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STATE REGULATION OF NATURAL GAS IN A FEDERALLY DEREGULATED MARKET:
The Tragedy of the Commons Revisited

Richard J. Pierce, Jr.†

In Transcontinental Gas Pipe Line Corp. v. State Oil & Gas Board (Transco)\(^1\) a five-Justice majority of the Supreme Court held unconstitutional an order of the Mississippi Oil & Gas Board requiring that a pipeline purchase natural gas ratably from each of several owners of a common source of supply. Writing for the majority, Justice Blackmun held that the Natural Gas Policy Act (NGPA)\(^2\) preempted the order. In Justice Blackmun’s view, “Mississippi’s action directly undermines Congress’ determination that the supply, the demand, and the price of . . . gas be determined by market forces.”\(^3\) Justice Rehnquist, writing for the four dissenting Justices, saw no such conflict between state and federal goals. Indeed, Justice Rehnquist saw the state action as a desirable, perhaps even essential, element of the decontrolled market in natural gas that Congress had sought to achieve: “State regulation that merely defines property rights or establishes contractual rules, however, does not interfere with this purpose. Markets depend on such rules to function efficiently.”\(^4\)

Both the majority and the dissent predicate their opinions on important principles. When Congress determines that a market should operate free from the distortive effects of federal price regulation, that statutory determination should also foreclose the potentially more distortive effects of many forms of state regulation.\(^5\)

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\(^1\) 474 U.S. 409 (1986).
\(^3\) 474 U.S. at 422.
\(^4\) Id. at 433 (Rehnquist, J., dissenting).
\(^5\) See, e.g., Arkansas Elec. Coop. Corp. v. Arkansas Pub. Serv. Comm’n, 461 U.S. 375, 384 (1983) (“a federal decision to forego a regulation in a given area may imply an authoritative federal determination that the area is best left unregulated”) (emphasis added); Ray v. Atlantic Richfield Co., 435 U.S. 151, 178 (1978) (state’s ban of supertankers invalid because of conflict with federal policy that regulation in the field is inappropriate); see also O.W. Holmes, Law and the Court, in Collected Legal Papers 291, 295-96.
Congress made just such a determination with respect to the market for natural gas in 1978 when it enacted the NGPA to provide for gradual federal deregulation of the wellhead market for natural gas.\(^6\)

As the dissenting Justices emphasized, however, markets cannot function efficiently in the absence of clear, enforceable property rights.\(^7\) Unless states can regulate in ways that eliminate or reduce imperfections in property rights, a federal policy of relying on market forces to determine the supply, demand, and price of gas will fall well short of maximizing social welfare. Garrett Hardin explained the problem in his classic article, "The Tragedy of the Commons."\(^8\) If property rights are held in common, important costs and benefits are externalized, and waste of natural resources is inevitable. For example, an individual herdsman on a common pasture would rationally seek to increase his herd even to the point of overgrazing; he will receive all the gain from the addition to the herd, but the effects of overgrazing will be spread out among all the other herdsmen. Similarly, an individual owning land over a natural gas field would want to produce as much gas as possible, even if her action reduces the amount of recoverable reserves in the field, because she will directly reap the benefits from the additional production, while the diminution in the field's reserves will be shared by all the other owners.\(^9\) As Hardin noted, "[t]herein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited."\(^10\)

All nine Justices seemed to recognize the nature of the chal-

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\(^7\) \textit{474 U.S. at 433.}

\(^8\) Hardin, \textit{The Tragedy of the Commons}, 162 \textit{Science} 1243 (1968); see also Baden & Stroup, \textit{Externality, Property Rights, and the Management of Our National Forests}, 16 \textit{J.L. \\& Econ.} 303 (1973) (current forest management policies leave problems of inefficiency and inequity unresolved); Sweeney, Tollison \\& Willett, \textit{Market Failure, the Common-Pool Problem, and Ocean Resource Exploitation}, 17 \textit{J.L. \\& Econ.} 179 (1974) (arguing that international regulation is needed to reduce inefficiencies associated with ocean bed exploitation).

\(^9\) Hardin, \textit{supra} note 8, at 1244. As early as 1932 the Court recognized the significant imperfections in the right to own gas under the surface of the earth. \textit{See}, e.g., \textit{Cities Serv. Gas Co. v. Peerless Oil \& Gas Co.}, 340 \textit{U.S.} 179, 185-86 (1950) (noting that state legislatures restrict the use of property to prevent waste of natural resources and protect correlative rights of owners through ratable taking); \textit{Champlin Ref. Co. v. Oklahoma Corp. Comm'\n}, 286 \textit{U.S.} 210, 233 (1932) (plaintiff does not have a vested right to take all the natural flow of oil and gas—"if plaintiff should take all the flow of its wells, there would inevitably result great physical waste").

\(^10\) Hardin, \textit{supra} note 8, at 1244.
Challenging task they confronted in Transco—a state regulation is invalid if it conflicts with the federal goal of relying on market forces; it is valid, however, if it complements federal efforts to achieve that goal. Yet the Justices were almost equally divided in their resolution of this question, and neither the majority opinion nor the dissent provides an analytical framework that a court might apply to the many other forms of regulation of gas that many producing states are now implementing. The range of state action is extremely broad, and each type of action interacts differently with the federal goal of establishing a properly functioning gas market. The courts will have many more occasions to distinguish between permissible and impermissible forms of state regulation of natural gas. Moreover, the same federal constitutional law issues may arise in the analogous context of state regulation of oil production—where the potential is even greater for courts to create disastrous economic effects through holdings premised on misunderstandings of the operation of the market for oil and gas.

The purpose of this Article is to assist agencies and courts in distinguishing among various types of state regulation of natural gas. Part I briefly describes the present state of the natural gas market. The lengthy transition from pervasive federal regulation to complete reliance on market forces is creating severe dislocations and inequities for many owners of natural gas. Part II of the Article summarizes the justifications for state regulation of oil and gas production. Imperfections in the right to own oil and gas in underground reservoirs make some form of state regulation essential to the efficient operation of oil and gas markets. Part III describes the alternative approaches to conservation regulation used by state agencies—unitization of common sources of supply and direct regulation of producer conduct. While unitization is vastly superior to direct regulation, it is not practicable in all situations, and it leaves unresolved problems unique to gas marketing.

Finally, Part IV analyzes the effect of four common forms of direct state regulation of natural gas: (1) regulations requiring purchasers to take ratably from common sources of supply; (2) regulation...
tions providing owners of gas an opportunity to sell under contracts applicable only to other owners of gas from a common source of supply; (3) regulations requiring pipelines to purchase supplies in accordance with state-prescribed priorities; and, (4) regulations limiting the quantity of gas that can be produced by owners of gas. Producing states are engaged in all four of these forms of regulation, and challenges to the constitutionality of each are now pending in state and federal courts.  

I

PRESENT GAS MARKET CONDITIONS

Most natural gas is sold under long-term contracts. Typically, a producer dedicates a specific gas supply exclusively to the performance of the contract, and the parties agree on a mechanism for determining the present and future price of gas sold under the contract, as well as a minimum quantity of gas the purchaser is required to “take or pay” for throughout the term of the contract. The price and quantity provisions of gas purchase contracts vary greatly today depending on the market and regulatory conditions that existed, or were expected to exist, at the time the parties entered into the contract.

Many contracts entered into in the 1930s, 1940s, and 1950s provide for low fixed prices and impose on the purchaser no obligation to purchase any particular quantity of gas. These contracts arose when the gas market was poorly developed and when many pipelines had considerable monopsony power in important producing areas.

In 1954, the federal government began regulating the price of all producer sales of gas for resale in interstate commerce under the Natural Gas Act (NGA). The price terms of the contracts entered into for such “jurisdictional sales” from 1954 to 1978 reflect the regulatory rules applicable to different categories of gas supplies at

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the time. Generally, gas supplies produced from wells drilled prior to 1973 are sold at an artificially low price ceiling established by the Federal Power Commission, e.g., $0.50 per MMBtu.\textsuperscript{19} Gas produced from wells drilled after 1973 is subject to considerably more generous federal price ceilings, e.g., $2.00 per MMBtu.\textsuperscript{20} Furthermore, as the market for gas developed and as pipelines gradually lost their monopsony power, “take or pay” clauses became more common and competition forced the pipelines to make commitments to purchase or pay for specific quantities of gas, e.g., seventy-five percent of deliverability from the reserves dedicated in the contract.\textsuperscript{21}

Federal regulation of gas producer prices at artificially low levels created a catastrophic shortage of natural gas in the 1970s.\textsuperscript{22} Congress reacted in 1978 by enacting the NGPA. That statute created much higher price ceilings applicable to certain types of gas supplies, e.g., “new natural gas” and “high cost gas.”\textsuperscript{23} The price ceilings increased automatically until, at specified times between 1979 and 1987, price ceilings ceased altogether for a large portion of the nation’s gas supply.\textsuperscript{24} Many pipelines overreacted to the gas shortage of the 1970s and to the new opportunities to purchase gas made available under NGPA’s provisions for higher prices. They committed themselves to pay present and future prices well above the market-clearing level and also to take or pay for a large portion of the gas supply dedicated under each contract, e.g., eighty-five percent of the quantity deliverable from dedicated reserves. Thus, the contracts of the late 1970s and early 1980s typically provided for very high prices, e.g., $3.00 to $9.00 per MMBtu, and for commitments to purchase large quantities of gas.\textsuperscript{25}

The overreaction of the pipelines during the late 1970s and early 1980s in turn created significant marketing problems for most pipelines.\textsuperscript{26} They had committed themselves to purchase more gas at high prices than they were able to resell at the profit margin the Federal Energy Regulatory Commission (FERC) permitted. Most

\begin{itemize}
  \item \textsuperscript{19} R. Pierce, Natural Gas Regulation Handbook 38 (1980).
  \item \textsuperscript{20} Id. at 38, 59.
  \item \textsuperscript{21} Energy Information Administration, Office of Oil and Gas, U.S. Department of Energy, Natural Gas Producer/Purchaser Contracts and Their Potential Impacts on the Natural Gas Market 39-40 (1982).
  \item \textsuperscript{22} See Pierce, supra note 16, at 69.
  \item \textsuperscript{24} See Pierce, supra note 6, at 348-49.
  \item \textsuperscript{25} Id. at 351.
  \item \textsuperscript{26} See generally S. Williams, The Natural Gas Revolution of 1985, at 3-14 (1985); Griggs, Restructuring The Natural Gas Industry: Order No. 436 and Other Regulatory Initiatives, 7 Energy L.J. 71, 82-84 (1986).
\end{itemize}
pipelines reacted to this situation by substantially reducing purchases under contracts that did not obligate them to purchase a specified quantity of gas and by reducing substantially the price at which they offered to purchase newly available gas supplies.

