Testimony of Dr. Peter G. Montague
presented to
Virginia Coal and Energy Commission
April 28, 1981

My name is Peter Montague. I am pleased to be here. As Mr. Scott said, I am employed by Princeton University, but I hasten to state that I do not represent the University here today. I am here as an individual. And I guess I should also say that I am not paid to be here as an individual. I'm here because I want to be here.

My home is currently in New Jersey, but I have a long-standing relationship with the Commonwealth of Virginia. My father was born and raised in Broadway, Virginia in the Shenandoah Valley; I was myself a student at the University in the early 1960's; most recently I have been serving as a consultant to the County of Albemarle and the City of Charlottesville, helping them evaluate a radioactive waste disposal program to be carried out in Charlottesville by the University of Virginia. So although I am not employed to be here, I am interested in being here because I like Virginia and because I happen to know something about this industry.

I did spend 10 years in the State of New Mexico in Albuquerque in the School of Planning. And you can't talk about planning for the future in the State of New Mexico without becoming involved in the uranium industry. It is a very big industry, dominating the west central section of the State. It has been there for a long time and is in evidence in that area of the State. So when a group such as yours decides to study this problem, naturally New Mexico is a place to go for information.

Unfortunately the information that you derive from looking at the actual operating history of this industry in New Mexico is not entirely positive. There are many problems associated with this industry as it has actually operated, and although Mr. Potts indicated that the industry has dramatically changed its style of doing business, that is not true in my experience. I did leave the area a year and a half ago and maybe there have been dramatic changes in technology in the last year and a half with which I'm not familiar, but I frankly doubt it. It seems very unlikely to me that the whole industry has changed since the passage of the Federal law in 1978. (Reference to Uranium Mill Tailings Radiation Control Act, PL 95-604). It's one thing to pass a law and it's another thing to make that law change the nature of reality, and it is the nature of the reality of this industry which makes it so difficult to control.

The tailings piles that result from this industry are typically very large; they typically have a larger volume than the original rock mass from which they were derived, and so it is normal for them not to fit back into the hole in the ground from which they were taken. So, by the necessary physics of the situation and the geology of the situation, those tailings piles are typically simply heaped up on the ground where they begin to wash away and blow around and cause rather severe problems.

Now what are those problems and how well understood are they? And how did we get the information about those problems?

Unfortunately, we got our information, as was indicated to you by Dr. Hamilton and by Mr. Hughes, from mistakes that we made in the past, or mistakes that we permitted to be made in the past. We learned about radiation from dropping weapons, which was in the national interest as so conceived at that time, but as Dr. Hamilton also indicated, there is a rather large body of information that comes from the operation of the uranium industry itself.
Unfortunately the current information coming from the industry does not indicate that those problems are getting smaller. In fact, the more data that are gathered about health effects from the contaminated water and the contaminated tailings piles, the bigger the problem looks to be. I would hope your Commission study would look carefully at the latest data from New Mexico indicating that across the State and in Arizona and Colorado we are seeing -- from 1980 and 1981 data -- increases in birth defects over a very large area and we are seeing increases in children having bone cancer. This is a very surprising finding, but it does seem to be there in the epidemiological evidence. So as I said, the more we learn about this industry, the worse the problems associated with it seem to be, and they don't seem to be problems that are easily resolvable because of the physics and the geology.

Simply passing a law saying you will clean up your act does not necessarily result in the industry making any fundamental changes, because in some cases -- so far to date -- it does not seem that there are appropriate remedies that can be made. The future may look different. I am not saying that the industry cannot ever improve its technology, but I'm just describing the situation as I understand it today.

Exxon and Sohio have been doing preliminary exploration in the State of New Jersey, my current home state. As a result of that people became concerned. Our State has taken action that we believe is reasonable and proper given the modern day history of this industry. Today Governor Brendan Byrne is expected to sign a bill that passed both houses of our legislature unanimously calling for a 7-year moratorium on further development of this industry in the State of New Jersey. (Legislation attached.)

We feel that it will take several years for us to gather the necessary information to make an informed judgment about whether or not this industry can be permitted to go forward in a reasonable and safe way on the Eastern seaboard. There is much more rainfall here than there is in the area west of the 100th meridian, and there are many more people here than there are living in New Mexico and Utah and the other states where this industry is currently being carried out. These conditions are different, and the history of the industry is that we have discovered problems by making mistakes and allowing the industry to experiment.

