REMARKS OF COMMISSIONER JOHN A. CARVER, JR., FEDERAL POWER COMMISSION, BEFORE THE 63RD ANNUAL MEETING OF THE NORTHWEST ELECTRIC LIGHT AND POWER ASSOCIATION, EDMONTON, ALBERTA, SEPTEMBER 21, 1970

Regulation in the Era of Energy Shortage

It is an easy matter to be imaginative and wide-ranging in the selection of a broad subject to discuss on an occasion such as this, especially when the date of delivery is a number of weeks or months away. This was my happy plight when I accepted your most welcomed invitation to revisit Canada to discuss some mutually interesting aspects of national or continental energy policy.

The problem is that such intervals of roseay inspiration are too soon overtaken by the cold reality of having to put ideas to paper. This poses some pretty earthy questions. Having elected to talk about public regulation in a period of energy shortage, I found myself confronted with these threshold issues:

First, is there a real energy shortage facing our society at this time?

Second, if so, what is the nature and cause of such deficiency?

Third, is it within the province or capability of government regulatory processes to do anything about the situation?

In order to answer, or even attempt to answer, these basic and truly difficult questions, it is most essential that we achieve some general consensus about the scope of our inquiry and the significance of some current influences on the regulatory process as we now see it.

To begin, we must first define the scope of the phrase "regulatory process". Traditionally, public regulation of business enterprise, especially in the public utility context, involved wholly economic considerations. By nature, most such services had to have monopolistic character in order to achieve maximum efficiency and minimum cost to the consumer. Thus, railroad rates, electric service charges, communications tariffs and gas distribution costs had to be just and reasonable, nondiscriminatory and equitable by the public interest standards of the time.

The techniques for achieving these goals had to meet the due process criteria of our constitutional system. An adjudicatory procedure of hearings, based on a rule of substantial evidence, became institutionalized, with some latitude for rulemaking—a form of administrative legislation—left to fill up the interstices of statutory directive.

With few exceptions, and despite the prescient wisdom of Mr. Justice Jackson in our early Hope Natural Gas Co. case, the economic regulatory formulae were cost-based. What could be fairer
than to allow all legitimate costs of service plus a reasonable rate of return? In strictly economic terms, of course, that formula is complete. But in Hope, Justice Jackson spoke alone, neither in concurrence or dissent. He said that the public interest might well extend far beyond simple cost computations—to conservation of a wasting resource, allocation of scarce supplies, and other factors yet unseen.

A quarter century later we can appreciate his foresight. We now know that public regulation in the energy field is no longer a matter of economic simplicity. It reaches deeply into the realm of international relations—to import policies on oil, export policies on coal, the balance of trade position of our economy, and the posture we choose to assume in the ideological contest for global leadership.

Equally divorced from traditional economics in an institutional sense, the supply and pricing of energy today is heavily influenced and complicated by the prevailing social policy and labor legislation of any particular period. The elimination of poverty demands more jobs and a higher level of productivity. In an energy-based economy—a premise which I would not deign to argue here—this can only mean more energy production. But at the same time we reach belated recognition that the health and welfare of coal and uranium miners must be protected. The increased cost of safety measures may well force cessation of marginal production, with consequent loss of the energy reserves that might otherwise be available.

On still another front, we must recognize that a major portion of the increase in energy availability over the past century has resulted from technological development. Practically all of this transition—from wood to coal to oil and gas to nuclear fission—has occurred in the private segment or through government-sponsored research entirely independent of the regulatory process. Future energy supplies will be immensely affected by the level of research and development effort supported by public funds and the incentives which our public policies provide in the private sector. The technological spin-offs of an atomic bomb are already present in our energy inventory. Will the promises of space science bring solar energy within our beneficial reach? Thus, the basic decisions on allocation of resources to R&D purposes is a form of public control or direction that is far from the historical concept of business regulation.

