
Committee Meeting

of

SENATE ENVIRONMENT AND ENERGY COMMITTEE
ASSEMBLY TELECOMMUNICATIONS AND UTILITIES COMMITTEE

Senate Bill No. 3560, Assembly Bill No. 5330

“Establishes Nuclear Diversity Certificate program”

LOCATION: Committee Room 4
State House Annex
Trenton, New Jersey

DATE: December 20, 2017
10:00 a.m.

MEMBERS OF COMMITTEES PRESENT:

Senator Bob Smith, Chair
Senator Richard J. Codey
Senator Stephen M. Sweeney
Senator Christopher “Kip” Bateman
Senator Samuel D. Thompson
Assemblyman Wayne P. DeAngelo, Chair
Assemblyman Benjie E. Wimberly, Vice Chair
Assemblyman Joseph V. Egan
Assemblyman Eric Houghtaling
Assemblywoman Eliana Pintor Marin
Assemblyman Andrew Zwicker
Assemblyman Sean T. Kean



ALSO PRESENT:

Richard Diaconu
Judith L. Horowitz
Tara M. Howley
*Office of Legislative Services
Committee Aides*

Kevil Duhon
Kate McDonnell
*Senate Majority
Rebecca Panitch
Senate Republican
Committee Aides*

Ben Graziano
*Assembly Majority
Glen Beebe
Assembly Republican
Committee Aides*

***Meeting Recorded and Transcribed by
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BOB SMITH
Chairman

LINDA R. GREENSTEIN
Vice-Chairwoman

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CHRISTOPHER "KIP" BATEMAN
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New Jersey State Legislature

SENATE ENVIRONMENT
AND ENERGY COMMITTEE
STATE HOUSE ANNEX
PO BOX 068
TRENTON NJ 08625-0068

COMMITTEE NOTICE

TO: MEMBERS OF THE SENATE ENVIRONMENT AND ENERGY COMMITTEE

FROM: SENATOR BOB SMITH, CHAIRMAN

SUBJECT: **COMMITTEE MEETING - DECEMBER 20, 2017**

The public may address comments and questions to Judith L. Horowitz or Matthew H. Peterson, Committee Aides, or make bill status and scheduling inquiries to Pamela Cocroft, Secretary, at (609)847-3855, fax (609)292-0561, or e-mail: OLSAideSEN@njleg.org. Written and electronic comments, questions and testimony submitted to the committee by the public, as well as recordings and transcripts, if any, of oral testimony, are government records and will be available to the public upon request.

The Senate Environment and Energy Committee and the Assembly Telecommunications and Utilities Committee will meet jointly on Wednesday, December 20, 2017 at 10:00 AM in Committee Room 4, 1st Floor, State House Annex, Trenton, New Jersey.

The following bill(s) will be considered:

S-3560 Establishes Nuclear Diversity Certificate program.
Sweeney/Smith, B/
Van Drew

Issued 12/15/17

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SENATE, No. 3560

STATE OF NEW JERSEY

217th LEGISLATURE

INTRODUCED DECEMBER 14, 2017

Sponsored by:

Senator STEPHEN M. SWEENEY

District 3 (Cumberland, Gloucester and Salem)

Senator BOB SMITH

District 17 (Middlesex and Somerset)

Senator JEFF VAN DREW

District 1 (Atlantic, Cape May and Cumberland)

SYNOPSIS

Establishes Nuclear Diversity Certificate program.

CURRENT VERSION OF TEXT

As introduced.



1 AN ACT concerning nuclear energy and supplementing P.L.1999,
2 c.23.

3
4 **BE IT ENACTED** by the Senate and General Assembly of the State
5 of New Jersey:

6
7 1. a. The Legislature finds and declares that:

8 (1) New Jersey has historically relied on a diverse mix of energy
9 supply sources, including nuclear power, to meet the needs of its
10 residents and businesses.

11 (2) The December 2015 Update to the New Jersey Energy
12 Master Plan recommends that this State ensure that 70 percent of
13 the State's electric needs are generated by clean energy sources by
14 2050. Nuclear power is a critical source of zero emissions energy
15 as the State reduces its reliance on fossil fuels and transitions to
16 clean energy.

17 (3) Nuclear power is a critical component of the State's clean
18 energy portfolio because nuclear power plants do not emit
19 greenhouse gases and other pollutants; in addition, nuclear power is
20 an important element of a diverse energy portfolio that currently
21 supplies approximately 40 percent of New Jersey's electric power
22 needs.

23 (4) Nuclear power plants that currently provide electricity in
24 New Jersey are at risk for premature retirement due to a variety of
25 factors.

26 (5) There is a trend toward a less diverse energy portfolio
27 nationwide as: the share of coal-fired power plants is declining; the
28 share of clean energy, such as wind and solar, may be limited by
29 external constraints in the near-term; and the share of natural gas-
30 fired power plants is increasing.

31 (6) The North American Electric Reliability Corporation, the
32 entity charged by federal law to develop and enforce reliability
33 standards for the bulk power system, issued its 2016 Long-Term
34 Reliability Assessment in December 2016, stating that "reliance on
35 a single fuel increases vulnerabilities, particularly during extreme
36 weather conditions," that "over the past decade several areas have
37 significantly increased their dependence on natural gas," and that
38 regulators and legislators should consider the uncertainties in
39 generation retirements and generation mix changes that can
40 manifest and have reliability impacts.

41 (7) Fuel assurance is a growing consideration for the electric
42 power delivery system. Capacity challenges on existing natural gas
43 pipelines combined with the difficulty in siting and constructing
44 new natural gas pipelines, along with competing uses for natural
45 gas, such as building heating, have created supply constraints in the
46 past, and those constraints could impact system reliability.

47 (8) Recent severe weather events have demonstrated the need to
48 improve the resilience of the electric power delivery system. The

1 mix of generation resources serving New Jersey residents must be
2 capable of handling high-impact, low probability weather events.
3 Having a mix of resources and fuels available when a major
4 disturbance occurs is essential.

5 (9) The electric power demand in this State currently met by
6 nuclear power plants would not be met by renewable energy sources
7 if those nuclear power plants cease production. Therefore, electric
8 demand in this State would be met in the near term primarily by
9 increased reliance on existing and new natural gas-fired generation
10 and, secondarily, by increased reliance on coal-fired generation.

11 b. The Legislature therefore determines that:

12 (1) In light of the primacy of natural gas use for heating
13 buildings in New Jersey, increased reliance on natural gas-fired
14 power plants will render the electric generation and delivery
15 systems less resilient and more vulnerable to the impacts of extreme
16 winter weather, natural gas pipeline accidents, and other factors
17 affecting the deliverability of natural gas to electric power plants in
18 and around this State.

19 (2) An increase in the proportion of New Jersey's electricity
20 demand met by natural gas and coal caused by the premature
21 retirement of nuclear power plants will result in a substantial
22 increase in emissions of several pollutants and associated adverse
23 public health and environmental impacts.

24 (3) Increased reliance on natural gas and coal-fired power plants
25 will substantially impede the State's ability to meet its existing air
26 quality and emissions standards and requirements.

27 (4) In this State, the model of providing credits to zero- or low-
28 emission energy generation sources as compensation for their
29 environmental attributes has proven successful for generators of
30 Class I and Class II renewable energy, which receive renewable
31 energy certificates, including solar electric power generators, which
32 receive solar renewable energy certificates.

33 (5) A program that recognizes and compensates nuclear power
34 plant operators in a manner similar to other non-emitting energy
35 generation resources, to the extent required to prevent the loss of
36 nuclear energy, which the State's residents and businesses rely on
37 for approximately 40 percent of their electricity needs, would
38 further this State's interest in environmental protection and
39 maintaining a diverse mix of energy sources.

40

41 2. As used in this act:

42 "Board," "electric public utility," and "energy year" or "EY"
43 shall have the same meaning as provided in section 3 of P.L.1999,
44 c.23 (C.48:3-51).

45 "Eligible nuclear power plant" means a nuclear power plant
46 certified by the board to allow it to be selected to participate in the
47 program established pursuant to section 3 of this act.