It appears to me as if the Commonwealth of Virginia is now being proposed as the newest laboratory to find out what the potential problems associated with this industry will be if it operates in a humid environment that is characterized by dense population. And I submit to you that based on this industry, new problems will be discovered, but when they are discovered it will be too late to do anything about them. That is how we have learned what we now know about it. And our response to this set of problems in New Jersey -- and I would recommend that you seriously consider recommending action in the Commonwealth of Virginia similar to it -- has been one of caution.

The moratorium on exploration, mining and milling allows for, and in fact, requires a thorough study of the industry and its regulation. If, upon completion of this study and the end of the 7-year period, it is determined that the industry can be operated safely, it will be allowed to go forward. The uranium will still be there. The need for the uranium, if there is actually the need that is claimed, will still be there 7 years from now as it is today. The energy crisis is not a short-term problem; it is not going to go away. So those people who are concerned for the
development of this industry for national purposes or for purposes of economic development of Virginia can be assured that if at the end of a brief moratorium period of 5-7-10 years it appears that this industry can go forward on the Eastern seaboard in a densely populated area at reasonable cost, it will still be possible to develop the industry. You will have basically lost nothing in the interim period.

In New Mexico, the problem of water contamination is a serious problem. New Mexico has even less water than the Piedmont of Virginia and the State, of course, cares very much not to contaminate its water supply with radioactivity. And so the State wanted very much to have the industry operate cleanly and to produce a water effluent that was drinkable by humans or by cattle. Unfortunately in the 1940's, '50s, '60s, '70s and today, the technology does not exist in New Mexico to treat the effluent to remove the radioactive materials to a point where it will meet the U.S. Public Health Service standards for drinking water. As a consequence of this lack of available technology the State of New Mexico has passed a new, more lax set of regulations and permitted six times more radioactivity in the mine effluent than is currently permitted by the U.S. Public Health Service. And you and your various agencies of government should then ask yourselves: In the Commonwealth, will it be necessary make lax laws and lax provisions for drinking water in order to permit this industry to develop?

I have just hit some of the highlights, but I would be pleased to talk to you further at length as your study proceeds. I could write a long list of questions that one would want to answer before giving carte blanche to the uranium industry to develop on the Eastern seaboard. Thank you very much for this opportunity to present testimony.
STATE OF NEW JERSEY

ADOPTED JANUARY 29, 1981

AN ACT prohibiting the extraction or processing of fissionable source material

1. Be it enacted by the Senate and General Assembly of the State of New Jersey:

1. The Legislature finds and declares that the exploration, mining or milling of fissionable source materials poses a significant danger to the public health, safety and welfare; that the hazards associated with these activities cannot now be prevented or satisfactorily minimized; that, therefore, unprecedented caution is needed in determining public policy pertaining to the exploration, mining and milling of fissionable source materials; that the prohibition of these activities is necessary at this time to insure the protection of the public health, safety and welfare; and that, during this prohibition, the Department of Environmental Protection should further study this issue and make recommendations for appropriate actions as hereinafter provided.

2. As used in this act:

a. “Fissionable source material” means

1. Mineral ore which is extracted or processed with the intention of permitting the product to become or to be further processed into fuel for nuclear fission reactors or weapons; or

2. Mineral ore which contains uranium or thorium in concentrations which might reasonably be expected to permit economically profitable conversion or processing into fuel for nuclear fission reactors or weapons;

b. “Reconnaissance” means

1. A geologic and mineral resource appraisal of a region by searching and analyzing published literature, aerial photography and geologic maps; or

