REPORT OF THE

VIRGINIA COAL AND ENERGY COMMISSION

TO

THE GOVERNOR

AND

THE GENERAL ASSEMBLY OF VIRGINIA

SENATE DOCUMENT NO. 8

COMMONWEALTH OF VIRGINIA
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Report of the
Virginia Coal and Energy Commission
To
The Governor and the General Assembly of Virginia
Richmond, Virginia
December, 1980

To: Honorable John N. Dalton, Governor of Virginia
and
The General Assembly of Virginia

I. INTRODUCTION

The Virginia Coal and Energy Commission was established as a permanent Commission on July 1, 1979 as a result of the passage of Senate Bill No. 829 (See Appendix A.) The bill was introduced by Senator J. Harry Michael, Jr., who also served as Chairman of the Commission until October, 1980.

The Commission is composed of twenty members. Five members are from the Senate, eight from the House of Delegates, and seven appointed by the Governor. The members are as follows: Delegate Joseph A. Johnson, Chairman, Abingdon; Delegate W. Ward Teel, Vice Chairman, Christiansburg; Delegate James F. Almand, Arlington; Mr. Walter C. Ayers, Virginia Petroleum Council, Richmond; Senator Herbert H. Bateman, Newport News; Senator Daniel W. Bird, Jr., Wytheville; Senator Frederick C. Boucher, Abingdon; Mr. L. Blaine Carter, Virginia Coal Association, Richmond; Senator Charles J. Colgan, Manassas; Delegate J. Paul Councill, Jr., Franklin; Dr. Herbert O. Funsten, College of William and Mary, Williamsburg; Senator Virgil H. Goode, Jr., Rocky Mount; Dr. J. Richard Lucas, VPI & SU, Blacksburg; Mr. George L. Jones, Office of Emergency and Energy Services, Richmond; Delegate George W. Jones, Bon Air; Delegate Glenn B. McClanan, Virginia Beach; Delegate Lewis W. Parker, Jr., South Hill; Mr. Frank T. Sutton, III, Commonwealth Natural Gas Corporation, Richmond; Delegate A. Victor Thomas, Roanoke; and Mr. Fred W. Walker, Department of Conservation and Economic Development, Richmond. Ex-officio members are: Mr. Eugene F. Brady, Roanoke Electric Steel, Roanoke; Senator John C. Buchanan, Wise; Delegate Donald A. McGlothlin, Sr., Grundy; Delegate Ford C. Quillen, Gate City; Dr. Fred D. Rosi University of Virginia, Charlottesville; and Dr. Richard A. Wolfe, Jr., United Coal Companies, Bristol.

During the course of the year, Senator J. Harry Michael resigned to become U. S. District Judge for the Western District of Virginia. Senator Daniel W. Bird replaced Senator Michael on the Commission, and Delegate Joseph A. Johnson was elected Chairman. Delegate W. Ward Teel presided ably over the Commission until Delegate Johnson's election. The Commission lost a trusted friend and colleague with the death of Mr. Stanley Ragone in May, 1980. His personal warmth and professional counsel have been sorely missed.

During the past year, the Commission received testimony from a number of individuals, government agencies, and businesses on a variety of energy issues. Among those making presentations were representatives of: the Virginia Port Authority, the Department of Labor and Industry, the Cogeneration Coalition, the Department of Agriculture and Consumer Services, the Office of Emergency and Energy Services, the Virginia Center for Coal and Energy Research, United Bio Fuels Industries, AVCO Systems Division, Engineering Incorporated, the U.S. Department of Energy, the Virginia Renewable Energy Lobby, and the Department of Taxation.

The bulk of the work of the Commission was conducted by the subcommittees. Eight subcommittees were formed for the following energy areas: biomass, coal, electric power, energy preparedness, geothermal, hydroelectric, oil and gas, and solar.

II. SUBCOMMITTEE REPORTS

A. Report of the Biomass Subcommittee

Chaired by Delegate Councill, the biomass subcommittee included Senator Bateman, Mr. Wallace F. Custard, Delegate Jones, Mr. Sutton, and Mr. Walker.

The biomass subcommittee focused attention on the use of wood as an alternative energy source, and found that wood shows promise as an industrial fuel. Wood energy prices are much lower than those for oil and natural gas. When compared to coal, the advantage is indirect in that wood is a cleaner fuel. Emission control is cheaper and simpler than that for comparable coal-fired boilers.

The most common use for wood fuel is combustion of unprocessed bark, sawdust, or wood chips for steam generation. Boilers and other equipment specially suited for this use are available from established manufacturers. If the wood fuel is dried prior to combustion, it can be burned in more conventional, less costly boilers.

Wood has, however, a low energy density when compared with fossil fuels. This low energy density requires a higher investment in equipment for transportation, handling, and storage. Another problem is that unprocessed wood usually contains about fifty percent moisture. Transportation costs are thus increased by the necessity of hauling water, a nonproductive component, to the plant site. Additionally, wood-burning boilers must be designed to accommodate the large volume of steam produced in the combustion process. This means larger and more expensive units.

The Virginia Division of Forestry reports that the Commonwealth has a total of about 208 million green tons of surplus wood. This wood contains an untapped energy equivalent of 208 million barrels of oil, or 1.8 Quads of energy. By comparison, the annual energy requirement for Virginia is approximately 1.5 Quads. The Division finds it reasonable to expect that Virginia's forests could yield as much as 0.08 to 0.16 Quads of energy year after year from surplus wood alone. This means that surplus wood could supply five to eleven percent of the State's annual energy requirement.

Although wood is our greatest renewable resource, it is not an unlimited resource, and it cannot be expected to solve our energy problems.

The best test for deciding how much wood should be used for energy production will be the economics of the marketplace. The marketplace, rather than subsidies, is the most effective mechanism for reflecting not only net energy gains but also the value of alternative uses.

Wood can be converted to energy by direct combustion or pyrolysis. Direct combustion, as in a wood-fired boiler, has tradtionally been the most widely used method. Compressing wood waste into small pellets for direct combustion also shows promise.

Pyrolysis is a process by which organic material is broken down chemically at high temperatures. Cellulose molecules are broken down and re-formed into gas, oils, and char. California is currently testing a mobile pyrolysis unit. Mounted on a pair of trailers that can be driven to fields and forests, the unit functions as a whole processing facility. The forest wastes go through four basic processes—shredding, drying, heating in the reactor, and separating the resultant char, oil, and gas.

A single mobile pyrolysis unit is expected to process 100 tons of waste per day. One hundred tons of forest waste will produce 30 tons of oil for sale to utilites for boilers and 20 tons of char for use as briquets or in steel mills. The low-BTU gas produced will be used to run the unit, thus making it self-sustaining. Final analyses of the collection economics, field tests, and fuel utilization studies should be completed by January, 1981.

Methanol production from wood is being studied by several Virginia firms, and the subcommittee will continue to monitor state methanol production regulations. Though technically feasible, the process has yet to be proven economically viable. Future feasibility studies will determine whether the process will be economically feasible.

Another promising development for wood use is a new wood gasification plant in Georgia. The new system, at a Georgia hospital, produces enough low-grade gas from green wood chips to meet most of the 650-bed facility's heating, air conditioning, and laundry service needs on a year-round basis. The projected savings over conventional fuels for this project is $250,000 annually.