But of all the recent trends and developments that place indirect regulatory constraints on the energy industries, none is more significant than the surge of public concern over environmental quality. I certainly do not need to recount the history of this phenomenon, or describe its expanding scope, or even identify the dramatis personae of the resulting conflicts with "business as usual". It is enough to cite its demonstrable impact on the subject of our concern today. When air pollution standards foreclose the
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use of fuels with high sulphur content, when the efficiency of 
gasoline must be compromised by eliminating lead compounds, when 
nuclear plant construction is halted because of public concern over 
permissible radiation levels, when hydro-electric projects run 
afoul of the public interest in scenic preservation or water quality 
or fish habitat--when any of these occur, the potential energy 
supply upon which we have planned our future is reduced. Our 
inventory simply becomes that much smaller, and for reasons that are 
far removed from basic energy policy considerations.

The point to be made is that air and water quality standards 
and the other instruments of environmental preservation may have a 
regulatory impact reaching far beyond that exercised by traditional 
public utility commissions. When we talk of regulation, therefore, 
we must give the term this broader context or we get a distorted 
view of our problems.

Turning now to the state of our energy inventory in this age 
of sharply increasing demand, we are reminded that energy fore-
casting has been a favorite occupation for many people since the 
end of World War II. In the decade 1952-63, for example, no less 
than 15 studies, surveys and investigations were conducted by 
highly respected authorities--extending in time from the Policy 
Commission to Resources for the Future and in variety from the 
Bureau of Mines to Texas Eastern Transmission Company and Mr. 
Phillip Sporn.

In 1964, the findings of these numerous analyses were 
summarized, compiled and synthesized in yet another evaluation 
effort--the Energy Study Group assembled at President Kennedy's 
direction to recommend priority areas for allocation of R&D 
resources. Based on the earlier projections of reserves and con-
sumption patterns and with heavy reliance on broad substitutability 
among the principal primary energy forms, it was then concluded 
that--and I quote--"aggregate energy needs of the economy should be 
met with no significant increase in energy-source prices through 
the end of this century."

Only two significant qualifications were appended to this 
optimistic conclusion: (1) a probable increase in liquid hydrocarbon 
costs unless the pace and level of petroleum technology were 
maintained and (2) natural gas supplies would be inadequate for 
extreme levels of projected demand through the year 2000.

But today it is nearly impossible to pick up a daily 
newspaper in any metropolitan area without facing a multi-column 
feature story or comment about an imminent energy crisis. Industry 
and government convene task forces to make crash studies, the coal 
pile at the local generating station melts lower each day, expansion 
of natural gas service is denied or restricted for new industrial 
customers, and voltage reductions become the order of every humid 
August day.
What happened to the confident predictions of less than a
decade ago? Are we indeed in an era of energy shortage as my topic
suggests? The running debate now being conducted in many forums
gives us all sorts of answers—or self-serving excuses, depending
on your vantage point:

--- one U.S. Senator tells his committee colleagues that the
environmentalists have made excessive demands because they are
oblivious to the nation's energy needs;

--- the natural gas industry, in an unusual display of mono-
lithic unity insists that price regulation has destroyed development
incentive;

--- coal spokesmen accuse the AEC of having "oversold" nuclear
potential to the detriment of fossil fuels;

--- various consumer interests allege that shortages in all
fuel areas are symptomatic of an accelerated trend toward monopolis-
tic control of all energy forms;

--- large consumers of primary energy forms, especially your
industry, plead for an embargo on coal exports and direct action to
increase production and transport capacity;

--- and throughout the whole dialogue there is interspersed the
general complaint about the scarcity of capital for investment and
escalating costs of both money and construction.

Whatever the truth may be about these various allegations, it
seems clear that there is enough blame to go around. With so much
concern about deficiencies, it might be accepted as given that we
do indeed have a present energy shortage in an economy that has
been amply supplied in the past.

I do not propose to speculate any further on the intellectual
issue of whether the shortage phenomenon is real or artificial,
substantive or functional. Presumably we still have the same
reserves that were so carefully inventoried in the past, less only
our interim consumption. Certain it is, however, that there has
been a serious dislocation in the deliverability process, and to
the consumer that is as real a shortage as any other.