1 "Eligibility period" means the period of time, measured in
2 energy years, during which a selected nuclear power plant may
3 receive a NDC pursuant to section 3 of this act.

4 "Nuclear diversity certificate" or "NDC" means a certificate,
5 issued by the board or its designee, representing the environmental
6 and fuel diversity attributes of one megawatt-hour of electricity
7 generated by an eligible nuclear power plant selected by the board
8 to participate in the program established pursuant to the provisions
9 of section 3 this act.

10 "Nuclear power plant" means an individual electric generating
11 unit utilizing nuclear fuel to produce electric power.

12 "Selected nuclear power plant" means an eligible nuclear power
13 plant selected by the board to participate in the program established
14 pursuant to section 3 of this act.

15
16 3. a. No later than 30 days after the effective date of this act, a
17 nuclear power plant seeking to participate in the program
18 established by this act shall provide to the board certified cost
19 projections over the next three energy years, including operation
20 and maintenance expenses, fuel expenses, non-fuel capital
21 expenses, the cost of operational and market risks that would be
22 avoided by ceasing operations, and any other information, financial
23 or otherwise, to demonstrate that the nuclear power plant's fuel
24 diversity and air quality attributes are at risk of loss because the
25 nuclear power plant is cash negative on an annual basis, or
26 alternatively is not covering its costs including its cost of capital on
27 an annual basis. A nuclear plant seeking to participate in the
28 program shall further provide, no later than 30 days after the
29 effective date of this act, a certification that the nuclear power plant
30 will cease operations within three years unless the nuclear power
31 plant experiences a material financial change, and the certification
32 shall specify the necessary steps required to be completed to cease
33 the nuclear power plant's operations. The financial and other
34 information required pursuant to this subsection may be submitted
35 on a confidential basis and shall be treated and maintained as
36 confidential by the board and not subject to public disclosure,
37 notwithstanding any law to the contrary, including the common law.

38 b. Notwithstanding any law, regulation, rule, or order to the
39 contrary, the board shall complete a proceeding no later than 180
40 days after the effective date of this act to allow for the
41 commencement of a program allowing for the issuance by the board
42 of a nuclear diversity certificate. In this proceeding, the board shall
43 adopt, after notice, the opportunity for comment, and public
44 hearing, an order establishing a NDC program for selected nuclear
45 power plants which shall include, but need not be limited to:

46 (1) a method and application process for the determination of
47 the eligibility and selection of nuclear power plants; and

1 (2) the establishment of a mechanism for each electric public
2 utility to purchase NDCs from selected nuclear power plants and a
3 mechanism for the board to effectuate the provisions of subsection
4 i. of section 3 of this act.

5 c. No later than 210 days after the effective date of this act, a
6 nuclear power plant seeking to participate in the program
7 established by this act shall submit its application to the board.

8 d. Notwithstanding any law, regulation, rule, or order to the
9 contrary, the board shall complete a proceeding no later than 300
10 days after the effective date of this act and shall adopt, after notice,
11 the opportunity for comment, and public hearing, an order
12 establishing a rank-ordered list of the nuclear power plants eligible
13 to be selected to receive NDCs, and establishing which eligible
14 nuclear power plants have been selected to receive NDCs, pursuant
15 to this section. If the board determines, in its discretion, that no
16 nuclear plant that applies in accordance with subsection c. of
17 section 3 of this act satisfies the objectives of this act, then the
18 board shall be under no obligation to certify any nuclear power
19 plant as an eligible nuclear power plant.

20 e. In order to be certified by the board as an eligible nuclear
21 power plant, in addition to the requirements imposed by subsection
22 a. of this section, a nuclear power plant shall:

23 (1) be licensed to operate by the United States Nuclear
24 Regulatory Commission by the effective date of this act and through
25 2030 or later;

26 (2) demonstrate to the satisfaction of the board that it makes a
27 significant and material contribution to the diversity and resiliency
28 of the energy resource mix for electricity delivered in this State;

29 (3) demonstrate to the satisfaction of the board that it makes a
30 significant and material contribution to the air quality in this State
31 by minimizing emissions that result from electricity consumed in
32 New Jersey, it minimizes harmful emissions that adversely affect
33 the citizens of this State, and if the nuclear power plant were to
34 retire, that retirement would significantly and negatively impact
35 New Jersey's ability to comply with State air emissions reduction
36 requirements;

37 (4) demonstrate to the satisfaction of the board, through the
38 financial and other confidential information submitted to the board
39 pursuant to subsection a. of this section, and any other information
40 required by the board, which information may be submitted on a
41 confidential basis and shall be treated and maintained as
42 confidential by the board and not subject to public disclosure,
43 notwithstanding any law to the contrary, including the common law,
44 that the nuclear power plant's fuel diversity and air quality
45 attributes are at risk of loss because the nuclear power plant is cash
46 negative on an annual basis, or alternatively is not covering its costs
47 including its cost of capital on an annual basis, and that the nuclear

- 1 power plant will cease operations within three years unless the
2 nuclear power plant experiences a material financial change;
- 3 (5) certify annually that the nuclear power plant does not receive
4 any direct or indirect payment or credit under a law of this State,
5 other state or federal law, or regional compact, despite its
6 reasonable best efforts to obtain any such payment or credit, for its
7 fuel diversity, resilience, or environmental attributes that will
8 eliminate the need for the nuclear power plant to retire prematurely,
9 except for any payment or credit received under the provisions of
10 this act; and
- 11 (6) submit an application fee to the board in an amount to be
12 determined by the board, but which shall not exceed \$250,000, to be
13 used to defray the costs incurred by the board to administer the
14 NDC program.
- 15 f. In ranking eligible nuclear power plants from first to last, the
16 board shall consider how well the nuclear power plants satisfy the
17 criteria set forth under the provisions of this act, and shall also
18 consider other relevant factors such as sustainability or long-term
19 commitment to nuclear energy production in a manner that benefits
20 New Jersey's air quality and fuel diversity. Two or more eligible
21 nuclear power plants shall not have the same ranking.
- 22 g. (1) The board shall select eligible nuclear power plants to
23 receive NDCs according to their ranking. Beginning with the top-
24 ranked eligible nuclear power plant and continuing in rank order,
25 the board shall continue to select nuclear power plants until the
26 combined number of megawatt-hours of electricity produced in EY
27 2017 by all selected nuclear power plants equals 40 percent of the
28 total number of megawatt-hours of electricity distributed by electric
29 public utilities in this State in EY 2017. The board shall not select
30 an eligible nuclear power plant to receive NDCs if the addition of
31 the electricity produced by that nuclear power plant in EY 2017 to
32 the electricity produced in EY 2017 by the selected plants ranked
33 ahead of that plant on the rank-ordered list exceeds 40 percent of
34 the total number of megawatt-hours of electricity distributed by
35 electric public utilities in this State in EY 2017.
- 36 (2) A selected nuclear power plant shall be eligible to receive
37 NDCs 300 days after the effective date of this act. In the first
38 energy year in which an eligible nuclear power plant is selected, the
39 nuclear power plant shall receive a number of NDCs equal to the
40 number of megawatt-hours of electricity it produced in that energy
41 year starting on the date of the eligible nuclear power plant's
42 selection. In each energy year thereafter, each selected nuclear
43 power plant shall receive a number of NDCs equal to the number of
44 megawatt-hours of electricity that it produced in that energy year.
- 45 h. (1) Selected nuclear power plants shall initially receive
46 NDCs for an eligibility period that shall run through the end of the
47 first energy year in which the nuclear power plant is selected, plus
48 an additional three energy years.

1 (2) No later than 13 months prior to the conclusion of the initial
2 eligibility period established pursuant to paragraph (1) of this
3 subsection, and no later than 13 months prior to the conclusion of
4 each three energy year eligibility period thereafter, a nuclear power
5 plant may demonstrate its eligibility to the board and the board may
6 certify the nuclear power plant's eligibility to receive NDCs for
7 additional eligibility periods of three energy years, consistent with
8 the provisions of this act.

9 (3) A selected nuclear power plant shall annually certify to the
10 board that it will continue operations at full or near full capacity for
11 the duration of the period of its eligibility to receive NDCs, except
12 with respect to nuclear power plant shutdowns for necessary
13 maintenance and refueling.

