, or almost 100 percent, ONG took about one-third more gas under the Dynamic contract than was required by the contract itself.

ONG has attempted to buttress its "take" interpretation of the Dynamic contract by reference to the Commission's priority rules. Thus, William G. Eliason, an ONG vice president, has testified in Commission Cause PUD No. 200000073 that the Dynamic gas is

"Priority One, which means that if Oklahoma Natural is taking any gas, this gas is the first gas to be taken." He further states: "It is my understanding that the Oklahoma Corporation Commission established this priority for this gas in a proceeding in which Oklahoma Natural did not participate." [Exhibit SPD-16, p. 3, line 24, to page 4, line 2] The Applicants presented an interrogatory to ONG requesting the basis for Mr. Eliason's statement. Mr. Walker indicates to me that he has seen ONG's response and that it is legally untenable. I am not qualified to evaluate Mr. Walker's opinion. However, prima facie, the claim that the Dynamic (ANG/Enogex) gas has Priority One status is incomprehensible. Under the Commission's priority rules, Priority One designates natural gas from what are called "hardship wells," i.e., wells which, for some reason, cannot be closed in without significant adverse consequences. Priority One status is granted by the Commission only in response to an application filed for a specific, designated well, and the priority-take regime applies (at least by rule) only to the first purchaser or first taker. Because the Dynamic contract provides for multiple delivery points on ONG's system and does not specify the wells (or even gathering systems) from which gas is to be supplied under the contract, it is impossible to identify circumstances under which the Commission could have granted this generic natural gas Priority One status to all gas received by ONG under the Dynamic contract.

ONG's attribution of Priority One status to gas acquired under the Dynamic contract is particularly incomprehensible in light of a letter-amendment of the ANG portion of the contract, issued by ONG on November 8, 1993. [Exhibit SPD-14] This letter-amendment explicitly permitted ANG, through April 30, 1994, to acquire spot-market gas in order to provide the maximum quantities permitted under the Dynamic contract. It also permitted

ANG to continue to sell at the "winter rate" (12,500 MMBTU/day, one-half of the total Dynamic-contract quantity) into April 1994 to compensate (on a day-for-day basis) for any failure to commence sales by October 1, 1993; I would note that the Dynamic contract did not take effect until November 9, 1993, and reiterate that the letter-amendment was dated November 8, 1993. Finally, through April 30, 1995, the agreement permitted ONG to acquire an additional 20,000 MMBTU per day under the Dynamic contract. These letter-agreement provisions fail to limit acquisitions to Priority One gas and in fact make it is so unlikely as to be inconceivable that the gas supplied pursuant to these provisions originated exclusively from Priority One sources. We understand that other such side letters exist and have requested them of ONG.

Q Do you draw any conclusions from ONG's effective interpretation of the Dynamic contract as a "take" contract, requiring ONG to accept all gas offered (at least up to the contract maximum) regardless of how high the contract price may be?

A My principal conclusion is that the Dynamic contract had to be a "take" contract, de facto if not de jure, if Dynamic were to be able to convert the contract into cash and provide ONG the "something else," in addition to gas, which it sought. As has been discussed, ONG was confronted with vexatious litigation. In addition to supplying gas, Dynamic Energy was to achieve a settlement of that litigation. But, it could do so only if it were able to purchase ONG's antagonist, Gage/Creek Systems. However, Dynamic had no cash. Thus, sale of the contract became the means by which Dynamic would marshal the resources necessary to accomplish the settlement. This required extremely generous and guaranteed terms. In light of Dynamic's success in selling the contract to ANG and Enogex for $18.75 million, ONG clearly succeeded in devising a contract sufficiently generous as to give the initial contract holder, Dynamic, a substantial gain on the sale of the contract and consequently the cash it needed to purchase and silence Gage/Creek Systems.

Q Notwithstanding the lack of a commitment to provide gas on the part of the Dynamic sellers, ONG officials have suggested that they consider the Dynamic contract to be a significant source of virtually certain supply, for which, by implication, the payment of a premium is justified. Do you have any views on this matter?

A Because the Dynamic contract price is generally significantly above spot, the sellers do have a strong profit incentive to provide the maximum contract quantity of gas to ONG. However, it is precisely in periods of supply shortage and spikes in spot prices that the Dynamic supply is likely to evaporate. These will be the rare periods in which WACOG is less than spot. If they occur during "summer" months (when the minimum Dynamic price of spot plus $0.40 is inoperative), and if the spot price is above the guaranteed Dynamic minimum of $2.78, then a rational holder of the Dynamic contract will elect not to provide any gas at all. For reasons which are unclear, ANG and Enogex elected to continue to supply the maximum quantities of gas in the four months (of 97 analyzed) in which this situation occurred, but nothing, apparently (except, quite possibly, a technical reading of the contract not given it in practice by the parties), required them to do so; economic rationality would have dictated that they withhold gas from ONG and sell on the spot market instead.

Q Conceptually, how would you characterize the excess gas charges which have been imposed on ONG's general system ratepayers as a result of the Dynamic contract?

A Because these charges violate the Oklahoma Constitution's "reasonable and just" requirement, the present action demands that general system ratepayers be compensated for the excess charges which have been imposed on them over the term of the contract. If the excess charges should be rebated to general system ratepayers, then I interpret their payment of these charges in the first instance to have constituted a forced loan to ONG: In the aggregate, general system ratepayers have loaned ONG $44.827 million (considering the period from the award of the contract, 11/1993, through 11/2001).

Q Can you describe the consequences of this forced loan from the vantage point of general system ratepayers and from the vantage point of ONG?

A From the vantage point of ratepayers the forced loan represents an asset in which, without their knowledge or consent, they have been forced by ONG to invest. Unknowingly compelled by ONG to invest in this asset, ratepayers have had no choice but to invest less in other assets or to incur greater liabilities than they would otherwise have elected.

From the vantage point of ONG the loans which have been extorted from ratepayers in the form of exorbitant over-charges for natural gas have permitted the company to rely less heavily on alternative sources of corporate finance, reducing the need for retained earnings, net borrowing or the issuance of additional equity.

Q What issue confronts the Commission in attempting to determine the terms on which ONG should be required to repay the ratepayers' forced loans?

A The fundamental issue which the Commission must resolve is whether to view these loans from the vantage point of the ratepayer or of ONG.

If the Commission addresses the issue from the vantage point of the ratepayer, its objective will be to make ratepayers whole. This requires that ONG not only repay the principal of the loan but also compensate ratepayers for the the returns which they would have realized on the investments which they have been forced to forego or for the costs which have been imposed on them as a result of the greater debts which they have been forced to incur. Whether in the form of foregone returns or the expense of greater debt, the issue is one of the ratepayers' opportunity cost of capital.

If, alternatively, the Commission addresses the issue from the vantage point of ONG, the objective will be to insure that ONG does not profit from the substitution of forced loans from ratepayers for alternative sources of capital. This requires that ONG compensate ratepayers for the forced loans at a rate at least equal to costs which ONG would have incurred on alternative sources of capital. Here the issue is ONG's opportunity cost of capital.

In summary terms, the question is: Should ratepayers be compensated fully for their damages, or should ONG be required to fully disgorge the improper benefit which it has obtained from ratepayers?

Q From which perspective, the ratepayers' or ONG's, would you propose that the Commission approach the issue of the terms of ONG's repayment of the forced loans which it has extorted from ratepayers?

A If ratepayers had voluntarily extended loans to ONG at rates no greater than ONG would have incurred on its next-best alternative source of funds, then there would be no conflict between the two approaches. However, there is strong reason to believe that the opportunity cost of funds to ONG is significantly less than the ratepayers' opportunity cost of funds.

The critical point is that the ratepayers' lending to ONG was involuntary. For this reason I would argue that equity requires that compensation be assessed from the vantage point of the ratepayers.

To argue that the issue should be addressed from ONG's vantage point assumes that ONG applied a cost-of-capital analysis in deciding to extract forced loans from ratepayers. In fact, ONG's calculus was much simpler: It anticipated that it would never have to repay these loans, at any interest rate, i.e., that these forced loans would constitute "free capital," even the principal of which would never have to be repaid.

Even if ONG recognized the possibility that it might eventually be forced to repay these loans with interest, it considered the <u>probability</u> that it would be required to do so to be sufficiently small that its <u>expected</u> cost of capital from general system ratepayers was less than the cost of capital from alternative sources, regardless of the return it might be forced to provide on the forced loans in the unlikely event that repayment was ever required.

The ratepayers here are the victims of ONG's improper and extortionate charges, and it is the victims who should be compensated for their losses. ONG has no moral standing to argue that it should not suffer by comparison to the situation which it would occupy had it not perpetrated its wrongful act on its victims, the ratepayers.

Q If the issue is approached as one of compensating ratepayers for their losses, can you suggest an appropriate estimate of the ratepayers' opportunity cost of capital?

A There is no unique, definitive answer to this question. Ratepayers are diverse, and the opportunity cost of funds is likely to vary significantly across ratepayers enjoying very different circumstances. However, I can suggest several alternative estimates. A major consideration in assessing these, I would suggest, is the importance of more fully compensating those who are least capable of absorbing the damage which has been inflicted on them. In general, these will be the least affluent ratepayers.

Q What measure of the ratepayers' opportunity cost of funds do you view as superior to the alternatives, especially for purposes of making whole the least affluent and most vulnerable?

A In my professional opinion the penalty which ONG assesses on past-due balances which appear on the monthly natural-gas bills which it renders to its ratepayers is the appropriate rate at which to compensate ratepayers for the opportunity cost of their capital, and this rate is particularly warranted with reference to the least affluent ratepayers.

Just as the excess cost of gas forced on ratepayers as a result of ONG's purchase of gas under the Dynamic contract represents a forced, involuntary loan from ratepayers to ONG, a past-due balance represents a forced, involuntary loan from ONG to the ratepayer. If ONG and the Commission (which must approve the rate charged by ONG on past-due balances) consider a particular rate to be appropriate when ONG makes forced loans to ratepayers, then they should consider the same rate to be not inappropriate when the forced lending is from the ratepayers to ONG.

Furthermore, all ratepayers who have carried over a past-due ONG balance from one month to the next have in fact been charged ONG's past-due balance rate on their forced lending to ONG, simply because their past-due balances were inflated on a dollar-per-dollar basis by the forced loans which ONG has extracted from them. Thus, if these ratepayers are to be made whole, they must be compensated at the rate at which they have been penalized by ONG for their past-due balances.

Q What is the rate charged by ONG on the past due balances of general system ratepayers?

A As reauthorized most recently by Commission Order No. 441549 (May 30,2000) [Exhibit SPD-11], the rate charged by ONG on past-due balances is 1.5 percent per month. Compounded monthly, this rate is equivalent to 19.56 percent per year.

Q In addition to general system ratepayers who carry over unpaid ONG balances from month to month, do other ratepayers incur an opportunity cost of capital approximately equal to or greater than the rate charged by ONG on past due balances?

A Almost half of all households carry positive credit card balances from month to month. Rates charged on credit card balances vary significantly, but the ONG past-due balance rate certainly falls within the range of credit-card rates. Moreover, credit-card rates are generally higher for less credit worthy cardholders, and these are most likely to carry positive balances from one billing period to the next.

Also, a significant fraction of lower income households borrow at payday-loan and pawn-shop rates which greatly exceed the credit-card and ONG past-due-balance rates. These households also acquire the use of capital indirectly through rentals and leases of furniture and appliances at implicit rates even higher than payday-loan and pawn-shop rates. Thus, as a measure of the opportunity cost of capital, the ONG past-due balance rate is conservatively low for many of ONG's general system ratepayers, especially the least affluent.

It should be emphasized that the forced loans which ONG has extracted from ratepayers have led these ratepayers not only to carry over higher unpaid balances due ONG from month to month but also to have higher credit-card balances and to engage in greater borrowing from higher-interest lenders than would otherwise have been the case.

Q Including the general system ratepayers' opportunity cost of funds, as measured by the 19.56 percent rate charged by ONG on past-due balances (comparable to or less than other rates confronted by poorer households), what is your estimate of the liability of ONG to its general system ratepayers, on account of its overcharges for gas under the Dynamic contract between 11/1993 and 11/2001? Explain your computation of that liability.

A On this basis I estimate ONG's liability to its forced-lending ratepayers to total $100.435 million as of 11/2001 (Schedule SPD-1), of which $55.608 million constitutes the opportunity cost of funds (at the rate charged by ONG on past-due balances) on aggregate forced loans of $44.827 million.

That liability is computed in Schedule SPD-2A which presents, for each month (11/1993 - 11/2001):

(1) the total premium over spot paid by ONG in that month (Column A, equal to Column I of Schedule SPD-3A);

(2) the total opportunity cost of capital for that month, calculated at the rate charged by ONG on past-due balances applied to the prior month's cumulative total premium plus opportunity cost of capital (Column B, equal to Column C for the prior month

multiplied by the the monthly compound equivalent of ONG's annual past-due-balance rate); and

(3) the cumulative total premium plus the opportunity cost of capital, or ONG's cumulative liability to its forced-lending ratepayers (Column C, equal to Column C for the prior month plus the sum of Columns A and B).

For example, in November 1993 ratepayers were charged a total premium over spot of $176,628. Because this was the first month of the contract, there was no prior balance (cumulative total premium plus opportunity cost of capital); therefore, the opportunity cost of capital in that month was zero, resulting in a balance equal to that month's premium over spot. Then, in December 1993 ratepayers were charged a total premium over spot of $76,444. In additional they incurred an opportunity cost of capital equal to 1.5 percent of the prior month's balance, or $2,649 (= 0.015 · $176,628). Thus, the December balance (cumulative total premium plus the opportunity cost of capital) was $255,721 (= $176,628 + $76,444 + $2,649).

Parenthetically, I would note that the precise time-sequencing of ONG's gas purchases and its resale of that gas to ratepayers may require minor modifications in the foregoing. Specifically, it is not clear when the gas delivered to ONG in a given month t is deemed to be resold to ratepayers. It is presumably in the latter month that the period-t contract price of the Dynamic gas (weighted by the quantity delivered in period t) enters into the determination of the PGA. The amount by which ratepayers are overcharged for gas acquired by ONG in month t gas will be unaffected, but that overcharge may not be billed to ratepayers until t+d, where d is the delay (in months) from ONG's purchase of gas to its resale of that gas to ratepayers. As a result, the period over which the opportunity cost of capital should be accrued may be reduced by d months. The Applicants have issued a discovery request to ONG to attempt to determine this delay, but the response has not been received as of the preparation of this testimony.

Columns D, E and F of Schedule SPD-2A are identical in structure to Columns A, B and C, respectively except that Column D presents the premium at the Dynamic price by comparison to a price of spot plus $0.02, as obtained from Column J of Schedule SPD-3B.

Q The majority of ONG's general system ratepayers pay their bills on a current basis, as tendered by ONG, and thus do not incur charges for past-due balances. They also do not obtain access to capital at the exorbitant rates charged by pay-day lenders, pawn shops, and rental furniture and appliance operators. What opportunity cost of capital might be argued to be appropriate for these households?

A These households tend to be the most affluent, because even many middle-class households incur high interest charges on their credit card debt and thus confront an opportunity cost of capital comparable to the past-due-balance rate charged by ONG.