2. Use of geophysical, geochemical, and remote sensing techniques that do not involve road building, land clearing, the use of explosives, or the introduction of chemicals to a land or water area;
18 (3) Surface geologic, topographic or other mapping and prop-
erty surveying; or
19 (4) Sample collections which do not involve excavation or
drilling equipment, the use of explosives or the introduction of
chemicals to the land or water area.
1 3. No person shall explore, beyond the reconnaissance phase, or
2 extract, mill or process fissionable source materials in this State.
1 4. a. A person who violates this act shall be punished by a fine
2 of not more than $10,000.00, to be collected in accordance with the
3 provisions of “the penalty enforcement law” (N. J. S. 2A:58-1 et
seq.). If the violation is of a continuing nature, each day during
6 which it continues shall constitute an additional, separate and
7 distinct offense.
8  b. In addition to the penalty provided above, if a person violates
9 this act, the attorney general may seek injunctive relief to prohibit
10 and prevent the violation.
1 5. a. The Department of Environmental Protection shall, within
2 6 years of the effective date of this act, prepare and transmit to the
3 Governor and the Legislature a report concerning the dangers
4 posed to the public health, safety and welfare by the exploration,
5 mining or processing of any fissionable source material in this
6 State. This report shall include recommendations for the prohibi-
7 tion or regulation of these activities upon the expiration of this act.
8  b. Prior to the preparation of this report, the Department of
9 Environmental Protection shall conduct public hearings in any
10 geographic area of this State which would be affected by the ex-
11 ploration, mining or processing of any fissionable material. Notice
12 of these hearings shall be published at least 30 days in advance
13 thereof in at least two newspapers circulating in the specific geo-
14 graphic area where the hearing will be held.
1 6. Nothing in this act shall be construed to:
2  a. Prohibit or impair any authority of the Department of En-
3 vironmental Protection to provide for the containment, cleanup or
4 removal of any fissionable source material which poses an im-
5 mediate or imminent danger to the public health, safety and welfare.
6  b. Supersede or prohibit the adoption, by the governing body of
7 any county or municipality, of any ordinance or resolution regulat-
8 ing or prohibiting the exploration, mining or processing of any
9 fissionable material.
1 7. This act shall take effect immediately and shall expire 7 years
2 from the date of enactment thereof.
MEMORANDUM

TO: Members of the Renewable Energy Subcommittee of the Virginia Coal and Energy Commission

FROM: Bernard Caton, Research Associate

Enclosed are the minutes from the September 9 meeting of the Subcommittee. If you have any questions or if I can be of help in any way, please contact me.

BC:rmw
Enclosure
J. Paul Councill, Jr.
Herbert A. Bateman
Charles J. Colgan
Herbert O. Funsten, Ph.D.
Virgil H. Goode, Jr.
George W. Jones
J. Richard Lucas, Ph.D.
Glenn B. McElhaney
Fred W. Walker
CC: W. Ward Teel
Robert F. Beard, Jr.
William E. Breen
E. Archer Campbell
E. L. Crump
Bernard L. Henderson
George L. Jones, III
James E. Jones
John T. Macleod
R. Paul Wood
MINUTES
RENEWABLE ENERGY SUBCOMMITTEE
OF THE
VIRGINIA COAL AND ENERGY COMMISSION
SEPTEMBER 9, 1981 - 10:00 A.M.
HOUSE ROOM C
GENERAL ASSEMBLY BUILDING

Members Present:
J. Paul Councill, Jr.
Herbert H. Bateman
Herbert O. Funsten
Virgil H. Goode, Jr.
J. Richard Lucas
W. Ward Teel

Members Absent:
Charles J. Colgan
George W. Jones
Glenn B. McClanahan
Fred W. Walker

Staff:
John W. Daniel, II
Bernard Caton

The meeting was called to order by the Chairman, Delegate J. Paul Councill, Jr. After introducing other members of the Subcommittee, Mr. Councill called upon Bill Ferguson to address the Subcommittee. Mr. Ferguson is NCSL's Energy Program Director and was present to describe (1) NCSL's Small-Scale Hydroelectric (SSH) Development Project; and (2) some of the issues Virginia might face should it decide to promote SSH development.

Mr. Ferguson said that the term SSH generally refers to hydro facilities which have a capacity of less than twenty-five megawatts. In Virginia, most SSH projects actually have a capacity of five megawatts or less.

Mr. Ferguson then reviewed portions of a publication distributed to members entitled "A Legislator's Guide to Small-Scale Hydroelectric Development"; he concentrated on sections in it relating to federal state involvement in SSH projects. Following this, Mr. Ferguson
explained a memorandum which he and Mr. Wilson had prepared on
issues and options regarding Virginia statutes governing SSH development.
A copy of this memorandum is attached.

Members of the Subcommittee asked Mr. Ferguson why non-regulated
small businesses as opposed to investor-owned utilities are being
encouraged to develop SSH facilities. He replied that the
economics of such projects are such that investor-owned utilities
do not find it profitable to participate.

These points were made with regard to specific issues in the
memorandum.

**Issue 2:** Mr. Ferguson said he understands that Virginia has
a long history of disallowing joint ventures; any legislative
drafts he prepared would try to provide for such ventures
sufficient authority to please utilities but not so much that
it would greatly displease the State Corporation Commission.