14 i. (1) The board shall determine the price of a NDC each
15 energy year by dividing the total number of dollars held by electric
16 public utilities in the accounts established pursuant to paragraph (1)
17 of subsection j. of this section at the end of the prior energy year by
18 the greater of: 40 percent of the total number of megawatt-hours of
19 electricity distributed by the electric public utilities in this State in
20 the prior energy year, or the number of megawatt-hours of
21 electricity generated in the prior energy year by the selected nuclear
22 power plants.

23 (2) Each electric public utility in this State shall be required to
24 begin to purchase NDCs on a monthly basis from each selected
25 nuclear power plant with payment to follow within 90 days after the
26 conclusion of the first energy year in which selected nuclear power
27 plants receive NDCs and within 90 days after the conclusion of
28 each subsequent energy year. The number of NDCs an electric
29 public utility shall be required to purchase shall equal the total
30 number of NDCs received by the selected nuclear power plants for
31 the prior energy year pursuant to paragraph (2) of subsection g. of
32 this section multiplied by the percentage of electricity distributed in
33 this State by the electric public utility as compared to other electric
34 public utilities in this State.

35 (3) To ensure that a selected nuclear power plant shall not
36 receive double-payment for its fuel diversity, resilience, or
37 environmental attributes, the board shall annually determine the
38 dollar amount received by the selected nuclear power plant in an
39 energy year pursuant to a law of this State, other state law or federal
40 law, or regional compact referenced in paragraph (5) of subsection
41 e. of this section. Notwithstanding paragraph (2) of subsection i. of
42 this section, the number of NDCs purchased by each electric public
43 utility from a selected nuclear power plant for an energy year shall
44 be reduced by the number of NDCs equal in value to the dollar
45 amount determined by the board in this paragraph, multiplied by the
46 percentage of electricity distributed in this State by the electric
47 public utility as compared to other electric public utilities in this
48 State.

1 j. (1) The board shall order the full recovery of all costs
2 associated with the electric public utility's required procurement of
3 NDCs, and with the board's implementation of the NDC program
4 under this act, through a non-bypassable, irrevocable charge
5 imposed on the electric public utility's retail distribution customers.
6 Within 150 days of the effective date of this act, each electric public
7 utility shall file with the board a tariff to recover from its retail
8 distribution customers a charge in the amount of \$0.004 per
9 kilowatt hour, unless the board elects to reduce this charge pursuant
10 to paragraph (3) of this subsection. Within 60 days of the tariff
11 filing required pursuant to this paragraph, after notice, the
12 opportunity for comment, and public hearing, the board shall
13 approve the tariff, provided that it is consistent with the provisions
14 of this subsection. No later than the date of the board's order
15 establishing the initial selected nuclear power plants to receive
16 NDCs, each electric public utility shall implement the tariff and
17 begin collecting from its customers the approved charge. Revenues
18 collected by the electric public utility from the non-bypassable,
19 irrevocable charge shall be placed in a separate, interest-bearing
20 account and shall be used solely to purchase NDCs, and to
21 reimburse the board for reasonable, verifiable costs it incurs to
22 implement the NDC program pursuant to this act to the extent the
23 board's costs exceed the application fees collected by the board
24 pursuant to paragraph (6) of subsection e. of this section.

25 (2) Notwithstanding any provision of this act to the contrary, an
26 electric public utility shall not be required to purchase any
27 additional number of NDCs if the cost of the additional number of
28 NDCs exceeds the revenues deposited in the electric public utility's
29 separate, interest-bearing account, created pursuant to paragraph (1)
30 of this subsection, for that energy year, after subtracting the
31 reasonable, verifiable costs incurred by the board during that energy
32 year to implement the NDC program pursuant to subsections b., c.,
33 and d. of this section, which costs shall be remitted to the board
34 from the NDC fund each energy year in a manner to be determined
35 by the board. Excess monies in an electric public utility's separate,
36 interest-bearing account shall be refunded to its retail distribution
37 customers at the end of each energy year.

38 (3) (a) Notwithstanding the provisions of (1) of this subsection,
39 any to ensure that the NDC program remains affordable to New
40 Jersey residents, the board may, in its discretion, reduce the per-
41 kilowatt hour charge imposed in paragraph (1) of this subsection,
42 provided that the board determines that a reduced charge will
43 nonetheless be sufficient to achieve the State's fuel diversity and air
44 quality objectives by preventing the premature retirement of the
45 nuclear power plants that meet the eligibility criteria established
46 pursuant to subsections e. and f. of this section.

47 (b) If the board reduces the per-kilowatt hour charge imposed in
48 paragraph (1) of this subsection pursuant to subparagraph (a) of this

1 paragraph and makes the reduction applicable to the initial
2 eligibility period described in paragraph (1) of subsection h. of this
3 section, the board shall make its determination no later than 120
4 days after the effective date of this act. Within 30 days thereafter,
5 each electric public utility shall file, in lieu of the tariff described in
6 paragraph (1) of this subsection, a tariff consistent with the board's
7 determination. Within 60 days after the filing of the tariff, after
8 notice, the opportunity for comment, and public hearing, the board
9 shall approve the revised tariff, provided that it is consistent with
10 the board's determination.

11 (c) For the second three energy year eligibility period described
12 in paragraph (2) of subsection h. of this section, the per-kilowatt
13 hour charge shall be the charge set forth in paragraph (1) of this
14 subsection, unless the board reduces the per-kilowatt hour charge
15 pursuant to subparagraph (a) of this paragraph. The board may
16 reduce the per-kilowatt hour charge as provided for in paragraph (1)
17 of this subsection for the second eligibility period if, during any of
18 the two prior energy years, there is a .75 percent increase in the load
19 weighted residential statewide basic generation service rate for the
20 Statewide average residential customer based on two prior basic
21 generation service auctions. The load weighting shall be based
22 upon the kilowatt hours included in each public utility's approved
23 basic generation service. If the board reduces the per-kilowatt hour
24 charge provided for within paragraph (1) of this subsection for the
25 second three energy year eligibility period, the board shall make its
26 determination no later than 10 months prior to the commencement
27 of the second eligibility period. Within 30 days thereafter, each
28 electric public utility shall file a tariff consistent with the board's
29 determination. Within 60 days after the filing of the tariff, after
30 notice, the opportunity for comment, and public hearing, the board
31 shall approve the tariff, provided that it is consistent with the
32 board's determination pursuant to this paragraph.

33 (d) For every subsequent eligibility period provided for in
34 paragraph (2) of subsection h. of this section other than the first
35 eligibility period, the per-kilowatt hour charge shall be the charge
36 established pursuant to paragraph (1) of this subsection, unless the
37 board reduces the per-kilowatt hour charge pursuant to
38 subparagraph (a) of this paragraph. The board may reduce the per-
39 kilowatt hour charge provided for within paragraph (1) of this
40 subsection for subsequent eligibility periods other than the first
41 subsequent eligibility period if, during any of the three prior energy
42 years, there is a .75 percent increase in the load weighted residential
43 Statewide basic generation service rate for the statewide average
44 residential customer based on three prior basic generation service
45 auctions. The load weighting shall be based upon the kilowatt
46 hours included in each electric public utility's approved basic
47 generation service. If the board reduces the per-kilowatt hour
48 charge, the board shall make its determination no later than 10

1 months prior to the commencement of that period. Within 30 days
2 thereafter, each electric public utility shall file a tariff consistent
3 with the board's determination. Within 60 days after the filing of
4 the tariff, after notice, the opportunity for comment, and public
5 hearing, the board shall approve the tariff, provided that it is
6 consistent with the board's determination pursuant to this
7 paragraph. In such a case, the reduced per-kilowatt charge shall be
8 applicable to the remainder of the subsequent eligibility period.