Biomass has great capacity for growth, but its expansion will depend on such factors as improved management of forest land, availability of cropland, improved crop yields, and development of efficient processes for converting plant products into useful energy. Also, biomass development is likely to create more jobs in more parts of the country than increased production

from conventional fuels such as coal and oil, according to a recent Office of Technology Assessment report.

Testimony received during the course of the subcommittee's work indicated areas in which the state could encourage utilization of biomass energy production. These areas include: (1) the activities or policies of state agencies that encourage waste of wood fiber rather than use; (2) tax incentives for installing wood-burning equipment; and (3) state laws and regulations that add to the cost of producing wood fiber. The subcommittee will examine these and other proposals as work continues.

B. Report of the Coal Subcommittee

Chaired by Delegate Thomas, the coal subcommittee included Senator Buchanan, Mr. Carter, Dr. Lucas, Delegate McGlothlin, Dr. Robert C. Milici, Delegate Quillen, and Dr. Wolfe.

The coal subcommittee devoted much effort to examining the possibilities for establishing a coal technology center in Virginia. This work was aided by the efforts of individuals dedicated to the development of coal as a primary energy source: Mr. Beverly T. Fitzpatrick of the First National Exchange Bank, Mr. John W. Hancock of ANR Coal, Mr. John W. Vaughan of Appalachian Power Company, Mr. Brian J. Wishneff of the City of Roanoke, Mr. William B. Bales of the Norfolk and Western Railway Company, and Dr. Walter Hibbard of VPI&SU.

Meetings in Roanoke and Richmond produced consensus on how best to proceed in developing the center. The mechanism for development is a recent federal act, the Stevenson Technology Innovation Act of 1980. The stated purpose of the Stevenson Act is to improve the economic, environmental, and social well-being of the United States by – (1) executive action to stimulate technology; (2) promoting technology development through the establishment of centers for industrial technology; (3) stimulating improved use of federally funded technology developments by state and local governments and the private sector; and (4) encouraging the exchange of scientific and technical personnel among academia, industry, and federal laboratories.

The act authorizes the Department of Commerce and the National Science Foundation to support centers for industrial technology. The centers will focus on specific technology areas. The objective of such centers is to enhance technological innovation through – (1) the development of the generic research base in which individual firms are unable to invest, but which may have significant economic importance; (2) the education and training of individuals in specific technologies; and (3) the development of continuing financial support from other federal agencies, state and local governments, industries and universities.

The activities of the centers will include – (1) research supportive of technological and industrial innovation; (2) assistance to individuals and small businesses in the development of technological ideas supportive of industrial innovation and new business ventures; (3) technical assistance and advisory services to industry, particularly small businesses; and (4) curriculum development, training, and instruction in specific fields of technology.

It is the intent of this subcommittee to continue efforts toward securing a coal technology center for Virginia. Given the status of the State as a major coal producer and exporter, Virginia is in a unique position to assume leadership in this important area. The talent and commitment of Virginia's coal industry, coal-related industries, universities, and financial community must be rallied in support of the coal technology center. The work of the subcommittee has focused, and will continue to focus on this task.

C. Report of the Geothermal Subcommittee

Chaired by Delegate McClanan, the geothermal subcommittee included Delegate Almand, Senator Bateman, Mr. Carter, Dr. Funsten, and Delegate Parker.

Preliminary exploration has discovered geothermal potential in the vicinity of Wallops Island and Portsmouth. These are the only areas investigated and probably represent known geothermal resources in the Atlantic Coastal Plain. This resource represents an alternative energy source for the eastern portion of Virginia and has been the subject of study by the Coal and Energy Commission since the fall of 1978.

Geothermal energy offers an attractive energy option for certain applications. In Virginia, the geothermal resource is generally in the form of hot water and as such may find use in applications requiring direct heat transfer, such as space heating or low temperature industrial processes. There are now no known geothermal applications in the Commonwealth other than some water-referenced heat pumps. However, there is continuing interest in the possible use of this energy source at Wallops Island for the military installation and at Parksley in an industrial park.

There are three major impediments to development of geothermal energy resources in the Commonwealth. First, the extent of the resource is not known. This barrier is not likely to be overcome until development begins. A second barrier is the economics of development and use. There are projections that for certain applications, such as space heating, the resource may be competitive. It is clear that as fossil fuel prices continue to climb, geothermal resource economics will improve. There is a very real sense in which both of the first two barriers await resolution of the third problem, legal and institutional impediments. It is unlikely that developers will seriously consider this alternative unless issues of definition, ownership, allocation, and regulation are clearly delineated. It is this third impediment that has been the subject of the work of the geothermal subcommittee of the Coal and Energy Commission.

The National Conference of State Legislatures (NCSL) has been assisting in the work since the study began. One of the activities of the NCSL is providing information to assist states considering development of geothermal resources. Virginia was chosen very early on as a project state for their task group. The goal of the NCSL project is to provide legislative recommendations to support developing geothermal energy sources. Several reports on the Virginia project have been published by the NCSL, and these are listed in the bibliography.

The principal concern of the subcommittee has been to develop and examine policy options to promote use of geothermal resources. The methodology has been to engage in dialog those groups most closely associated with geothermal development to learn of the specificity and intensity of interest. To this end representatives of the Office of Emergency and Energy Services, Department of Health, State Water Control Board, Division of Mineral Resources of the Department of Conservation and Economic Development, Department of Labor and Industry, Johns Hopkins University, VPI&SU, U.S. Geological Survey, and Accomack City Industrial Development Authority were consulted during the discussions. Through the NCSL, information from other states having geothermal resources was readily available.

It became clear that the foremost issue was the distinction of the geothermal resource from water. The nature of the resource presents this problem since the energy is invariably associated with a fluid medium. Further complicating the water issue is the current use of potable ground water in water-referenced heat pumps.

The issue of ownership is clearly one that exerts considerable influence on many other aspects of resource development. Closely associated with ownership are the issues of access and allocation. Thus, questions of how and who may have access to this energy form and, in the case of competition, how disputes are to be handled must be addressed. Here again, the nature of the resource leads to these questions. The resource is fluid and therefore is not easily delineated in quantity or geographically.

If this resource is to be developed, there must be a clear delegation of responsibility for regulating both the development and use of it. These issues require consideration of environmental protection, consumer protection, resource conservation, licensing, and permitting, as well as the owership issues of indigenous energy development and public welfare.

For each of the issues identified, several policy options were developed. A detailed discussion of the issues and options is to be found in the NCSL report Geothermal Policy Report: Issues and Options published May, 1980. This report was prepared for the subcommittee and became the working document from which recommendations were made.

The geothermal subcommittee offers to the Coal and Energy Commission the following recommendations:

1. Geothermal resources are neither a mineral resource nor a water resource. Therefore, the definition should be "the natural heat of the earth and the energy in whatever form which may be

obtained from a warm or hot water aquifer or from a fluid circulated through hot dry rock."

2. Ownership rights to geothermal resources should be in the owner of the surface property underlain by the geothermal resources.

3. The Department of Labor and Industry should be given primary responsibility to regulate geothermal resources in the Commonwealth of Virginia.