**Issue 4:** After being told that Virginia has no SSH facility
in excess of twenty megawatts, Mr. Ferguson suggested that the
statute described here may need no revision.

**Issue 5:** Bill Crump of VEPCO said that SSH facilities are
already exempt from the Gross Receipts Tax.

**Issue 7:** Senators Goode and Bateman suggested (and no one
disagreed with them) that this issue should receive no further
attention.

Mr. Ferguson also discussed what he referred to as several
"non-issues" briefly:

1. the Fuel Conversion Authority (it can sell industrial
development bonds for SSH facilities);
(2) State owned dams (the possibility of the State developing, selling, or leasing them);

(3) the transfer of responsibility for SSH facilities from the SCC to the State Water Control Board (is this working?).

Mr. Teel asked how much APCO's proposed facility at Brumley Gap was expected to cost. An APCO representative gave an estimate of 2--2.5 billion dollars.

Finally, Mr. Ferguson was asked to do the following before the next meeting:

(1) Prepare legislative drafts for statutes that appear in need of amendment or enactment;

(2) Get information on SSH systems in North Carolina; and

(3) Get information on how other states encourage investor-owned public utilities to get involved in SSH development.

The Subcommittee had completed its business and thus adjourned.

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MEMORANDUM

TO: Virginia Renewable Energy Subcommittee
    Other Interested Parties

FROM: Bill Ferguson, National Conference of State Legislatures
       Bill Wilson, Energy Law Institute

DATE: September 9, 1981

RE: Preliminary Issues and Options Regarding Virginia Statutes Governing
    Small Scale Hydroelectric Development

This memorandum outlines the preliminary issues and possible options for
statutory amendment in the area of state regulation of small scale hydro-
electric development. These issues and options have been compiled from
an examination of Virginia statutes and interviews with small scale hydro
participants in the commonwealth. During the course of work with the
subcommittee, other issues may become apparent. Thus, this memo is intended
as a basis for discussion, and not necessarily as a complete and exhaustive
list of all possible issues in the commonwealth.

ISSUE 1: To improve the marketing conditions for the output from a small
scale hydroelectric (SSH) facility by enacting a state version of the federal Public Utility Regulatory Policies Act of 1978
(PURPA).

Option: Authorize the State Corporation Commission (SCC) to require
electric utilities to interconnect with SSH facilities, purchase
the output from such facilities at avoided cost rates, and
purchase power based upon the establishment (or approval) by
the SCC of long-term rates.

ISSUE 2: To enhance the possibilities for development of SSH facilities by
expanding the authority of public service corporations to enter
into joint ventures.

Option: Authorize the SCC to approve partnerships, joint ventures, or
other contractual arrangements between public service corporations
and entities which are not public service corporations for the
purpose of SSH development.

ISSUE 3: To improve the marketing conditions for the output from a SSH facility
by allowing the wheeling of power under state law.

Option: Authorize the SCC to order wheeling and set wheeling rates upon
petition of a public service corporation or a SSH facility.

ISSUE 4: To encourage private development of SSH facilities by increasing
the size of facilities which are defined as not being public
service corporations.

Option: Raise the size limit for facilities exempted from definition as
a public service corporation from 20 megawatts to 30 megawatts.
(This would parallel certain PURPA incentives for SSH which apply
to facilities which do not exceed 30 megawatts.)
ISSUE 5: To improve the financial viability of facilities which qualify for
the 20 megawatt exemption mentioned in Issue 4 by insuring that
the Gross Receipts Tax does not apply to such facilities.
Option: Explicitly exempt qualifying small scale hydroelectric facilities
from the Gross Receipts Tax.

ISSUE 6: To encourage the development of SSH facilities by public entities
by allowing such entities to engage in wholesale sales.
Option: Explicitly authorize public entities to sell power at wholesale.

ISSUE 7: To encourage the development of SSH facilities by public entities
through modification of the bonding approval procedure.
Option: Authorize public entities to issue double barrel bonds (revenue
bonds backed by the full faith and credit of that entity) without
voter approval. (Presently, both general obligation bonds and
revenue bonds can be issued without voter approval.)
COMMONWEALTH of VIRGINIA

DIVISION OF LEGISLATIVE SERVICES

General Assembly Building
910 Capitol Street

October 29, 1981

MEMORANDUM

TO: Members of the Virginia Coal and Energy Commission

FROM: Bernard Caton, Research Associate

Enclosed are the minutes of the October 16th meeting of the Commission. If we can be of any assistance, please let us know.