9 k. (1) A selected nuclear power plant shall be excused from
10 performance, including but not limited to the sale of NDCs, and a
11 payment from an electric public utility shall not be due to the
12 selected nuclear power plant, if:

13 (a) A selected nuclear power suspends or ceases operations,
14 despite the selected nuclear power plant's reasonable efforts
15 continue operations, due to an event beyond its control, including,
16 but not limited to, acts of God, flood, drought, earthquake, storm,
17 fire, lightning, epidemic, war, riot, labor dispute, labor or material
18 shortage, sabotage, or explosion. The selected nuclear power plant
19 shall no longer be excused from performance, and a payment from a
20 public utility shall be due, after the conclusion of the event.

21 (b) A State law is enacted imposing a significant new tax,
22 special assessment, or fee on the generation of electricity, the
23 ownership or leasehold of a generating unit, or the privilege or
24 occupation of the generation, ownership, or leasehold of generation
25 units by a selected nuclear power plant.

26 (c) A State or federal law is enacted that materially reduces the
27 value of a NDC, or the board exercises its discretion to reduce the
28 amount of the per-kilowatt hour charge pursuant to paragraph (3) of
29 subsection j. of this section.

30 (d) The selected nuclear power plant requires capital
31 expenditures in excess of \$40,000,000 that were neither known nor
32 reasonably foreseeable at the time it was selected to receive NDCs,
33 and the capital expenditures are expenditures that a prudent owner
34 or operator of a selected nuclear power plant would not undertake.

35 (e) The United States Nuclear Regulatory Commission
36 terminates the selected nuclear power plant's license.

37 (2) If a selected nuclear power plant ceases operations during an
38 eligibility period for any reason other than those specified in this
39 subsection, the selected nuclear power plant shall pay a charge to
40 the electric public utilities that purchased NDCs from the selected
41 nuclear power plant in an amount equal to the compensation
42 received for the sale of NDCs since the board's last determination
43 of the selected nuclear power plant's eligibility to receive NDCs.
44 An electric public utility shall provide a refund to its retail
45 distribution customers in an amount equal to the charge paid by a
46 selected nuclear power plant to the electric public utility pursuant to
47 the provisions of this paragraph.

1 (3) If a selected nuclear power plant ceases operations for any
2 reason prior to the end of its United States Nuclear Regulatory
3 Commission license, the plant's owner shall, within 90 days of
4 filing with the Nuclear Regulatory Commission to cease operations,
5 submit a plan to the board to retain, retrain, or compensate
6 personnel whose employment would be eliminated as a direct result
7 of the cessation of the selected nuclear power plant's operations,
8 including an alternative economic development plan for
9 communities that rely on the selected nuclear power plant for a
10 substantial portion of their tax revenues.

11

12 4. This act shall take effect immediately.

13

14

15

STATEMENT

16

17 This bill directs the Board of Public Utilities (board) to establish
18 a Nuclear Diversity Certificate (NDC) program. Under the bill, an
19 NDC is a certificate, issued by the board or its designee,
20 representing the environmental and fuel diversity attributes of one
21 megawatt-hour of electricity generated by an eligible nuclear power
22 plant selected by the board to participate in the NDC program.

23 Under the bill, to participate in the NDC program, a nuclear
24 power plant is to: be licensed to operate by the United States
25 Nuclear Regulatory Commission by the effective date of this bill
26 and through 2030 or later; (2) demonstrate to the satisfaction of the
27 board that it makes a significant and material contribution to the
28 diversity and resiliency of the energy resource mix for electricity
29 delivered in this State; (3) demonstrate to the satisfaction of the
30 board that it makes a significant and material contribution to the air
31 quality in this State by minimizing emissions that result from
32 electricity consumed in New Jersey; (4) provide financial
33 information demonstrating that the plant will cease operations; (5)
34 certify annually that the nuclear power plant does not receive any
35 direct or indirect payment or credit under a law of this State, other
36 state or federal law, or regional compact, despite its reasonable best
37 efforts to obtain any such payment or credit; and (6) submit an
38 application fee to the board in an amount to be determined by the
39 board, but which is not to exceed \$250,000, to be used to defray the
40 costs incurred by the board to administer the NDC program.

41 The board is to determine the price of a NDC each energy year
42 under the formula provided in the bill. Within 90 days after the
43 conclusion of an energy year, each electric public utility (utility) in
44 this State is to be required to pay each nuclear power plant that
45 received NDCs for that prior energy year for a quantity of NDCs
46 equal to the total number of NDCs received by the nuclear power
47 plant multiplied by the percentage of electricity the utility
48 distributed in this State as compared to other utilities in this State.

1 The board is to order the full recovery of all costs associated with
2 the utility's procurement of NDCs through a non-bypassable,
3 irrevocable charge imposed on the customers of the utility.

4 A selected nuclear power plant is to initially receive NDCs
5 through the end of the first energy year in which the plant was
6 selected, plus an additional three energy years thereafter, and then
7 is subject to review by the board triennially for renewed eligibility
8 for additional, three energy year periods.

9 A selected nuclear power plant may suspend or cease operations
10 under certain circumstances, including circumstances in which
11 events prevent the selected nuclear power plant from continuing
12 operations despite the selected nuclear power plant's reasonable
13 efforts continue operations. If a selected nuclear power plant ceases
14 operations during an eligibility period for any reason other than
15 those specified in the bill, the selected nuclear power plant is to pay
16 a charge to the utilities that purchased NDCs from the selected
17 nuclear power plant in an amount equal to the compensation
18 received for the sale of NDCs since the board's last determination
19 of the selected nuclear power plant's eligibility to receive NDCs.

20 New Jersey has historically relied on a diverse mix of energy
21 supply sources, including nuclear power, to meet the needs of its
22 residents and businesses. An increase in the proportion of New
23 Jersey's electricity demand met by natural gas and coal caused by
24 the premature retirement of nuclear power plants will result in a
25 substantial increase in emissions of several pollutants and
26 associated adverse public health and environmental impacts.

27 In this State, the model of providing credits to zero- or low-
28 emission energy generation sources as compensation for their
29 environmental attributes has proven successful for generators of
30 Class I and Class II renewable energy, which receive renewable
31 energy certificates, including solar electric power generators, which
32 receive solar renewable energy certificates.

33 A program that recognizes and compensates nuclear power plant
34 operators in a manner similar to other non-emitting energy
35 generation resources, to the extent required to prevent the loss of
36 nuclear energy, which the State's residents and businesses rely on
37 for approximately 40 percent of their electricity needs, would
38 further this State's interest in maintaining a diverse mix of energy
39 sources and in environmental protection.

ASSEMBLY, No. 5330

STATE OF NEW JERSEY

217th LEGISLATURE

INTRODUCED DECEMBER 14, 2017

Sponsored by:

Assemblyman JOHN F. MCKEON

District 27 (Essex and Morris)

Assemblyman JOHN J. BURZICHELLI

District 3 (Cumberland, Gloucester and Salem)

Assemblyman WAYNE P. DEANGELO

District 14 (Mercer and Middlesex)

Assemblyman ADAM J. TALIAFERRO

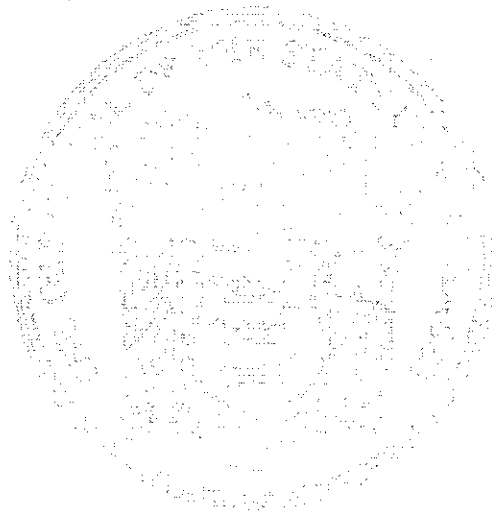
District 3 (Cumberland, Gloucester and Salem)

SYNOPSIS

Establishes Nuclear Diversity Certificate program.

CURRENT VERSION OF TEXT

As introduced.



1 AN ACT concerning nuclear energy and supplementing P.L.1999,
2 c.23.

3
4 **BE IT ENACTED** by the Senate and General Assembly of the State
5 of New Jersey:

6
7 1. a. The Legislature finds and declares that:

8 (1) New Jersey has historically relied on a diverse mix of energy
9 supply sources, including nuclear power, to meet the needs of its
10 residents and businesses.