The assets of almost half of all households include corporate equity securities, largely in mutual and retirement funds. It can be plausibly argued that, had these households not been required to make forced loans to ONG, their equity balances would have been higher and that they should be compensated for the lost returns. Between December 1993 and December 2000, the last year for which these data are available, the total return to equities (price appreciation plus dividends) was 18.25 percent per year. This represents a reasonable estimate of the opportunity cost of capital to these households.

It should be noted that this rate is not substantially below the opportunity cost of capital confronting poorer households, as developed above and proxied by ONG's past-due balance rate.

Thus, for the the affluent, those of more moderate means and also the poor 18.25 percent is a plausible but conservative, downward-biased estimate of the true opportunity cost of capital.

Q Including the general system ratepayers' opportunity cost of funds, as measured by the 18.25 percent rate of total return to equity securities (approximately equal to the credit-card rate and less than the rate charged by ONG on past-due balances and the other rates confronted by poorer households), what is your estimate of the liability of ONG to its general system ratepayers, on account of its overcharges for gas under the Dynamic contract between 11/1993 and 11/2001?

A On this basis I estimate ONG's liability to its forced-lending ratepayers to total $95.047 million as of 11/2001 (Schedule SPD-1), of which $50.221 million constitutes the opportunity cost of funds (at the return to equity securities) on aggregate forced loans of $44.827 million.

That liability is computed in Schedule SPD-2B, which is structurally identical to Schedule SPD-2A.

Q It might be argued that many households have little equity investment and borrow at rates significantly below the return to equity securities and also below the extremely high borrowing rates confronted by poorer ratepayers, including the rate charged by ONG on past-due balances. Can you suggest an opportunity cost of

capital appropriate for these households?

A About three-quarters of U.S. households have debt obligations. While many of these households are borrowing at credit-card and even higher rates, such as the ONG rate on past due balances, a significant number do have access to capital at significantly lower rates. Consumer loans provided by commercial banks to credit-worthy borrowers represent one of the lower-cost forms of consumer credit.

Even households with access to commercial-bank loans will have found it necessary to borrow more heavily as a result of their forced loans to ONG than would otherwise have been the case; alternatively stated, had they not been forced to make loans to ONG, they would have paid down part of their own debt. For these households the opportunity cost of capital, i.e., the rate at which ONG should be required to compensate these ratepayers for their forced loans to the company, is at least equal to the rates which they are paying on their own borrowing.

Clearly, the calculation of the losses incurred by ratepayers utilizing the personal loan rate of commercial banks as an estimate of the opportunity cost of funds to ONG's general system ratepayers results in a conservative, i.e., low or downward-biased, estimate of the damages incurred by the universe of general system ratepayers as a result of their forced loans to ONG.

Q While you do not believe that the consumer-loan rate of commercial banks is an appropriate measure of the opportunity cost of funds confronting the representative general system ratepayer, what is your estimate of the liability of ONG to its general system ratepayers, on account of its overcharges for gas under

the Dynamic contract between 11/1993 and 11/2001, assuming an opportunity cost of funds equal to the consumer loan rate?

A On this basis I estimate ONG's liability to its forced-lending ratepayers to total $78.316 million as of 11/2001 (Schedule SPD-1), of which $33.489 million constitutes the opportunity cost of funds (at the commercial-bank personal loan rate) on aggregate forced loans of $44.827 million. That liability is computed in Schedule SPD-2C. Schedule SPD-2C is formally identical to Schedule SPD-2A except that Schedule SPD-2C takes into account month-to-month (actually, quarter-to-quarter) variations in commercial bank's consumer loan rates (Column G).

Q The foregoing estimates all assume that the Commission views the issue as one of making ratepayers whole, i.e., fully compensating them for the damages they have suffered as a result of ONG's extraction, through inflated gas charges, of forced loans. If, instead, the Commission were to view the matter as one of forcing ONG to disgorge the benefit it derived from these forced loans by comparison to alternative sources of capital, compensating ratepayers only at ONG's opportunity cost of capital, what rate would be appropriate?

A The Commission determined, in Order No. 388124 [Exhibit SPD-8], that ONG's weighted cost of capital on its rate base was 10.32 percent. Since the forced loans of general system ratepayers reduced requirements for other sources of capital, it can be argued that ONG should compensate general system ratepayers for their forced loans at this rate.

Q Can you tell us what ONG's liability would be if it were computed using the company's weighted cost of capital?

A At the weighted cost of capital of 10.32 percent, as established by the Commission in Order No. 388124, ONG's liability to its general system ratepayers on account of their forced loans to the company would have totaled $68.222 million as of 11/2001 (Schedule SPD-1), of which $23.395 would represent the opportunity cost of capital on the aggregate forced loans of $44.827 million.

This liability is computed in Schedule SPD-2D, which is structurally identical to Schedule SPD-2A, except that the monthly compound equivalent (0.82 percent) of the Commission's established weighted average cost of capital (10.32 percent) replaces the monthly compound equivalent (1.5 percent) of the rate charged by ONG on past-due balances of its general system ratepayers (19.56 percent) in the computations.

Q ONG might argue that, because its debt obligations are rated as investment-grade by the financial rating agencies, it is able to acquire short-term funds at extremely attractive rates. As a specific example, ONG could issue commercial paper at market rates; thus, ONG might argue, the commercial paper rate would be an appropriate rate at which to assess the cost of the ratepayer-provided forced loans. Can you provide an estimate of ONG's liability to its general system ratepayers if the Commission were to determine that the appropriate interest rate was the one-month commercial-paper rate?

A Yes. At the one-month commercial paper rate ONG's obligation to its general system ratepayers would total $55.407 million as of November 2001, of which $10.581 would constitute accumulated opportunity cost of capital on the consumers' forced loans (Schedule SPD-1).

This liability is computed in Schedule SPD-2E, which is structurally identical to Schedule SPD-2B except that the monthly compound equivalent of the nonfinancial commercial paper rate (one-month obligations) (Column G) replaces the personal-loan rate of commercial banks in the computations.

Q **Am I correct in understanding that your various estimates of ONG's liability to its forced-lending ratepayers, on account of its purchases of natural gas under the Dynamic contract over the period November 1993 through November 2001, under the above-described assumptions concerning the opportunity cost of capital and the price at which ONG could have replaced the Dynamic-contract natural gas, are summarized in Schedule SPD-1?**

A Yes.

Q **And, to repeat, in your professional judgment the best estimate of that ONG liability to its general system ratepayers on account of the excess charges for natural gas resulting from the Dynamic contract is, as of November 2001, $100.435 million?**

A Yes.

Q **How would you recommend that the Commission require ONG to discharge this liability (overcharge plus opportunity cost of capital) to its general system ratepayers?**

A The aggregate excessive gas charge imposed on consumers as a result of the Dynamic contract is known for each month in which the contract has been in force (as shown in Column A of Schedule SPD-2A), and for each month the gas usage of every ONG general system ratepayer can be determined. A ratepayer's forced loan to ONG in any month was equal to his share of total gas consumption in that month multiplied by the aggregate excess gas charge imposed in that month. The individual's account balance increased from month to month as he made further forced loans and as the opportunity cost of capital accrued on the past balance at the rate charged by ONG on past-due balances. That balance should continue to be credited for the opportunity cost of capital (at the past-due-balance rate) up to the date on which the balance is paid in full by ONG.

Q Are you stating that ONG should compute and discharge its liability individually to every general system ratepayer account which was active at any time since November 1993?

A Yes.

Q How should ONG notify current and former general system ratepayers of their entitlement to repayment by ONG of their forced loans to the company?

A ONG should include notice of the entitlement in monthly bills rendered to current general system ratepayers for at least twelve months, provide written notice to the last known addresses of former general system ratepayers, and sponsor advertisements in the print and broadcast media informing current and former ratepayers of their entitlements to repayment. Parenthetically, ONG should not be permitted to recover the costs of this reimbursement program in any rate proceeding, and Commission should order that the costs of the program are not stranded costs.

Q What disposition should ONG make of those accounts the owners of which can not be located and and are thus unclaimed?

A Unclaimed accounts should be treated identically to other unclaimed property: At the conclusion of the statutorily-specified period (seven years after the date of the Commission's order that ONG repay these forced loans), the balances in these accounts (inclusive of the opportunity cost of capital accrued to that point) should be paid over to the unclaimed property division of the Oklahoma Tax Commission.

Q Might ONG not simply credit current general system ratepayers for its aggregate overcharges, inclusive of the ratepayers' opportunity cost of capital?

A A credit to current general system ratepayers would provide an unwarranted benefit to new or more recently added ratepayers while failing to provide any recompense to those ratepayers who made forced loans to ONG (in the form of excessive gas charges) over longer or shorter periods but have since left the system.

Q Might ONG not claim that the costs of this method of repayment of the forced loans implied by the excessive gas charges under the Dynamic contract are excessive relative to the benefits to the consumers who made these forced loans?

A ONG should have considered these potential costs when it entered into a gas-purchase contract which imposed excessive charges on consumers. However, the costs of administering this repayment program should not be excessive. Certainly, ONG's administrative records must include (a) the names and last known addresses of all parties which have had accounts since November 1993 and (b) gas consumption of each account in each month. These constitute the only items of information required to implement the repayment program. The computer programming required to compute the outstanding balance due to any current or former account holder at any point in time is trivial.

Q Your calculation of ONG's liability to its general system ratepayers on account of the Dynamic contract only considers ONG's natural-gas purchases under the Dynamic contract from inception (November 9, 1993) through the month of November 2001. Have you considered the implications of ONG's purchases of gas under the Dynamic contract from December 2001 through the expiration of the contract (November 9, 2003)? Please articulate and explain your recommendations with reference to these post-November-2001 purchases.

A Yes, I have considered ONG's purchases under the Dynamic contract subsequent to November 2001. If, as I believe the Oklahoma Constitution requires, the Commission rules in favor of the Applicants in this cause, then my analysis, as summarized in Schedule SPD-1, should be updated to include subsequent months in which ONG has purchased natural gas under the Dynamic contract and passed the contract-cost of that gas through to its general system ratepayers via its PGA/FAC. In other words, my estimate of ONG's liability should be updated to the date of the Commission's judgment. It is this updated liability which the Commission should require ONG to discharge, inclusive of the opportunity cost of capital, to those general system ratepayers who have paid the excessive natural-gas costs which have been incurred by ONG as a result of the Dynamic contract.

The Commission should also rule that, for any period subsequent to the latest period included in the computation of ONG's updated liability, ONG's Section 2 WACOG will be computed valuing natural gas acquired under the Dynamic contract, if any, at spot (Oklahoma Index), regardless of the price actually paid by ONG. This will insure that general system ratepayers are not forced to bear further excess charges, beyond those included in ONG's updated liability, for natural gas acquired by ONG under the Dynamic contract.

Q If a Commission order prevented ONG from including the full cost of natural gas acquired under the Dynamic contract in its PGA/FAC charge to general system ratepayers, would this not mean that ONG's profits would decline by the premium over spot which ONG is paying under the contract and that the burden would, thus, fall on ONG shareholders?

A If ONG elected to continue to purchase gas under the Dynamic contract, even though it was prohibited from passing the premium over spot through to ratepayers, then, indeed, ONG profits would decline, and stockholders would bear the burden, just as they will bear the burden of a Commission order requiring ONG to provide compensation (inclusive of the opportunity cost of capital) for the excess natural-gas charges with which it has saddled its ratepayers since November 1993.

To impose this burden on shareholders is not, however, inappropriate. Shareholders, through the directors whom they elect, are ultimately responsible for the behavior of the executives whom they hire to manage a corporation. Only if a corporation is held accountable for the improprieties and misdeeds of its management will shareholders and directors recognize the significance of and seriously exercise their oversight role.

Moreover, Section 13.2 of the Dynamic contract [Exhibit SPD-2A] specifically anticipates possible "regulatory actions by the Oklahoma Corporation Commission ... [which] prevent the full contract price hereunder from being passed through to Buyer's customers through a purchased gas adjustment clause or as an operating expense for ratemaking purposes." In this event, the adversely affected party (here, ONG) could demand renegotiation of the contract, and, if the parties could not agree to renegotiated terms, the contract would terminate without penalty. Thus, ONG could, if it wished transfer the prospective loss (the premium over spot which it could no longer pass through to ratepayers) from itself to the sellers (by refusing to purchase gas under, and thus terminating, the Dynamic contract).

That ONG might pass the prospective losses from itself to ANG (Duke) and Enogex is also not inappropriate. Suppliers should be very skeptical of a contract which is "too good to be true," so good that the suppliers are willing to pay $18.75 million simply for the right to sell natural gas under the contract. If the suppliers were to be forced to bear a part of the cost of making ONG's ratepayers whole, this would serve to warn future suppliers of the risks associated with becoming party to inappropriate contracts.

However, ANG (Duke) and Enogex are unlikely to incur a loss on their collective $18.75 million investment in the Dynamic contract, even if that contract were canceled after November 2001. On the assumption that ANG and Enogex have purchased gas at spot to supply ONG and that they are each generating an internal rate of return from their own operations equal to the total return to equities (S&P 500) from 12/1993 to 12/2000 (18.25 percent), then, as of November 2001 (with 23 months remaining on the contract), their accumulated gross profits, inclusive of returns to capital, totaled $95.047 million. If, instead of investing $18.75 million in the Dynamic contract, they had invested that $18.75 million in their own operations, the investment would have grown, at their internal rate of return, to only $72.690 million. Thus, as of November 2001, ANG and Enogex, together, had reaped a windfall of $22.357 million through their investment in the Dynamic contract. The calculation of this ANG/Enogex "windfall" (net profit) is shown in the lower panel of Schedule SPD-1.

It should also be noted that if ANG and Enogex generate an internal rate of return less than the total return to equities, their windfall (net profit) will be even higher. Thus, for example, if their internal rate of return were only 10.32 percent (equal to ONG's weighted average cost of capital), then their net profit on the Dynamic contract, through November 2001, rises to $26.746 million.

Q You stated above that, in selling its ONG contract to ANG and Enogex, Dynamic reaped "an apparent $18.75 million windfall." Please explain why Dynamic's "apparent $18.75 million windfall" was not, in fact, a windfall.

A The $18.75 million received by Dynamic for its ONG contract would have been a "windfall" if Dynamic had provided nothing of value to ONG, or to its parent, ONEOK, in exchange for the contract which Dynamic then sold to ANG and Enogex. In fact, as I have stated above, Dynamic provided at least one very valuable service to ONG. Specifically, it secured the agreement [Exhibit 17] of Creek Systems to the dismissal with prejudice of all pending litigation in which, directly or indirectly, Creek Systems and ONG were then involved. That the "global settlement" of this litigation was "absolutely" a condition for ONG's award of the Dynamic contract was explicitly stated by ONEOK general counsel John Gaberino before this Commission [Exhibit 12].

Q If ONG (or its parent, ONEOK) received something of value in exchange for the contract, then should ONG not be permitted to pass on to its general system ratepayers the costs incurred under the contract to obtain that something of value?

A That portion of costs incurred by ONG under the contract which corresponds to the cost of gas (equal to the volume of gas multiplied by the Oklahoma Index, as presented in Schedule SPD 3-A) is legitimately passed through to general system ratepayers. That part of the payment in excess of the cost of gas (valued at the Oklahoma Index) could be legitimately passed on to consumers only if it were an expense of providing ONG's utility service.