This trend created problems for many gas producers. Most producers have access to markets only through pipelines. If all pipelines located in a producing area have preexisting contractual commitments to purchase more gas than they can sell—as has been the case in many areas since 1983—many producers have no alternative market for their gas. In 1985, the FERC issued Order 436 in response to this problem of restricted producer access to markets (and restricted consumer access to these other sources of supply).

Order 436 gives all pipelines the option of becoming “equal access carriers,” by agreeing to transport gas for third parties on a nondiscriminatory basis, or of declining to transport gas for any third party. Ultimately, Order 436 should solve the market access problem and eliminate any local monopsony problems that exist in some gas fields. Its immediate effect, however, has been to exacerbate the access problem because many pipelines have declined to transport gas for third parties in order to avoid becoming equal access carriers.

This chronology helps to explain the shifting context in which producing states are attempting to regulate gas production and purchasing both to further the conservation of oil and gas and to protect correlative rights.

II
Justifications for State Regulation of Oil and Gas Production

Under the common law, a landowner owns the oil and gas located beneath the surface of her land. Soon after the discovery of oil and gas, however, courts realized that enforcement of property rights in oil and gas contained in underground reservoirs presented unusual problems. Oil and gas can migrate easily beneath the earth's surface once production from a reservoir begins. Thus, whenever surface acreage owned by two or more parties overlays a reservoir, the theoretical ownership of the oil and gas in the reservoir is susceptible to constant changes when one or more of the

28 See S. Williams, supra note 26, at 46.
29 Del Monte Mining & Milling Co. v. Last Chance Mining & Milling Co., 171 U.S. 55 (1898); see E. Kuntz, A Treatise on the Law of Oil and Gas § 2.4 (1962).
owners produces oil or gas from the reservoir. Production by any owner causes migration, or drainage, of oil and gas to that owner's property from the property of all other owners. The early courts found themselves powerless to enforce property rights through traditional means in this circumstance; they needed more tangible indicia of ownership to enforce a property right in oil and gas. Forced to analogize to the law of wild animals, courts used physical possession as the principal mark of an enforceable property right in oil and gas. Once oil or gas was "captured" through drilling and production, the courts would enforce title at the behest of the party who produced the gas.30

Most oil and gas reservoirs are owned by many parties. A single reservoir can underlie hundreds or even thousands of square miles.31 Moreover, the types of owners of the oil and gas in a reservoir often vary dramatically. A state, an indian tribe, or a large rancher might own a large proportion of the minerals, with the balance owned in minute fractions by thousands of small farmers and owners of residential property. The rule of capture and its imperfect property rights when applied to multiple owners causes a variety of problems but most fall into two broad categories—conservation and correlative rights.

Markets induce conservation of natural resources by forcing owners of natural resources to bear all of the social costs of production and by allowing the owners to receive all of the benefits of production.32 In the case of a nonrenewable resource like oil and gas, one significant present cost of production is the opportunity cost of not being able to sell that oil and gas in the future.33 Thus, the social cost of current production includes the discounted present value of revenues from foregone future production. If an oil and gas reservoir were owned by a single party, this social cost would appear also as a private cost to that party, inducing the owner to conserve. If more than one party owns the oil and gas in the reservoir, however, and each party can enforce its right of ownership only through the process of capture, the opportunity cost of current production is externalized34—it is a social cost that is not borne by any of the private parties with the power to produce the resource. Each owner's
natural market-based incentive to conserve oil and gas for future production is reduced dramatically by its awareness that any unit it conserves today is likely to be produced and sold by one of its neighbors tomorrow—hence, the Tragedy of the Commons.

In the context of oil and gas production, the externalization of opportunity costs to society resulting from the rule of capture yields waste of resources in at least two ways. First, owners have an incentive to engage in excessive well drilling. A single owner of a reservoir might conclude that 100 wells positioned properly would maximize total recovery of hydrocarbons at least cost. If the same reservoir were owned by a hundred parties, they would probably drill thousands of wells, most in the wrong locations, in an effort to maximize the quantity of oil and gas captured by each at the expense of its neighbors. These additional drilling costs are pure waste from a societal perspective.

Second, the rule of capture leads to waste in the form of reduced overall recovery of oil and gas. Production of oil from a reservoir requires energy from some source, frequently a gas “cap” or gas dissolved in oil. If gas is produced too rapidly from a reservoir containing both oil and gas, the reservoir’s source of energy can be dissipated long before all of the potentially recoverable reserves have been produced. Moreover, in some reservoirs oil cannot be produced without simultaneously producing gas. Under the rule of capture, a producer who cannot sell gas produced in association with oil frequently will flare the gas, rather than bear the cost of reinjecting it in the reservoir for future production, because gas reinjected at some cost by one producer is likely to be produced and sold in the future by a different producer.

The concept of correlative rights arose because making property rights in oil and gas contingent on capture creates significant equity problems among owners of a common source of supply. One owner may be able to capture a quantity of oil and gas grossly disproportionate to its ownership interest in the common pool by draining oil and gas from under its neighbors’ property. All producing states have recognized the concept of correlative rights in response to the potential for one owner to “steal” gas from other owners through uncompensated drainage. The doctrine of correlative rights provides a legal framework in which each owner of oil

35 In the East Texas field alone, owners have drilled 13,000 unnecessary wells at an annual cost of $50 million, stated in 1930s dollars! J. Weaver, supra note 31, at 67.
36 Under the rule of capture, each owner has an incentive to drill wells near the boundaries of its property to minimize drainage to other owners and maximize drainage to its own wells.
37 S. McDonald, supra note 14, at 17-24.
38 Id. at 47.
and gas in a reservoir can produce its fair share of the total oil and
gas in the reservoir, measured with reference to its proportionate
ownership of the reservoir.\textsuperscript{39}

Conservation and correlative rights serve as independent justifi-
cations for state regulation of oil and gas production, yet regula-
tion solely to advance one goal might adversely affect the other.
Thus, the regulatory task of a state or agency is made more difficult
because regulators must attempt to further both goals simultane-
ously. A legislature or agency will be extremely reluctant to impose
a regulation that furthers conservation at the expense of correlative
rights, and such a regulation is vulnerable on judicial review, proba-
bly even on constitutional grounds.\textsuperscript{40} One of the easiest ways to fur-
ther conservation, for instance, is to limit by regulation the number
of wells that can be drilled in a reservoir. Oil reservoirs frequently
are limited to one well per forty acres, and gas reservoirs frequently
are limited to one well per 640 acres. If, however, the drilling
unit—e.g., the forty or 640 acre block—is owned by twenty different
parties, and only one of those parties is permitted to drill a well, the
combined effect of the rule of capture and the regulatory limit on
well drilling is terribly unjust to the other nineteen owners who will
never be able to realize economic gain from their ownership inter-
ests. Without some additional state action that protects the correla-
tive rights of the nineteen owners who are prohibited from drilling,
the regulatory limit on well drilling, motivated by the state’s interest
in conservation, may be a taking of private property prohibited by
the Constitution. Thus, it is important to consider the state goals of
conservation and protection of correlative rights simultaneously in
analyzing any state regulation.

III
REGULATORY METHODS OF FURTHERING THE GOALS OF
CONSERVATION AND PROTECTION OF
CORRELATIVE RIGHTS

Initially, it is useful to divide state regulation of oil and gas pro-
duction into two broad categories—unitization and direct
regulation.

A. Unitization—The Preferred Regulatory Approach

Unitization addresses directly the problems created by the com-

\textsuperscript{39} See Northwest Cent. Pipeline Corp. v. Corporation Comm’n, 237 Kan. 248, 255,
699 P.2d 1002, 1013-14, vacated, 475 U.S. 1002 (1986); 8 H. WILLIAMS & C. MEYERS, OIL

\textsuperscript{40} Cf. Ohio Oil Co. v. Indiana, 177 U.S. 190 (1900) (state statute regulating flow of
natural gas survives constitutional attack); J. WEAVER, supra note 31, at 273.
bination of multiple ownership of oil and gas reservoirs and the imperfect property right to oil and gas under the rule of capture. Unitization functionally transforms a multiple-owner reservoir into a single-owner reservoir. The owners agree to designate one party as the unit operator, subject to supervision by an operating committee, and agree to share the total oil and gas production of the unit in accordance with a formula that recognizes each owner's correlative rights.\(^{41}\)

A single example can illustrate some of the enormous advantages of unitization as a means of simultaneously furthering conservation and correlative rights. Assume a gas cap drive oil reservoir\(^{42}\) with the gas cap located beneath fifty small farms of forty acres each, and the balance of the reservoir located under the surrounding one hundred square miles. Under the rule of capture, each of the fifty farmers must drill a well in order to recover his share of the hydrocarbons, and each must produce gas as rapidly as possible to avoid drainage by neighbors (and to maximize drainage from neighbors). The result would be a terrible waste. The owners will drill at least fifty wells to produce gas that no more than four wells could produce efficiently. The energy in the gas cap would dissipate rapidly, eliminating the producing energy for the entire reservoir, reducing the total recoverable reserves, and increasing the cost of producing the remaining reserves.

If the owners operated the same hypothetical reservoir on a unitized basis, the results would differ dramatically. Because each owner, including the fifty farmers whose land overlays the gas cap, shares equitably in the total production from the reservoir over time, each has an incentive to instruct the unit operator to maximize the total value of the resource. No wells would be drilled initially in the gas cap; an optimal number of wells would be drilled elsewhere in the reservoir. Years later, wells would be drilled in the gas cap, but they would not be producing wells at that stage; rather, the wells would be used to inject gas to replenish the energy in the gas cap to drive the reservoir. Finally, many decades after the initial development of the reservoir, the owners would produce the gas in the cap. Even then they would produce the gas through four wells rather than fifty or more.

The precise changes attributable to unitization in the pattern of the development of a reservoir vary with the characteristics of the

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\(^{41}\) H. Williams & C. Meyers, supra note 39, at 936-38.