4. The Department of Labor and Industry should be given the responsibility and authority to develop a comprehensive geothermal permitting system for the Commonwealth which would establish access to explore for and develop the geothermal resource.

5. The Department of Labor and Industry should be required to promulgate comprehensive rules and regulations relating to geothermal drilling, exploration, and development in Virginia. The rules and regulations of the Department should be based upon a system of equitable apportionment (correlative rights).

6. The Department of Labor and Industry should be required to consult with the State Water Control Board when geothermal development impacts potable water supplies and the Water Control Board should be given enforcement powers as applicable.

7. The Coal and Energy Commission should give consideration to a comprehensive constitutional amendment which would set forth tax exemptions or incentives for alternative and renewable energy resources.

D. Report of the Electric Power Subcommittee

Chaired by Delegate Parker, the electric power subcommittee included Dr. Funsten, Mr. Jones, Delegate Jones, and Dr. Lucas.

The subcommittee met with representatives of Virginia Electric and Power Company and Appalachian Power Company to assess the position of electric power in the Commonwealth. The utilities feel that electricity can contribute to the solution of our nation's energy problems.

The subcommittee learned that oil represents about 50 percent of the energy used in America today, while gas represents another 25 percent, coal 19 percent, nuclear 4 percent, and hydro, solar, and other sources about 2 or 3 percent.

In the past, electric utilities used the most convenient, inexpensive, or availabale fuel for generating power. East coast utilities relied primarily on oil. The central states used coal and hydro, while the west used oil and hydro. Now, according to APCO, we must start to depend on the only viable sources of energy remaining–coal and nuclear.

Coal is significantly more expensive today than in the past. In 1969, Appalachian Power purchased coal at an average cost of $4.61 per ton. In 1979, the average cost was $37.94 per ton. Coal purchases represented more than 56 percent of the company's total operating and maintenance costs.

E. Report of the Energy Preparedness Subcommittee

Chaired by Delegate Almand, the energy preparedness subcommittee included Mr. Ayers, Mr. Brady, Mr. Jones, Dr. Milici, Delegate Parker, Dr. Rosi, and Mr. Sutton.

The subcommittee received testimony from the Virginia Office of Emergency and Energy Services, the Department of Planning and Budget, the U. S. Department of Energy, and the Virginia Renewable Energy Lobby on several aspects of the Commonwealth's energy situation. The subcommittee meetings were held in Richmond on August 11, October 8, and November 14.

One such aspect considered was a model ridesharing law presented by the Office of Emergency and Energy Services. The "Model State Law to Remove Legal Impediments to Ridesharing Arrangements" was adopted and recommended to the states by the National Committee on Uniform Traffic Laws and Ordinances. The model law guides states and local governments in amending

existing statutes or adopting new laws which would promote vanpooling and ridesharing. The law would remove those legal impediments which prohibit or hinder use of ridesharing arrangements by the public. The subcommittee supported this bill and presented it to the Commission for consideration (see Appendix B.).

The subcommittee also heard from Emergency and Energy Services on State energy programs and the federal Residential Conservation Service program. The RCS program is mandated by the federal National Energy Conservation Policy Act, and calls for electric and gas utilities to provide home energy audits and related services to their residential customers. The audits are to identify low cost/no cost conservation measures and renewable energy additions.

Testimony by the U. S. Department of Energy revealed that 46 state plans have been received pursuant to this program. Only Montana, North Dakota, Utah, and Virginia have not submitted plans, citing resource problems in administering the program. George L. Jones, Director of Emergency and Energy Services, voiced State concerns about the program. The administrative cost burden to Virginia would be from $150,000 to $185,000 per year based on original estimates. Jones stressed, however, that actual costs would probably run much higher.

Among the concerns expressed by Emergency and Energy Services are: (1) the RCS program is overly specific and overregulated, (2) the program is not cost-effective, and (3) the program would be administratively burdensome. Mr. Jones noted that the program would put utilities in the financial business and the inspection business, driving up costs which would be passed on to consumers.

Virginia has refused to participate in the RCS program. Under the federal act, the U. S. Department of Energy is required to prepare and administer a plan for any state that does not participate. A standby plan has yet to be adopted by D.O.E.

The subcommittee was also briefed by the Department of Planning and Budget on State energy policy development. The Department has been directed to prepare a framework for a comprehensive State energy plan, and hopes to have the work completed prior to the 1982 General Assembly session. As stated by the Department, the phases of the scheduled work are: (1) concept development, (2) documentation of Virginia's energy status, (3) forecast of State energy requirements, (4) identification of alternative energy sources, (5) selection of appropriate combination of energy sources for the Commonwealth, and (6) development of programs to implement necessary action. At this time, only the first two phases of the project have been completed. The subcommittee will monitor this progress closely and has offered assistance in any way possible.

The subcommittee requested the drafting of a constitutional amendment to allow the General Assembly to pass legislation enabling localities to provide greater real property tax relief for persons installing renewable energy systems (See Appendix C.). Tax relief is currently limited to solar equipment.

F. Report of the Hydroelectric Power Sucommittee

Chaired by Senator Goode, the hydroelectric power subcommittee included Senator Boucher, Delegate Councill, Delegate Johnson, Dr. Lucas, Dr. Rosi, and Mr. Walker.

The subcommittee received testimony from concerned citizens, Virginia Electric and Power Company, Appalachian Power Company, the State Corporation Commission, private hydro developers, municipal power representatives, and the Virginia Renewable Energy Lobby. The subcommittee also toured hydro projects in the Roanoke area and received information on small hydro development in North Carolina.

North Carolina has actively promoted hydro development and established the North Carolina Energy Institute. The Institute has contracted with the Research Triangle Institute to provide support services for public, semi-public, and private developers of small hydroelectric projects. These services have included: (1) a survey of existing dams with small hydro potential, (2) an analysis of institutional and regulatory factors affecting small hydro development in the state, (3) the provision of services to interested dam developers, and (4) the provision of a coordination center for groups interested in small hydro development within the state.

If an individual or company is interested in a site, the Institute will conduct an in-office analysis of the site with data submitted by the developer and data available at the Research Triangle Institute. If the site appears to have a power potential of at least 100 KW, an on-site reconnaissance survey of the site will be conducted at no charge. The Institute will also provide assistance in filing the required applications with the Federal Energy Regulatory Commission and any state regulatory agency. If the developer seeks federal funding, assistance in preparing the application is also provided.

The subcommittee also secured information from the U. S. Army Corps of Engineers. The Corps National Hydroelectric Power Resources Study was designed to be a comprehensive inventory of the physical potential for hydro power, but was restricted to sites with a potential of one MW. The initial screening identified 1,212 existing hydro projects in Virginia and 99 undeveloped sites. Of these totals, the Corps placed on their inventory 95 existing Virginia projects and 115 undeveloped sites. After further deletion of sites for what the Corps described as "environmental, social, or institutional" reasons, Virginia's undeveloped hydro potential was assessed at 452.3 MW capacity (see Appendix D.).

This assessment does not take into account those potential or retired hydro sites of less than one MW generating capacity. Since Virginia has many such sites, it is likely that the Corps of Engineers study underrates hydro potential in the Commonwealth. The U.S. Department of Energy is preparing an inventory of such sites, and the inventory will be reviewed by the subcommittee when it becomes available.