11 (2) The December 2015 Update to the New Jersey Energy
12 Master Plan recommends that this State ensure that 70 percent of
13 the State's electric needs are generated by clean energy sources by
14 2050. Nuclear power is a critical source of zero emissions energy
15 as the State reduces its reliance on fossil fuels and transitions to
16 clean energy.

17 (3) Nuclear power is a critical component of the State's clean
18 energy portfolio because nuclear power plants do not emit
19 greenhouse gases and other pollutants; in addition, nuclear power is
20 an important element of a diverse energy portfolio that currently
21 supplies approximately 40 percent of New Jersey's electric power
22 needs.

23 (4) Nuclear power plants that currently provide electricity in
24 New Jersey are at risk for premature retirement due to a variety of
25 factors.

26 (5) There is a trend toward a less diverse energy portfolio
27 nationwide as: the share of coal-fired power plants is declining; the
28 share of clean energy, such as wind and solar, may be limited by
29 external constraints in the near-term; and the share of natural gas-
30 fired power plants is increasing.

31 (6) The North American Electric Reliability Corporation, the
32 entity charged by federal law to develop and enforce reliability
33 standards for the bulk power system, issued its 2016 Long-Term
34 Reliability Assessment in December 2016, stating that "reliance on
35 a single fuel increases vulnerabilities, particularly during extreme
36 weather conditions," that "over the past decade several areas have
37 significantly increased their dependence on natural gas," and that
38 regulators and legislators should consider the uncertainties in
39 generation retirements and generation mix changes that can
40 manifest and have reliability impacts.

41 (7) Fuel assurance is a growing consideration for the electric
42 power delivery system. Capacity challenges on existing natural gas
43 pipelines combined with the difficulty in siting and constructing
44 new natural gas pipelines, along with competing uses for natural
45 gas, such as building heating, have created supply constraints in the
46 past, and those constraints could impact system reliability.

47 (8) Recent severe weather events have demonstrated the need to
48 improve the resilience of the electric power delivery system. The

1 mix of generation resources serving New Jersey residents must be
2 capable of handling high-impact, low probability weather events.
3 Having a mix of resources and fuels available when a major
4 disturbance occurs is essential.

5 (9) The electric power demand in this State currently met by
6 nuclear power plants would not be met by renewable energy sources
7 if those nuclear power plants cease production. Therefore, electric
8 demand in this State would be met in the near term primarily by
9 increased reliance on existing and new natural gas-fired generation
10 and, secondarily, by increased reliance on coal-fired generation.

11 b. The Legislature therefore determines that:

12 (1) In light of the primacy of natural gas use for heating
13 buildings in New Jersey, increased reliance on natural gas-fired
14 power plants will render the electric generation and delivery
15 systems less resilient and more vulnerable to the impacts of extreme
16 winter weather, natural gas pipeline accidents, and other factors
17 affecting the deliverability of natural gas to electric power plants in
18 and around this State.

19 (2) An increase in the proportion of New Jersey's electricity
20 demand met by natural gas and coal caused by the premature
21 retirement of nuclear power plants will result in a substantial
22 increase in emissions of several pollutants and associated adverse
23 public health and environmental impacts.

24 (3) Increased reliance on natural gas and coal-fired power plants
25 will substantially impede the State's ability to meet its existing air
26 quality and emissions standards and requirements.

27 (4) In this State, the model of providing credits to zero- or low-
28 emission energy generation sources as compensation for their
29 environmental attributes has proven successful for generators of
30 Class I and Class II renewable energy, which receive renewable
31 energy certificates, including solar electric power generators, which
32 receive solar renewable energy certificates.

33 (5) A program that recognizes and compensates nuclear power
34 plant operators in a manner similar to other non-emitting energy
35 generation resources, to the extent required to prevent the loss of
36 nuclear energy, which the State's residents and businesses rely on
37 for approximately 40 percent of their electricity needs, would
38 further this State's interest in environmental protection and
39 maintaining a diverse mix of energy sources.

40

41 2. As used in this act:

42 "Board," "electric public utility," and "energy year" or "EY"
43 shall have the same meaning as provided in section 3 of P.L.1999,
44 c.23 (C.48:3-51).

45 "Eligible nuclear power plant" means a nuclear power plant
46 certified by the board to allow it to be selected to participate in the
47 program established pursuant to section 3 of this act.

1 "Eligibility period" means the period of time, measured in
2 energy years, during which a selected nuclear power plant may
3 receive a NDC pursuant to section 3 of this act.

4 "Nuclear diversity certificate" or "NDC" means a certificate,
5 issued by the board or its designee, representing the environmental
6 and fuel diversity attributes of one megawatt-hour of electricity
7 generated by an eligible nuclear power plant selected by the board
8 to participate in the program established pursuant to the provisions
9 of section 3 this act.

10 "Nuclear power plant" means an individual electric generating
11 unit utilizing nuclear fuel to produce electric power.

12 "Selected nuclear power plant" means an eligible nuclear power
13 plant selected by the board to participate in the program established
14 pursuant to section 3 of this act.

15
16 3. a. No later than 30 days after the effective date of this act, a
17 nuclear power plant seeking to participate in the program
18 established by this act shall provide to the board certified cost
19 projections over the next three energy years, including operation
20 and maintenance expenses, fuel expenses, non-fuel capital
21 expenses, the cost of operational and market risks that would be
22 avoided by ceasing operations, and any other information, financial
23 or otherwise, to demonstrate that the nuclear power plant's fuel
24 diversity and air quality attributes are at risk of loss because the
25 nuclear power plant is cash negative on an annual basis, or
26 alternatively is not covering its costs including its cost of capital on
27 an annual basis. A nuclear plant seeking to participate in the
28 program shall further provide, no later than 30 days after the
29 effective date of this act, a certification that the nuclear power plant
30 will cease operations within three years unless the nuclear power
31 plant experiences a material financial change, and the certification
32 shall specify the necessary steps required to be completed to cease
33 the nuclear power plant's operations. The financial and other
34 information required pursuant to this subsection may be submitted
35 on a confidential basis and shall be treated and maintained as
36 confidential by the board and not subject to public disclosure,
37 notwithstanding any law to the contrary, including the common law.

38 b. Notwithstanding any law, regulation, rule, or order to the
39 contrary, the board shall complete a proceeding no later than 180
40 days after the effective date of this act to allow for the
41 commencement of a program allowing for the issuance by the board
42 of a nuclear diversity certificate. In this proceeding, the board shall
43 adopt, after notice, the opportunity for comment, and public
44 hearing, an order establishing a NDC program for selected nuclear
45 power plants which shall include, but need not be limited to:

46 (1) a method and application process for the determination of
47 the eligibility and selection of nuclear power plants; and

1 (2) the establishment of a mechanism for each electric public
2 utility to purchase NDCs from selected nuclear power plants and a
3 mechanism for the board to effectuate the provisions of subsection
4 i. of section 3 of this act.

5 c. No later than 210 days after the effective date of this act, a
6 nuclear power plant seeking to participate in the program
7 established by this act shall submit its application to the board.

8 d. Notwithstanding any law, regulation, rule, or order to the
9 contrary, the board shall complete a proceeding no later than 300
10 days after the effective date of this act and shall adopt, after notice,
11 the opportunity for comment, and public hearing, an order
12 establishing a rank-ordered list of the nuclear power plants eligible
13 to be selected to receive NDCs, and establishing which eligible
14 nuclear power plants have been selected to receive NDCs, pursuant
15 to this section. If the board determines, in its discretion, that no
16 nuclear plant that applies in accordance with subsection c. of
17 section 3 of this act satisfies the objectives of this act, then the
18 board shall be under no obligation to certify any nuclear power
19 plant as an eligible nuclear power plant.