\(^{42}\) In a gas cap drive oil reservoir a cap of natural gas lies over a portion of the oil reservoir. The pressure of the natural gas "drives" the oil production by forcing the oil through the wells. Thus, the very pressure of the gas cap, which may be located under the land of only a few, is important to all producers in the field.
reservoir. In each case, however, unitization replaces the shortsighted wasteful patterns that exist under multiple ownership and the rule of capture with a pattern of development carefully conceived to maximize the value of oil and gas to the owners and to society. Thus, unitization is an unmixed blessing. It benefits producers, consumers, and society.\(^4\)

Unfortunately, several factors limit the benefits that unitization of a multi-owner reservoir can bring in redressing the gross distortions that the rule of capture creates. The practical difficulties in implementing complete unitization of all reservoirs and the traditional practice of excluding gas marketing from the scope of unit operations limit the present efficacy of unitization as a means of inducing conservation and protecting correlative rights.

Frequently, many thousands of parties own an oil and gas reservoir. The mere process of negotiating a unitization agreement acceptable to each of thousands of parties is daunting. In the early stages of exploration and development of a reservoir, substantial uncertainties concerning the magnitude, location, structure, and drive of the reservoir render it nearly impossible to reach agreement among even a substantial proportion of the parties.\(^4\) As knowledge of the reservoir increases, some parties develop an incentive to hold out to gain maximum benefit from structural and regulatory advantages.\(^4\) Strategic behavior that is susceptible to analysis only through sophisticated multi-party game theory is common. The obstacles to complete voluntary unitization of a major reservoir like the East Texas Field or the Hugoton Basin are enormous—indeed, almost certainly insurmountable. Each field covers over a thousand square miles and is owned by tens of thousands of parties.

State conservation commissions uniformly strive to induce greater unitization. In most states (though not in Texas unfortunately),\(^4\) the conservation commission has the power to order compulsory unitization.\(^4\) The power to order unitization is extremely helpful in some cases, particularly when one or a few holdouts are blocking an equitable agreement for strategic reasons or to benefit from structural advantages. In most states that authorize compuls-

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\(^4\) For detailed descriptions of the advantages of unitization, see S. McDonald, supra note 14, at 201-09; J. Weaver, supra note 31, at 20-29.

\(^4\) J. Weaver, supra note 31, at 30.

\(^4\) S. McDonald, supra note 14, at 213-16; J. Weaver, supra note 31, at 29, 67, 109, 313-14.

\(^4\) Texas does authorize compulsory pooling, a variation on compulsory unitization that is limited in its geographic scope—pooling refers to the process of combining enough separate properties to form a well-drilling unit. See J. Weaver, supra note 31, at 125.

\(^4\) See 6 H. Williams & C. Meyers, supra note 99, § 912.
sory unitization, however, the agency has no power to act unless a statutorily specified super majority of owners (usually measured by productive acres) petition for unitization. This requirement, combined with the inherent difficulty of resolving all of the factual disputes necessary to devise an equitable sharing of unit production, creates significant practical limits on state agency power to impose unitization involuntarily on owners.

Conservation commissions use many other regulatory techniques to pressure owners to form units. Orders that prohibit flaring of gas, that reduce the level of allowable production from some wells, or that increase the allowable level from other wells often force previously reluctant owners to enter negotiations to form a unit. Even when state agencies stretch the limits of their statutory power to coerce unitization, however, they fall well short of total success. Texas produces only forty-eight percent of its total oil from unitized operations, Louisiana sixty-four percent, and Oklahoma thirty-nine percent. Even these figures overstate the extent of state agencies’ success in pursuing unitization. Most units cover an area substantially less than a complete field; unitization usually does not occur until fifteen to twenty years after field discovery; and, the negotiations leading to unitization require an average of almost six years.

B. Direct Regulation of Production—A Second-Best Alternative

To the extent that state agencies fall short of field-wide unitization of all reservoirs, the imperfect property rights in oil and gas threaten to distort the oil and gas markets, to induce substantial waste in the process of drilling and producing, and to permit owners to drain oil and gas from the property of their neighbors. State conservation commissions have established extremely complicated systems of direct regulation to counteract these destructive tendencies. The principal elements of a typical system of direct regulation are: prohibitions on flaring of gas; maximum limits on gas/oil production ratios; well spacing rules; and allowables, which are limits on the quantity of oil or gas that can be produced from a well.

Although many people believe that no-flare orders further conservation by prohibiting wasteful use of a valuable resource, the

48 Id. § 913.5.
50 J. Weaver, supra note 31, at 148-51.
51 Id. at 151-54.
52 Id. at 315-16.
53 Id. at 318-19.
only true benefit in most cases is to induce unitization. Indeed, flaring sometimes is the use of natural gas that most benefits society, and a no-flare order in such circumstances is itself wasteful. Maximum limits on gas/oil production ratios serve the critical function of avoiding dissipation of energy in dissolved gas and gas cap drive reservoirs. Well spacing rules directly reduce some of the excessive drilling that otherwise results from the rule of capture.

The core of most conservation programs, and the most complicated element, is the system of allowables limiting the amount of oil and gas that can be produced from any particular well, lease, or unit. At any given time, a particular allowable or set of allowables performs one or more of the following four functions, depending on the specific circumstances to which they are applied and the manner in which they are calculated. First, allowables can induce unitization if they are set at levels of production that counteract structural advantages that motivate some owners to block efforts at unitization. Second, allowables can protect a reservoir from structural damage when based on a well’s maximum efficient rate of recovery. Third, allowables can indirectly discourage excessive drilling when based on the number of acres allocated to a well because they prevent owners from increasing their revenues by drilling additional wells at their neighbors’ expense. Finally, reserve-based allowables can help to protect correlative rights; if the allowable is calculated correctly and if each well produces its allowable each day, the drainage problem is lessened.

All students of state conservation regulation agree that unitization is vastly superior to direct regulation. Direct regulation furthers the states’ dual goals of conservation and protection of correlative rights only in a crude manner, often with severely distorting side effects. Even the most harsh critics of direct regulation recognize, however, that it yields significantly better results than the results of an unregulated market with property rights in oil and gas.

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55 Id. at 204, 235.
56 Id. at 46.
57 Id. at 182-83.
58 Id. at 150-51.
59 J. Weaver, supra note 31, at 316-19.
60 S. McDonald, supra note 14, at 47; Martin, The Establishment of Allowables for Production of Gas in Louisiana, 57 U. Colo. L. Rev. 267, 268 (1986).
61 S. McDonald, supra note 14, at 150-51.
62 Id. at 649; Martin, supra note 60, at 269.
63 See S. McDonald, supra note 14, at 197-226; J. Weaver, supra note 31, at 20-29.
64 S. McDonald, supra note 14, at 183-96.
contingent upon "capture" through production.65

For several decades, the allowables system had another important effect as well; it provided a means through which Texas, Louisiana, and Oklahoma could assert their market power over oil and gas to increase prices, at least in the short term, above marginal cost.66 Because these states had market power in the domestic market and protection from international competition through import quotas,67 their cooperative action to reduce the quantity and increase the price of oil and gas produced enhanced the wealth of producers and of producing states at the expense of consumers and consuming states. By the 1960s, however, these three states had lost their market power, and it is unlikely that any combination of producing states in the United States will obtain significant market power in the future.68 Thus, while producing states can still reduce the quantity of oil and gas produced and thereby increase to some extent the price of oil and gas through their allowables decisions, the states and their producers would lose wealth as a result of such decisions.

C. The Need to Supplement Unitization in the Gas Marketing Context

Field-wide unitization can eliminate the need for any direct regulation of production to achieve conservation goals. Even if a field is unitized, however, state agencies frequently encounter serious difficulties in protecting correlative rights to natural gas because the marketing of the natural gas produced by a unitized field has traditionally been left to the individual owner. The traditional form of operating agreement for a unitized set of properties gives the unit operator control over all significant development and production decisions. It leaves to the individual owners, however, virtually all power and responsibility to market their share of unit production. Antitrust concerns and a fear that the unit might be taxed as a corporation if marketing control were given to the operator underlie the decision to keep marketing decentralized.69

Reserving to each of the many owners the right to market production rarely creates problems in the context of oil.70 The oil market primarily operates on a posted price system—various purchasers

65 Id. at 129, 182-83; J. Weaver, supra note 31, at 347-49.
66 S. McDonald, supra note 14, at 188-96; J. Weaver, supra note 31, at 75, 98-99.
67 J. Weaver, supra note 31, at 61.
69 S. McDonald, supra note 14, at 201, 243, 250; 6 H. Williams & C. Meyers, supra note 39, at § 911.
70 Martin, supra note 60, at 270.
announce daily the price they are willing to pay, and all available oil is purchased at that price. Changes in quantity available or demanded are reflected almost immediately in changes in the purchase price, allowing the market to "clear" on a daily basis.

The natural gas market, unlike the oil market, is dominated by long-term contracts. The many changes in market and regulatory conditions that have taken place from 1940 through 1987 have shaped the existing pattern of contracts. The contract price and quantity provisions that govern gas produced from a common source of supply—even from a single well—can differ enormously. Three hypotheticals, typical of today's market conditions, help to illustrate the severe problems state conservation commissions now confront in protecting correlative rights to natural gas.

In the first hypothetical, assume that producer X is the operator of a single well unit in which X has a fifty percent ownership interest, with the other fifty percent owned in widely varying proportions by forty other parties. Producer Y, one of the other owners, has a one percent interest in the gas in the single well unit. Producer X negotiated a long-term contract with a pipeline in 1981, when some pipelines believed that they would confront a shortage unless they purchased aggressively. Producer X's contract now calls for a price of $7.00 per MMBtu and commits the pipeline to purchase eighty-five percent of the maximum quantity of X's gas available for delivery from the well. Producer Y did not obtain a contract in 1981, but the pipeline purchasing from X also bought Y's gas proportionately at the price set forth in X's contract throughout 1982. In 1983, however, the pipeline discovered that it was contractually obligated to purchase more gas than it could sell at an acceptable profit margin, so it ceased purchases of all gas it was not contractually committed to purchase. Producer Y discovers that other prospective purchasers are in a similar situation and has great difficulty finding anyone willing to purchase its gas supply on acceptable terms. Producer X is producing and draining producer Y's gas from the single well unit. Producer Y complains to the conservation commission that its correlative rights are being violated.