During the course of its work, the subcommittee became concerned with the practices of electric utilities of placing encumberances on the deeds of hydro sites retired and sold to others. The "reverter rights" provisions in those deeds prohibited the new owners from generating electricity. After consultation with the subcommittee, Virginia Electric and Power Company gave written assurance that such deed provisions would not be used to hinder hydro development in the Commonwealth. Appalachian Power Company indicated in a letter that they would consider not enforcing the reverter provisions in their deeds on a site by site basis after consultation with the property owner or developer. Letters stating the respective positions of Vepco and Apco and listing hydro developments of each company are attached as Appendices E. and F.

In developing small-scale hydro in Virginia, State regulations require a number of steps be taken before electricity can be generated. First, the developer must acquire certain property interests at his proposed site. Virginia follows the riparian theory of water law. This requires the acquisition of property interests in the abutting lands on both sides of the particular waterway for the developer to acquire the use of the flowing water.

Secondly, any developer proposing to build a dam in Virginia for the purpose of generating hydroelectric power must receive a permit from the State Corporation Commission.

There are also various indirect regulations which may have some effect on a developer's project. A number of State agencies may have authority to impose conditions on a given project. Developers should consider the following agencies or acts prior to construction:

1. State Water Control Board

2. Wetlands Act

3. Soil and Water Conservation Commission

4. Division of State Parks

5. Scenic Rivers Act

6. Environmental Quality Act

7. Commission of Game and Inland Fisheries.

Also, the developer would be wise to check local zoning ordinances and, if necessary, seek approval from local zoning boards.

Small-scale hydro also presents opportunities for individuals and small businesses, being one area that is not controlled by huge energy corporations. Financial assistance is available to small hydro developers. At the State level, developers should consult the Division of Industrial Development. The federal government has implemented and funded various programs which are potentially available for small-scale hydro projects. The primary loan programs currently available are the Rural Energy Initiative Program and the Small Business Energy Loan Program, and Title IV of the Public Utilities Regulatory Policy Act. These programs can provide loans and grants for feasibility studies, license applications, and construction costs.

The federal Department of Energy also has funding available to determine the economic feasibility of small hydro projects. The program provides for loans of up to $50,000 at 7-1/8% interest. An additional $50,000 maximum loan is available to aid in the licensing process.

If a project is determined by DOE to be infeasible, it is possible that the loan may be forgiven. If, however, a project proves feasible, the loan must be repaid. Repayment starts on the fourth anniversary after the loan is made, with 1/7 of the balance due each year. If a project is built, the loan must be repaid within 60 days after construction starts. The windfall profits tax authorizes an 11% tax credit and tax-free bonds for hydro projects.

Eligibility is based on five criteria:

(1) There is an existing dam or there has been a barrier in the water course in the past.

(2) The dam was complete by April 20, 1977.

(3) The dam is not yet producing power.

(4) The dam would have a capacity of between 100 KW and 15,000 KW.

(5) The powerhouse is to be at the dam site.

An applicant's information kit is available from the Hydroelectric Loan Program, U. S. Department of Energy, Washington, D.C.

Small-scale hydro is a resource that can contribute to Virginia's energy supply by providing a renewable source of clean, non-polluting energy at a reasonable cost. This readily renewable resource can thus lessen our dependence on foreign oil and other fossil fuels. With the cost of electrical generation by oil-fired and gas-fired plants rising, and with the time delays of 7 to 10 years for coal-fired plants and 12 to 14 years for nuclear plants increasing, the development of small-scale hydro is clearly needed now.

G. Report of the Oil and Gas Subcommittee

Chaired by Senator Boucher, the subcommittee included Mr. Ayers, Senator Bateman, Delegate Johnson, and Delegate Parker.

Since its establishment in August of 1980, the oil and gas subcommittee of the Virginia Coal and Energy Commission has held three meetings. Testimony at the subcommittee's first meeting from landowner representatives, including the Virginia Farm Bureau, and from representatives of the oil and gas industry uniformly indicated the need for the enactment of an oil and gas conservation statute in Virginia.

An oil and gas conservation statute has two purposes: (1) to insure that all landowners who have an interest in oil or gas located within a given pool receive a share of the profits upon production from that pool; and (2) to insure that production in the pool is maximized to the benefit of all who own the oil or gas.

Present law, Code of Virginia § 45.1-116, provides that an owner of property has protection against drainage of oil or gas from his land by adjoining development operations only if the well on adjoining land is located within 500 feet of his boundary. Since many oil and gas pools exceed 500 feet in width, present law offers inadequate protection to landowners against drainage. A conservation statute would surplant the foregoing provision of § 45.1-116 and would assure

landowners a share in the proceeds of production from pools in which they have an interest without regard to the distance the producing well is drilled from their boundary.

Such a statute would also insure that production is maximized from oil and gas pools to the benefit of all who own interests therein. In the absence of a statute assuring that landowners receive a proportionate share of the proceeds of production, some owners within a given pool may drill their own wells to protect their interests. A large number of wells in a given pool reduces pressure throughout the pool and results in waste of the resources of the pool. By assuring that each owner receives a proportionate share of the proceeds of production, the conservation statute will eliminate the necessity of owners drilling their own wells and, consequently, promote the maintenance of pressure throughout the pool.

In preparing a draft conservation statute, the subcommittee has benefited from the able assistance of R. Neal Pierce, an attorney with the legal staff of Columbia Gas Transmission Corporation of Charleston, West Virginia. Comments concerning the draft statute were received from representatives of other oil and gas concerns, including both the major producers and independents. In considering the draft, the subcommittee has benefited greatly from comments offered by Dr. Charles S. Bartlett, Chief Geologist of Bartlett and Associates, Abingdon, Virginia.

At its meeting on December 2, 1980, the subcommittee was informed by representatives from both the oil and gas industry and the Virginia coal industry that a conservation statute is an appropriate vehicle for these industries to resolve the problems that arise from the interface of their operations but that the work leading to the resolution of these problems will require more than the six weeks remaining prior to the commencement of the 1981 Legislative Session. Accordingly, both industries have asked that the subcommittee continue its work in cooperation with representatives from those industries during the interim between the 1981 and 1982 Sessions with a view toward proposing a conservation statute for enactment in 1982.

The oil and gas and coal industries have established joint technical committees and joint legal committees for the purpose of resolving the following presently identified problems which arise from the development of oil and gas in coal-bearing properties:

1. The location of wells with reference to coal seams and mines.

2. The assurance of safety in drilling by providing that pillars of coal be left in place surrounding wells. Problems involving mapping and cost allocation must be addressed.

3. Plugging and abandoning wells in coal which will later be mined presents technical problems different from ordinary plugging and abandoning.

4. Notice must be supplied to coal operators of the intent to drill for oil and gas so that objections may be made in a timely fashion. The problem here addressed is how to determine the owners of unrecorded coal interests and recorded coal interests where property descriptions are inadequate.

The subcommittee is of the opinion that an oil and gas conservation statute should be adopted in Virginia. However, the subcommittee also believes that the conservation statute should address the problems which arise from drilling for oil or gas in coal-bearing properties, and the subcommittee believes that those problems cannot be appropriately addressed in the time remaining prior to the commencement of the 1981 Legislative Session. Therefore, the subcommittee recommends that introduction of an oil and gas conservation statute be deferred until the 1982 Legislative Session and that the subcommittee continue its work in the interim with the oil and gas and coal industries toward the resolution of their problems and the creation of a conservation statute appropriate to Virginia.