Even if the Creek Systems settlement were a necessary expense of providing natural gas service, inclusion of that expense in the fuel-cost passthrough is entirely inappropriate. Rather, such expenses might, if recurrent, just and reasonable, be recovered through rates for its services as determined in a hearing before the Commission.

However, in my opinion the expense of settling the Creek Systems litigation was not a necessary expense associated with the delivery of gas to general system ratepayers. Therefore, again in my opinion, the costs of accomplishing that settlement could not be imposed, legitimately, on general system ratepayers, either through the cost of gas (PGA) or through rates.

Q If, in addition to the purchase of gas, ONG utilized the Dynamic contract to secure settlement of the Creek Systems litigation, and if the cost of settling the litigation could not be legitimately passed on to general system ratepayers, then how would you interpret the Dynamic contract?

A The Dynamic contract provided ONG a mechanism by which to transform litigation settlement costs, not legitimately recoverable from general system ratepayers, into what appeared to be purchased-gas costs, which, for over eight years, ONG has passed through to its ratepayers.

Q Please explain the circumstances under which ONG and Creek Systems came to be involved, directly or indirectly, in litigation prior to November 1993.

A In 1980 ONG had awarded a 15-year gas-purchase contract to Creek Systems, a general partnership later controlled by Gage Corporation. That contract, granted at a time of very high gas prices and relative supply shortages, provided that Creek Systems would supply 15,000,000 cubic feet (= 15,000 MCF, contractually defined as equivalent to 15,000 MMBTU) of gas per day at a price of $2.83 per MCF (= MMBTU).

As the natural gas market weakened in the mid 1980s the Creek Systems contract became a source of high-priced gas which ONG was contractually obligated to purchase. The Creek Systems gas was costly not only to ratepayers but, perhaps more importantly, to ONG, because it reduced the quantity of inexpensively acquired PIK ("payment-in-kind") gas which could be sold to ratepayers at a substantial profit. As a result, ONG began to seek means by which to abrogate the Creek Systems contract without penalty.

ONG cited the "priority rules," promulgated by the Commission at the instigation of ONG, as justification when, in 1990, it greatly curtailed its purchase of natural gas under the Creek Systems contract [Exhibit SPD-18]. This led to a sequence of actions before the Commission and in the courts. [Exhibit A of Exhibit SPD-17, Mutual Release and Covenant as to Future Contracts, executed by principals of Gage and ONEOK/ONG in November 1993.]

In 1990 Creek Systems filed before the Commission Cause CD No. 154064, arguing that the priority rules applied only to the "first purchaser" of gas, that Creek Systems and not ONG was the first purchaser of gas on its system, and hence that the priority rules did not apply to Creek's contract with ONG. ONG argued not only that the priority rules did apply to the Creek-ONG contract but also that Creek's gas was not entitled to the relatively high "Priority Two" status claimed by Creek.

On the issue of the applicability of the priority rules to the Creek-ONG contract, an administrative law judge recommended a Commission ruling in favor of Creek. However, in October 1990 Commissioners Townsend and Hopkins (Commissioner Anthony opposed), in Order No. 350879, rejected the administrative law judge's recommendation, ruled that the priority rules were applicable to ONG's purchases from Creek, and remanded the issue of the priority status of the Creek gas to the administrative law judge. Creek immediately appealed the Commission's ruling on the applicability of the priority rules to the Oklahoma Supreme Court (Case No. 76,514).

Creek Systems then sought from the Commission, in Cause CD No. 163035, a limited deviation from the priority-schedule, to require ONG to take Creek's Priority Two gas for the first six months of the heating year (November through April), pending the outcome of the Supreme Court appeal on the applicability of the priority rules. While this application was recommended for denial by an administrative law judge, Commissioners Anthony and Watts approved Order No. 371437, which required ONG to take up to 4,000 MCF per day from Creek over the period January to March 1993 or until the Supreme Court issued a final ruling on the applicability of the priority rules. ONG immediately appealed to the Supreme Court (Case No. 81,106).

On the remanded issue of the priority classification of Creek's gas in Cause CD No. 154064, the administrative law judge recommended a ruling that 10,000 MCF per day of

Creek gas was entitled to Priority Two status. ONG took exception to this recommendation, and, in October 1992, in Order No. 369121, Commissioners Watts and Graves (Commissioner Anthony opposed) ruled that only 4,000 MCF per day was entitled to Priority Two status. In a rather comic sequence of events, the order was first withdrawn and then, in January 1993, reinstated by the Commission. ONG and Creek Systems both appealed to the Oklahoma Supreme Court (Case No. 81,105).

Creek Systems viewed ONG's payment-in-kind [PIK] program as providing ONG's primary motive for seeking to abrogate its 1980 contract. In simplified terms, as approved by the Commission, ONG was permitted to acquire PIK gas in exchange for gas-transportation services and then to value the PIK gas at WACOG when it sold that gas to its general system ratepayers, so it earned a profit equal to the spread between WACOG and spot. (In fact, because of the gas-cost pass-through rules applying to purchased gas, PIK gas was the only gas on which ONG could earn a profit on resale; thus, ONG's motive was to sell large volumes of PIK gas and to keep WACOG extremely high so as to widen the spread between WACOG and ONG's PIK gas acquisition cost, which constituted ONG's profit in the sale of PIK gas.) Therefore, in 1990 Creek Systems applied to the Commission (Cause PUD No. 889) to require that ONG reduce the flow of PIK gas to its general systems ratepayers to the extent necessary to take all (or all Priority Two) gas for which ONG had contracted with Creek Systems. When, in August 1990 Commissioners Anthony and Townsend (in Order No. 349668) denied Creek's application for lack of proof, Creek Systems appealed that order to the Oklahoma Supreme Court (Case No. 76,354).

While litigation concerning the application of the priority rules proceeded, in February 1990 ONG filed suit against Creek Systems, seeking a Creek Systems' accounting and alleging fraud in Creek's sale of gas under the ONG contract (District Court of Tulsa County, Case No. CJ-90-01011, with Case No. CJ-91-04455 by consolidation). Charging abuse of process, Creek filed a counterclaim for actual and punitive damages.

Then, in March 1990 Creek filed a $9.5 million breach-of-contract suit against ONG in Oklahoma County (Case No. CJ-90-2440). The principal charges in this suit were eventually consolidated as counterclaims in ONG's Tulsa County suit.

In the course of these various legal proceedings reports of a federal investigation into alleged corruption involving the Commission began to appear in the news media. Then, on October 2, 1992, Commissioner Bob Anthony formally announced that, for the preceding four years, he had been participating in a federal investigation in the initiation of which he had been instrumental. In his announcement, Commissioner Anthony specifically identified Creek Systems as a party which had been the victim of Commission decisions which had been secured by "unethical conduct and ex parte communication" [Exhibit SPD-19, statement of Commissioner Bob Anthony, October 2, 1992.]

In the wake of Commissioner Anthony's announcement, on October 30, 1992, Creek Systems filed a federal civil rights suit against William Anderson, an attorney who had represented ONG before the Commission in its dispute with Creek Systems (U.S. District Court for the Western District of Oklahoma, Case No. CIV 92-2157 B), claiming $40 million in damages for "ex parte communications as part of a conspiracy," "deprivation of due process," and "wanton and willful conduct." The Creek Systems' complaint and the

Gage announcement of this suit [Exhibits SPD-20A and -20B, respectively] clearly indicated the plaintiff's anticipation that the suit would be amended in the course of discovery to name additional defendants, specifically including ONEOK/ONG and its officers and attorneys.

When the Creek Systems' suit against Anderson was dismissed by the federal district court, Creek Systems appealed to the U.S. Court of Appeals for the Tenth Circuit (Appeal No. 93-6003).

Meanwhile, ONG brought an action before the Oklahoma Supreme Court (Case No. 80,661) challenging Commissioner Anthony's October 2, 1992, announcement that Commission decisions in the ONG-Creek cases had been tainted by corruption and seeking to disqualify Commissioner Anthony from any participation in decisions involving ONG, on grounds of bias as a result of his participation in the federal investigation of corruption at the Commission. Gage (Creek Systems) intervened in this action, in large measure to obtain information which would bolster its federal suit against Anderson.

In the course of these actions, on June 27, 1993, William Anderson, former commissioner Bob Hopkins and Jewell Callaham, owner of a rural telephone company, were indicted on charges related to the payment of bribes to Hopkins to influence the Commission's action in a matter related to Southwestern Bell Telephone Company. [Exhibit SPD-21, Indictment, U.S. District Court for the Western District of Oklahoma, Case No. CR 93-137 A.]

Evidence in the ONG disqualification action was scheduled to be heard on November 10, 1993, by Judge William S. Myers, Jr., special master appointed by the Oklahoma Supreme Court.

On November 9, 1993, Gage/Creek Systems, ONEOK/ONG, Anderson, Robert Huffman, Sr. (general counsel of ONEOK), and the law firm of Huffman Arrington Kihle Gaberino & Dunn (which was the primary source of legal counsel to ONEOK/ONG and which retained Anderson on behalf of ONG), and other related parties reached the "global settlement." [Exhibit SPD-17] Under the terms of this settlement, all litigation between Gage/Creek Systems, ONEOK/ONG and the various directly and indirectly related parties, specifically including Anderson, was dismissed with prejudice. The global settlement also resulted in the dismissal of the disqualification action scheduled to be heard by the special master, Judge Myers, on the following day.

Q Please explain how this "global settlement" was related the the ONG-Dynamic gas purchase contract at issue in this action.

A ONG awarded the Dynamic contract as part of a complex web of transactions which occurred on November 9, 1993: (1) Dynamic acquired the assets of Gage Corporation, including its subsidiary, Creek Systems. (2) Creek Systems agreed to the termination of the fifteen-year gas purchase contract which it had been awarded by ONG in 1980. (3) All legal actions to which ONG and Creek Systems were parties were terminated with prejudice (the "global settlement").

Q Does this conclude your testimony for Volume One?

A Yes, it does.

Q Thank you.

SCHEDULES

Schedule SPD-1
Oklahoma Natural Gas Company
Summary of Refund Scenarios under Alternative Opportunity-Cost-of-Capital Assumptions
Cause PUD No. 980000188

			DER Contract					
Period: 11/1993-11/2001		**Opportunity Cost of Capital**	**Scenario 1 (OK Index)**			**Scenario 2 (OK Index + $0.02)**		
Opportunity Cost of Capital Proxy	**Source**	**(mean)**	**Total Premium Paid**	**Opportunity Cost of Capital**	**Total Premium Plus Opp. Cost Cap.**	**Total Premium Paid**	**Opportunity Cost of Capital**	**Total Premium Plus Opp. Cost Cap.**
ONG Past-Due-Balance Rate (OCC Order No. 441549)	Sch. SPD-2A	19.56%	$44,826,782	$55,607,929	**$100,434,711**	$43,985,980	$54,629,813	**$98,615,794**
Total return on common stocks (S&P 500, 12/1993-12/2000)	Sch. SPD-2B	18.25%	$44,826,782	$50,220,676	**$95,047,458**	$43,985,980	$49,334,804	**$93,320,785**
Personal loan rate (24-mo., commercial banks)	Sch. SPD-2C	13.61%	$44,826,782	$33,489,274	**$78,316,056**	$43,985,980	$32,892,938	**$76,878,918**
ONG weighted cost of capital (OCC Order No. 388124)	Sch. SPD-2D	10.32%	$44,826,782	$23,394,986	**$68,221,768**	$43,985,980	$22,975,001	**$66,960,981**
Nonfinancial commercial paper (1-month)	Sch. SPD-2E	5.24%	$44,826,782	$10,580,650	**$55,407,432**	$43,985,980	$10,389,376	**$54,375,356**

ANG/Enogex: Analysis of DER Contract, 11/1993 to 11/2001

Assumptions				
Cost of gas	Spot*	Cum. excess of ONG contract price over spot cost of gas	$44,826,782	
Internal rate of return [RoR]	18.25%**	Cumulative internal returns on excess of price over cost	$50,220,676	
		Gross profit on DER contract		$95,047,458
* Oklahoma Index		Initial investment in DER contract	$18,750,000	
** Total return to S&P 500 (12/1993-12/2000)		Cumulative foregone internal returns on initial investment	$53,940,429	
Higher RoR ⇒ lower net profit (over relevant range), e.g.,		Gross investment including foregone internal returns		$72,690,429
RoR equal to 5.24% implies net profit of $27,065,888				
10.32% implies net profit of $26,746,441		**Net profit on investment in DER contract as of 11/2001**		**$22,357,029**

Schedule SPD-2A
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios
Opportunity Cost of Capital = ONG Rate on Past-Due Balances
Cause PUD No. 980000188

ONG rate on past-due balances	19.56%	
Annual rate with monthly compounding	18.00%	1.50% /month

	A	B	C	D	E	F
	Scenario 1 (OK Index)			Scenario 2 (OK Index + $0.02)		
Date	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap
Nov 93	176,628	0	176,628	173,451	0	173,451
Dec 93	76,444	2,649	255,721	74,324	2,602	250,376
Jan 94	151,320	3,836	410,877	148,174	3,756	402,306
Feb 94	193,785	6,163	610,825	189,517	6,035	597,857
Mar 94	493,468	9,162	1,113,456	482,538	8,968	1,089,364
Apr 94	735,858	16,702	1,866,015	723,407	16,340	1,829,111
May 94	98,916	27,990	1,992,921	97,246	27,437	1,953,793
Jun 94	241,391	29,894	2,264,206	238,215	29,307	2,221,315
Jul 94	212,337	33,963	2,510,506	209,640	33,320	2,464,275
Aug 94	156,731	37,658	2,704,894	155,195	36,964	2,656,434
Sep 94	224,277	40,573	2,969,745	221,825	39,847	2,918,106
Oct 94	1,801,315	44,546	4,815,606	1,782,091	43,772	4,743,968
Nov 94	638,512	72,234	5,526,353	630,682	71,160	5,445,810
Dec 94	1,157,195	82,895	6,766,443	1,140,827	81,687	6,668,324
Jan 95	1,115,418	101,497	7,983,357	1,100,466	100,025	7,868,815
Feb 95	1,046,117	119,750	9,149,225	1,033,918	118,032	9,020,765
Mar 95	1,537,969	137,238	10,824,432	1,521,677	135,311	10,677,753
Apr 95	314,121	162,366	11,300,919	310,904	160,166	11,148,823
May 95	280,621	169,514	11,751,054	277,423	167,232	11,593,478
Jun 95	207,403	176,266	12,134,723	204,212	173,902	11,971,593
Jul 95	249,707	182,021	12,566,450	246,377	179,574	12,397,544
Aug 95	255,090	188,497	13,010,037	251,819	185,963	12,835,326
Sep 95	221,253	195,151	13,426,440	217,950	192,530	13,245,807
Oct 95	967,149	201,397	14,594,985	952,037	198,687	14,396,531
Nov 95	1,181,966	218,925	15,995,876	1,165,918	215,948	15,778,396
Dec 95	935,352	239,938	17,171,166	918,840	236,676	16,933,913
Jan 96	864,057	257,567	18,292,790	848,026	254,009	18,035,948
Feb 96	847,515	274,392	19,414,697	832,801	270,539	19,139,288
Mar 96	970,587	291,220	20,676,505	954,741	287,089	20,381,118
Apr 96	143,447	310,148	21,130,099	140,294	305,717	20,827,129
May 96	185,754	316,951	21,632,805	182,666	312,407	21,322,202
Jun 96	183,348	324,492	22,140,645	180,208	319,833	21,822,243
Jul 96	162,341	332,110	22,635,095	159,186	327,334	22,308,763
Aug 96	103,980	339,526	23,078,602	100,848	334,631	22,744,242
Sep 96	166,973	346,179	23,591,754	163,938	341,164	23,249,343
Oct 96	835,142	353,876	24,780,773	819,677	348,740	24,417,760
Nov 96	300,000	371,712	25,452,484	285,000	366,266	25,069,027
Dec 96	310,000	381,787	26,144,272	294,500	376,035	25,739,562
Jan 97	310,000	392,164	26,846,436	294,500	386,093	26,420,156
Feb 97	1,040,200	402,697	28,289,332	1,026,200	396,302	27,842,658
Mar 97	1,004,400	424,340	29,718,072	988,900	417,640	29,249,198
Apr 97	160,500	445,771	30,324,343	157,500	438,738	29,845,436
May 97	128,650	454,865	30,907,858	125,550	447,682	30,418,667
Jun 97	96,000	463,618	31,467,476	93,000	456,280	30,967,947
Jul 97	111,600	472,012	32,051,088	108,500	464,519	31,540,967
Aug 97	111,600	480,766	32,643,455	108,500	473,114	32,122,581
Sep 97	58,500	489,652	33,191,607	55,500	481,839	32,659,920
Oct 97	310,000	497,874	33,999,481	294,500	489,899	33,444,319
Nov 97	300,000	509,992	34,809,473	285,000	501,665	34,230,983
Dec 97	722,300	522,142	36,053,915	706,800	513,465	35,451,248
Jan 98	539,400	540,809	37,134,124	523,900	531,769	36,506,917
Feb 98	595,000	557,012	38,286,136	581,000	547,604	37,635,521
Mar 98	474,920	574,292	39,335,348	459,600	564,533	38,659,653
Apr 98	88,500	590,030	40,013,878	85,500	579,895	39,325,048