In the second hypothetical, assume that neighboring producers A and B each have contracts for the life of reserves negotiated with pipelines during the 1950s. The pricing provisions of the two contracts are identical, but producer A's contract alone includes a provision requiring the pipeline to take or pay for the allowable level of production from the well determined by the state conservation commission. Both pipelines are experiencing difficulty selling at an ac-

71 See supra text accompanying notes 16-28.
acceptable profit margin all the gas they are obligated by contract to purchase. The pipeline purchasing from producer A will reduce its purchases from A to the minimum permitted by contract—the allowable set by the state commission. The pipeline purchasing from B also will reduce its purchases from B to the minimum permitted by contract—at or near zero. As a result, A's production will drain gas from B's property. B complains to the conservation commission that its correlative rights are being violated.

In the third hypothetical, Z produces both oil and gas from the same reservoir. Several gas pipelines have facilities near Z's wells, but no pipeline is contractually obligated to purchase all of the gas Z produces. Because of the gas surplus, Z is unable to obtain a gas purchase contract that will permit it to sell all of its associated gas on terms it considers acceptable. If producer Z wants to produce oil from the reservoir it also must produce associated gas. Without an available purchaser of all that gas, however, Z must flare some of the gas it produces in violation of the conservation commission's policy prohibiting flaring as a wasteful act. Producer Z complains to the commission that pipeline purchasing practices are forcing it either to refrain from producing oil otherwise available for the market or to engage in wasteful flaring of gas.

IV
ANALYSIS OF FOUR TYPES OF STATE REGULATION

The three examples given above closely resemble the actual patterns that have given rise to the four types of state regulatory actions that are presently facing constitutional challenges. The first hypothetical is a simplified version of the facts in Transco. The Mississippi Oil & Gas Board responded to the complaints of producer B—the small percentage owner with no "take or pay" contract provision—by ordering the pipeline purchaser to comply with a previously unenforced state statute that required any purchaser of gas to take ratably from a common source of supply, i.e., the Board ordered Transco to purchase gas from B in proportion to B's ownership of the single well unit from which Transco was purchasing gas from A pursuant to its contract with A. The Supreme Court's five-to-four decision in Transco held that order unconstitutional.

The first hypothetical also illustrates the factual predicate for regulatory actions taken in Oklahoma by statute and in Louisiana by order of the Commissioner of Conservation. Both states com-

74 See Martin, supra note 60, at 284-286.
pelled producers in A's situation to provide producers like B an option to sell gas under A's contract. The Oklahoma Supreme Court recently upheld the constitutionality of the Oklahoma statute in Seal v. Corporation Commission. The Louisiana orders are the subject of ongoing litigation in state courts.

The second hypothetical—in which only one of two neighboring producers has a “take or pay” contract—represents a simplified version of the factual pattern that led the Kansas Corporation Commission to modify its allowable rules for the enormous Hugoton Basin Field. That rule change was designed to pressure certain purchasers to increase their quantities of gas purchased to avoid the continuing and increasing drainage to some producers from the property of others. The Kansas Supreme Court affirmed the commission's order, with one justice dissenting on the basis that the order was unconstitutional. The United States Supreme Court granted a petition for writ of certiorari before it had decided Transco, and then remanded the case to the Kansas Supreme Court for reconsideration of its prior decision in light of Transco.

The third hypothetical—where Z produces both oil and gas from the same well but has no purchase contract, and can find no buyer, for its gas output—illustrates the factual predicate for the priority-of-purchase rules that several conservation commissions have promulgated. These rules purport to compel pipelines to purchase certain types of gas supplies in the state before other types of supplies. Gas produced in association with oil is given a high priority to avoid, or at least to minimize, wasteful flaring of such gas. In 1986, a federal district court held Oklahoma's priority-of-purchase statute unconstitutional in ANR Pipeline Corp. v. Corporation Commission. An appeal to the Tenth Circuit is now pending.

A. Ratable Take Regulations

The simplified facts of the first hypothetical permit easy isola-

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75 725 P.2d 278 (Okla. 1986).
76 See Martin, supra note 60, at 287.
79 See, e.g., TEX. ADMIN. CODE tit. 16, § 3.34(f) (1986). Most producing states have similar rules. See Barlow, Enter: Open Access and Abandonment—Exit: State Prorationing and Ratable Take, ATRA NATURAL-GAS INSIGHTS, July 1986, at 1, 4.
80 643 F. Supp. 419 (W.D. Okla. 1986). Curiously, while the court held the entire regulation unconstitutional, it discussed only the last priority, which merely imposed a ratable take obligation with respect to gas well gas.
tion of the issues in Transco. Based on a state statute that required any purchaser to take ratably from all owners in a common supply source, the Mississippi Board ordered Transco to take gas ratably from B, even though Transco had a contractual obligation to take only from A. The most curious aspect of the case was the treatment of the price issue at each stage of decision-making.

As the Mississippi Supreme Court recognized, the core of the dispute was the price at which Transco would purchase from B.\(^8\) Yet, the Board’s order had made only an oblique reference to price, and the supreme court’s own treatment of the price issue also was obscure. In an obvious effort to reconcile the Board’s order with federal law, the Mississippi court held that the legislature had not granted the board the power to determine the price at which a purchaser must take ratably from a noncontract owner of a common source of supply.\(^8\) If the court had stopped at this point, the case would have become moot as a practical matter because ratable take orders with no price provision can neither conflict with a federal goal nor further the state’s goal of protecting correlative rights. Any purchaser would be pleased to take ratably at some price, e.g., $0.01, $0.10, or perhaps even $1.00 per MMBtu. Indeed, Transco had offered to purchase B’s gas, but B understandably had rejected the offer as unacceptable;\(^8\) such an offer might not have even covered B’s variable costs of production. A ratable take order with no price limitation is a practical nullity. The order can further a state goal only if it compels the purchaser to pay a price in excess of the price it is otherwise willing to pay.

The Mississippi Supreme Court did not conclude its discussion of price with its holding that the Board had no power over price, however. It went on to say that the purchaser must make an “offer in good faith [on] reasonable terms.”\(^8\) It is impossible to know precisely what the court meant by this, but it must reflect the court’s belief that some Mississippi institution has some power to determine the minimum price at which a ratable take must be made. For purposes of analyzing the constitutional issues addressed by the United States Supreme Court I will assume, as the Supreme Court apparently assumed, that Mississippi intended to compel Transco’s ratable takes at a price in excess of the price offered by any prospective purchaser. Without such an assumption, the controversy before the Court would disappear.

\(^8\) Transcontinental Gas Pipeline Corp. v. State Oil & Gas Bd., 457 So. 2d 1298, 1328 (Miss. 1984), rev’d, 474 U.S. 409 (1986).
\(^8\) Id. at 1329-30.
\(^8\) Id. at 1309.
\(^8\) Id. at 1331.
Justice Blackmun’s opinion for the five-Justice majority is relatively easy to summarize. “Mississippi’s action directly undermines Congress’ determination that the supply, the demand, and the price of high-cost gas be determined by market forces” because it would increase prices to consumers.\(^8\)

Justice Rehnquist’s opinion for the four dissenting Justices relies upon somewhat more complicated reasoning. The dissent agrees with the majority that Congress’s purpose in enacting the NGPA was to eliminate regulatory constraints on the wellhead price of gas, and that any state action inconsistent with that goal is preempted.\(^8\) The dissent concludes, however, that a ratable take rule is entirely consistent with Congress’s purpose.\(^8\) The reasoning to support this conclusion starts with the statement of a vitally important principle that should guide courts in this area of the law: “State regulation that merely defines property rights or establishes contractual rules, however, does not interfere with this purpose. Markets depend upon such rules to function efficiently.”\(^8\)

After this strong beginning, however, the dissent’s effort to apply this important principle flounders in a sea of misunderstanding with respect to the effects of different forms of state regulation of gas production. The dissent sees the ratable take rule as merely a rule of contract law.\(^8\) It analogizes the ratable take rule to compulsory unitization in its effects on conservation and correlative rights,\(^8\) characterizing the impact of a ratable take rule on price as “neutral,” “attenuated,” and “a mere drop in the bucket.”\(^8\) Moreover, the dissent opines that Transco brought on itself any problems created by the ratable take rule when it entered into a take-or-pay contract with one of several owners of a common pool.\(^8\) Presumably, any gas purchaser could avoid all similar problems in the future (and could have done so in the past) simply by refraining from entering into any contract unless it was prepared to buy from all owners in a common pool on the same terms.

The easiest way to test the dissent’s conclusions is to assume that the dissent had prevailed and states could apply ratable take rules. At the time the case was decided, Transco, like most gas pipelines, was committed by contract to purchase more gas than it could

\(^8\) Transcontinental Gas Pipe Line Corp. v. State Oil & Gas Bd., 474 U.S. 409, 422 (1986).
\(^8\) Id. at 432-33.
\(^8\) Id. at 429.
\(^8\) Id. at 433.
\(^8\) Id.
\(^8\) Id.
\(^8\) Id. at 433-34, 436.
\(^8\) Id. at 435.
resell at a price that would permit it to earn the rate of return that the FERC authorized. This was a situation of Transco's own making, and state and federal courts are, quite properly, forcing pipelines to honor their contractual commitments even though the pipelines suffer financially.\textsuperscript{93}

Mississippi, however, would have compelled Transco to purchase not only the gas it had contracted to buy from Mississippi producers, but also all gas not under contract (and perhaps all gas subject to contracts with less favorable take-or-pay terms) if that gas was in a common pool with any gas Transco had contracted to purchase. This is not simply a rule of contract law; it is a substantial regulatory expansion of contractual obligations. Moreover, if Mississippi could impose such an obligation, all other states in which Transco has contracts to purchase gas would follow suit.\textsuperscript{94}

Transco, like all major pipelines, has take-or-pay contracts with owners in hundreds of different reservoirs. In most cases, its contracts are with only a small fraction of the owners of the reservoir. In many cases, the common pool covers hundreds of square miles. The owners of the common pool—who typically number in the scores, hundreds or even thousands—are in widely disparate contractual situations. Some have extremely favorable contracts, similar to A's contract with Transco, but with other pipelines. Many have less favorable contracts with other pipelines. Many others are in B's position: they have no contract because of the existence of a significant surplus of deliverable gas. Moreover, the population of producers without contracts changes constantly as old contracts expire or become subject to renegotiation, and as owners drill new wells.