This stark fact is enough to turn the spotlight on regulators
who are supposed to see that the public is served. And even though,
as I have pointed out, the regulatory impact of public policy deci-
sions may affect energy supplies even more than the traditional
process of economic supervision, we have the clear duty to respond
within the limits of our capability.

What can the regulatory process contribute in this context? It
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s easier and it is certainly necessary to make clear
what regulation cannot or should not be expected to do.
The regulatory process cannot produce another ton of coal,
barrel of oil or foot of natural gas. Nor can it compel that
production by any means currently available or foreseeable in our
political system. It may seem wholly unnecessary to state such
ous truisms. But to a broad band of our citizenry, as reflected
in their criticisms of the national energy complex, this is not so
generally accepted. When frustration takes charge, there is the
strong reaction that public authority should compel production of
the needed supplies and the expectation that that can and will be done.
The second function that regulators cannot and should not usurp
is that of deciding the economic course of our society. Especially
when energy supply and distribution come in conflict with enviromen-
tal values, we are offered the solution that society should
forego that particular increment of power, that continued growth is
not necessarily in man's long-run best interests. Articulate argu-
ments for zero economic growth are heard in increasing volume—so
much so that they cease to have the shock effect that occurred even
a year ago.
Given the accumulating evidence of ecological mayhem wrought by
man's collision with nature, this philosophy may well prevail. It
most certainly will if we do not learn from the past and concentrate
our technological genius on corrective measures.
But this decision should not be made in the context of regula-
tory proceedings—by denying a license or a site permit on the
conscious ground that the regulator should accept economic stagna-
tion for society as a whole. The policy decision inherent in this
question is too crucial to be assumed by institutions of limited
jurisdiction and only indirectly responsible to the body politic.
The answer should come only from the community as a whole or from
the representative body duly authorized to make political or social
decisions for it.
There is some evidence at least that we may be drifting. There
is also evidence that the Congress at last may be moving to assume
responsibilities which in the past it has generally abdicated to the
"experts", joining in the common complacency that things will work
out because they always have. There are pending several congres-
sional proposals for a comprehensive evaluation of energy policies.
The President, who also has the mandate of the electorate, has acted
decisively in the area of energy supply, both short-range and long-ange by naming a high-level group including the Chairman of the
Federal Power Commission, under the leadership of Economics Council
Chairman Paul W. McCracken, and requiring it to make prompt reports.
Nevertheless, in spite of these encouraging moves, many of us
remain uncomfortably aware that we are not leading the public with
these public actions, but rather trying to catch up with it. No
longer are we in government or industry as confident as we once were that only the lunatic fringe asks the heretical question of why there should be an increase in electric energy production. It is not simply the youth, but a growing segment of the "establishment" which wants to redefine progress. As more and more people begin to sense the implications of the symptoms of energy shortage, they demand action. But by and large they are woefully uninformed both technically and governmentally. We at the FPC are importuned to deny a license on the stated ground that growth in the consumption of energy must be stopped: are those who ask this really willing for a regulatory commission to make such decisions?

Unfortunately, there is evidence that within government and within the business community there is a tendency to separate the consideration of concern about the environment from consideration of concern about increasing the supply of electric energy. We are so compartmentalized in our thinking that we set up special agencies for environmental programs, and far from communicating with those concerned with power operations, there is sometimes intragovernmental hostility. What is the public to deduce from this?

But these negative considerations are only cited as needed caveats. They do not mean that public regulation has nothing to contribute in the emerging crisis—to adopt a phrase in current usage without endorsing it fully.

Regulators can be responsive, and constructively so. Their principal contribution must be in providing a climate which is conducive to meeting our energy needs. In major part, this climate factor involves the incentive to produce through allowance of realistic costs and reasonable returns, measured by real world standards of the present. Formulary doctrines and dogmas of a 4 per cent bond interest era are less than persuasive when the prime rate is more than double that level.

There is nothing inconsistent between this view of regulatory responsibility and our statutory mandate to assure public services at the lowest possible cost. It is merely another facet of the "art of the possible". An artificially depressed tariff structure that generates no kilowatts or discovers no gas provides no real service to the public. Regulation must therefore demonstrate the courage and exercise the ingenuity to supervise business in the context of the business environment that now exists.