Schedule SPD-2A
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios
Opportunity Cost of Capital = ONG Rate on Past-Due Balances
Cause PUD No. 980000188

ONG rate on past-due balances	19.56%	
Annual rate with monthly compounding	18.00%	1.50% /month

	A	B	C	D	E	F
	Scenario 1 (OK Index)			Scenario 2 (OK Index + $0.02)		
Date	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap
May 98	94,550	600,208	40,708,636	91,450	589,876	40,006,374
Jun 98	124,500	610,630	41,443,766	121,500	600,096	40,727,969
Jul 98	75,950	621,656	42,141,372	72,850	610,920	41,411,739
Aug 98	142,600	632,121	42,916,093	139,500	621,176	42,172,415
Sep 98	180,000	643,741	43,739,834	177,000	632,586	42,982,001
Oct 98	658,750	656,098	45,054,682	643,250	644,730	44,269,981
Nov 98	622,500	675,820	46,353,002	607,500	664,050	45,541,531
Dec 98	558,000	695,295	47,606,297	542,500	683,123	46,767,154
Jan 99	782,750	714,094	49,103,141	767,250	701,507	48,235,911
Feb 99	721,000	736,547	50,560,688	707,000	723,539	49,666,450
Mar 99	930,000	758,410	52,249,099	914,500	744,997	51,325,947
Apr 99	153,000	783,736	53,185,835	150,000	769,889	52,245,836
May 99	85,250	797,788	54,068,873	82,150	783,688	53,111,674
Jun 99	97,500	811,033	54,977,406	94,500	796,675	54,002,849
Jul 99	94,450	824,661	55,896,516	91,301	810,043	54,904,193
Aug 99	34,493	838,448	56,769,457	31,938	823,563	55,759,694
Sep 99	0	851,542	57,620,999	-3,000	836,395	56,593,089
Oct 99	310,000	864,315	58,795,314	294,500	848,896	57,736,485
Nov 99	302,089	881,930	59,979,332	287,022	866,047	58,889,554
Dec 99	772,779	899,690	61,651,801	757,339	883,343	60,530,236
Jan 00	404,501	924,777	62,981,079	388,943	907,954	61,827,133
Feb 00	290,129	944,716	64,215,924	275,622	927,407	63,030,162
Mar 00	311,589	963,239	65,490,752	296,010	945,452	64,271,625
Apr 00	-1,500	982,361	66,471,613	-4,500	964,074	65,231,199
May 00	42,470	997,074	67,511,158	39,370	978,468	66,249,037
Jun 00	-151,200	1,012,667	68,372,625	-154,200	993,736	67,088,572
Jul 00	-15,035	1,025,589	69,383,179	-18,135	1,006,329	68,076,766
Aug 00	121,210	1,040,748	70,545,137	118,110	1,021,151	69,216,028
Sep 00	-87,172	1,058,177	71,516,142	-90,173	1,038,240	70,164,095
Oct 00	310,000	1,072,742	72,898,884	294,500	1,052,461	71,511,057
Nov 00	805,500	1,093,483	74,797,867	790,500	1,072,666	73,374,222
Dec 00	310,000	1,121,968	76,229,835	294,500	1,100,613	74,769,336
Jan 01	310,000	1,143,448	77,683,283	294,500	1,121,540	76,185,376
Feb 01	2,433,200	1,165,249	81,281,732	2,419,200	1,142,781	79,747,356
Mar 01	1,314,400	1,219,226	83,815,358	1,298,900	1,196,210	82,242,467
Apr 01	106,800	1,257,230	85,179,389	103,800	1,233,637	83,579,904
May 01	285,355	1,277,691	86,742,434	282,255	1,253,699	85,115,857
Jun 01	337,650	1,301,137	88,381,221	334,650	1,276,738	86,727,245
Jul 01	302,250	1,325,718	90,009,189	299,150	1,300,909	88,327,304
Aug 01	238,080	1,350,138	91,597,407	234,980	1,324,910	89,887,193
Sep 01	514,350	1,373,961	93,485,718	511,350	1,348,308	91,746,851
Oct 01	959,760	1,402,286	95,847,764	953,560	1,376,203	94,076,614
Nov 01	3,149,230	1,437,716	100,434,711	3,128,030	1,411,149	98,615,794
	$44,826,782	$55,607,929	**$100,434,711**	$43,985,980	$54,629,813	**$98,615,794**

ONG rate on past-due balances, as authorized by OCC Order No. 441549
Column A from Schedule No. SPD-3A, Column I
Column B equals Column C from previous month multiplied by opportunity cost of capital
Column C equals Column A plus Column B plus Column C from previous month
Column D from Schedule No. SPD-3B Column J
Column E equals Column F from previous month multiplied by opportunity cost of capital
Column F equals Column D plus Column E plus Column F from previous month

Schedule SPD-2B
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios – Opportunity Cost of Capital =
Total Return to S&P 500 (≈ Credit Card Rate, < 19.6% ONG Past Due Balance Rate)
Cause PUD No. 980000188

Total return on common stocks (S&P 500), 12/93-12/00	18.25%	
Annual rate with monthly compounding	16.88%	1.41% /month

	A	B	C	D	E	F
	Scenario 1 (OK Index)			Scenario 2 (OK Index + $0.02)		
Date	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.
Nov 93	176,628	0	176,628	173,451	0	173,451
Dec 93	76,444	2,485	255,557	74,324	2,440	250,215
Jan 94	151,320	3,595	410,471	148,174	3,520	401,908
Feb 94	193,785	5,774	610,031	189,517	5,654	597,079
Mar 94	493,468	8,581	1,112,080	482,538	8,399	1,088,016
Apr 94	735,858	15,644	1,863,582	723,407	15,305	1,826,728
May 94	98,916	26,215	1,988,713	97,246	25,697	1,949,672
Jun 94	241,391	27,976	2,258,080	238,215	27,427	2,215,313
Jul 94	212,337	31,765	2,502,181	209,640	31,163	2,456,117
Aug 94	156,731	35,199	2,694,111	155,195	34,551	2,645,862
Sep 94	224,277	37,899	2,956,288	221,825	37,220	2,904,907
Oct 94	1,801,315	41,587	4,799,190	1,782,091	40,864	4,727,862
Nov 94	638,512	67,511	5,505,213	630,682	66,508	5,425,053
Dec 94	1,157,195	77,443	6,739,851	1,140,827	76,316	6,642,196
Jan 95	1,115,418	94,811	7,950,080	1,100,466	93,438	7,836,099
Feb 95	1,046,117	111,836	9,108,034	1,033,918	110,232	8,980,249
Mar 95	1,537,969	128,125	10,774,127	1,521,677	126,328	10,628,253
Apr 95	314,121	151,562	11,239,810	310,904	149,510	11,088,667
May 95	280,621	158,113	11,678,545	277,423	155,987	11,522,078
Jun 95	207,403	164,285	12,050,233	204,212	162,084	11,888,374
Jul 95	249,707	169,514	12,469,453	246,377	167,237	12,301,988
Aug 95	255,090	175,411	12,899,954	251,819	173,055	12,726,863
Sep 95	221,253	181,467	13,302,674	217,950	179,032	13,123,845
Oct 95	967,149	187,132	14,456,955	952,037	184,617	14,260,499
Nov 95	1,181,966	203,370	15,842,291	1,165,918	200,606	15,627,023
Dec 95	935,352	222,858	17,000,500	918,840	219,829	16,765,693
Jan 96	864,057	239,150	18,103,707	848,026	235,847	17,849,566
Feb 96	847,515	254,670	19,205,892	832,801	251,095	18,933,462
Mar 96	970,587	270,174	20,446,653	954,741	266,342	20,154,545
Apr 96	143,447	287,628	20,877,729	140,294	283,519	20,578,358
May 96	185,754	293,692	21,357,175	182,666	289,481	21,050,505
Jun 96	183,348	300,437	21,840,960	180,208	296,123	21,526,837
Jul 96	162,341	307,243	22,310,544	159,186	302,824	21,988,846
Aug 96	103,980	313,848	22,728,372	100,848	309,323	22,399,017
Sep 96	166,973	319,726	23,215,071	163,938	315,093	22,878,047
Oct 96	835,142	326,573	24,376,786	819,677	321,831	24,019,556
Nov 96	300,000	342,915	25,019,701	285,000	337,889	24,642,445
Dec 96	310,000	351,959	25,681,659	294,500	346,652	25,283,597
Jan 97	310,000	361,271	26,352,930	294,500	355,671	25,933,768
Feb 97	1,040,200	370,714	27,763,844	1,026,200	364,817	27,324,785
Mar 97	1,004,400	390,561	29,158,805	988,900	384,385	28,698,070
Apr 97	160,500	410,185	29,729,490	157,500	403,703	29,259,273
May 97	128,650	418,213	30,276,352	125,550	411,598	29,796,421
Jun 97	96,000	425,905	30,798,257	93,000	419,154	30,308,575
Jul 97	111,600	433,247	31,343,105	108,500	426,359	30,843,434
Aug 97	111,600	440,912	31,895,616	108,500	433,883	31,385,816
Sep 97	58,500	448,684	32,402,800	55,500	441,513	31,882,829
Oct 97	310,000	455,819	33,168,619	294,500	448,504	32,625,833
Nov 97	300,000	466,592	33,935,211	285,000	458,956	33,369,789
Dec 97	722,300	477,376	35,134,886	706,800	469,422	34,546,011
Jan 98	539,400	494,252	36,168,538	523,900	485,968	35,555,878
Feb 98	595,000	508,792	37,272,330	581,000	500,174	36,637,052
Mar 98	474,920	524,320	38,271,570	459,600	515,383	37,612,035
Apr 98	88,500	538,376	38,898,446	85,500	529,098	38,226,634

Schedule SPD-2B
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios – Opportunity Cost of Capital =
Total Return to S&P 500 (≈ Credit Card Rate, < 19.6% ONG Past Due Balance Rate)
Cause PUD No. 980000188

Total return on common stocks (S&P 500), 12/93-12/00	18.25%	
Annual rate with monthly compounding	16.88%	1.41% /month

	A	B	C	D	E	F
	Scenario 1 (OK Index)			Scenario 2 (OK Index + $0.02)		
Date	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.
May 98	94,550	547,195	39,540,191	91,450	537,744	38,855,828
Jun 98	124,500	556,222	40,220,913	121,500	546,595	39,523,923
Jul 98	75,950	565,798	40,862,661	72,850	555,993	40,152,766
Aug 98	142,600	574,826	41,580,087	139,500	564,840	40,857,106
Sep 98	180,000	584,918	42,345,005	177,000	574,748	41,608,854
Oct 98	658,750	595,678	43,599,433	643,250	585,323	42,837,426
Nov 98	622,500	613,325	44,835,258	607,500	602,605	44,047,531
Dec 98	558,000	630,709	46,023,967	542,500	619,628	45,209,660
Jan 99	782,750	647,431	47,454,148	767,250	635,976	46,612,886
Feb 99	721,000	667,550	48,842,698	707,000	655,716	47,975,602
Mar 99	930,000	687,083	50,459,781	914,500	674,885	49,564,987
Apr 99	153,000	709,831	51,322,612	150,000	697,244	50,412,231
May 99	85,250	721,969	52,129,831	82,150	709,162	51,203,543
Jun 99	97,500	733,324	52,960,655	94,500	720,294	52,018,336
Jul 99	94,450	745,011	53,800,116	91,301	731,756	52,841,393
Aug 99	34,493	756,820	54,591,429	31,938	743,334	53,616,665
Sep 99	0	767,952	55,359,381	-3,000	754,240	54,367,905
Oct 99	310,000	778,755	56,448,136	294,500	764,808	55,427,212
Nov 99	302,089	794,071	57,544,296	287,022	779,709	56,493,943
Dec 99	772,779	809,491	59,126,565	757,339	794,715	58,045,997
Jan 00	404,501	831,749	60,362,815	388,943	816,548	59,251,488
Feb 00	290,129	849,140	61,502,083	275,622	833,506	60,360,617
Mar 00	311,589	865,166	62,678,839	296,010	849,109	61,505,735
Apr 00	-1,500	881,720	63,559,058	-4,500	865,217	62,366,453
May 00	42,470	894,102	64,495,630	39,370	877,325	63,283,148
Jun 00	-151,200	907,277	65,251,707	-154,200	890,221	64,019,169
Jul 00	-15,035	917,913	66,154,585	-18,135	900,574	64,901,608
Aug 00	121,210	930,614	67,206,409	118,110	912,988	65,932,706
Sep 00	-87,172	945,410	68,064,647	-90,173	927,493	66,770,026
Oct 00	310,000	957,483	69,332,130	294,500	939,271	68,003,797
Nov 00	805,500	975,313	71,112,944	790,500	956,627	69,750,925
Dec 00	310,000	1,000,364	72,423,308	294,500	981,205	71,026,629
Jan 01	310,000	1,018,798	73,752,106	294,500	999,150	72,320,279
Feb 01	2,433,200	1,037,490	77,222,796	2,419,200	1,017,348	75,756,828
Mar 01	1,314,400	1,086,313	79,623,509	1,298,900	1,065,691	78,121,419
Apr 01	106,800	1,120,085	80,850,394	103,800	1,098,955	79,324,174
May 01	285,355	1,137,344	82,273,093	282,255	1,115,874	80,722,302
Jun 01	337,650	1,157,357	83,768,100	334,650	1,135,542	82,192,494
Jul 01	302,250	1,178,388	85,248,738	299,150	1,156,223	83,647,868
Aug 01	238,080	1,199,216	86,686,034	234,980	1,176,697	85,059,544
Sep 01	514,350	1,219,435	88,419,819	511,350	1,196,555	86,767,449
Oct 01	959,760	1,243,825	90,623,404	953,560	1,220,580	88,941,590
Nov 01	3,149,230	1,274,823	95,047,458	3,128,030	1,251,165	93,320,785
	$44,826,782	$50,220,676	**$95,047,458**	$43,985,980	$49,334,804	**$93,320,785**