Presumably, because Transco entered into a take-or-pay contract, for instance, with each of one hundred owners in one hundred common pools obligating it to purchase a specified aggregate quantity of gas per year, each state could compel Transco to purchase on a proportionate basis all gas not under contract in each of those one hundred pools. Given the present gas deliverability surplus, there undoubtedly are hundreds of owners without contracts in each of the hundred pools from which Transco has contracted to purchase gas. The aggregate deliverability from the uncontracted portion of those pools undoubtedly exceeds the total volume Transco has committed to purchase. The uncontracted portion of any pool also

\textsuperscript{93} E.g., PGC Pipeline v. Louisiana Intrastate Gas, 791 F.2d 338 (5th Cir. 1986); Challenger Minerals, Inc. v. Southern Natural Gas Co., No. 84-C-357-E (N.D. Okla. Sep. 9, 1986) (LEXIS, Genfed library, Dist file).

\textsuperscript{94} The Mississippi Supreme Court explicitly recognized this fact. 457 So. 2d at 1321-22.
is subject to potential expansion on a regular basis as contracts expire or become subject to renegotiation, and as new wells are drilled. Thus, state ratable take regulation could force Transco to purchase additional gas supplies several times the total volume it has contractually committed to purchase at a time when it cannot sell even the gas it has committed to purchase.

If Transco could not recover in its rates the cost of the staggering new obligations that the producing states would impose, it would collapse under this overwhelming new regulatory burden within a matter of months. The same would be true of any other gas purchaser—pipeline, consumer, or distributor. The dissent's characterization of the price impact of ratable take rules as "neutral" must have been premised on a serious misunderstanding of the contextual facts. The dissent refers to the gas potentially at stake as "a mere drop in the bucket" because the Mississippi order applied only to federally deregulated gas. That category now encompasses over fifty percent of the total gas supply, however, and includes a much higher proportion of the gas that is not the subject of gas purchase contracts. Eventually, all gas supplies will be deregulated under the NGPA.

Another helpful way of analyzing the effect of a ratable take rule is to contrast the present operation of the gas market with the manner in which the market would function with an enforceable ratable take rule. The gas deliverability surplus forces producers without contracts to accept lower prices for newly available gas supplies, and to accept lower prices when contracts expire or become subject to renegotiation. This in turn increases the quantity of gas demanded and reduces exploration and production activity, thereby reducing over time the quantity of gas supplied and resulting in market equilibrium—precisely the results a market is supposed to achieve.

With enforceable ratable take rules, however, we would see totally different actions in response to the present surplus. If any one of the many owners of a common pool had a contract, every other owner of that pool would have a regulatory right to sell its gas to the same purchaser at whatever price and other terms the producing state considered "reasonable." By definition, that price would be above a market-determined price, or else the ratable take rule would have no effect at all. No producer would accept a lower price for a new gas supply during the renegotiation of an existing contract or

95 The dissent cited an article that stated that less than 1% of the nation's gas supply was deregulated in 1982 when the article was written. Transco, 474 U.S. at 436 (citing Pierce, supra note 16, at 88 n.98). The same article states, however, that over one-half the nation's gas supply would be deregulated by 1985. Pierce, supra note 16, at 89.

96 Pierce, supra note 16, at 89.
upon the expiration of a contract. The price of gas would thus remain above the market-clearing level, and the quantity demanded would not increase. The rate of well drilling in the field would increase because of the state-guaranteed out-of-state market for all new gas produced from the common pool. Quantity supplied would increase rather than decrease, and the deliverability surplus would grow rather than shrink.

Market equilibrium would never be achieved with ratable take rules in effect for the simple reason that states could block the most fundamental operation of market forces. In the context of Transco, for instance, Mississippi would have compelled citizens of New York, New Jersey, Virginia, and North Carolina to purchase Mississippi's natural resources on whatever terms Mississippi considered reasonable. Louisiana, Texas, and Oklahoma would not be far behind in shifting by regulation the economic burden of the gas surplus to other states as well.

The dissent was correct, of course, when it said that Transco could have avoided any potential adverse impact of a ratable take rule by declining to enter into any take-or-pay contract with any owner of a common pool or by entering into identical contracts with all such owners. It is worth considering the implications of that statement, however. The statement does not apply to previously discovered fields, of course, because at least one owner in each such field undoubtedly has a contract for sale at any given point of time. Assume, however, that a major new field is discovered. Typically, the field will be owned by hundreds or thousands of individuals. In addition, the field will probably not be unitized for at least fifteen to twenty years after it is capable of production, and there is a better than fifty percent probability that the field never will be fully unitized. Even if it is unitized, the owners are likely to leave marketing to the sole control of the individual owners because of antitrust and tax considerations. Transco, and all other prospective purchasers, would have to choose between declining to contract with any of the owners of the new field or attempting to contract simultaneously with all owners on the same terms. Such a system would be totally unworkable. It would not perfect a gas market; rather, it would eliminate most transactions in natural gas.

The goal that underlies ratable take rules—protection of correlative rights—deserves recognition and respect by federal agencies and courts. Courts should allow states to pursue that goal as an exercise of the state's police power, even if those state actions have

97 474 U.S. at 435.
98 J. Weaver, supra note 31, at 316-18.
99 S. McDonald, supra note 14, at 201, 245, 250.
some incidental adverse effect on the attainment of federal goals. Yet state action in the form of ratable take orders—even if aimed at protecting correlative rights—so completely undercuts the NGPA’s goal of deregulating natural gas that no court could permit the orders to stand.

Neither opinion in Transco indicates that the Justices have a sufficient understanding of gas production and marketing to permit them to analyze correctly the constitutionality of the many other forms of state regulation of gas that will soon come before the Court. The dissent recognized the proper analytical framework for analysis of such issues—that some forms of state regulation actually improve the operation of the market by addressing imperfections in property rights. The dissenting Justices did not understand the complicated factual context in which gas is produced and marketed, however. With one more vote in a future case, the dissenting Justices in Transco could affirm other types of state regulation that would greatly impair the federal goal of establishing an effective market for natural gas.

Although the five-Justice majority reached the right result in Transco, its reasoning does not appear to reflect a recognition of the important pro-market purposes that underlie many forms of state conservation regulation. The majority’s reasoning could cause the invalidation of any state regulation that affects gas price, supply, or demand. Yet all forms of state conservation regulation will have this effect, and courts should tolerate, indeed strongly encourage, many types of state regulatory actions as a means of counteracting the adverse effect of imperfections in property rights. Compulsory unitization is the classic example of a pro-market state regulation of oil and gas that affects the price of those commodities by forcing owners to internalize what otherwise would be the external social cost of waste in the form of excessive drilling and premature production and by permitting owners to internalize the social benefits of production.100

2. Share-the-Contract Statutes

All producing states are concerned about the correlative rights problem that gave rise to the Mississippi action challenged in Transco. Most states have attempted to address that problem by means other than ratable take laws; these states anticipated a holding that ratable take laws are unconstitutional.101 The 1983

100 See supra text accompanying notes 43-46.
101 The Court’s decision in Northern Natural Gas Co. v. State Corp. Comm’n, 372 U.S. 84 (1963) foreshadowed such a holding. See also Meyers, Federal Preemption and State
The Oklahoma statute requires the operator of each well to provide each owner of the drilling unit the option to elect to have the operator market each owner's share of the gas on terms at least as favorable as those the operator obtained for its own share. Any owner can decline the election in advance or can rescind the election if the operator does not enter into a contract for sale within 120 days. Electing owners become, in effect, co-owners for gas marketing purposes. If any electing owner obtains a gas purchase contract applicable to any portion of the gas produced from the well, the proceeds from that contract must be shared by all electing owners in proportion to their ownership of the drilling unit.

Superficially, the Oklahoma statute seems analogous to the Mississippi ratable take order held unconstitutional in Transco. Both have the effect of compelling a pipeline purchaser to buy gas from uncontracted co-owners of a common pool. The resemblance between the two forms of regulation is purely superficial, however. While the Mississippi order had the effect of substantially increasing the obligations of any pipeline with a contract to purchase gas from a common pool, the Oklahoma statute explicitly disavows any intent to expand the obligations of purchasers beyond those they voluntarily assumed by contract.

A simple example illustrates the widely disparate effects of ratable take orders and statutory co-ownership options. Assume that producer A owns fifty percent of a drilling unit, with the other fifty percent spread unevenly among fifty other owners. Producer A selfishly and successfully markets only its own gas, leaving the smaller interest owners poorly situated to locate a buyer who is willing to offer terms as favorable as those in A's contract for the modest volumes they have available. Assume that A's contract obligates the pipeline to take or pay for eighty percent of the volumes deliverable from A's interest in the drilling unit; the total deliverability from the well is 1000 MMBtu per day. Thus, the pipeline purchaser has agreed to take or pay for 400 MMBtu per day from the well.

The Mississippi ratable take order would expand, by state regulatory action, the pipeline's purchase obligation from the level of 400 MMBtu it committed to purchase by contract to 800 MMBtu. Of course, the ratable take order could increase the pipeline's obli-


gations even more if it were applied to all uncontracted owners in the "common pool" from which the well produces, defined as the entire reservoir. As described in the prior section, the ratable take order relieves all uncontracted owners of the burden of accepting lower market-determined prices for their gas, thereby freezing the price of gas above the market-clearing level.

By contrast, under the Oklahoma share-the-contract statute, the pipeline purchaser's obligation remains at the 400 MMBtu per day level to which it committed by contract. The only change effected by the Oklahoma regulatory action is with respect to the ownership of the gas purchased. Instead of being owned 100% by A, A owns fifty percent of the gas purchased, B one percent, etc.

Like any regulation of gas production, the Oklahoma statute has some impact on price; hence, it is potentially vulnerable to a constitutional challenge under the one-dimensional reasoning reflected in the majority opinion in *Transco*. The regulation's effect on price is only slight, however, and incidental to its primary purpose of furthering the legitimate state interest in protecting correlative rights. Share-the-contract regulations, unlike ratable take orders, leave exactly the same proportion of aggregate gas supply that is not subject to contract and, hence, available to permit price decreases resulting from the operation of market forces. Only the ownership of the uncontracted gas is changed by the regulation. In the hypothetical illustration, for instance, fifty owners had no contract for sale of any portion of their supply before the regulation was applied. Under a share-the-contract regulation, fifty-one owners have contracts that cover only part of their total deliverable supply. This change in ownership of uncontracted gas might reduce slightly the downward pressure of market forces on gas prices. This type of slight and incidental effect on the market price of gas should not suffice to invalidate a regulation that furthers a legitimate state purpose, however.