BC: jsl
Enclosures

Joseph A. Johnson
W. Ward Teel
James F. Almand
Harold K. Anderson
Walter C. Ayers
Herbert H. Bateman
Daniel W. Bird, Jr.
Frederick C. Boucher
L. Blaine Carter
Charles J. Colgan
J. Paul Councill, Jr.
Herbert O. Funsten
Virgil H. Goode, Jr.
George W. Jones
J. Richard Lucas
Glenn B. McClaran
Lewis W. Parker, Jr.
Frank T. Sutton, III
A. Victor Thomas
Fred W. Walker

Ex-Officio:
Eugene F. Brady
John C. Buchanan
Donald A. McGlothlin, Sr.
Ford C. Quillen
Fred D. Rosi
Richard A. Wolfe

cc: William E. Breen
John R. Burke
Keith Cheatham
Walter W. Craigie, Jr.
Wallace F. Custard
Ben Dendy
Rob Fries
Ed Hazelwood
George L. Jones, III
Edward E. Lane
Barbara Levering
Lois Lindsay
John T. MacLeod
Walter A. Marston, Jr.
William H. Michael, Jr.
Robert C. Milici
Larry Minock
William A. Royall, Jr.
Glenn J. Sedam, Jr.
Don L. Shull
Robert F. Doult
Barbara Hanback
Patricia Elliott
MINUTES
COAL AND ENERGY COMMISSION
October 16, 1981 - 10:00 a.m.
Bristol, Virginia

PRESENT
Joseph A. Johnson
Daniel W. Bird, Jr.
Frederick C. Boucher
L. Blaine Carter
Herbert O. Funsten
J. Richard Lucas
A. Victor Thomas
Ford C. Quillen
Richard A. Wolfe

ABSENT
W. Ward Teel
James F. Almand
Harold K. Anderson
Walter C. Ayers
Herbert H. Bateman
Charles J. Colgan
Virgil H. Goode, Jr.
George W. Jones
Glenn B. McClanan
Lewis W. Parker, Jr.
Frank T. Sutton, III
Fred W. Walker
Eugene F. Brady
John C. Buchanan
Donald A. McGlothlin, Sr.
Fred D. Rosi

STAFF
Bernard Caton
Stuart Price

The meeting was called to order by the chairman, Joseph A. Johnson.

After welcoming remarks by Charles Carter (United Coal Company), Mr. D. Harrell, of the Virginia Coal Council, described plans for the construction of a coal museum in Virginia. Such a museum, he suggested, would help correct any misunderstandings the general public has about the coal industry. Delegate A. Victor Thomas applauded this idea.

The chairman then introduced Claude Thompson and other representatives of the Parsons-Brinkerhoff Company. Mr. Thompson described his company's plans for the construction of a coal export facility in the Hampton Roads area.

Jack Stroud and other representatives of the Virginia Port Authority spoke next. They agreed that a Virginia coal terminal was needed today and detailed their plans for one.
Dr. Wolfe asked Mr. Stroud if his group was in conflict with Mr. Thompson's group. Mr. Stroud stated that there were some differences.

After further comments by the chairman concerning the importance of coal to Virginia, Delegate A. Victor Thomas gave a report on the meeting of the Coal Subcommittee held the day before.

Dr. Temple Bayliss of the Office of Emergency and Energy Services spoke next. He distributed a book his agency had prepared concerning the use of coal. In response to a question, he noted that his office was federally funded and that this funding is expected to vanish within the next year.

Mr. Larry Howard was the final speaker at the meeting. He emphasized that even though coal is important to the state, neither safety nor environmental standards should be relaxed. Mr. Howard claimed that the statewide foci should be on the use of renewable energy and on conservation. He suggested that a tax credit be given to those people using renewable energy.

Following Mr. Howard's remarks, the meeting was adjourned.
June 22, 1981

The Honorable Herbert H. Bateman
P.O. Box 78
Newport News, Virginia 23607

Dear Senator Bateman:

Enclosed please find a copy of the testimony of Dr. Peter G. Montague presented to the Virginia Coal and Energy Commission on April 28, 1981. Dr. Montague's testimony was not available prior to the hearing and thus was not included with the minutes of the meeting sent out by the Division of Legislative Services.

Sincerely,

Theodore G. Scott, Jr.
Route 1, Box 72
Orange, Virginia 22960

TGS/dj
Enclosure