Total return on common stocks (S&P 500), 12/1993-12/2000, from Global Financial Data, Inc.
(http://www.globalfindata.com/trial/10040.php3)
Column A from Schedule No. SPD-3A, Column I
Column B equals Column C from previous month multiplied by opportunity cost of capital
Column C equals Column A plus Column B plus Column C from previous month
Column D from Schedule No. SPD-3B Column J
Column E equals Column F from previous month multiplied by opportunity cost of capital
Column F equals Column D plus Column E plus Column F from previous month

Schedule SPD-2C
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios – Opportunity Cost of Capital = Personal Loan Rate
Cause PUD No. 980000188

Exhibit (mean compound rate; historical rates utilized in computations):		
Personal loan rate (24-month, commercial banks)	13.61%	
Annual rate with monthly compounding	12.83%	1.07% /month

	A	B	C	D	E	F	G
	Scenario 1 (OK Index)			Scenario 2 (OK Index + $0.02)			
Date	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.	Personal Loan Rate
Nov 93	176,628	0	176,628	173,451	0	173,451	13.22
Dec 93	76,444	1,837	254,909	74,324	1,804	249,579	13.22
Jan 94	151,320	2,589	408,817	148,174	2,534	400,287	12.89
Feb 94	193,785	4,151	606,754	189,517	4,065	593,869	12.89
Mar 94	493,468	6,162	1,106,383	482,538	6,031	1,082,438	12.89
Apr 94	735,858	11,293	1,853,534	723,407	11,048	1,816,893	12.96
May 94	98,916	18,919	1,971,369	97,246	18,545	1,932,684	12.96
Jun 94	241,391	20,122	2,232,882	238,215	19,727	2,190,626	12.96
Jul 94	212,337	23,406	2,468,624	209,640	22,963	2,423,229	13.33
Aug 94	156,731	25,877	2,651,232	155,195	25,401	2,603,825	13.33
Sep 94	224,277	27,791	2,903,301	221,825	27,294	2,852,944	13.33
Oct 94	1,801,315	30,994	4,735,610	1,782,091	30,456	4,665,491	13.59
Nov 94	638,512	50,554	5,424,676	630,682	49,806	5,345,979	13.59
Dec 94	1,157,195	57,910	6,639,782	1,140,827	57,070	6,543,877	13.59
Jan 95	1,115,418	73,388	7,828,587	1,100,466	72,328	7,716,670	14.10
Feb 95	1,046,117	86,527	8,961,232	1,033,918	85,290	8,835,878	14.10
Mar 95	1,537,969	99,046	10,598,246	1,521,677	97,661	10,455,215	14.10
Apr 95	314,121	116,592	11,028,958	310,904	115,018	10,881,137	14.03
May 95	280,621	121,330	11,430,909	277,423	119,704	11,278,264	14.03
Jun 95	207,403	125,752	11,764,064	204,212	124,072	11,606,549	14.03
Jul 95	249,707	127,764	12,141,534	246,377	126,053	11,978,979	13.84
Aug 95	255,090	131,864	12,528,488	251,819	130,098	12,360,896	13.84
Sep 95	221,253	136,066	12,885,806	217,950	134,246	12,713,093	13.84
Oct 95	967,149	139,565	13,992,520	952,037	137,695	13,802,824	13.80
Nov 95	1,181,966	151,552	15,326,039	1,165,918	149,497	15,118,239	13.80
Dec 95	935,352	165,995	16,427,385	918,840	163,745	16,200,825	13.80
Jan 96	864,057	175,855	17,467,298	848,026	173,430	17,222,281	13.63
Feb 96	847,515	186,988	18,501,800	832,801	184,365	18,239,446	13.63
Mar 96	970,587	198,062	19,670,449	954,741	195,253	19,389,441	13.63
Apr 96	143,447	208,968	20,022,864	140,294	205,982	19,735,717	13.52
May 96	185,754	212,712	20,421,329	182,666	209,661	20,128,044	13.52
Jun 96	183,348	216,945	20,821,622	180,208	213,829	20,522,082	13.52
Jul 96	162,341	218,879	21,202,842	159,186	215,730	20,896,997	13.37
Aug 96	103,980	222,886	21,529,708	100,848	219,671	21,217,516	13.37
Sep 96	166,973	226,322	21,923,003	163,938	223,040	21,604,494	13.37
Oct 96	835,142	234,523	22,992,669	819,677	231,116	22,655,287	13.62
Nov 96	300,000	245,966	23,538,635	285,000	242,357	23,182,644	13.62
Dec 96	310,000	251,807	24,100,442	294,500	247,999	23,725,143	13.62
Jan 97	310,000	254,956	24,665,398	294,500	250,986	24,270,629	13.46
Feb 97	1,040,200	260,933	25,966,532	1,026,200	256,757	25,553,586	13.46
Mar 97	1,004,400	274,698	27,245,629	988,900	270,329	26,812,815	13.46
Apr 97	160,500	295,297	27,701,426	157,500	290,606	27,260,921	13.81
May 97	128,650	300,237	28,130,314	125,550	295,463	27,681,934	13.81
Jun 97	96,000	304,886	28,531,199	93,000	300,026	28,074,960	13.81
Jul 97	111,600	309,864	28,952,663	108,500	304,909	28,488,369	13.84
Aug 97	111,600	314,441	29,378,705	108,500	309,399	28,906,268	13.84
Sep 97	58,500	319,068	29,756,273	55,500	313,937	29,275,705	13.84
Oct 97	310,000	337,663	30,403,936	294,500	332,210	29,902,415	14.50
Nov 97	300,000	345,012	31,048,948	285,000	339,321	30,526,736	14.50
Dec 97	722,300	352,332	32,123,580	706,800	346,406	31,579,942	14.50
Jan 98	539,400	352,917	33,015,897	523,900	346,945	32,450,787	14.01
Feb 98	595,000	362,721	33,973,618	581,000	356,512	33,388,299	14.01
Mar 98	474,920	373,242	34,821,780	459,600	366,812	34,214,711	14.01
Apr 98	88,500	376,121	35,286,401	85,500	369,564	34,669,775	13.76

Schedule SPD-2C
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios – Opportunity Cost of Capital = Personal Loan Rate
Cause PUD No. 980000188

Exhibit (mean compound rate; historical rates utilized in computations):		
Personal loan rate (24-month, commercial banks)	13.61%	
Annual rate with monthly compounding	12.83%	1.07% /month

	A	B	C	D	E	F	G
	Scenario 1 (OK Index)			Scenario 2 (OK Index + $0.02)			
Date	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.	Personal Loan Rate
May 98	94,550	381,140	35,762,091	91,450	374,479	35,135,704	13.76
Jun 98	124,500	386,278	36,272,869	121,500	379,512	35,636,716	13.76
Jul 98	75,950	383,458	36,732,277	72,850	376,733	36,086,299	13.45
Aug 98	142,600	388,315	37,263,192	139,500	381,486	36,607,285	13.45
Sep 98	180,000	393,927	37,837,119	177,000	386,994	37,171,279	13.45
Oct 98	658,750	408,411	38,904,280	643,250	401,223	38,215,752	13.75
Nov 98	622,500	419,929	39,946,709	607,500	412,497	39,235,749	13.75
Dec 98	558,000	431,181	40,935,890	542,500	423,507	40,201,757	13.75
Jan 99	782,750	431,538	42,150,178	767,250	423,799	41,392,805	13.41
Feb 99	721,000	444,338	43,315,516	707,000	436,354	42,536,160	13.41
Mar 99	930,000	456,623	44,702,140	914,500	448,407	43,899,067	13.41
Apr 99	153,000	466,259	45,321,398	150,000	457,882	44,506,949	13.26
May 99	85,250	472,718	45,879,366	82,150	464,223	45,053,322	13.26
Jun 99	97,500	478,538	46,455,404	94,500	469,922	45,617,744	13.26
Jul 99	94,450	488,688	47,038,541	91,301	479,876	46,188,921	13.38
Aug 99	34,493	494,823	47,567,857	31,938	485,885	46,706,744	13.38
Sep 99	0	500,391	48,068,248	-3,000	491,332	47,195,077	13.38
Oct 99	310,000	510,650	48,888,898	294,500	501,374	47,990,951	13.52
Nov 99	302,089	519,368	49,710,354	287,022	509,829	48,787,801	13.52
Dec 99	772,779	528,095	51,011,228	757,339	518,294	50,063,434	13.52
Jan 00	404,501	550,988	51,966,717	388,943	540,751	50,993,128	13.76
Feb 00	290,129	561,309	52,818,155	275,622	550,793	51,819,543	13.76
Mar 00	311,589	570,506	53,700,250	296,010	559,719	52,675,272	13.76
Apr 00	-1,500	584,803	54,283,552	-4,500	573,640	53,244,413	13.88
May 00	42,470	591,155	54,917,177	39,370	579,838	53,863,621	13.88
Jun 00	-151,200	598,055	55,364,032	-154,200	586,582	54,296,003	13.88
Jul 00	-15,035	601,693	55,950,690	-18,135	590,085	54,867,953	13.85
Aug 00	121,210	608,068	56,679,968	118,110	596,301	55,582,364	13.85
Sep 00	-87,172	615,994	57,208,790	-90,173	604,065	56,096,257	13.85
Oct 00	310,000	633,158	58,151,948	294,500	620,845	57,011,602	14.12
Nov 00	805,500	643,596	59,601,044	790,500	630,975	58,433,077	14.12
Dec 00	310,000	659,634	60,570,678	294,500	646,708	59,374,285	14.12
Jan 01	310,000	652,000	61,532,678	294,500	639,122	60,307,906	13.71
Feb 01	2,433,200	662,355	64,628,233	2,419,200	649,172	63,376,278	13.71
Mar 01	1,314,400	695,677	66,638,310	1,298,900	682,200	65,357,378	13.71
Apr 01	106,800	696,051	67,441,161	103,800	682,672	66,143,850	13.28
May 01	285,355	704,437	68,430,954	282,255	690,886	67,116,991	13.28
Jun 01	337,650	714,776	69,483,379	334,650	701,051	68,152,693	13.28
Jul 01	302,250	724,219	70,509,848	299,150	710,349	69,162,192	13.25
Aug 01	238,080	734,918	71,482,846	234,980	720,871	70,118,043	13.25
Sep 01	514,350	745,059	72,742,255	511,350	730,834	71,360,227	13.25
Oct 01	959,760	724,026	74,426,041	953,560	710,270	73,024,057	12.62
Nov 01	3,149,230	740,785	78,316,056	3,128,030	726,831	76,878,918	12.62
	$44,826,782	$33,489,274	**$78,316,056**	$43,985,980	$32,892,938	**$76,878,918**	

Column A from Schedule No. SPD-3A, Column I
Column B equals Column C from previous month multiplied by opportunity cost of capital
Column C equals Column A plus Column B plus Column C from previous month
Column D from Schedule No. SPD-3B Column J
Column E equals Column F from previous month multiplied by opportunity cost of capital
Column F equals Column D plus Column E plus Column F from previous month
Column G from Federal Reserve Board (http://www.federalreserve.gov/releases/G19/hist/cc_hist_tc.html)

Schedule SPD-2D
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios – Opportunity Cost of Capital = ONG Weighted Cost of Capital
Cause PUD No. 980000188

ONG weighted cost of capital (OCC Order No. 388124)	10.32%	
Annual rate with monthly compounding	9.86%	0.82% /month

	A	B	C	D	E	F
	Scenario 1 (OK Index)			Scenario 2 (OK Index + $0.02)		
Date	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.	Total Premium Paid	Opportunity Cost of Capital	Total Premium Plus Opp.Cost Cap.
Nov 93	176,628	0	176,628	173,451	0	173,451
Dec 93	76,444	1,452	254,523	74,324	1,425	249,200
Jan 94	151,320	2,092	407,935	148,174	2,048	399,422
Feb 94	193,785	3,352	605,073	189,517	3,283	592,221
Mar 94	493,468	4,973	1,103,513	482,538	4,867	1,079,627
Apr 94	735,858	9,069	1,848,440	723,407	8,873	1,811,906
May 94	98,916	15,191	1,962,546	97,246	14,891	1,924,042
Jun 94	241,391	16,129	2,220,066	238,215	15,812	2,178,069
Jul 94	212,337	18,245	2,450,647	209,640	17,900	2,405,610
Aug 94	156,731	20,140	2,627,518	155,195	19,770	2,580,574
Sep 94	224,277	21,593	2,873,389	221,825	21,208	2,823,607
Oct 94	1,801,315	23,614	4,698,318	1,782,091	23,205	4,628,902
Nov 94	638,512	38,612	5,375,442	630,682	38,041	5,297,626
Dec 94	1,157,195	44,176	6,576,813	1,140,827	43,537	6,481,990
Jan 95	1,115,418	54,049	7,746,280	1,100,466	53,270	7,635,726
Feb 95	1,046,117	63,660	8,856,058	1,033,918	62,752	8,732,395
Mar 95	1,537,969	72,781	10,466,807	1,521,677	71,764	10,325,836
Apr 95	314,121	86,018	10,866,946	310,904	84,860	10,721,599
May 95	280,621	89,306	11,236,873	277,423	88,112	11,087,134
Jun 95	207,403	92,347	11,536,623	204,212	91,116	11,382,463
Jul 95	249,707	94,810	11,881,139	246,377	93,543	11,722,383
Aug 95	255,090	97,641	12,233,870	251,819	96,337	12,070,539
Sep 95	221,253	100,540	12,555,663	217,950	99,198	12,387,687
Oct 95	967,149	103,185	13,625,997	952,037	101,804	13,441,528
Nov 95	1,181,966	111,981	14,919,943	1,165,918	110,465	14,717,911
Dec 95	935,352	122,615	15,977,910	918,840	120,954	15,757,705
Jan 96	864,057	131,309	16,973,276	848,026	129,500	16,735,231
Feb 96	847,515	139,489	17,960,280	832,801	137,533	17,705,565
Mar 96	970,587	147,601	19,078,468	954,741	145,507	18,805,813
Apr 96	143,447	156,790	19,378,705	140,294	154,549	19,100,657
May 96	185,754	159,258	19,723,716	182,666	156,972	19,440,295
Jun 96	183,348	162,093	20,069,157	180,208	159,764	19,780,267
Jul 96	162,341	164,932	20,396,430	159,186	162,558	20,102,011
Aug 96	103,980	167,621	20,668,031	100,848	165,202	20,368,061
Sep 96	166,973	169,853	21,004,858	163,938	167,388	20,699,386
Oct 96	835,142	172,622	22,012,622	819,677	170,111	21,689,174
Nov 96	300,000	180,904	22,493,526	285,000	178,245	22,152,420
Dec 96	310,000	184,856	22,988,381	294,500	182,052	22,628,972
Jan 97	310,000	188,922	23,487,304	294,500	185,969	23,109,441
Feb 97	1,040,200	193,023	24,720,527	1,026,200	189,917	24,325,558
Mar 97	1,004,400	203,158	25,928,084	988,900	199,912	25,514,370
Apr 97	160,500	213,081	26,301,666	157,500	209,681	25,881,551
May 97	128,650	216,152	26,646,467	125,550	212,699	26,219,800
Jun 97	96,000	218,985	26,961,453	93,000	215,479	26,528,279
Jul 97	111,600	221,574	27,294,626	108,500	218,014	26,854,793
Aug 97	111,600	224,312	27,630,538	108,500	220,697	27,183,991
Sep 97	58,500	227,073	27,916,111	55,500	223,403	27,462,893
Oct 97	310,000	229,419	28,455,530	294,500	225,695	27,983,088
Nov 97	300,000	233,852	28,989,383	285,000	229,970	28,498,058
Dec 97	722,300	238,240	29,949,923	706,800	234,202	29,439,060
Jan 98	539,400	246,134	30,735,456	523,900	241,935	30,204,895
Feb 98	595,000	252,589	31,583,045	581,000	248,229	31,034,124
Mar 98	474,920	259,555	32,317,520	459,600	255,044	31,748,768
Apr 98	88,500	265,591	32,671,611	85,500	260,917	32,095,185