Share-the-contract regulations provide a partial, but only partial, response to the problem of protecting correlative rights to natural gas. They protect such rights only within a single drilling unit. As the introductory illustrations indicate, however, widespread correlative rights problems also exist among the different drilling units in a common pool.\textsuperscript{104} A single reservoir may include hundreds of drilling units, each owned by different combinations of parties. Drainage among units is a commonplace problem that the present forms of share-the-contract regulations do not address at all. With ratable take laws now constitutionally unavailable to state regula-

\textsuperscript{104} See supra text accompanying notes 71-72; infra text accompanying notes 121-31.
tors—and properly so—most regulators have attempted to address the shortcomings of share-the-contract regulation principally through revisions to their allowables policy. I will return to this method of regulation after discussing another form of state regulation of gas purchasing practices.

3. Priority-of-purchase Regulations

The third hypothetical illustrates the type of situation that has motivated many producing states to promulgate regulations that compel pipelines to purchase all gas accessible to their pipelines or gathering systems in accordance with state-prescribed priorities of purchase.\textsuperscript{105} For example, if a producer of both oil and gas from the same reservoir fails to obtain an acceptable contract to purchase all of the associated gas it produces, it must choose either to reinject the gas, shut in the oil production, or flare the gas. If the producer cannot economically reinject the gas into the reservoir, the producer will choose one of the other options. Both of the other options, however, arguably lead to the very waste that the state agencies are charged to avoid. This is the classic justification for requiring any pipeline accessible to a supply of associated gas to purchase all of that gas before it purchases any gas-well gas.

The case in support of the constitutionality of state priority-of-purchase regulations seems stronger in one respect than the case for ratable take regulations. Federal courts have long recognized the importance of a state’s interest in conserving its natural resources,\textsuperscript{106} and the relationship between conservation and a regulation requiring preferential purchase of associated gas seems clear and direct—far more so than the tenuous link between conservation and ratable take regulations.\textsuperscript{107} Priority-of-purchase regulations also should be held unconstitutional under the supremacy clause and NGPA, however. The regulations interfere directly and significantly with the federal goal of relying upon market forces to determine the price of gas, and they are not necessary to further the state’s conservation goal. Indeed, such regulations reflect a serious, if widespread, misunderstanding of the concept of conservation of natural resources.

In analyzing the constitutionality of any state regulation that ar-


\textsuperscript{106} See, e.g., Champlin Ref. Co. v. Corporation Comm’n, 286 U.S. 210 (1932).

\textsuperscript{107} The principal purpose of ratable take regulations is to protect correlative rights. They may also enhance conservation in subtle ways, however. See generally Martin, State Regulation of Natural Gas Production: Is There Life After Transco?, 38 INST. ON OIL & GAS L. & TAX’N 1 (1987). Of course, protection of correlative rights is also a legitimate and important state purpose. S. McDonald, supra note 14, at 292.
guably interferes with the federal goal of relying on market forces, a
good starting point is to compare the results of state regulation with
the results of a properly functioning market. In the absence of state
priority-of-purchase regulations, associated gas would command a
price significantly below the price of nonassociated gas because pur-
chasers are willing to pay more for the greater flexibility that a
nonassociated gas producer can offer. If the purchaser’s needs fluc-
tuate from time to time, as they always do, the purchaser places a
high value on the seller’s willingness, in effect, to store gas for it
during periods of slack demand and to produce a greater volume in
periods of high demand. Within limits, a producer of nonassociated
gas is in a position to provide this storage service at a cost, and
hence a price, lower than the purchaser’s cost of storing gas through
other means.

A producer of associated gas, however, must incur much higher
storage costs than a producer of nonassociated gas. It can only store
gas for a purchaser by reducing its production and sale of oil or by
reinjecting gas in the reservoir—either of which is costly to the pro-
ducer. As a result, producers of associated gas almost invariably in-
sist on gas purchase contracts that guarantee that the purchaser will
take or pay for 100% of the gas made available. This is in contrast
to the fifty to eighty percent take-or-pay provisions, accompanied by
five-year makeup periods, typically found in contracts to purchase
nonassociated gas.

This significant difference in scope of purchase commitments
means that purchasers place a lower value on associated gas than
they do on nonassociated gas. Associated gas is less valuable to
purchasers because purchasers bear all the cost of storing the gas to
accommodate fluctuations in gas demand. In addition, purchasers
of associated gas face greater costs and risks if they breach a con-
tract to purchase associated gas. Courts are likely to assess higher
damages and/or to impose costly equitable remedies on a purchaser
that has breached a contract to purchase associated gas.

Associated gas also costs less to produce than nonassociated
gas. Indeed, it is impossible to assign a separate cost to production
of associated gas on any principled basis because oil and associated
gas are joint products. In some circumstances, the marginal cost
of producing associated gas is zero because joint marginal produc-
tion cost is fully recovered through the sale of oil.

In short, the market places a lower value on associated gas, and

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108 See Barlow, supra note 79, at 5.
109 See, e.g., Mitchell Energy & Dev. Corp. v. Natural Gas Pipeline Co., No. 18,308
110 See S. BREYER & P. MACAVOY, supra note 17, at 67.
associated gas typically is less costly to produce than nonassociated gas. This accounts for all of the factors significant to market performance. In a properly functioning market, associated gas would always command a lower price than nonassociated gas. Yet, associated gas today sells for a higher price than nonassociated gas. Only one explanation exists for this phenomenon—state priority-of-purchase regulations are interfering significantly with the operation of the gas market.

Priority-of-purchase regulations increase gas prices to consumers and permit producing states to enhance their wealth and the wealth of their producer constituents at the expense of consumers and consuming states. This effect can be isolated by considering priority-of-purchase regulations from the perspective of a typical pipeline that has contracted to purchase more gas at high prices than it can resell at an acceptable margin. Without priority-of-purchase regulation, the principal legal constraint on the pipeline’s purchasing practices is its own contractual commitments. States properly are enforcing these pipeline contracts, even though the effect of that enforcement is to increase the price of gas—a classic example of the type of state “regulation” that falls within the Transco dissent’s category of state regulations essential to a properly functioning market.

In this situation, the market will yield a significant decline in the price offered for uncontracted associated gas. The pipeline will buy that gas only if the producer will sell it at a low price—lower even than the price the pipeline will pay for gas—well gas because the producer understandably will insist that the pipeline purchase all of the associated gas at the time it becomes available. The ultimate effect of the low price offered for associated gas is an increase in the quantity of gas demanded and a decrease in the quantity supplied—precisely the mechanism through which a market with a supply surplus moves to equilibrium.

The priority-of-purchase regulation imposes on the pipeline a new, potentially significant purchase obligation that, by definition, the pipeline has not voluntarily assumed by contract and is unwilling to assume by contract. The pipeline must purchase all available and uncontracted associated gas accessible to its system before it purchases any of the nonassociated gas it has committed to purchase by contract.

The new regulatory obligation the state imposes can be quite

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111 Barlow, supra note 79, at 5.
112 See supra note 93.
large. In Oklahoma, for instance, twenty-nine percent of total gas deliverability is associated gas. The regulatory obligation extends only to such gas that is not under contract, but that class expands constantly as new production becomes available, and as old contracts expire or become subject to renegotiation. The regulatory obligation is in addition to the pipeline’s contractual obligation that the state’s judiciary will enforce; the imposition of the priority-of-purchase regulation does not provide a valid defense to an action for breach of a pipeline’s gas purchase contract for nonassociated gas.

In short, the state priority-of-purchase regulation has the same direct anti-market effect as a ratable take regulation. It provides a state-guaranteed market, consisting of out-of-state consumers, for a large portion of the state’s gas supply at prices above those the market otherwise would determine.

State priority-of-purchase regulations also are not essential to serve any properly conceived conservation function. Indeed, abstaining from priority-of-purchase regulation would further conservation. To understand this point it is necessary to delve a bit into the economics of oil and gas production. A producer of oil and associated gas from the same reservoir has four choices: (1) shut in the oil production; (2) reinject the gas; (3) sell the gas at whatever price it can obtain; or, (4) flare the gas. Each option has costs and benefits to the producer, and the producer will choose the option that yields the greatest net benefits to it. If the reservoir is unitized, the producer's costs and benefits function as excellent surrogates for social costs and benefits, and the producer's choice among the four options, including the choice to flare, will conserve natural resources.

The cost of shutting in the oil production consists of the time value of the deferred net revenues from production. The out-of-pocket cost of reinjecting the associated gas in the reservoir frequently is high, but that cost is offset (partially, fully, or more than fully, depending on the facts) by the present value of the expected future benefits of reinjection in two forms—expected net revenues from future production of the reinjected gas and improvements in the drive mechanism for producing all hydrocarbons from the reservoir. The cost of selling the gas on a current basis at the best available price consists of the out-of-pocket cost of transporting the gas to market plus the opportunity cost of declining to reinject the gas—

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114 Order of Oklahoma Corporation Comm'n promulgating Rule 1-305.
116 S. McDonal, supra note 14, at 197-98, 204, 235.
the precise converse of the cost of reinjection. Finally, the cost of flaring the associated gas is an opportunity cost. It consists of the greater of: (1) the marginal net revenues that would result from a decision to sell the gas on a current basis; or, (2) the present value of the future benefits expected as a result of a decision to reinject the gas in the reservoir.

Two characteristics of this framework bear emphasis. First, the outcome is entirely fact-specific; a prudent producer's choice among the four options depends entirely on the production mechanism of the reservoir, plus the present and expected future conditions in the markets for oil and gas. Second, in a unitized field, this decision-making framework will consistently yield a choice by the producer that maximizes the present value of the natural resources to society—the only rational definition of conservation. The producer will flare the associated gas if and only if the cost of reinjection exceeds the benefits of reinjection and the cost of transporting the associated gas to market exceeds the value the market places on the gas. In short, the decision to flare associated gas in this situation necessarily furthers conservation. Any contrary definition of conservation is absurd. For instance, the forced sale of gas with a market value less than the cost of transporting the gas to market involves a waste of society's resources, the opposite of conservation.