H. Report of the Solar Subcommittee

Chaired by Delegate Johnson, the solar subcommittee included Delegate Almand, Senator Boucher, Senator Colgan, Senator Goode, and Delegate McClanan.

The solar subcommittee received testimony from a number of interests: the Virginia Renewable Energy Lobby, the Richmond City Planning Commission, the State Department of Taxation, and

Reynolds Metals Company. The subcommittee also toured a solar subdivision, Solar I, in Chesterfield County.

Solar tax incentive bills carried over from last session were carefully considered. The bills dealt with by the subcommittee were Delegate James Almand's House Bill No. 823 energy income tax credit measure, Delegate James Davis' House Bill No. 635 for credit for solar hot water heating and cooling, Delegate Joan Jones' House Bill No. 642 tax deduction bill, and Senator Virgil Goode's Senate Bill No. 433 on energy income tax credits.

After extensive testimony and deliberation, the subcommittee chose to endorse Senate Bill No. 433 with one modification. The bill will be amended to allow a $100 maximum credit for energy conservation. The bill provides an energy income tax credit to individuals and corporations, the amount of which will be equal to 25 percent of qualified renewable energy source expenditures, with the maximum credit being $2500. (See Appendix G. for the complete text of the bill.)

According to extensive research by the Virginia Renewable Energy Lobby, the maximum projected revenue loss due to Senate Bill No. 433 would be $2.9 million. This would be the absolute ceiling cost for the bill. VREL contended, however, that real revenue loss would be less than $2.9 million. Adjusting revenue loss projections to account for the return of State monies via sales tax and income tax generated by increased solar purchases gives a total loss of $1.74 million. VREL also contended that, based on experiences in states similar to Virginia, a $916,000 loss is an even more realistic projected revenue loss.

The Department of Taxation produced different estimates for Senate Bill No. 433. The Department's estimate of the first year revenue impact of the original bill was $15.9 million for individuals, with an unknown additional loss for corporations. With the proposed $100 ceiling on the conservation credit, the first year revenue impact would be reduced to $12.9 million. The Department of Taxation disagreed with the VREL contention that any loss would be offset by gains in income and sales tax from an expanded solar industry.

The subcommittee also endorsed a resolution encouraging local governing bodies to add flexibility to subdivision and zoning regulations so as to facilitate the construction of solar-heated housing. (See Appendix H. for text.)

III. RECOMMENDATIONS

The Commission recommends to the General Assembly the following draft legislation:

A. Model ridesharing law.

This legislation (See Appendix B.) would guide State and local government in amending existing statutes or adopting new laws which would promote vanpooling or ridesharing.

B. Constitutional amendment relating to property tax.

This legislation (See Appendix C.) would allow the General Assembly to pass legislation enabling localities to provide greater real property tax relief for persons installing renewable energy systems.

C. Renewable energy tax credit bill.

This legislation (See Appendix G.) would allow tax credits for energy conservation expenditures and renewable energy source expenditures.

D. Resolution encouraging flexibility in the adoption of subdivision and zoning ordinances.

This legislation (See Apppendix H.) is directed at facilitating the construction of solar-heated housing.

The Commission owes much gratitude to Senator J. Harry Michael, Jr. for his leadership during

his years as Chairman. A resolution honoring Senator Michael (See Appendix I.) concludes this report.

Respectfully submitted,

Joseph A. Johnson
W. Ward Teel
James F. Almand
Walter C. Ayers
Herbert H. Bateman
Daniel W. Bird, Jr.
Frederick C. Boucher
Eugene F. Brady
John C. Buchanan
L. Blaine Carter
Charles J. Colgan
J. Paul Councill, Jr.
Herbert O. Funsten
Virgil H. Goode, Jr.
J. Richard Lucas
George L. Jones
George W. Jones
Glenn B. McClanan
Donald L. McGlothlin, Sr.
Lewis W. Parker, Jr.
Ford C. Quillen
Fred D. Rosi
Frank T. Sutton, III
A. Victor Thomas
Fred W. Walker
Richard A. Wolfe, Jr.

APPENDIX A.

CHAPTER 330

An Act to amend the Code of Virginia by adding in Title 9 a chapter numbered 22.1, consisting of sections numbered 9-145.1 through 9-145.4, establishing the Virginia Coal and Energy Commission; allocation of funds.

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Title 9 a chapter numbered 22.1, consisting of sections numbered 9-145.1 through 9-145.4, as follows:

CHAPTER 22.1.

VIRGINIA COAL AND ENERGY COMMISSION.

§ 9-145.1. Commission established; agency assistance; powers and duties.—The Virginia Coal and Energy Commission is hereby established as a permanent agency of the Commonwealth and is hereafter referred to in this chapter as "Commission." The Commission shall generally study all aspects of coal as an energy resource and shall study ways in which the Commonwealth can take action on energy related problems. All agencies of the State shall assist the Commission in its work. In addition to the aforementioned general powers, the Commission shall also perform the following functions:

A. Act in an advisory capacity to the Governor and executive branch agencies upon energy related matters;

B. Investigate and consider such questions and problems relating to the field of coal and energy utilization and alternative energy sources as may be submitted;

C. Make recommendations to the Governor and General Assembly on its own initiative;

D. Consult with applicable State agencies on all matters regarding energy conservation, including the promotion and implementation of initiatives for the public-at-large to conserve energy;

E. Endeavor to encourage research designed to further new and more extensive use of the coal and energy resources of the Commonwealth;

F. Effectively disseminate any such proposals to groups and organizations, both State and local, so as to stimulate local governing bodies and private business initiative in the field of energy related matters; and

G. Coordinate its efforts with those of the Virginia Solar Energy Center established pursuant to § 10-214 and the Virginia Center for Coal and Energy Research established pursuant to Article 2.01 of Chapter 11 of Title 23 (§ 23-135.7:1 et seq.) of the Code of Virginia.

§ 9-145.2. Membership; compensation.—A. The Commission shall consist of twenty members, of whom five shall be appointed by the Committee on Privileges and Elections of the Senate from the membership of the Senate, eight shall be appointed by the Speaker of the House of Delegates from the membership thereof and seven shall be appointed from the State at large by the Governor. The at-large appointees shall include representatives of industry, government and groups or organizations identified with coal and energy production and conservation.

B. The terms of office of the legislative members shall be coincident with their service in the house from which appointed; the appointees of the Governor shall serve for terms of four years and their successors shall be appointed for like terms, but vacancies occurring other than by expiration of term shall be filled for the unexpired term. Any member may be reappointed for successive terms.

C. The members of the Commission shall elect its own chairman annually.

D. Legislative members of the Commission shall receive such compensation as is set forth in § 14.1-18 and all members shall be reimbursed for their actual expenses incurred by them in the performance of their duties in the work of the Commission.

§ 9-145.3. Clerical and secretarial facilities; supplies; printing.—The Division of Legislative Services shall serve the Commission as its secretariat and central administrative office and shall furnish the Commission with such services as the Commission shall deem necessary.