20 e. In order to be certified by the board as an eligible nuclear
21 power plant, in addition to the requirements imposed by subsection
22 a. of this section, a nuclear power plant shall:

23 (1) be licensed to operate by the United States Nuclear
24 Regulatory Commission by the effective date of this act and through
25 2030 or later;

26 (2) demonstrate to the satisfaction of the board that it makes a
27 significant and material contribution to the diversity and resiliency
28 of the energy resource mix for electricity delivered in this State;

29 (3) demonstrate to the satisfaction of the board that it makes a
30 significant and material contribution to the air quality in this State
31 by minimizing emissions that result from electricity consumed in
32 New Jersey, it minimizes harmful emissions that adversely affect
33 the citizens of this State, and if the nuclear power plant were to
34 retire, that retirement would significantly and negatively impact
35 New Jersey's ability to comply with State air emissions reduction
36 requirements;

37 (4) demonstrate to the satisfaction of the board, through the
38 financial and other confidential information submitted to the board
39 pursuant to subsection a. of this section, and any other information
40 required by the board, which information may be submitted on a
41 confidential basis and shall be treated and maintained as
42 confidential by the board and not subject to public disclosure,
43 notwithstanding any law to the contrary, including the common law,
44 that the nuclear power plant's fuel diversity and air quality
45 attributes are at risk of loss because the nuclear power plant is cash
46 negative on an annual basis, or alternatively is not covering its costs
47 including its cost of capital on an annual basis, and that the nuclear

1 power plant will cease operations within three years unless the
2 nuclear power plant experiences a material financial change;

3 (5) certify annually that the nuclear power plant does not receive
4 any direct or indirect payment or credit under a law of this State,
5 other state or federal law, or regional compact, despite its
6 reasonable best efforts to obtain any such payment or credit, for its
7 fuel diversity, resilience, or environmental attributes that will
8 eliminate the need for the nuclear power plant to retire prematurely,
9 except for any payment or credit received under the provisions of
10 this act; and

11 (6) submit an application fee to the board in an amount to be
12 determined by the board, but which shall not exceed \$250,000, to be
13 used to defray the costs incurred by the board to administer the
14 NDC program.

15 f. In ranking eligible nuclear power plants from first to last, the
16 board shall consider how well the nuclear power plants satisfy the
17 criteria set forth under the provisions of this act, and shall also
18 consider other relevant factors such as sustainability or long-term
19 commitment to nuclear energy production in a manner that benefits
20 New Jersey's air quality and fuel diversity. Two or more eligible
21 nuclear power plants shall not have the same ranking.

22 g. (1) The board shall select eligible nuclear power plants to
23 receive NDCs according to their ranking. Beginning with the top-
24 ranked eligible nuclear power plant and continuing in rank order,
25 the board shall continue to select nuclear power plants until the
26 combined number of megawatt-hours of electricity produced in EY
27 2017 by all selected nuclear power plants equals 40 percent of the
28 total number of megawatt-hours of electricity distributed by electric
29 public utilities in this State in EY 2017. The board shall not select
30 an eligible nuclear power plant to receive NDCs if the addition of
31 the electricity produced by that nuclear power plant in EY 2017 to
32 the electricity produced in EY 2017 by the selected plants ranked
33 ahead of that plant on the rank-ordered list exceeds 40 percent of
34 the total number of megawatt-hours of electricity distributed by
35 electric public utilities in this State in EY 2017.

36 (2) A selected nuclear power plant shall be eligible to receive
37 NDCs 300 days after the effective date of this act. In the first
38 energy year in which an eligible nuclear power plant is selected, the
39 nuclear power plant shall receive a number of NDCs equal to the
40 number of megawatt-hours of electricity it produced in that energy
41 year starting on the date of the eligible nuclear power plant's
42 selection. In each energy year thereafter, each selected nuclear
43 power plant shall receive a number of NDCs equal to the number of
44 megawatt-hours of electricity that it produced in that energy year.

45 h. (1) Selected nuclear power plants shall initially receive
46 NDCs for an eligibility period that shall run through the end of the
47 first energy year in which the nuclear power plant is selected, plus
48 an additional three energy years.

1 (2) No later than 13 months prior to the conclusion of the initial
2 eligibility period established pursuant to paragraph (1) of this
3 subsection, and no later than 13 months prior to the conclusion of
4 each three energy year eligibility period thereafter, a nuclear power
5 plant may demonstrate its eligibility to the board and the board may
6 certify the nuclear power plant's eligibility to receive NDCs for
7 additional eligibility periods of three energy years, consistent with
8 the provisions of this act.

9 (3) A selected nuclear power plant shall annually certify to the
10 board that it will continue operations at full or near full capacity for
11 the duration of the period of its eligibility to receive NDCs, except
12 with respect to nuclear power plant shutdowns for necessary
13 maintenance and refueling.

14 i. (1) The board shall determine the price of a NDC each energy
15 year by dividing the total number of dollars held by electric public
16 utilities in the accounts established pursuant to paragraph (1) of
17 subsection j. of this section at the end of the prior energy year by
18 the greater of: 40 percent of the total number of megawatt-hours of
19 electricity distributed by the electric public utilities in this State in
20 the prior energy year, or the number of megawatt-hours of
21 electricity generated in the prior energy year by the selected nuclear
22 power plants.

23 (2) Each electric public utility in this State shall be required to
24 begin to purchase NDCs on a monthly basis from each selected
25 nuclear power plant with payment to follow within 90 days after the
26 conclusion of the first energy year in which selected nuclear power
27 plants receive NDCs and within 90 days after the conclusion of
28 each subsequent energy year. The number of NDCs an electric
29 public utility shall be required to purchase shall equal the total
30 number of NDCs received by the selected nuclear power plants for
31 the prior energy year pursuant to paragraph (2) of subsection g. of
32 this section multiplied by the percentage of electricity distributed in
33 this State by the electric public utility as compared to other electric
34 public utilities in this State.

35 (3) To ensure that a selected nuclear power plant shall not
36 receive double-payment for its fuel diversity, resilience, or
37 environmental attributes, the board shall annually determine the
38 dollar amount received by the selected nuclear power plant in an
39 energy year pursuant to a law of this State, other state law or federal
40 law, or regional compact referenced in paragraph (5) of subsection
41 e. of this section. Notwithstanding paragraph (2) of subsection i. of
42 this section, the number of NDCs purchased by each electric public
43 utility from a selected nuclear power plant for an energy year shall
44 be reduced by the number of NDCs equal in value to the dollar
45 amount determined by the board in this paragraph, multiplied by the
46 percentage of electricity distributed in this State by the electric
47 public utility as compared to other electric public utilities in this
48 State.

1 j. (1) The board shall order the full recovery of all costs
2 associated with the electric public utility's required procurement of
3 NDCs, and with the board's implementation of the NDC program
4 under this act, through a non-bypassable, irrevocable charge
5 imposed on the electric public utility's retail distribution customers.
6 Within 150 days of the effective date of this act, each electric public
7 utility shall file with the board a tariff to recover from its retail
8 distribution customers a charge in the amount of \$0.004 per
9 kilowatt hour, unless the board elects to reduce this charge pursuant
10 to paragraph (3) of this subsection. Within 60 days of the tariff
11 filing required pursuant to this paragraph, after notice, the
12 opportunity for comment, and public hearing, the board shall
13 approve the tariff, provided that it is consistent with the provisions
14 of this subsection. No later than the date of the board's order
15 establishing the initial selected nuclear power plants to receive
16 NDCs, each electric public utility shall implement the tariff and
17 begin collecting from its customers the approved charge. Revenues
18 collected by the electric public utility from the non-bypassable,
19 irrevocable charge shall be placed in a separate, interest-bearing
20 account and shall be used solely to purchase NDCs, and to
21 reimburse the board for reasonable, verifiable costs it incurs to
22 implement the NDC program pursuant to this act to the extent the
23 board's costs exceed the application fees collected by the board
24 pursuant to paragraph (6) of subsection e. of this section.

25 (2) Notwithstanding any provision of this act to the contrary, an
26 electric public utility shall not be required to purchase any
27 additional number of NDCs if the cost of the additional number of
28 NDCs exceeds the revenues deposited in the electric public utility's
29 separate, interest-bearing account, created pursuant to paragraph (1)
30 of this subsection, for that energy year, after subtracting the
31 reasonable, verifiable costs incurred by the board during that energy
32 year to implement the NDC program pursuant to subsections b., c.,
33 and d. of this section, which costs shall be remitted to the board
34 from the NDC fund each energy year in a manner to be determined
35 by the board. Excess monies in an electric public utility's separate,
36 interest-bearing account shall be refunded to its retail distribution
37 customers at the end of each energy year.