If the reservoir is owned by many parties and is not unitized, however, the producer's decision-making framework changes considerably. The most significant difference is in the costs and benefits of reinjection. Under the rule of capture, the producer will not be able to internalize all of the benefits of reinjection. Such benefits, including both the expected value of future net revenues from production of the reinjected gas and the improved reservoir mechanism for production of all hydrocarbons, will be externalized to a large extent to other owners of the reservoir. Thus, without unitization, the imperfect property rights in oil and gas will distort a producer's decision-making in favor of flaring and against reinjecting. This is why, in some cases, state limitations on gas flaring actually do further conservation goals. By prohibiting flaring, state agencies sometimes induce unitization, which in turn sometimes yields a decision to reinject rather than to flare associated gas.

Compelling unwilling purchasers to buy associated gas at a price greater than the value assigned the gas by the market cannot eliminate this potential distortion. If the present market value of

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117 Id. at 71, 129.
118 Id. at 204, 235.
119 Id., at 47.
120 Id., at 23-24, 47, 124; J. Weaver, supra note 31, at 143-48.
the gas exceeds the cost of transporting it to market, it should *and will* be produced and sold. If the transportation costs exceed the value assigned the gas by the market, it should not *and will not* be sold, absent state distortion of the market through priority-of-purchase regulations. Whether the gas not sold will be flared or reinjected depends on the economics of those two options. The state has the power to insure that the producer will make that decision in a manner that furthers conservation by exercising its regulatory power to unitize the field. If the state encounters difficulty in that process, it can make unitization more attractive to many producers by the combination of limiting flaring of associated gas and *refusing to provide producers a state-guaranteed market for associated gas.* Thus, priority-of-purchase regulations cannot further conservation; rather, they relieve the pressure on producers to take the action that can further conservation—field-wide unitization.

4. Regulation of Allowable Production

State regulations restricting the level of production of oil and gas "allowable" from any well or lease form the core of state conservation regulation. Among other functions, such allowables protect correlative rights in oil. If the allowable production of oil is set in proportion to reserves, then drainage of oil among leases, drilling units, and owners cannot take place. In the case of oil, the posted price system insures that oil available for sale is purchased; the allowable level of oil production equals the actual level of production.

The allowables system is much less effective as a means of protecting correlative rights in gas. Because most gas is sold under long-term contracts and because take-or-pay provisions vary widely, the allowable level of production varies dramatically from the actual level of production in many cases.

A slight variation on an earlier hypothetical illustrates the problem. Assume that only three parties own all the gas in a common pool in equal portions. Assume further that the gas sales contracts of the three owners vary in critical respects because of the differing market and regulatory conditions that existed when they entered into those contracts. Deliverability from each owner's reserves is identical—5000 MMBtu per day. Producer A's contract requires pipeline X to take or pay for eighty percent of deliverability, or 4000

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122 *See supra* text accompanying notes 58-62.
123 Martin, *supra* note 60, at 270.
125 *See supra* text accompanying notes 16-26.
MMBtu. Producer B's contract requires pipeline Y to take or pay for 100% of the allowable production set by the state agency. Producer C's contract does not obligate pipeline Z to take or pay for any minimum quantity of gas. Two of the three pipelines, X and Z, have overcontracted for gas; therefore, they pursue a strategy of minimizing their gas purchases without having to pay for gas not taken. The third, Y, has not overcontracted and wants to maximize its purchases from the Hugoton Basin because it can obtain that gas at a particularly favorable price.

This simplified example illustrates the problems states encounter in protecting correlative rights in gas by setting allowables. If the example is extended to cover thousands of owners with widely varying contracts with many different purchasers, this hypothetical sets the stage for the Kansas Corporation Commission (KCC) change in allowables policy that the United States Supreme Court reversed and remanded for further consideration in the wake of its Transco decision.126

The Hugoton Basin underlies over one thousand square miles in Kansas. Thousands of parties own the gas in the Basin. Approximately a dozen purchasers buy gas from the Basin under widely varying contracts. The Basin is not unitized. Because of the relatively simple producing mechanism in the reservoir, lack of unitization creates only modest potential to interfere with the state's conservation goal. Seemingly intractable correlative rights problems, however, plague the Basin.

The KCC attempted to protect the correlative rights of the thousands of owners of Hugoton Basin gas by establishing for each owner a maximum allowable rate of production based on proportionate ownership of reserves. The aggregate allowable for the Basin is based on the KCC's estimate of total market demand for gas from the Basin, which the KCC based principally on nominations that the pipeline purchasers provided. Because the KCC has no power to compel purchasers to buy gas at the level of allowable production,127 however, it permits underproduced owners to accumulate underages. Traditionally, the underages were cancelled periodically, but they were subject to revival when a producer's pur-

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126 Northwest Cent. Pipeline Corp. v. State Corp. Comm'n, 237 Kan. 248, 699 P.2d 1002 (1985), vacated, 475 U.S. 1002 (1986). There is one other variation between the hypothetical facts and the actual situation in the Hugoton Basin. Because the contracts for Hugoton gas are very old, none of those contracts have take-or-pay clauses based on deliverability. I included such a contract in my hypothetical because they are typical of most contracts entered into during the late 1970s and early 1980s and because their existence poses an additional set of problems in setting allowables. See Martin, supra note 60, at 282.

127 Compare ratable take orders. See supra text accompanying notes 81-99.
chaser was in a position to take more than its allowable to reduce the cumulative underage.\textsuperscript{128}

In theory, this regulatory approach protects correlative rights over time. It recognizes that producers can be out of balance at any given moment, but attempts to avoid net long-term drainage by permitting underproduced owners to catch up with overproduced owners. Yet it is an understatement to say that the method has proved ineffective in practice.

Because of differences in contract terms and differences in each pipeline purchaser's market situation, some purchasers have consistently been taking much larger volumes from the Hugoton Basin than others for a decade.\textsuperscript{129} The accumulated overages of producers dependent on one group of purchasers have grown steadily for many years, as have the accumulated underages of producers dependent upon a different group of purchasers.\textsuperscript{130} In short, because of differences in contracts and sustained differences in the purchasing practices of the various pipelines, one group of producers has drained substantial volumes of gas reserves owned by another group of producers.

In 1982, the KCC examined this situation and concluded that its old system was unlikely to protect correlative rights over any foreseeable period of time. The KCC had every reason to believe that when the reservoir finally depletes in a few decades, the favored group of producers will have gained considerable wealth by selling gas owned by the disfavored group of producers.\textsuperscript{131} The KCC attempted to improve the fairness of its regulatory policy by amending its rules concerning cancellation and reinstatement of accumulated underages. Henceforth, a producer with an accumulated underage would be subject to permanent cancellation of its underage unless it applied for reinstatement and began to reduce the underage through takes in excess of allowables by a series of dates the KCC specified.\textsuperscript{132}

This change placed considerable pressure on the pipeline purchasers whose low level of takes had created large accumulated underages for their producer-suppliers. If those pipelines did not increase their takes by the specified dates, they risked through drainage permanent loss of access to the favorably priced gas reserves contractually dedicated to them in the Hugoton Basin. While the KCC order was directed only to producers, its principal

\textsuperscript{128} \textit{Northwest Cent. Pipeline}, 237 Kan. at 252-53, 699 P.2d at 1008.

\textsuperscript{129} \textit{Id.} at 252, 699 P.2d at 1008.

\textsuperscript{130} \textit{Id.}, 699 P.2d at 1008.

\textsuperscript{131} \textit{Id.} at 261, 699 P.2d at 1013-14.

\textsuperscript{132} \textit{Id.} at 253, 699 P.2d at 1008.
The message was to pipeline purchasers—start purchasing the low-priced Hugoton gas you have tied up through contracts or risk permanent loss of access to a portion of that gas.

The pipelines that had been purchasing at a low level appealed the KCC order to the Kansas Supreme Court. A six-justice majority found the order a reasonable and lawful response to an extremely challenging regulatory problem. One justice dissented. He opined that the order was unconstitutional because its effect was to compel interstate pipelines involuntarily to increase their purchases from the Hugoton Basin, contrary to Congress’s intent in the NGPA to permit market forces to determine the supply, demand, and price of gas.133 He argued that the KCC’s real error lay in setting the aggregate level of allowables in the Basin above the purchasing pipelines’ actual level of aggregate demand.134 The Supreme Court, apparently influenced by the dissenting opinion in the Kansas Supreme Court, reversed and remanded the KCC order to the Kansas Supreme Court with instructions to reconsider the case in light of Transco.135

If the Supreme Court ultimately addresses the issues involved in state allowables regulation through the narrow, one-dimensional analysis reflected in the majority opinion in Transco, it will hold the KCC order, and every other form of state oil and gas conservation regulation, invalid.136 The KCC order, like the allowables policies in effect in most producing states,137 clearly affects the supply and demand for gas and, ultimately, the price of gas. The KCC order deserves a much more careful analysis, one that incorporates the important principle articulated in the dissenting opinion in Transco—state regulation that responds to imperfections in property rights is entirely consistent with reliance upon market forces.138

A good starting point from which to begin analyzing the KCC order is to consider the effect of the alternative suggested by the dissenting opinion in the Kansas Supreme Court; the KCC should base its allowables on actual demand for Hugoton gas as reflected in

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133 Id. at 270-75, 699 P.2d at 1020-21.
134 Id. at 270, 699 P.2d at 1019.
136 “To the extent that Congress denied FERC the power to regulate affirmatively particular aspects of the first sale of gas, it did so because it wanted to leave determination of supply and first-sale price to the market.” Transcontinental Gas Pipe Line Corp. v. State Oil & Gas Bd., 474 U.S. 409, 422 (1986). “The purpose of the NGPA with respect to high-cost gas is to eliminate governmental controls on the wellhead price of such gas.” Id. at 432-33 (Rehnquist, J., dissenting).
138 474 U.S. at 434.
pipeline nominations. This sounds good until you consider all its implications. Assume the three pipelines indicate to the KCC that they plan to purchase the following quantities of Hugoton gas during the next allowable period: pipeline X—2000 MMBtu; pipeline Y—5000 MMBtu; pipeline Z—0 MMBtu. Assuming further that the pipelines' representations are honest, according to the dissenting justice the aggregate demand for Hugoton gas is 7000 MMBtu, and the allowable for each of the three producers should be 2333 MMBtu. Such an allowable would have three potential effects. First, it might provide pipeline X an excuse for failure to perform its take-or-pay contract with producer A—an effect inconsistent with relying upon market forces to determine gas prices and harmful to both the producer and the state. Second, it would preclude pipeline Y from purchasing all the Hugoton gas it wishes to purchase—an other effect inconsistent with reliance upon the market and harmful to the producer, the state, the pipeline, and consumers dependent upon that pipeline. Third, unless the KCC put teeth in its allowables policy, as it did in the order the dissenting justice found unlawful, the 2333 MMBtu allowable for the producer who sells to pipeline Z will be ineffective as a means of protecting that producer's correlative rights. Pipeline Z will purchase no Hugoton gas whether the allowable is 2333 MMBtu, 3000 MMBtu or 5000 MMBtu, as long as it can do so while simultaneously preserving its right to reinstate its underage and to purchase amounts in excess of the allowable at any time in the future.