§ 9-145.4. Annual report.—The Commission shall report its findings and recommendations to the Governor and the General Assembly on an annual basis.

2. That all unexpended funds remaining in the accounts of the Virginia Energy Study Commission and the Coal and Energy Commission are hereby transferred and allocated to the Virginia Coal and Energy Commission established pursuant to this act in order to effectuate the purposes contained herein.

CHAPTER 214

APPENDIX A - ATTACHMENT

An Act to amend and reenact § 9-145.1 of the Code of Virginia, relating to responsibilities of the Virginia Coal and Energy Commission.

[S 291]

Approved MAR 1 9 1980

Be it enacted by the General Assembly of Virginia:

1. That § 9-145.1 of the Code of Virginia is amended and reenacted as follows:

§ 9-145.1. Commission established; agency assistance; powers and duties.—The Virginia Coal and Energy Commission is hereby established as a permanent agency of the Commonwealth and is hereafter referred to in this chapter as "Commission." The Commission shall generally study all aspects of coal as an energy resource *and endeavor to* ~~and shall study~~ ways ~~in which the Commonwealth can take action on energy related problems~~ *stimulate, encourage, promote, and assist in the development of renewable and alternative energy resources other than petroleum. The Commission shall have no authority to promulgate rules and regulations* . All agencies of the State shall assist the Commission in its work. In addition to the aforementioned general powers, the Commission shall also perform the following functions:

A. Act in an advisory capacity to the Governor and executive branch agencies upon energy related matters;

B. Investigate and consider such questions and problems relating to the field of coal and energy utilization and alternative energy sources as may be submitted;

C. Make recommendations to the Governor and General Assembly on its own initiative;

D. Consult with applicable State agencies on all matters regarding energy conservation, including the promotion and implementation of initiatives for the public-at-large to conserve energy;

E. Endeavor to encourage research designed to further new and more extensive use of the coal *as well as alternative* and *renewable* energy resources of the Commonwealth;

F. Effectively disseminate any such proposals to groups and organizations, both State and local, so as to stimulate local governing bodies and private business initiative in the field of energy related matters; and

G. Coordinate its efforts with those of the Virginia Solar Energy Center established pursuant to § 10-214 and the Virginia Center for Coal and Energy Research established pursuant to Article 2.01 (§ 23-135.7:1 et seq.) of Chapter 11 of Title 23 of the Code of Virginia ; ;

H. Actively seek federal and other funds to be used to carry out its functions;

I. Seek to establish alternative fuel capability within the Commonwealth.

President of the Senate

Speaker of the House of Delegates

Approved:

Governor

APPENDIX B.

A BILL to amend the Code of Virginia by adding in Title 46.1 a chapter numbered 11, consisting of sections numbered 46.1-556 through 46.1-564, to remove legal impediments to ridesharing.

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding in Title 46.1 a chapter numbered 11, consisting of sections numbered 46.1-556 through 46.1-564 as follows:

CHAPTER 11.

RIDESHARING.

§ 46.1-556. "Ridesharing arrangement" defined.—"Ridesharing arrangement" means the transportation of persons in a motor vehicle where such transportation is incidental to another purpose of the driver. The term shall include ridesharing arrangements known as carpools, vanpools, and buspools.

§ 46.1-557. Motor carrier laws do not apply to ridesharing.—The following laws and regulations of the Commonwealth shall not apply to any ridesharing arrangement using a motor vehicle with a seating capacity for not more than 16 persons, including the driver:

1. Laws and regulations containing insurance requirements that are specifically applicable to motor carriers or commercial vehicles;

2. Laws imposing a greater standard of care on motor carriers or commercial vehicles than that imposed on other drivers or owners of motor vehicles;

3. Laws and regulations with equipment requirements and special accident reporting requirements that are specifically applicable to motor carriers or commercial vehicles; and

4. Laws imposing a tax on fuel purchased in another state by a motor carrier or road user taxes on commercial buses.

§ 46.1-558. Workmen's compensation law does not apply to ridesharing.—Title 65.1 of the Code of Virginia, providing compensation for workers injured during the course of their employment, shall not apply to a person injured while participating in a ridesharing arrangement between his place of residence and place of employment or termini near such places; however, if the employer owns, leases, or contracts for the motor vehicle used in such arrangement, Title 65.1 of the Code of Virginia shall apply.

§ 46.1-559. Liability of employer.—A. An employer shall not be liable for injuries to passengers and other persons resulting from the operation or use of a motor vehicle, not owned, leased or contracted for by the employer, in a ridesharing arrangement.

B. An employer shall not be liable for injuries to passengers and other persons because he provides information or incentives or otherwise encourages his employees to participate in ridesharing arrangements.

§ 46.1-560. Ridesharing payments or transit reduced fares are not income.—Money and other benefits, other than salary, received by a driver in a ridesharing arrangement using a motor vehicle with a seating capacity for not more than 16 persons, including the driver, shall not constitute income for the purpose of Chapter 4 of Title 58 of the Code of Virginia imposing taxes on income. Neither shall the difference in the amount between discount and full transit fares constitute income for the purpose of Chapter 4 of Title 58 of the Code of Virginia imposing taxes on income.

§ 46.1-561. Municipal licenses and taxes.—No county, city, or town may impose a tax on or require a license, including business licenses or gross receipts taxes, for a ridesharing arrangement

using a motor vehicle with a seating capacity for not more than 16 persons, including the driver.

§ 46.1-562. Overtime compensation and minimum wage laws.—The participation of an employee in any kind of ridesharing arrangement shall not result in the application of Title 40.1 of the Code of Virginia.

§ 46.1-563. Certain ridesharing vehicles are not commercial vehicles or buses.—A. A motor vehicle used in a ridesharing arrangement that has a seating capacity for not more than 16 persons, including the driver, shall not be a "bus" or "commercial vehicle" under those portions of this title relating to equipment requirements or rules of the road.

B. A motor vehicle used in a ridesharing arrangement that has a seating capacity for not more than 16 persons , including the driver, shall not be a "bus" or "commercial vehicle" under the portions of this title relating to registration.

C. The driver of a motor vehicle used in a ridesharing arrangement if not more than 16 passengers including the driver is not a "chauffeur" nor is he transporting persons for compensation under the driver licensing portions of this title.

§ 46.1-564. Use of public motor vehicle for ridesharing.—Motor vehicles owned or operated by any state or local agency may be used in ridesharing arrangements for public employees. Participants in any such ridesharing arrangement shall pay the actual total costs of using the vehicle in that arrangement.

APPENDIX C.

HOUSE JOINT RESOLUTION NO.....

Proposing an amendment to Section 6 of Article X of the Constitution of Virginia, relating to property exempt from taxation.

RESOLVED by the House of Delegates, the Senate concurring, a majority of the members elected to each house agreeing, That the following amendments to the Constitution of Virginia be, and the same hereby are, proposed and referred to the General Assembly at its first regular session held after the next general election of members of the House of Delegates for its concurrence in conformity with the provisions of Section I of Article XII of the Constitution of Virginia; namely:

Amend Section 6 of Article X of the Constitution of Virginia as follows:

Article X.

§ 6. Exempt property.—(a) Except as otherwise provided in this Constitution, the following property and no other shall be exempt from taxation, State and local, including inheritance taxes:

(1) Property owned directly or indirectly by the Commonwealth or any political subdivision thereof, and obligations of the Commonwealth or any political subdivision thereof exempt by law.