Schedule SPD-2D
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios – Opportunity Cost of Capital = ONG Weighted Cost of Capital
Cause PUD No. 980000188

ONG weighted cost of capital (OCC Order No. 388124)	10.32%	
Annual rate with monthly compounding	9.86%	0.82% /month

	A	B	C	D	E	F
	Scenario 1 (OK Index)			**Scenario 2 (OK Index + $0.02)**		
Date	**Total Premium Paid**	**Opportunity Cost of Capital**	**Total Premium Plus Opp.Cost Cap.**	**Total Premium Paid**	**Opportunity Cost of Capital**	**Total Premium Plus Opp.Cost Cap.**
May 98	94,550	268,501	33,034,662	91,450	263,764	32,450,399
Jun 98	124,500	271,485	33,430,647	121,500	266,683	32,838,582
Jul 98	75,950	274,739	33,781,336	72,850	269,873	33,181,305
Aug 98	142,600	277,621	34,201,556	139,500	272,690	33,593,495
Sep 98	180,000	281,074	34,662,631	177,000	276,077	34,046,572
Oct 98	658,750	284,863	35,606,244	643,250	279,801	34,969,622
Nov 98	622,500	292,618	36,521,363	607,500	287,386	35,864,509
Dec 98	558,000	300,139	37,379,501	542,500	294,741	36,701,749
Jan 99	782,750	307,191	38,469,443	767,250	301,621	37,770,621
Feb 99	721,000	316,149	39,506,591	707,000	310,405	38,788,026
Mar 99	930,000	324,672	40,761,263	914,500	318,767	40,021,293
Apr 99	153,000	334,983	41,249,246	150,000	328,902	40,500,195
May 99	85,250	338,993	41,673,490	82,150	332,838	40,915,182
Jun 99	97,500	342,480	42,113,470	94,500	336,248	41,345,930
Jul 99	94,450	346,096	42,554,015	91,301	339,788	41,777,020
Aug 99	34,493	349,716	42,938,224	31,938	343,331	42,152,288
Sep 99	0	352,874	43,291,098	-3,000	346,415	42,495,703
Oct 99	310,000	355,774	43,956,872	294,500	349,237	43,139,440
Nov 99	302,089	361,245	44,620,205	287,022	354,527	43,780,989
Dec 99	772,779	366,697	45,759,681	757,339	359,800	44,898,128
Jan 00	404,501	376,061	46,540,243	388,943	368,981	45,656,051
Feb 00	290,129	382,476	47,212,847	275,622	375,209	46,306,883
Mar 00	311,589	388,003	47,912,440	296,010	380,558	46,983,451
Apr 00	-1,500	393,753	48,304,692	-4,500	386,118	47,365,069
May 00	42,470	396,976	48,744,139	39,370	389,254	47,793,693
Jun 00	-151,200	400,588	48,993,526	-154,200	392,777	48,032,270
Jul 00	-15,035	402,637	49,381,129	-18,135	394,737	48,408,873
Aug 00	121,210	405,823	49,908,161	118,110	397,832	48,924,815
Sep 00	-87,172	410,154	50,231,143	-90,173	402,073	49,236,715
Oct 00	310,000	412,808	50,953,951	294,500	404,636	49,935,851
Nov 00	805,500	418,748	52,178,200	790,500	410,381	51,136,732
Dec 00	310,000	428,809	52,917,009	294,500	420,250	51,851,483
Jan 01	310,000	434,881	53,661,890	294,500	426,124	52,572,107
Feb 01	2,433,200	441,003	56,536,093	2,419,200	432,047	55,423,354
Mar 01	1,314,400	464,623	58,315,116	1,298,900	455,479	57,177,732
Apr 01	106,800	479,244	58,901,160	103,800	469,896	57,751,429
May 01	285,355	484,060	59,670,575	282,255	474,611	58,508,295
Jun 01	337,650	490,383	60,498,608	334,650	480,831	59,323,776
Jul 01	302,250	497,188	61,298,046	299,150	487,533	60,110,459
Aug 01	238,080	503,758	62,039,884	234,980	493,998	60,839,437
Sep 01	514,350	509,854	63,064,088	511,350	499,989	61,850,776
Oct 01	959,760	518,272	64,542,120	953,560	508,300	63,312,637
Nov 01	3,149,230	530,418	68,221,768	3,128,030	520,314	66,960,981
	$44,826,782	$23,394,986	**$68,221,768**	$43,985,980	$22,975,001	**$66,960,981**

Column A from Schedule No. SPD-3A, Column I
Column B equals Column C from previous month multiplied by opportunity cost of capital
Column C equals Column A plus Column B plus Column C from previous month
Column D from Schedule No. SPD-3B Column J
Column E equals Column F from previous month multiplied by opportunity cost of capital
Column F equals Column D plus Column E plus Column F from previous month

Schedule SPD-2E
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios – Opportunity Cost of Capital = Nonfinancial Commercial Paper
Cause PUD No. 980000188

Exhibit (mean compound rate; historical monthly rates utilized in computations):		
Nonfinancial commercial paper rate (mean annual, 12/93 – 11/01)	5.24%	(1-month paper)
Annual rate with monthly compounding	5.12%	0.43% /month

	A	B	C	D	E	F	G
	Scenario 1 (OK Index)			Scenario 2 (OK Index + $0.02)			Comm.
Date	**Total Premium Paid**	**Opportunity Cost of Capital**	**Total Premium Plus Opp.Cost Cap.**	**Total Premium Paid**	**Opportunity Cost of Capital**	**Total Premium Plus Opp.Cost Cap.**	**Paper (1 mo.) Rate**
Nov 93	176,628	0	176,628	173,451	0	173,451	3.15
Dec 93	76,444	486	253,558	74,324	477	248,252	3.35
Jan 94	151,320	654	405,531	148,174	640	397,066	3.14
Feb 94	193,785	1,128	600,445	189,517	1,105	587,687	3.39
Mar 94	493,468	1,787	1,095,700	482,538	1,749	1,071,975	3.63
Apr 94	735,858	3,420	1,834,977	723,407	3,345	1,798,727	3.81
May 94	98,916	6,420	1,940,312	97,246	6,293	1,902,266	4.28
Jun 94	241,391	6,913	2,188,616	238,215	6,777	2,147,258	4.36
Jul 94	212,337	8,025	2,408,978	209,640	7,874	2,364,772	4.49
Aug 94	156,731	9,142	2,574,851	155,195	8,974	2,528,940	4.65
Sep 94	224,277	10,285	2,809,413	221,825	10,102	2,760,867	4.90
Oct 94	1,801,315	11,491	4,622,219	1,782,091	11,292	4,554,250	5.02
Nov 94	638,512	20,302	5,281,033	630,682	20,004	5,204,936	5.40
Dec 94	1,157,195	26,039	6,464,267	1,140,827	25,664	6,371,427	6.08
Jan 95	1,115,418	30,750	7,610,435	1,100,466	30,308	7,502,201	5.86
Feb 95	1,046,117	37,345	8,693,897	1,033,918	36,814	8,572,932	6.05
Mar 95	1,537,969	42,799	10,274,664	1,521,677	42,203	10,136,812	6.07
Apr 95	314,121	50,499	10,639,284	310,904	49,822	10,497,538	6.06
May 95	280,621	52,207	10,972,113	277,423	51,512	10,826,472	6.05
Jun 95	207,403	53,841	11,233,356	204,212	53,126	11,083,811	6.05
Jul 95	249,707	53,525	11,536,588	246,377	52,812	11,383,000	5.87
Aug 95	255,090	54,787	11,846,464	251,819	54,058	11,688,877	5.85
Sep 95	221,253	55,977	12,123,694	217,950	55,233	11,962,060	5.82
Oct 95	967,149	57,191	13,148,035	952,037	56,429	12,970,526	5.81
Nov 95	1,181,966	61,920	14,391,920	1,165,918	61,084	14,197,528	5.80
Dec 95	935,352	68,233	15,395,505	918,840	67,311	15,183,679	5.84
Jan 96	864,057	69,577	16,329,139	848,026	68,619	16,100,325	5.56
Feb 96	847,515	70,296	17,246,949	832,801	69,311	17,002,437	5.29
Mar 96	970,587	75,617	18,293,153	954,741	74,545	18,031,723	5.39
Apr 96	143,447	80,349	18,516,950	140,294	79,201	18,251,218	5.40
May 96	185,754	81,038	18,783,742	182,666	79,875	18,513,759	5.38
Jun 96	183,348	83,250	19,050,340	180,208	82,053	18,776,021	5.45
Jul 96	162,341	84,280	19,296,961	159,186	83,067	19,018,274	5.44
Aug 96	103,980	84,605	19,485,546	100,848	83,383	19,202,505	5.39
Sep 96	166,973	86,360	19,738,880	163,938	85,106	19,451,548	5.45
Oct 96	835,142	86,229	20,660,252	819,677	84,974	20,356,199	5.37
Nov 96	300,000	90,582	21,050,834	285,000	89,249	20,730,448	5.39
Dec 96	310,000	97,471	21,458,305	294,500	95,987	21,120,935	5.70
Jan 97	310,000	94,763	21,863,068	294,500	93,273	21,508,709	5.43
Feb 97	1,040,200	95,856	22,999,124	1,026,200	94,302	22,629,211	5.39
Mar 97	1,004,400	103,028	24,106,551	988,900	101,371	23,719,481	5.51
Apr 97	160,500	109,900	24,376,951	157,500	108,136	23,985,117	5.61
May 97	128,650	111,133	24,616,734	125,550	109,347	24,220,014	5.61
Jun 97	96,000	112,031	24,824,765	93,000	110,225	24,423,239	5.60
Jul 97	111,600	112,190	25,048,556	108,500	110,376	24,642,115	5.56
Aug 97	111,600	113,003	25,273,159	108,500	111,169	24,861,784	5.55
Sep 97	58,500	112,813	25,444,472	55,500	110,977	25,028,261	5.49
Oct 97	310,000	113,578	25,868,050	294,500	111,720	25,434,482	5.49
Nov 97	300,000	116,290	26,284,340	285,000	114,341	25,833,822	5.53
Dec 97	722,300	123,368	27,130,008	706,800	121,253	26,661,876	5.78
Jan 98	539,400	120,456	27,789,864	523,900	118,378	27,304,153	5.46
Feb 98	595,000	123,606	28,508,470	581,000	121,446	28,006,599	5.47
Mar 98	474,920	127,707	29,111,098	459,600	125,459	28,591,658	5.51
Apr 98	88,500	129,945	29,329,543	85,500	127,626	28,804,785	5.49

Schedule SPD-2E
Oklahoma Natural Gas Company
Detailed Summary of Refund Scenarios – Opportunity Cost of Capital = Nonfinancial Commercial Paper
Cause PUD No. 980000188

Exhibit (mean compound rate; historical monthly rates utilized in computations):		
Nonfinancial commercial paper rate (mean annual, 12/93 – 11/01)	5.24%	(1-month paper)
Annual rate with monthly compounding	5.12%	0.43% /month

	A	B	C	D	E	F	G
	Scenario 1 (OK Index)			Scenario 2 (OK Index + $0.02)			Comm.
	Total Premium	Opportunity Cost of	Total Premium Plus	Total Premium	Opportunity Cost of	Total Premium Plus	Paper (1 mo.)
Date	**Paid**	**Capital**	**Opp.Cost Cap.**	**Paid**	**Capital**	**Opp.Cost Cap.**	**Rate**
May 98	94,550	130,920	29,555,013	91,450	128,578	29,024,813	5.49
Jun 98	124,500	132,396	29,811,909	121,500	130,021	29,276,333	5.51
Jul 98	75,950	133,546	30,021,405	72,850	131,147	29,480,330	5.51
Aug 98	142,600	134,247	30,298,252	139,500	131,827	29,751,657	5.50
Sep 98	180,000	134,042	30,612,294	177,000	131,624	30,060,281	5.44
Oct 98	658,750	128,131	31,399,175	643,250	125,821	30,829,352	5.14
Nov 98	622,500	127,924	32,149,599	607,500	125,603	31,562,455	5.00
Dec 98	558,000	137,124	32,844,723	542,500	134,619	32,239,574	5.24
Jan 99	782,750	128,574	33,756,047	767,250	126,205	33,133,029	4.80
Feb 99	721,000	132,142	34,609,189	707,000	129,703	33,969,732	4.80
Mar 99	930,000	136,034	35,675,223	914,500	133,520	35,017,753	4.82
Apr 99	153,000	139,370	35,967,592	150,000	136,801	35,304,554	4.79
May 99	85,250	140,512	36,193,354	82,150	137,922	35,524,626	4.79
Jun 99	97,500	146,014	36,436,868	94,500	143,316	35,762,442	4.95
Jul 99	94,450	150,190	36,681,508	91,301	147,410	36,001,153	5.06
Aug 99	34,493	154,702	36,870,703	31,938	151,833	36,184,924	5.18
Sep 99	0	158,433	37,029,136	-3,000	155,486	36,337,410	5.28
Oct 99	310,000	159,113	37,498,249	294,500	156,141	36,788,051	5.28
Nov 99	302,089	163,811	37,964,149	287,022	160,708	37,235,781	5.37
Dec 99	772,779	183,893	38,920,820	757,339	180,364	38,173,484	5.97
Jan 00	404,501	176,820	39,502,141	388,943	173,425	38,735,853	5.59
Feb 00	290,129	184,781	39,977,052	275,622	181,197	39,192,672	5.76
Mar 00	311,589	192,379	40,481,020	296,010	188,604	39,677,286	5.93
Apr 00	-1,500	197,683	40,677,203	-4,500	193,758	39,866,544	6.02
May 00	42,470	210,830	40,930,503	39,370	206,628	40,112,542	6.40
Jun 00	-151,200	216,330	40,995,632	-154,200	212,006	40,170,349	6.53
Jul 00	-15,035	215,384	41,195,981	-18,135	211,048	40,363,262	6.49
Aug 00	121,210	215,788	41,532,980	118,110	211,427	40,692,798	6.47
Sep 00	-87,172	217,880	41,663,688	-90,173	213,473	40,816,098	6.48
Oct 00	310,000	218,566	42,192,254	294,500	214,120	41,324,718	6.48
Nov 00	805,500	221,671	43,219,425	790,500	217,113	42,332,331	6.49
Dec 00	310,000	227,747	43,757,172	294,500	223,073	42,849,904	6.51
Jan 01	310,000	203,993	44,271,165	294,500	199,763	43,344,167	5.74
Feb 01	2,433,200	194,102	46,898,466	2,419,200	190,037	45,953,404	5.39
Mar 01	1,314,400	191,818	48,404,684	1,298,900	187,952	47,440,256	5.02
Apr 01	106,800	186,006	48,697,490	103,800	182,300	47,726,356	4.71
May 01	285,355	161,771	49,144,616	282,255	158,545	48,167,157	4.06
Jun 01	337,650	153,770	49,636,036	334,650	150,711	48,652,518	3.82
Jul 01	302,250	150,909	50,089,195	299,150	147,919	49,099,586	3.71
Aug 01	238,080	145,419	50,472,693	234,980	142,546	49,477,112	3.54
Sep 01	514,350	122,842	51,109,885	511,350	120,418	50,108,880	2.96
Oct 01	959,760	101,112	52,170,757	953,560	99,132	51,161,572	2.40
Nov 01	3,149,230	87,445	55,407,432	3,128,030	85,753	54,375,356	2.03
	$44,826,782	$10,580,650	**$55,407,432**	$43,985,980	$10,389,376	**$54,375,356**	