And make no mistake about the courage required to face this prospect. Regulation is but one aspect of a political system. Nothing can be more unpopular as a political move than to hit the rate payer in the pocketbook. Especially in the electric field, this has not occurred in modern memory. It will mark the end of an era when energy has been the only major commodity whose cost is less than that paid by the last generation of rate payers.

Realistic rate making, however, is primarily a device for
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These negative considerations are only cited as needed to show that regulatory bodies are responsible, and constructively so. Their contribution must be in providing a climate which is necessary to meeting our energy needs. In major part, this climate involves the incentive to produce through allowance of the proper incentives with power operations, there is sometimes intragovernmental strife. What is the public to deduce from this?

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I think regulatory bodies are peculiarly suited to the kind of judicial factfinding that can change confrontation to problem solving. They are equipped with the technical expertise involved in their specialized subject matter. They are accustomed, indeed it is ingrained in their most cherished traditions, to weighing conflicting claims against a public interest standard. And this is the essence of the environmental confrontation: in a given situation, would the public be better served by the power potential of a hydro project or the preservation of natural values?

These are the very kinds of questions that are involved in many of our proceedings under present law. They just happen to be clearly within the Commission's jurisdiction. One way or another they will be resolved to the best of human capability and judgment, now that the duties of the Commission have been made clear. But for each of these classic encounters, there must be a score or more of major plant siting or transmission line controversies where no adjudicating body has clear cut authority to act.

I regard this as a proper regulatory function, even though some legislative changes are in order to accomplish it. Regulatory procedure is qualified and is more likely than other to get the job done. The legislative branch must, however, provide the charter and the general public policy standards that are to govern. In its own long-run interest, the public should insist that this be done and that crucial decisions affecting national energy needs not be allowed to drift aimlessly.

Regulators can make a big contribution to the general

assuring adequate service under existing ground rules and methods. Intelligent regulation, like progressive management, must look beyond the horizon of present practice. It is inconceivable that 1980 and 1990 without major breakthroughs in generation and transmission technologies. We must master the use of exotic energy sources and perfect pollution-free concepts of generation.

This means research and development on a scale never before undertaken by the electric industry. Regulation must encourage, stimulate, cajole and take every other step it can to see that this occurs. It must be made amply clear that the proper incentives will be present. We have taken the first short step in this direction at the Federal level by a rulemaking that expressly recognizes R and D investment as proper rate base expenditures. Other regulatory techniques must be developed toward the same end because a new technology is the ultimate and only solution to the issues confronting us.

In an earlier speech to a regional industry group similar to this, I said that the largest single issue facing us today--environmental preservation--was being presented in confrontation terms, rather than in a problem-solving context. That remains true.
understanding of the competing considerations, and perhaps they should begin by themselves considering time perspective in the course of human affairs. Man has utilized external energy sources beyond the bare requirements of marginal existence for only a very few centuries of his existence. Most of the significant developments in energy conversion have occurred in this century—a scant seventy years. A very wise and resourceful student of world energy resources recently concluded a most competent technical paper with this observation:

It now appears that the period of rapid population and industrial growth that has prevailed during the last few centuries, instead of being the normal order of things and capable of continuance into the indefinite future, is actually one of the most abnormal phases of human history. It represents only a brief transitional episode between two very much longer periods, each characterized by rates of change so slow as to be regarded essentially as a period of nongrowth. It is paradoxical that although the forthcoming period of nongrowth poses no insuperable physical or biological problems, it will entail a fundamental revision of those aspects of our current economic and social thinking which stem from the assumption that the growth rates which have characterized this temporary period can be permanent.

These words of a highly competent geophysicist toward the twilight of a long and honorable career demand our closest attention and understanding. They put the crises of a year or a decade into the longer perspective of human history. They reflect a life philosophy of optimistic confidence in man's ability to solve physical problems if he can adjust to scientific realities as they become evident.