(2) Real estate and personal property owned and exclusively occupied or used by churches or religious bodies for religious worship or for the residences of their ministers.

(3) Private or public burying grounds or cemeteries, provided the same are not operated for profit.

(4) Property owned by public libraries or by institutions of learning not conducted for profit, so long as such property is primarily used for literary, scientific, or educational purposes or purposes incidental thereto. This provision may also apply to leasehold interests in such property as may be provided by general law.

(5) Intangible personal property, or any class or classes thereof, as may be exempted in whole or in part by general law.

(6) Property used by its owner for religious, charitable, patriotic, historical, benevolent, cultural, or public park and playground purposes, as may be provided by classification or designation by a three-fourths vote of the members elected to each house of the General Assembly and subject to such restrictions and conditions as may be prescribed.

(7) Land subject to a perpetual easement permitting inundation by water as may be exempted in whole or in part by general law.

(b) The General Assembly may by general law authorize the governing body of any county, city, town, or regional government to provide for the exemption from local property taxation, or a portion thereof, within such restrictions and upon such conditions as may be prescribed, of real estate and personal property designed for continuous habitation owned by, and occupied as the sole dwelling of, persons not less than sixty-five years of age or persons permanently and totally disabled as established by general law who are deemed by the General Assembly to be bearing an extraordinary tax burden on said property in relation to their income and financial worth.

(c) Except as to property of the Commonwealth, the General Assembly by general law may restrict or condition, in whole or in part, but not extend, any or all of the above exemptions.

(d) The General Assembly may define as a separate subject of taxation any property, including real or personal property, equipment, facilities, or devices, used primarily for the purpose of abating or preventing pollution of the atmosphere or waters of the Commonwealth or for the purpose of

transferring or storing solar energy, and by general law may allow the governing body of any county, city, town, or regional government to exempt or partially exempt such property from taxation, or by general law may directly exempt or partially exempt such property from taxation.

(e) The General Assembly may define as a separate subject of taxation household goods, personal effects and tangible farm property and products, and by general law may allow the governing body of any county, city, town, or regional government to exempt or partially exempt such property from taxation, or by general law may directly exempt or partially exempt such property from taxation.

(f) Exemptions of property from taxation as established or authorized hereby shall be strictly construed; provided, however, that all property exempt from taxation on the effective date of this section shall continue to be exempt until otherwise provided by the General Assembly as herein set forth.

(g) The General Assembly may by general law authorize any county, city, town, or regional government to impose a service charge upon the owners of a class or classes of exempt property for services provided by such governments.

(h) The General Assembly may by general law authorize the governing body of any county, city, town, or regional government to provide for a partial exemption from local real property taxation, within such restrictions and upon such conditions as may be prescribed, of real estate whose improvements, by virtue of age and use, have undergone substantial renovation, rehabilitation or replacement.

(i) The General Assembly may by general law allow the governing body of any county, city, or town to exempt or partially exempt from taxation any generating equipment installed after December thirty-one, nineteen hundred seventy-four, for the purpose of converting from oil or natural gas to coal or to wood, wood bark, wood residue, or to any other alternate energy source for manufacturing, and any co-generation equipment installed since such date for use in manufacturing.

(j) The General Assembly may by general law, within such restrictions and upon such conditions as may be prescribed, authorize the governing body of any county, city or town to provide for the exemption from local property taxation, any equipment, facilities or devices used primarily for the purpose of producing, transferring or storing renewable energy and may further authorize such governing bodies, to exempt or partially exempt from real property taxation, all real property to which such equipment, facilities or devices are attached or incorporated.

APPENDIX D.

Virginia Hydro Sites Listed by U. S. Army Corps of Engineers, August, 1980.

Primary County	Project Name	Owner
Albermarle	South Rivanna dam	City of Charlottesville
Albermarle	Hatton	unidentified
Alleghaney	Gathright dam	unidentified
Alleghaney	King dam	unidentified
Amherst	Cushaw dam	Vepco
Amherst	Big Island	unidentified
Botetourt	Eagle Rock dam	unidentified
Campbell	Melrose	unidentified
Campbell	Taber	unidentified
Chesterfield	George F. Brasfield	Appomattox Water Authority
Fluvanna	Seven Islands	unidentified
Greensville	Emporia dam	City of Emporia
Halifax	Halifax dam	Halifax County
Halifax	John H. Kerr	Corps of Engineers
Loudoun	Goose Creek dam	City of Fairfax
Page	Luray	Potomac Edison
Page	Newport	Potomac Edison
Page	Shenandoah	unidentified
Powhatan	Maidens Project	unidentified
Prince William	Lake Jackson dam	Prince William County
Prince William	Occoquan Main dam	Fairfax Water Authority
Rockbridge	Varney Falls	unidentified
Spotsylvania	North Anna dam	Vepco
Stafford	Embrey	City of Fredericksburg
Stafford	Fredericksburg dam	unidentified
Stafford	Salem Church	unidentified
City of Richmond	Hollywood	City of Richmond
City of Richmond	Park	City of Richmond
City of Richmond	12th Street	Vepco
City of Richmond	Belle Isle	City of Richmond
City of Richmond	Boulevard	unidentified
City of Richmond	Byrd Park	unidentified

* It must be noted that this list is incomplete. The subcommittee received much testimony to the fact that Virginia's hydro potential is much greater than recognized by the Corps.

APPENDIX E.

Vepco

VIRGINIA ELECTRIC AND POWER COMPANY, RICHMOND, VIRGINIA 23261

October 30, 1980

The Honorable Virgil H. Goode, Jr.
124 Orchard Avenue
Rocky Mount, Virginia 24151

Dear Virgil:

At the last meeting of the Hydro Subcommittee, the question was raised about Vepco's feelings toward removing the encumbrance on deeds for low head hydro. As I pointed out at the meeting, we are already doing this.

Attached you will find a list of the Hydroelectric stations we have sold. For your information, all of the stations which have been sold we have granted the pruchaser the right to generate electricity. In fact Woodstock II, which is owned by Mr. B. R. Gilbert, is being used to generate electricity now.

As a result of our voluntary action to release the Reverter Rights, we don't see any need for legislation requiring such action.

The attached also shows the status of the sites we still own.

If you have any further questions, I will be happy to answer them.