Column A from Schedule No. SPD-3A, Column I
Column B equals Column C from previous month multiplied by opportunity cost of capital
Column C equals Column A plus Column B plus Column C from previous month
Column D from Schedule No. SPD-3B Column J
Column E equals Column F from previous month multiplied by opportunity cost of capital
Column F equals Column D plus Column E plus Column F from previous month
Column G from Federal Reserve Board (http://www.federalreserve.gov/releases/H15/data/m/cp1m.txt
and http://www.federalreserve.gov/releases/H15/data/m/hcp1m.txt)

Schedule SPD-3A
Oklahoma Natural Gas Company
Analysis of Gas Purchases For DER, Inc. Contract
Calculation of Premium Paid Above Oklahoma Index
Cause PUD No. 980000188

	A	B	C	D	E	F	G	H	I
Date	Volumes Of Gas MMBTUs	Spot Price Oklahoma Index	Oklahoma Index Plus $.40	Minimum Contract Price	ONG WACOG	Amount Paid Per MMBTU	Total Amount Paid	Amount Per Oklahoma Index	Total Premium Paid
Nov 93	158,838	$1.88	$2.28	$2.78	$2.992	$2.992	$475,243	$298,615	$176,628
Dec 93	106,025	2.24	2.64	2.78	2.961	2.961	313,940	237,496	76,444
Jan 94	157,297	1.92	2.32	2.78	2.882	2.882	453,330	302,010	151,320
Feb 94	213,420	2.10	2.50	2.78	3.008	3.008	641,967	448,182	193,785
Mar 94	546,476	2.12	2.52	2.78	3.023	3.023	1,651,997	1,158,529	493,468
Apr 94	622,553	1.78	N/A	2.78	2.962	2.962	1,844,002	1,108,144	735,858
May 94	83,473	1.83	N/A	2.78	3.015	3.015	251,671	152,756	98,916
Jun 94	158,810	1.58	N/A	2.78	3.100	3.100	492,311	250,920	241,391
Jul 94	134,817	1.68	N/A	2.78	3.255	3.255	438,829	226,493	212,337
Aug 94	76,829	1.59	N/A	2.78	3.630	3.630	278,889	122,158	156,731
Sep 94	122,623	1.39	N/A	2.78	3.219	3.219	394,723	170,446	224,277
Oct 94	961,214	1.30	1.70	2.78	3.174	3.174	3,050,893	1,249,578	1,801,315
Nov 94	391,485	1.49	1.89	2.78	3.121	3.121	1,221,825	583,313	638,512
Dec 94	818,384	1.59	1.99	2.78	3.004	3.004	2,458,426	1,301,231	1,157,195
Jan 95	747,599	1.51	1.91	2.78	3.002	3.002	2,244,292	1,128,874	1,115,418
Feb 95	609,981	1.29	1.69	2.78	3.005	3.005	1,832,993	786,875	1,046,117
Mar 95	814,602	1.29	1.69	2.78	3.178	3.178	2,588,805	1,050,837	1,537,969
Apr 95	160,840	1.35	N/A	2.78	3.303	3.303	531,255	217,134	314,121
May 95	159,898	1.45	N/A	2.78	3.205	3.205	512,473	231,852	280,621
Jun 95	159,541	1.48	N/A	2.78	2.703	2.780	443,524	236,121	207,403
Jul 95	166,471	1.28	N/A	2.78	2.357	2.780	462,789	213,083	249,707
Aug 95	163,519	1.22	N/A	2.78	2.397	2.780	454,583	199,493	255,090
Sep 95	165,114	1.44	N/A	2.78	2.359	2.780	459,017	237,764	221,253
Oct 95	755,585	1.50	1.90	2.78	2.392	2.780	2,100,526	1,133,378	967,149
Nov 95	802,421	1.61	2.01	2.78	3.083	3.083	2,473,864	1,291,898	1,181,966
Dec 95	825,553	1.89	2.29	2.78	3.023	3.023	2,495,647	1,560,295	935,352
Jan 96	801,537	2.02	2.42	2.78	3.098	3.098	2,483,162	1,619,105	864,057
Feb 96	735,690	1.81	2.21	2.78	2.962	2.962	2,179,114	1,331,599	847,515
Mar 96	792,316	$1.91	$2.31	$2.78	$3.135	$3.135	$2,483,911	$1,513,324	$970,587
Apr 96	157,634	2.15	N/A	2.78	3.060	3.060	482,360	338,913	143,447
May 96	154,409	2.02	N/A	2.78	3.223	3.223	497,660	311,906	185,754
Jun 96	156,976	2.06	N/A	2.78	3.228	3.228	506,719	323,371	183,348
Jul 96	157,766	2.20	N/A	2.78	3.229	3.229	509,426	347,085	162,341
Aug 96	156,596	2.17	N/A	2.78	2.834	2.834	443,793	339,813	103,980
Sep 96	151,794	1.68	N/A	2.78	2.756	2.780	421,987	255,014	166,973
Oct 96	773,280	1.70	2.10	2.78	2.682	2.780	2,149,718	1,314,576	835,142
Nov 96	750,000	2.51	2.91	2.78	2.428	2.910	2,182,500	1,882,500	300,000
Dec 96	775,000	3.61	4.01	2.78	2.902	4.010	3,107,750	2,797,750	310,000
Jan 97	775,000	4.30	4.70	2.78	3.938	4.700	3,642,500	3,332,500	310,000
Feb 97	700,000	2.77	3.17	2.78	4.256	4.256	2,979,200	1,939,000	1,040,200
Mar 97	775,000	1.65	2.05	2.78	2.946	2.946	2,283,150	1,278,750	1,004,400
Apr 97	150,000	1.71	N/A	2.78	2.195	2.780	417,000	256,500	160,500
May 97	155,000	1.95	N/A	2.78	2.195	2.780	430,900	302,250	128,650
Jun 97	150,000	2.14	N/A	2.78	2.186	2.780	417,000	321,000	96,000
Jul 97	155,000	2.06	N/A	2.78	2.265	2.780	430,900	319,300	111,600
Aug 97	155,000	2.06	N/A	2.78	2.428	2.780	430,900	319,300	111,600
Sep 97	150,000	2.39	N/A	2.78	2.525	2.780	417,000	358,500	58,500
Oct 97	775,000	3.01	3.41	2.78	2.647	3.410	2,642,750	2,332,750	310,000
Nov 97	750,000	3.16	3.56	2.78	3.101	3.560	2,670,000	2,370,000	300,000
Dec 97	775,000	2.36	2.76	2.78	3.292	3.292	2,551,300	1,829,000	722,300
Jan 98	775,000	2.15	2.55	2.78	2.846	2.846	2,205,650	1,666,250	539,400
Feb 98	700,000	1.93	2.33	2.78	2.666	2.780	1,946,000	1,351,000	595,000
Mar 98	766,000	2.16	2.56	2.78	2.268	2.780	2,129,480	1,654,560	474,920
Apr 98	150,000	2.19	N/A	2.78	2.375	2.780	417,000	328,500	88,500
May 98	155,000	2.17	N/A	2.78	2.386	2.780	430,900	336,350	94,550
Jun 98	150,000	1.95	N/A	2.78	2.366	2.780	417,000	292,500	124,500
Jul 98	155,000	$2.29	N/A	$2.78	$2.146	$2.780	$430,900	$354,950	$75,950
Aug 98	155,000	1.86	N/A	2.78	2.374	2.780	430,900	288,300	142,600
Sep 98	150,000	1.58	N/A	2.78	2.215	2.780	417,000	237,000	180,000
Oct 98	775,000	1.93	2.33	2.78	2.115	2.780	2,154,500	1,495,750	658,750

Date	A Volumes Of Gas MMBTUs	B Spot Price Oklahoma Index	C Oklahoma Index Plus $.40	D Minimum Contract Price	E ONG WACOG	F Amount Paid Per MMBTU	G Total Amount Paid	H Amount Per Oklahoma Index	I Total Premium Paid
Nov 98	750,000	1.95	2.35	2.78	2.468	2.780	2,085,000	1,462,500	622,500
Dec 98	775,000	2.06	2.46	2.78	2.717	2.780	2,154,500	1,596,500	558,000
Jan 99	775,000	1.77	2.17	2.78	2.417	2.780	2,154,500	1,371,750	782,750
Feb 99	700,000	1.75	2.15	2.78	2.195	2.780	1,946,000	1,225,000	721,000
Mar 99	775,000	1.58	1.98	2.78	2.331	2.780	2,154,500	1,224,500	930,000
Apr 99	150,000	1.76	N/A	2.78	2.597	2.780	417,000	264,000	153,000
May 99	155,000	2.23	N/A	2.78	2.326	2.780	430,900	345,650	85,250
Jun 99	150,000	2.13	N/A	2.78	2.387	2.780	417,000	319,500	97,500
Jul 99	157,416	2.18	N/A	2.78	2.378	2.780	437,616	343,167	94,450
Aug 99	127,752	2.51	N/A	2.78	2.510	2.780	355,151	320,658	34,493
Sep 99	150,000	2.78	N/A	2.78	2.632	2.780	417,000	417,000	0
Oct 99	775,000	2.43	2.83	2.78	*2.060*	2.830	2,193,250	1,883,250	310,000
Nov 99	753,338	2.93	3.33	2.78	*3.331*	3.331	2,509,369	2,207,280	302,089
Dec 99	772,007	2.06	2.46	2.78	3.061	3.061	2,363,113	1,590,334	772,779
Jan 00	777,886	2.26	2.66	2.78	2.679	2.780	2,162,523	1,758,022	404,501
Feb 00	725,322	2.49	2.89	2.78	2.536	2.890	2,096,181	1,806,052	290,129
Mar 00	778,973	2.48	2.88	2.78	2.848	2.880	2,243,442	1,931,853	311,589
Apr 00	150,000	2.79	N/A	2.78	2.723	2.780	417,000	418,500	-1,500
May 00	155,000	2.94	N/A	2.78	3.214	3.214	498,170	455,700	42,470
Jun 00	150,000	4.22	N/A	2.78	3.212	3.212	481,800	633,000	-151,200
Jul 00	155,000	4.19	N/A	2.78	4.093	4.093	634,415	649,450	-15,035
Aug 00	155,000	3.70	N/A	2.78	4.482	4.482	694,710	573,500	121,210
Sep 00	150,038	4.51	N/A	2.78	3.929	3.929	589,499	676,671	-87,172
Oct 00	775,000	5.18	5.58	2.78	5.090	5.580	4,324,500	4,014,500	310,000
Nov 00	750,000	4.40	4.80	2.78	5.474	5.474	4,105,500	3,300,000	805,500
Dec 00	775,000	5.90	6.30	2.78	5.308	6.300	4,882,500	4,572,500	310,000
Jan 01	775,000	9.87	10.27	2.78	6.873	10.270	7,959,250	7,649,250	310,000
Feb 01	700,000	6.19	6.59	2.78	9.666	9.666	6,766,200	4,333,000	2,433,200
Mar 01	775,000	4.98	5.38	2.78	6.676	6.676	5,173,900	3,859,500	1,314,400
Apr 01	150,000	5.30	N/A	2.78	6.012	6.012	901,800	795,000	106,800
May 01	155,000	4.79	N/A	2.78	6.631	6.631	1,027,805	742,450	285,355
Jun 01	150,000	3.63	N/A	2.78	5.881	5.881	882,150	544,500	337,650
Jul 01	155,000	3.01	N/A	2.78	4.960	4.960	768,800	466,550	302,250
Aug 01	155,000	3.08	N/A	2.78	4.616	4.616	715,480	477,400	238,080
Sep 01	150,000	2.22	N/A	2.78	5.649	5.649	847,350	333,000	514,350
Oct 01	310,000	1.73	2.13	2.78	4.826	4.826	1,496,060	536,300	959,760
Nov 01	1,059,990	3.01	3.41	2.78	5.981	5.981	6,339,800	3,190,570	3,149,230
TOTAL	**42,040,088**						$154,351,580	$109,524,798	**$44,826,782**
Mean per MMBTU					$3.397		$3.672	$2.605	**$1.066**
Mean Markup over Spot									**40.9%**

Column A from Oklahoma Corporation Commission Staff Memorandum of 1/18/02
Column B from Oklahoma Corporation Commission Staff Memorandum of 1/18/02
Column C equals Column B plus $.40 except for six summer months
Column D represents the minimum price per MMBTU
Column E from Oklahoma Corporation Commission Staff Memorandum of 1/18/02
Column F is the largest of Columns C, D, and E
Column G equals Column A multiplied by Column F
Column H equals Column A multiplied by Column B
Column I equals Column G minus Column H
Mean prices are computed using monthly DER quantities as weights

Total months	97
Winter months (spot+$.40 op.)	49
Months DER price = WACOG	51
Months DER price > WACOG	46
Months DER price > Spot+$.40	78
Months DER price = Spot+$.40	11
Months DER price = $2.78	35
Months WACOG > Spot	81
Months DER price > Spot	92

Schedule SPD-3B
Oklahoma Natural Gas Company
Analysis of Gas Purchases For DER, Inc. Contract
Calculation of Premium Paid Above Oklahoma Index Plus $.02
Cause PUD No. 980000188