139 237 Kan. at 269-75, 699 P.2d at 1019-23.
140 This is an heroic assumption. Purchasers have an obvious strategic incentive to mislead the agency concerning the volume of gas they intend to purchase. If, for instance, pipeline X actually wants to purchase 2000 MMBtu from a prorated pool, it has a powerful incentive to overstate its intentions if it believes that pipelines Y and Z plan to nominate less than 2000 MMBtu and to understate its intentions if it believes that pipelines Y and Z plan to nominate more than 2000 MMBtu. State agency processes for determining allowables invariably evolve into multiparty strategic games.

The agency's goal in such proceedings—to set aggregate allowables based on market demand—is analytically impossible. Quantity demanded can have no meaning without considering price. See Martin, supra note 60, at 289; see also American Exploration Co. v. Columbia Gas Transmission Corp., 779 F.2d 310, 313 (6th Cir. 1985) (district court's interpretation of "market demand" in gas sale contract as varying according to price "accords with the most basic principles of economics").
142 See Pierce, supra note 6, at 353-57.
It is tempting to suggest that the courts should hold unconstitutional all regulation of allowable production rates. All such regulation certainly affects the supply, demand, and price of gas, and, no matter how it is implemented, it serves poorly the state's goals of conservation and protection of correlative rights to natural gas.\textsuperscript{144} The courts should resist this temptation, however, for two reasons. First, allowables regulation, though crude and clumsy, does further legitimate state purposes.\textsuperscript{145} It would be extremely difficult for federal courts to distinguish between good and bad regulation of oil and gas production levels through use of any conceivable constitutionally based test. Second, unlike state regulation of purchasing practices,\textsuperscript{146} state regulation of allowable production levels has only limited potential to distort the operation of the market for oil and gas. In other words, state regulation of oil and gas production probably yields net benefits to society in the aggregate, and federal courts are institutionally ill-suited to distinguish among the various types of production regulation through use of a constitutionally based test.

Viewing the natural gas correlative rights problem alone, it is impossible to predict with any confidence whether the new KCC allowables policy, or the new policies that other states are now implementing, will further the state's legitimate purpose. Courts should leave that hazardous process of prediction to the state agencies charged with responsibility for the task.\textsuperscript{147} Moreover, each state's system of allowables undoubtedly furthers other goals in other contexts—protection of correlative rights to oil and conservation of natural resources—often in subtle ways that federal courts are unlikely to understand.\textsuperscript{148} If courts get into the process of routinely reviewing all state regulations of oil and gas production through use of a constitutional test, they undoubtedly will err and invalidate many regulations that benefit both the state and the nation. Federal courts should enter this arena only if they see potential for state regulation of production levels to distort in significant ways the operation of the markets for oil and gas. Allowables regulations present no such potential.

The KCC's new allowables policy illustrates the limited extent

\textsuperscript{144} S. McDonald, \textit{supra} note 14, at 183-96; Martin, \textit{supra} note 60, at 270.
\textsuperscript{145} \textit{See supra} text accompanying notes 58-62.
\textsuperscript{146} \textit{See supra} text accompanying notes 81-100, 105-20.
\textsuperscript{147} \textit{See, e.g.}, Railroad Comm'n v. Rowan & Nichols Oil Co., 310 U.S. 573, \textit{amended}, 311 U.S. 614 (1940) (refusing to engage in detailed review of a classic example of a "bad" proration decision on the basis that the state had entrusted a difficult regulatory task to an agency with greater expertise than a court).
\textsuperscript{148} S. McDonald, \textit{supra} note 14, at 47, 49, 155-58; J. Weaver, \textit{supra} note 31, at 316-19; Martin, \textit{supra} note 60, at 270.
to which states can further their producer constituents’ interests at the expense of out-of-state consumers through regulation of production. Unlike orders to purchase directed at pipelines, allowables orders have no direct effect on purchasers. At most, the state can give pipeline purchasers the message that they risk permanent loss of dedicated reserves through drainage if they do not increase their level of purchases. Then the pipeline must decide whether it, and its customers, are better served by increasing the present level of purchases or risking loss of access to some reserves through drainage. To present pipelines with this choice in an effort to protect the correlative rights of the owners of gas is entirely appropriate. The owners of the gas suffer significantly from drainage; the only effect of the state’s action is to force the pipelines who cause this damage to internalize a modest portion of the costs they impose on owners. The effect on out-of-state consumers is only incidental to the state’s primary purpose of protecting correlative rights.

It seems inherently implausible that producing states could further their interests at the nation’s expense through any type of regulation directed to oil and gas producers. Several producing states recently have made the ultimate threat to use allowables policy for the express purpose of distorting the markets for oil and gas. The Texas Railroad Commission, echoed by the states of Louisiana and Oklahoma, has threatened to reduce its allowables to a level below market demand in order to help its financially distressed producer constituents by increasing the price of oil and gas. But that is only an empty threat; any reduction in allowables that would harm the nation by reducing the supply of oil and gas available and increasing oil and gas prices would cause disproportionate harm to producers and to producing states. Moreover, under present and foreseeable future market conditions, no producing state in the United States has market power. If a state reduces the allowable level of production, any gain in revenues resulting from price increases would be more than offset by a loss of revenues attributable to the reduced volume of oil and gas sold in the state.

Federal courts should allow state conservation agencies to continue to exercise considerable discretion in regulating oil and gas production in recognition of three realities. First, some such regulation furthers both state and national goals, albeit crudely. Second, there is no realistic potential for producing states to further their interests and the interests of their producer constituents at the nation’s expense through changes in their allowables policies. Finally, federal courts are unlikely to succeed in attempting to distinguish

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149 See TRC May Order Cut in Oil Production, Oil & Gas J., Oct. 27, 1986, at 41.
150 See McLure, supra note 68, at 259-60.
between good and bad regulation of production. Federal courts should only prohibit states from regulating interstate gas purchasers, as opposed to producers.

A Postscript—What Can Producing States Do?

This analysis of the regulatory tools most frequently used by state regulators today may seem to suggest that state regulators are virtually powerless to further the important goals of conservation and protection of correlative rights. The only effective method of protecting correlative rights in natural gas—regulating gas purchasers—is beyond state power because it interferes directly and substantially with federal goals. Regulation of production only crudely and imperfectly furthers that goal and the goal of conservation.

What can and should a conscientious state regulator do to further the legitimate and important state goals for which he has responsibility?

The first answer is easy and clear—exert every conceivable effort to obtain field-wide unitization of all reservoirs. This is a challenging task, given the incentive for many owners to object to unitization for strategic reasons and the difficulty of devising fair and equitable methods of allocating production among the owners of a reservoir. To the extent the regulator is successful, however, the task offers the promise of large benefits to the state and to the nation, as well as to producers and consumers. Field-wide unitization automatically eliminates at the source the inefficiency, inequity, and distortion created by the imperfect property rights in oil and gas.\(^{151}\)

The time could not be better for a major new effort to obtain universal field-wide unitization. The period of greatest unitization in the history of the industry in the United States was the 1960s, when the depressed condition of oil and gas markets forced all natural resource owners to look carefully at ways to cut their costs and to perform more efficiently.\(^{152}\) We have recently entered a similar period in which enhanced efficiency is vital to natural resource owners, as well as to producing states, consumers, and the nation.

Even universal field-wide unitization alone, however, would not eliminate the acute correlative rights problems that exist in the context of natural gas marketing.\(^{155}\) Here again, however, there is reason for optimism. If FERC is successful in implementing its equal access to pipelines rule\(^ {154}\) and in eliminating the last vestiges of fed-

\(^{151}\) See supra text accompanying notes 41-53.

\(^{152}\) J. Weaver, supra note 31, at 317.

\(^{153}\) See supra text accompanying notes 69-72.

\(^{154}\) FERC Order No. 456, Regulation of Natural Gas Pipelines After Partial Well-
eral regulation of wellhead prices, the gas market eventually will operate efficiently. In a properly functioning market, gas owners can and will protect their correlative rights adequately by contract. Unfortunately, however, the route Congress chose to this desirable end is long and will continue to expose some producers to inequities for many years. Even at the end of that long road, there still may be some residual correlative rights problems because of the substantial economies of scale in marketing natural gas.

States are not powerless to address these short-term inequities directly and effectively, as Oklahoma has demonstrated. Producing states can impose regulations like Oklahoma's share-the-contract statute, thereby giving individual owners the option of delegating the marketing function to the unit operator. If share-the-contract regulations are combined with universal field-wide unitization, there is every reason to expect that producing states can address simultaneously and completely the dual goals of conservation and protection of correlative rights.


FERC Order No. 451, Ceiling Prices; Old Gas Pricing Structure, 51 Fed. Reg. 22,168 (1986) (to be codified at 18 C.F.R. §§ 154, 157, 270, 271, and 284) (permitting producers to renegotiate prices of "old" flowing gas from prior artificially low ceiling price to market price subject to single alternative ceiling in specified conditions where contracts authorize such a price increase).


Barlow, supra note 79, at 6-7.

See supra text accompanying notes 101-04.

Other states are considering similar actions. See Geraud, Taking Natural Gas Ratably in Wyoming, 57 U. COLO. L. REV. 225 (1986); Martin, supra note 60, at 283-86.