Sincerely,

Bill

E. L. Crump, Jr.
Manager-Governmental Affairs

Attachment

APPENDIX E. (CONTINUED)

OPERATING AND PURCHASED HYDROELECTRIC ENERGY

STATION	RIVER	DEPENDABLE CAPACITY	OWNER
ushaw	James	.1 MW	Vepco
oanoke Rapids	Roanoke	100 MW	Vepco
aston	Roanoke	225 MW	Vepco
erry/Philpott	Roanoke/Dan	165 MW	Corps of Engineers

NON-OPERATING RETIRED HYDROELECTRIC STATIONS OWNED BY VEPCO OR FORMERLY OWNED BY VEPCO

STATION	RIVER	STATUS	INSTALLED CAPACITY	
ilcony Falls	James	Retired and Removed	1920 KW	C & O Railroad
ark	James	Retired and Equipment SOLD	2100 KW	City of Richmond
elle Isle	James	Retired	3000 KW	City of Richmond
2th Street	James	Retired	2250 KW DC 5250 KW AC	Vepco
anchester	James	Retired	1000 KW	Vepco
mporia	Meherrin	Water Supply Reservoir	2160 KW	City of Emporia
alifax	Bannister	Water Supply Reservoir	550 KW	County of Halifax
nbry	Rappahannock	Water Supply Reservoir	3150 KW	City of Fredericksburg
ands Ford	Occoquan	--	450 KW	County of Prince William
linburg	Shenandoah	Retired	144 KW	Vepco
odstock I	Shenandoah	Retired and Sold (1961)	150 KW	Mr. B. G. Wenger, Jr.
odstock II	Shenandoah	Retired	250 KW	Mr. B. R. Gilbert
rvell	Appomattox	Retired	500 KW	Vepco
cks	Appomattox	Retired	4565 KW	Vepco
ottoes	South	Retired and Sold	288 KW	Mr. J. A. Rawls

APPENDIX F.

American Electric Power System
APPALACHIAN POWER CO.

Post Office Box 2021, Roanoke, Virginia 24022
Telephone: area code 703•344-1411

October 31, 1980

The Honorable Virgil H. Goode, Jr.
124 Orchard Avenue
Rocky Mount, Virginia 24151

Dear Senator Goode:

The Hydro Subcommittee of the Virginia Coal and Energy Commission requested at their meeting of September 11, 1980, that Appalachian Power Company provide a listing of the hydro developments the Company has previously owned and sold to others and a listing of the hydro sites which are presently owned and undeveloped. These listings are attached as Exhibit A and Exhibit B, respectively.

The Subcommittee also requested the Company to provide a statement of its position with respect to provisions in the deed of sale which would enable the Company to reacquire the properties for power generation.

When former hydro sites were removed from service and sold to others, the Company recognized that the sites would always retain some physical potential for power production. Recognizing this fact and being aware that the economics of power generation can change over time, the Company reserved the right to secure the benefits of production at the site for its customers should it become desirable in the future to generate electric power at the site.

Should any owner of such a property purchased from Appalachian under the terms of a deed containing this provision on the generation of electric power request a waiver of Appalachian's right to acquire the property, Appalachian is willing to consider such a waiver on a site-by-site basis. After study of the request, should Appalachian determine that it would not be advantageous to our customers to reacquire the property for power production, the Company would agree to discuss arrangements whereby the Company would waive the right.

Sincerely yours,

Joe C. Plunk

Joe C. Plunk, Manager
Hydro Generation

JCP:mw

Attachments

APPALACHIAN POWER COMPANY

Hydro Developments Previously Owned by APCo
Which Have Been Sold to Others

Damascus - Laurel Creek, Washington County, Va.	-	5.55 ac.
Rocky Mount (Pigg River) - Pigg River, Franklin County, Va.	-	2.96 ac.
Stuart - South Mayo River, Patrick County, Va.	-	15.74 ac.
Total		24.25 ac.

APPALACHIAN POWER COMPANY

Presently Owned, Discontinued, or Undeveloped Sites

1. Lynchburg Dam - James River, Campbell and Amherst Counties, Va.
2. Floyd Hydro - Little River, Floyd County, Va.
3. Little Tunnel - James River, Botetourt County, Va.
4. Bent Mountain - Bottom Creek, Montgomery County, Va.
5. Woodlawn - Crooked Creek, Carroll County, Va.

APPENDIX G.

A BILL to amend the Code of Virginia by adding a section numbered 58-151.014:2, providing a tax credit for certain individual and business energy expenditures.

Be it enacted by the General Assembly of Virginia:

1. That the Code of Virginia is amended by adding a section numbered 58-151.014:2 as follows:

§ 58-151.014:2. Energy income tax credit.—A. Any individual shall be allowed a credit against the tax imposed by § 58-151.03 of an amount equaling 25 percent of any qualified energy conservation expenditures and qualified renewable energy source expenditures made after January 1, 1981, by the taxpayer as defined by federal rules and regulations promulgated pursuant to Section 44C of the Internal Revenue Code. Only one such credit shall be permitted for each such expenditure.

B. Any corporation shall be allowed a credit against the tax imposed by § 58-151.03 of an amount equaling 25 percent of any qualified energy conservation expenditures and qualified renewable energy source expenditures made after January 1, 1981, by such corporate taxpayer. Only one such credit shall be permitted for each such expenditure. The tax commissioner shall adopt rules and regulations for the certification of such expenditures using the definitions of Section 44C of the Internal Revenue Code as it relates to individuals whenever practicable.

C. The amount of such credit provided in subsections A and B shall not exceed (i) $100, in the case of a qualified energy conservation expenditure, and $2,500, in the case of a qualified renewable energy source expenditure, or (ii) the tax imposed by this chapter, whichever is less. In determining such expenditures, the labor of the taxpayer shall not be included.

D. If the credit allowable under subsections A and B for any taxable year exceeds the limitation imposed by subsection C(ii) for such taxable year, such excess may be carried to the succeeding taxable year by the taxpayer and added to any credit allowable under subsections A and B for such succeeding taxable year.

2. That the provisions of this act shall be effective for only the taxable years 1981, 1982, 1983, and 1984.

APPENDIX H.

HOUSE JOINT RESOLUTION NO.....

Encouraging flexibility in the adoption of subdivision and zoning ordinances so as to facilitate the construction of solar-heated housing.

WHEREAS, solar energy can add greatly to the energy self-sufficiency of the Commonwealth, and solar-heated homes are an excellent conservation measure; and

WHEREAS, a basic tenet of solar homes is that such homes should face south so as to maximize the sun's energy; and

WHEREAS, most local subdivision and zoning ordinances have seemingly been developed without taking this fact into account, thus unintentionally hindering the construction of solar homes; and

WHEREAS, it would be of great benefit to the Commonwealth to facilitate the development of solar energy; now, therefore, be it,

RESOLVED, by the House of Delegates, the Senate concurring, That all local governing bodies responsible for subdivision and zoning ordinances are hereby encouraged to make flexible those ordinances which pertain to the siting and construction of homes so as to facilitate the construction of solar-heated homes.

APPENDIX I.

Resolution

The following resolution was unanimously adopted by the Virginia Coal and Energy Commission on October 14, 1980:

WHEREAS, the Virginia Coal and Energy Commission evolved from the Virginia Coal and Energy Board, an ad hoc group formed in 1974; and

WHEREAS, the Honorable James Harry Michael, Jr., of Charlottesville, was instrumental in the creation of both the original coal and energy group and the Virginia Coal and Energy Commission; and

WHEREAS, James Harry Michael, Jr., served as Chairman of the Commission from its origin until October, 1980; and

WHEREAS, James Harry Michael, Jr., served this Commission, as he served the Commonwealth and his constituents in the 25th Senatorial District, with great honor and distinction; now, therefore, be it

RESOLVED by the Virginia Coal and Energy Commission, That James Harry Michael, Jr. is hereby commended for his leadership of the Commisison; and be it

RESOLVED FURTHER, That the members of the Commission hereby convey their best wishes to James Harry Michael, Jr. as he undertakes his new role as United States District Judge for the Western District of Virginia.