	A	B	C	D	E	F	G	H	I	J
Date	Volumes Of Gas MMBTUs	Spot Price Oklahoma Index	Spot Price Oklahoma Index + $.02	Oklahoma Index Plus $.40	Minimum Contract Price	ONG WACOG	Amount Paid	Total Amount Paid	Amount Per Oklahoma Index Plus $.02	Total Premium Paid
Nov 93	158,838	$1.88	$1.90	$2.28	$2.78	$2.992	$2.992	$475,243	$301,792	$173,451
Dec 93	106,025	2.24	2.26	2.64	2.78	2.961	2.961	313,940	239,617	74,324
Jan 94	157,297	1.92	1.94	2.32	2.78	2.882	2.882	453,330	305,156	148,174
Feb 94	213,420	2.10	2.12	2.50	2.78	3.008	3.008	641,967	452,450	189,517
Mar 94	546,476	2.12	2.14	2.52	2.78	3.023	3.023	1,651,997	1,169,459	482,538
Apr 94	622,553	1.78	1.80	N/A	2.78	2.962	2.962	1,844,002	1,120,595	723,407
May 94	83,473	1.83	1.85	N/A	2.78	3.015	3.015	251,671	154,425	97,246
Jun 94	158,810	1.58	1.60	N/A	2.78	3.100	3.100	492,311	254,096	238,215
Jul 94	134,817	1.68	1.70	N/A	2.78	3.255	3.255	438,829	229,189	209,640
Aug 94	76,829	1.59	1.61	N/A	2.78	3.630	3.630	278,889	123,695	155,195
Sep 94	122,623	1.39	1.41	N/A	2.78	3.219	3.219	394,723	172,898	221,825
Oct 94	961,214	1.30	1.32	1.70	2.78	3.174	3.174	3,050,893	1,268,802	1,782,091
Nov 94	391,485	1.49	1.51	1.89	2.78	3.121	3.121	1,221,825	591,142	630,682
Dec 94	818,384	1.59	1.61	1.99	2.78	3.004	3.004	2,458,426	1,317,598	1,140,827
Jan 95	747,599	1.51	1.53	1.91	2.78	3.002	3.002	2,244,292	1,143,826	1,100,466
Feb 95	609,981	1.29	1.31	1.69	2.78	3.005	3.005	1,832,993	799,075	1,033,918
Mar 95	814,602	1.29	1.31	1.69	2.78	3.178	3.178	2,588,805	1,067,129	1,521,677
Apr 95	160,840	1.35	1.37	N/A	2.78	3.303	3.303	531,255	220,351	310,904
May 95	159,898	1.45	1.47	N/A	2.78	3.205	3.205	512,473	235,050	277,423
Jun 95	159,541	1.48	1.50	N/A	2.78	2.703	2.780	443,524	239,312	204,212
Jul 95	166,471	1.28	1.30	N/A	2.78	2.357	2.780	462,789	216,412	246,377
Aug 95	163,519	1.22	1.24	N/A	2.78	2.397	2.780	454,583	202,764	251,819
Sep 95	165,114	1.44	1.46	N/A	2.78	2.359	2.780	459,017	241,066	217,950
Oct 95	755,585	1.50	1.52	1.90	2.78	2.392	2.780	2,100,526	1,148,489	952,037
Nov 95	802,421	1.61	1.63	2.01	2.78	3.083	3.083	2,473,864	1,307,946	1,165,918
Dec 95	825,553	1.89	1.91	2.29	2.78	3.023	3.023	2,495,647	1,576,806	918,840
Jan 96	801,537	2.02	2.04	2.42	2.78	3.098	3.098	2,483,162	1,635,135	848,026
Feb 96	735,690	1.81	1.83	2.21	2.78	2.962	2.962	2,179,114	1,346,313	832,801
Mar 96	792,316	1.91	1.93	2.31	2.78	3.135	3.135	2,483,911	1,529,170	954,741
Apr 96	157,634	2.15	2.17	N/A	2.78	3.060	3.060	482,360	342,066	140,294
May 96	154,409	2.02	2.04	N/A	2.78	3.223	3.223	497,660	314,994	182,666
Jun 96	156,976	2.06	2.08	N/A	2.78	3.228	3.228	506,719	326,510	180,208
Jul 96	157,766	2.20	2.22	N/A	2.78	3.229	3.229	509,426	350,241	159,186
Aug 96	156,596	2.17	2.19	N/A	2.78	2.834	2.834	443,793	342,945	100,848
Sep 96	151,794	1.68	1.70	N/A	2.78	2.756	2.780	421,987	258,050	163,938
Oct 96	773,280	1.70	1.72	2.10	2.78	2.682	2.780	2,149,718	1,330,042	819,677
Nov 96	750,000	2.51	2.53	2.91	2.78	2.428	2.910	2,182,500	1,897,500	285,000
Dec 96	775,000	3.61	3.63	4.01	2.78	2.902	4.010	3,107,750	2,813,250	294,500
Jan 97	775,000	4.30	4.32	4.70	2.78	3.938	4.700	3,642,500	3,348,000	294,500
Feb 97	700,000	2.77	2.79	3.17	2.78	4.256	4.256	2,979,200	1,953,000	1,026,200
Mar 97	775,000	1.65	1.67	2.05	2.78	2.946	2.946	2,283,150	1,294,250	988,900
Apr 97	150,000	1.71	1.73	N/A	2.78	2.195	2.780	417,000	259,500	157,500
May 97	155,000	1.95	1.97	N/A	2.78	2.195	2.780	430,900	305,350	125,550
Jun 97	150,000	2.14	2.16	N/A	2.78	2.186	2.780	417,000	324,000	93,000
Jul 97	155,000	2.06	2.08	N/A	2.78	2.265	2.780	430,900	322,400	108,500
Aug 97	155,000	2.06	2.08	N/A	2.78	2.428	2.780	430,900	322,400	108,500
Sep 97	150,000	2.39	2.41	N/A	2.78	2.525	2.780	417,000	361,500	55,500
Oct 97	775,000	3.01	3.03	3.41	2.78	2.647	3.410	2,642,750	2,348,250	294,500
Nov 97	750,000	3.16	3.18	3.56	2.78	3.101	3.560	2,670,000	2,385,000	285,000
Dec 97	775,000	2.36	2.38	2.76	2.78	3.292	3.292	2,551,300	1,844,500	706,800
Jan 98	775,000	2.15	2.17	2.55	2.78	2.846	2.846	2,205,650	1,681,750	523,900
Feb 98	700,000	1.93	1.95	2.33	2.78	2.666	2.780	1,946,000	1,365,000	581,000
Mar 98	766,000	2.16	2.18	2.56	2.78	2.268	2.780	2,129,480	1,669,880	459,600
Apr 98	150,000	2.19	2.21	N/A	2.78	2.375	2.780	417,000	331,500	85,500
May 98	155,000	2.17	2.19	N/A	2.78	2.386	2.780	430,900	339,450	91,450
Jun 98	150,000	1.95	1.97	N/A	2.78	2.366	2.780	417,000	295,500	121,500
Jul 98	155,000	2.29	2.31	N/A	2.78	2.146	2.780	430,900	358,050	72,850
Aug 98	155,000	1.86	1.88	N/A	2.78	2.374	2.780	430,900	291,400	139,500
Sep 98	150,000	1.58	1.60	N/A	2.78	2.215	2.780	417,000	240,000	177,000
Oct 98	775,000	1.93	1.95	2.33	2.78	2.115	2.780	2,154,500	1,511,250	643,250

Schedule SPD-3B
Oklahoma Natural Gas Company
Analysis of Gas Purchases For DER, Inc. Contract
Calculation of Premium Paid Above Oklahoma Index Plus $.02
Cause PUD No. 980000188

Date	A Volumes Of Gas MMBTUs	B Spot Price Oklahoma Index	C Spot Price Oklahoma Index + $.02	D Oklahoma Index Plus $.40	E Minimum Contract Price	F ONG WACOG	G Amount Paid	H Total Amount Paid	I Amount Per Oklahoma Index Plus $.02	J Total Premium Paid
Nov 98	750,000	1.95	1.97	2.35	2.78	2.468	2.780	2,085,000	1,477,500	607,500
Dec 98	775,000	2.06	2.08	2.46	2.78	2.717	2.780	2,154,500	1,612,000	542,500
Jan 99	775,000	1.77	1.79	2.17	2.78	2.417	2.780	2,154,500	1,387,250	767,250
Feb 99	700,000	1.75	1.77	2.15	2.78	2.195	2.780	1,946,000	1,239,000	707,000
Mar 99	775,000	1.58	1.60	1.98	2.78	2.331	2.780	2,154,500	1,240,000	914,500
Apr 99	150,000	1.76	1.78	N/A	2.78	2.597	2.780	417,000	267,000	150,000
May 99	155,000	2.23	2.25	N/A	2.78	2.326	2.780	430,900	348,750	82,150
Jun 99	150,000	2.13	2.15	N/A	2.78	2.387	2.780	417,000	322,500	94,500
Jul 99	157,416	2.18	2.20	N/A	2.78	2.378	2.780	437,616	346,315	91,301
Aug 99	127,752	2.51	2.53	N/A	2.78	2.510	2.780	355,151	323,213	31,938
Sep 99	150,000	2.78	2.80	N/A	2.78	2.632	2.780	417,000	420,000	-3,000
Oct 99	775,000	2.43	2.45	2.83	2.78	*2.060*	2.830	2,193,250	1,898,750	294,500
Nov 99	753,338	2.93	2.95	3.33	2.78	*3.331*	3.331	2,509,369	2,222,347	287,022
Dec 99	772,007	2.06	2.08	2.46	2.78	3.061	3.061	2,363,113	1,605,775	757,339
Jan 00	777,886	2.26	2.28	2.66	2.78	2.679	2.780	2,162,523	1,773,580	388,943
Feb 00	725,322	2.49	2.51	2.89	2.78	2.536	2.890	2,096,181	1,820,558	275,622
Mar 00	778,973	2.48	2.50	2.88	2.78	2.848	2.880	2,243,442	1,947,433	296,010
Apr 00	150,000	2.79	2.81	N/A	2.78	2.723	2.780	417,000	421,500	-4,500
May 00	155,000	2.94	2.96	N/A	2.78	3.214	3.214	498,170	458,800	39,370
Jun 00	150,000	4.22	4.24	N/A	2.78	3.212	3.212	481,800	636,000	-154,200
Jul 00	155,000	4.19	4.21	N/A	2.78	4.093	4.093	634,415	652,550	-18,135
Aug 00	155,000	3.70	3.72	N/A	2.78	4.482	4.482	694,710	576,600	118,110
Sep 00	150,038	4.51	4.53	N/A	2.78	3.929	3.929	589,499	679,672	-90,173
Oct 00	775,000	5.18	5.20	5.58	2.78	5.090	5.580	4,324,500	4,030,000	294,500
Nov 00	750,000	4.40	4.42	4.80	2.78	5.474	5.474	4,105,500	3,315,000	790,500
Dec 00	775,000	5.90	5.92	6.30	2.78	5.308	6.300	4,882,500	4,588,000	294,500
Jan 01	775,000	9.87	9.89	10.27	2.78	6.873	10.270	7,959,250	7,664,750	294,500
Feb 01	700,000	6.19	6.21	6.59	2.78	9.666	9.666	6,766,200	4,347,000	2,419,200
Mar 01	775,000	4.98	5.00	5.38	2.78	6.676	6.676	5,173,900	3,875,000	1,298,900
Apr 01	150,000	5.30	5.32	N/A	2.78	6.012	6.012	901,800	798,000	103,800
May 01	155,000	4.79	4.81	N/A	2.78	6.631	6.631	1,027,805	745,550	282,255
Jun 01	150,000	3.63	3.65	N/A	2.78	5.881	5.881	882,150	547,500	334,650
Jul 01	155,000	3.01	3.03	N/A	2.78	4.960	4.960	768,800	469,650	299,150
Aug 01	155,000	3.08	3.10	N/A	2.78	4.616	4.616	715,480	480,500	234,980
Sep 01	150,000	2.22	2.24	2.62	2.78	5.649	5.649	847,350	336,000	511,350
Oct 01	310,000	1.73	1.75	2.13	2.78	4.826	4.826	1,496,060	542,500	953,560
Nov 01	1,059,990	3.01	3.03	3.41	2.78	5.981	5.981	6,339,800	3,211,770	3,128,030
TOTAL	**42,040,088**							$154,351,580	$110,365,599	**$43,985,980**
Mean per MMBTU								$3.672	$2.625	**$1.046**
Mean Markup over Spot + $.02										**39.9%**

Column A from Oklahoma Corporation Commission Staff Memorandum of 1/18/02
Column B from Oklahoma Corporation Commission Staff Memorandum of 1/18/02
Column C equals Column B plus $.02
Column D equals Column B plus $.40 except for six summer months
Column E represents the minimum price per MMBTU
Column F from Oklahoma Corporation Commission Staff Memorandum of 1/18/02
Column G is the largest of Columns D, E, and F
Column H equals Column A multiplied by Column G
Column I equals Column A multiplied by Column C
Column J equals Column H minus Column I

RELIEF FROM IMPROPER AND EXCESSIVE PURCHASED GAS COSTS
CAUSE NO. PUD 980000188
Exhibits of Stephen P. Dresch – Volume One of Testimony

Title	Exhibit
Stephen P. Dresch, *Curriculum Vitae*	SPD-1
Oklahoma Natural Gas – Dynamic Energy Resources, Natural Gas Supply Contract (November 9,1993)	SPD-2A
Oklahoma Natural Gas – Associated Natural Gas, Natural Gas Supply Contract (November 9,1993)	SPD-2B
ONG Natural Gas Supply Contracts, 11/9/1992 – 11/9/94	SPD-3A*
Summary of ONG Natural Gas Supply Contracts, 11/9/1992 – 11/9/94	SPD-3B*
Oklahoma Corporation Commission, Public Utilities Division, Schedule from January 18, 2002, Staff Memorandum	SPD-4
Oklahoma Natural Gas, Cost of Gas, Monthly Purchases and Prices under the Dynamic Contract (January 14, 2002)	SPD-5
Platts Inside FERC's Gas Market Report	SPD-6
Global Financial Data, Inc., S&P 500 Composite Total Return Index	SPD-7
Oklahoma Corporation Commission, Order No. 388124	SPD-8
Federal Reserve Board, Terms of Consumer Credit, Commercial Banks	SPD-9
Federal Reserve Board, Nonfinancial Commercial Paper Rates, 1-month	SPD-10A
Federal Reserve Board, Commercial Paper Rates, 1-month	SPD-10B
ONG, Rate Schedule 1041, Miscellaneous Special Charges	SPD-11
Gaberino Regarding Settlement of Litigation via Dynamic Contract, Oklahoma Corporation Commission, Signing Agenda, April 24, 1996	SPD-12
ANG Purchase Price of ½ of DER Contract	SPD-13A
Enogex Purchase Price of ½ of DER Contract	SPD-13B
ONG Letter Amending ANG Portion of Dynamic Contract, November 8, 1993	SPD-14
Kyle Testimony Regarding the Dynamic Contract Obligations, Oklahoma Corporation Commission, Transcript of Proceedings, October 7, 1997	SPD-15
Responsive Testimony of William G. Eliason, Cause No. 200000073	SPD-16
Gage-ONG Mutual Release and Covenant as to Future Contracts	SPD-17
Creek Systems Deliveries to ONG	SPD-18
Commissioner Bob Anthony, Statement Re Gage, October 2, 1992	SPD-19
Gage v. Anderson Complaint	SPD-20A

Title	Exhibit
Gage v. Anderson Announcement (Gage)	SPD-20B
Indictment of William Anderson, Bob Hopkins and Jewell Callaham	SPD-21

* Confidential. Not submitted for filing with testimony and other exhibits.