38 (3) (a) Notwithstanding the provisions of (1) of this subsection,
39 and to ensure that the NDC program remains affordable to New
40 Jersey residents, the board may, in its discretion, reduce the per-
41 kilowatt hour charge imposed in paragraph (1) of this subsection,
42 provided that the board determines that a reduced charge will
43 nonetheless be sufficient to achieve the State's fuel diversity and air
44 quality objectives by preventing the premature retirement of the
45 nuclear power plants that meet the eligibility criteria established
46 pursuant to subsections e. and f. of this section.

47 (b) If the board reduces the per-kilowatt hour charge imposed in
48 paragraph (1) of this subsection pursuant to subparagraph (a) of this

1 paragraph and makes the reduction applicable to the initial
2 eligibility period described in paragraph (1) of subsection h. of this
3 section, the board shall make its determination no later than 120
4 days after the effective date of this act. Within 30 days thereafter,
5 each electric public utility shall file, in lieu of the tariff described in
6 paragraph (1) of this subsection, a tariff consistent with the board's
7 determination. Within 60 days after the filing of the tariff, after
8 notice, the opportunity for comment, and public hearing, the board
9 shall approve the revised tariff, provided that it is consistent with
10 the board's determination.

11 (c) For the second three energy year eligibility period described
12 in paragraph (2) of subsection h. of this section, the per-kilowatt
13 hour charge shall be the charge set forth in paragraph (1) of this
14 subsection, unless the board reduces the per-kilowatt hour charge
15 pursuant to subparagraph (a) of this paragraph. The board may
16 reduce the per-kilowatt hour charge as provided for in paragraph (1)
17 of this subsection for the second eligibility period if, during any of
18 the two prior energy years, there is a .75 percent increase in the load
19 weighted residential statewide basic generation service rate for the
20 Statewide average residential customer based on two prior basic
21 generation service auctions. The load weighting shall be based
22 upon the kilowatt hours included in each public utility's approved
23 basic generation service. If the board reduces the per-kilowatt hour
24 charge provided for within paragraph (1) of this subsection for the
25 second three energy year eligibility period, the board shall make its
26 determination no later than 10 months prior to the commencement
27 of the second eligibility period. Within 30 days thereafter, each
28 electric public utility shall file a tariff consistent with the board's
29 determination. Within 60 days after the filing of the tariff, after
30 notice, the opportunity for comment, and public hearing, the board
31 shall approve the tariff, provided that it is consistent with the
32 board's determination pursuant to this paragraph.

33 (d) For every subsequent eligibility period provided for in
34 paragraph (2) of subsection h. of this section other than the first
35 eligibility period, the per-kilowatt hour charge shall be the charge
36 established pursuant to paragraph (1) of this subsection, unless the
37 board reduces the per-kilowatt hour charge pursuant to
38 subparagraph (a) of this paragraph. The board may reduce the per-
39 kilowatt hour charge provided for within paragraph (1) of this
40 subsection for subsequent eligibility periods other than the first
41 subsequent eligibility period if, during any of the three prior energy
42 years, there is a .75 percent increase in the load weighted residential
43 Statewide basic generation service rate for the statewide average
44 residential customer based on three prior basic generation service
45 auctions. The load weighting shall be based upon the kilowatt
46 hours included in each electric public utility's approved basic
47 generation service. If the board reduces the per-kilowatt hour
48 charge, the board shall make its determination no later than 10

1 months prior to the commencement of that period. Within 30 days
2 thereafter, each electric public utility shall file a tariff consistent
3 with the board's determination. Within 60 days after the filing of
4 the tariff, after notice, the opportunity for comment, and public
5 hearing, the board shall approve the tariff, provided that it is
6 consistent with the board's determination pursuant to this
7 paragraph. In such a case, the reduced per-kilowatt charge shall be
8 applicable to the remainder of the subsequent eligibility period.

9 k. (1) A selected nuclear power plant shall be excused from
10 performance, including but not limited to the sale of NDCs, and a
11 payment from an electric public utility shall not be due to the
12 selected nuclear power plant, if:

13 (a) A selected nuclear power suspends or ceases operations,
14 despite the selected nuclear power plant's reasonable efforts
15 continue operations, due to an event beyond its control, including,
16 but not limited to, acts of God, flood, drought, earthquake, storm,
17 fire, lightning, epidemic, war, riot, labor dispute, labor or material
18 shortage, sabotage, or explosion. The selected nuclear power plant
19 shall no longer be excused from performance, and a payment from a
20 public utility shall be due, after the conclusion of the event.

21 (b) A State law is enacted imposing a significant new tax,
22 special assessment, or fee on the generation of electricity, the
23 ownership or leasehold of a generating unit, or the privilege or
24 occupation of the generation, ownership, or leasehold of generation
25 units by a selected nuclear power plant.

26 (c) A State or federal law is enacted that materially reduces the
27 value of a NDC, or the board exercises its discretion to reduce the
28 amount of the per-kilowatt hour charge pursuant to paragraph (3) of
29 subsection j. of this section.

30 (d) The selected nuclear power plant requires capital
31 expenditures in excess of \$40,000,000 that were neither known nor
32 reasonably foreseeable at the time it was selected to receive NDCs,
33 and the capital expenditures are expenditures that a prudent owner
34 or operator of a selected nuclear power plant would not undertake.

35 (e) The United States Nuclear Regulatory Commission
36 terminates the selected nuclear power plant's license.

37 (2) If a selected nuclear power plant ceases operations during an
38 eligibility period for any reason other than those specified in this
39 subsection, the selected nuclear power plant shall pay a charge to
40 the electric public utilities that purchased NDCs from the selected
41 nuclear power plant in an amount equal to the compensation
42 received for the sale of NDCs since the board's last determination
43 of the selected nuclear power plant's eligibility to receive NDCs.
44 An electric public utility shall provide a refund to its retail
45 distribution customers in an amount equal to the charge paid by a
46 selected nuclear power plant to the electric public utility pursuant to
47 the provisions of this paragraph.

1 (3) If a selected nuclear power plant ceases operations for any
2 reason prior to the end of its United States Nuclear Regulatory
3 Commission license, the plant's owner shall, within 90 days of
4 filing with the Nuclear Regulatory Commission to cease operations,
5 submit a plan to the board to retain, retrain, or compensate
6 personnel whose employment would be eliminated as a direct result
7 of the cessation of the selected nuclear power plant's operations,
8 including an alternative economic development plan for
9 communities that rely on the selected nuclear power plant for a
10 substantial portion of their tax revenues.

11

12 4. This act shall take effect immediately.

13

14

15

STATEMENT

16

17 This bill directs the Board of Public Utilities (board) to establish
18 a Nuclear Diversity Certificate (NDC) program. Under the bill, an
19 NDC is a certificate, issued by the board or its designee,
20 representing the environmental and fuel diversity attributes of one
21 megawatt-hour of electricity generated by an eligible nuclear power
22 plant selected by the board to participate in the NDC program.

23 Under the bill, to participate in the NDC program, a nuclear
24 power plant is to: be licensed to operate by the United States
25 Nuclear Regulatory Commission by the effective date of this bill
26 and through 2030 or later; (2) demonstrate to the satisfaction of the
27 board that it makes a significant and material contribution to the
28 diversity and resiliency of the energy resource mix for electricity
29 delivered in this State; (3) demonstrate to the satisfaction of the
30 board that it makes a significant and material contribution to the air
31 quality in this State by minimizing emissions that result from
32 electricity consumed in New Jersey; (4) provide financial
33 information demonstrating that the plant will cease operations; (5)
34 certify annually that the nuclear power plant does not receive any
35 direct or indirect payment or credit under a law of this State, other
36 state or federal law, or regional compact, despite its reasonable best
37 efforts to obtain any such payment or credit; and (6) submit an
38 application fee to the board in an amount to be determined by the
39 board, but which is not to exceed \$250,000, to be used to defray the
40 costs incurred by the board to administer the NDC program.

41 The board is to determine the price of a NDC each energy year
42 under the formula provided in the bill. Within 90 days after the
43 conclusion of an energy year, each electric public utility (utility) in
44 this State is to be required to pay each nuclear power plant that
45 received NDCs for that prior energy year for a quantity of NDCs
46 equal to the total number of NDCs received by the nuclear power
47 plant multiplied by the percentage of electricity the utility
48 distributed in this State as compared to other utilities in this State.

1 The board is to order the full recovery of all costs associated
2 with the utility's procurement of NDCs through a non-bypassable,
3 irrevocable charge imposed on the customers of the utility.

4 A selected nuclear power plant is to initially receive NDCs
5 through the end of the first energy year in which the plant was
6 selected, plus an additional three energy years thereafter, and then
7 is subject to review by the board triennially for renewed eligibility
8 for additional, three energy year periods.

9 A selected nuclear power plant may suspend or cease operations
10 under certain circumstances, including circumstances in which
11 events prevent the selected nuclear power plant from continuing
12 operations despite the selected nuclear power plant's reasonable
13 efforts continue operations. If a selected nuclear power plant ceases
14 operations during an eligibility period for any reason other than
15 those specified in the bill, the selected nuclear power plant is to pay
16 a charge to the utilities that purchased NDCs from the selected
17 nuclear power plant in an amount equal to the compensation
18 received for the sale of NDCs since the board's last determination
19 of the selected nuclear power plant's eligibility to receive NDCs.

20 New Jersey has historically relied on a diverse mix of energy
21 supply sources, including nuclear power, to meet the needs of its
22 residents and businesses. An increase in the proportion of New
23 Jersey's electricity demand met by natural gas and coal caused by
24 the premature retirement of nuclear power plants will result in a
25 substantial increase in emissions of several pollutants and
26 associated adverse public health and environmental impacts.

27 In this State, the model of providing credits to zero- or low-
28 emission energy generation sources as compensation for their
29 environmental attributes has proven successful for generators of
30 Class I and Class II renewable energy, which receive renewable
31 energy certificates, including solar electric power generators, which
32 receive solar renewable energy certificates.

33 A program that recognizes and compensates nuclear power plant
34 operators in a manner similar to other non-emitting energy
35 generation resources, to the extent required to prevent the loss of
36 nuclear energy, which the State's residents and businesses rely on
37 for approximately 40 percent of their electricity needs, would
38 further this State's interest in maintaining a diverse mix of energy
39 sources and in environmental protection.

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SENATOR BOB SMITH (Chair): We're now going to meet as a Joint Committee to talk about today's main event, which is S-3560 and A-5330.

We previously had a hearing to review many of the issues associated with this legislation. But to make it official, I think we need to start with a roll call from the Senate side of the Committee.

MS. HOROWITZ (Committee Aside): Senator Smith.

SENATOR SMITH: I'm present.

MS. HOROWITZ: Governor Codey.

SENATOR SMITH: He's here; yes.

MS. HOROWITZ: Senator Sweeney is present.

And Governor Codey is present.

Senator Bateman. (no response)

SENATOR CODEY: I'm here.

Did you do roll call already?

SENATOR SMITH: Yes, we're doing it.

SENATOR SMITH: And Senator Thompson is here, too.

And I think that's everybody, right?

Okay; so, with your permission, Chairman--

ASSEMBLYMAN DeANGELO: Yes.

SENATOR SMITH: --our first witnesses will be the sponsors of the legislation, and I am proud to include myself in that on the Senate side. We have our Senate President Steve Sweeney and Assemblyman John Burzichelli.

Gentlemen, if you would describe for the Committee what we're doing here today.

SENATOR SWEENEY: To both Chairmen, thank you for taking up probably one of the most important issues that we're going to deal with since I've been in the Legislature, which is ensuring that our environment has clean energy.

The nuke plants in Salem provide 40 percent of the energy in the State of New Jersey, and it's important that we find a way to keep them open, providing clean energy. There has been a lot of discussion about -- that this is an automatic hand-out to the utility. That is not true. This Bill creates a process for the BPU to review the finances of the utility to make sure that it can function and stay operational.

We talk about how concerned we are about this; and I started doing a little research myself. We have a very robust solar program in the State of New Jersey that everyone loves. We all love solar. Well, we subsidize 3 percent of our energy -- solar energy with \$450 million annually. Now, think about that. This is 40 percent of the energy in the State of New Jersey, and we're coming nowhere near even that kind of a dialogue.

We need clean energy; we want clean energy. I was the prime sponsor of the SRECs the ORECs, RGGI; I am all for clean energy. But to turn our backs and put our nuke plants in a situation where they can close is irresponsible.

Around the country, they're closing. This is not an act. People say, "Why don't we wait two years?" Well, we're not going to wait until the crisis hits; we're going to act now because we feel it's responsible to act now. This wasn't done in a vacuum; we've spoken for quite some time on it. Chairman, you held a hearing -- a four-hour hearing; took plenty of

input. And with that, we drafted a Bill that doesn't guarantee anything but a review.

So thank you for holding this hearing. There are going to be a lot of people wanting to testify. I'm sitting in on the Committee, which I am fortunate enough to do today.

And I'm going to turn it over to my partner, and then we won't hold you back anymore.

Thank you, Chairman.

SENATOR SMITH: Sounds great.

Assemblyman.

A S S E M B L Y M A N J O H N J. B U R Z I C H E L L I: Thank you, Senate President.

Good morning, Chairmen, both houses; and to the members.

I'd like to associate myself with the Senate President's remarks, and just add a couple of points.

We can't rely on PJM, for example, to step in here and speak. And I mentioned to everyone that our BPU does not have a voice at PJM. They are like an observer at the United Nations; they can't participate, they don't vote.

So we have to take these steps, absent any kind of aid from the Federal side, or any kind of direction from PJM. I'm pleased that the Bill has in place -- that if those kinds of things should materialize, they will contribute to how the plants have the best chance of survival.

I think the Bill is well-crafted; checks and balances are in place. And if PJM is able to aid and draw other support that can help the plants, our BPU can adjust what we're doing here today.

So I sit here representing, along with Steve and Adam Taliaferro, the three plants in Salem County. There are--

SENATOR SWEENEY: Six thousand jobs.

ASSEMBLYMAN BURZICHELLI: --six thousand jobs -- he has just reminded me of -- collectively. This is important stuff.

And I am pleased that we are here in the front-end, and not here when we are at full crisis. And for those critics who are saying, "Well, why don't you wait a couple of years and see what the marketplace looks like?" and, "Is there really a problem?" the Bill provides for that review process. The checks and balances, I think, are in place. And I think, from a public policy standpoint, we have to take the steps that this legislation is allowing us to take.

So I thank you all for the consideration today. And I think the testimony will be helpful; and I think that we are in the right place at the right time.

Thank you.

SENATOR SMITH: Thank you, gentlemen.

Unlike the prior hearing -- where we put on an hour-and-a-half of testimony on one side, and then an hour-and-a-half on the other side; here, to the extent possible -- and the Chairman and I agreed about this -- we're going to try to do point-counterpoint. People are more than welcome to ask questions of any witness. It is a complex piece of legislation, for which I think the Senate President and the Assemblyman bring forward.

Let us start with Ralph Izzo, the President of Public Service; who I think maybe could be considered the main proponent of this legislation.

RALPH IZZO: Thank you, Mr. Chairman; thank you, members of the Committee for allowing me to testify here today in support of A-5330 and S-3560.

This is an important matter before you today. Fundamentally, as the Bill's sponsors have already identified, at the heart, at the foundation of this legislation is basically the opportunity for the BPU to implement State public policy that has been consistently articulated in the Energy Master Plan, through both Democratic and Republican Administrations over the past 10 to 20 years, with tremendous latitude.

I want to repeat something that I mentioned to you once before. In the past few years, we have retired 4,000 megawatts of power plants. As I speak to you today, we are building 2,000 megawatts of power plants. In neither of those circumstances have I felt the need to appear before you. And the reason for that is quite simple: That in the case of nuclear power, much is at stake for New Jersey. It comes in the form of clean air, it comes in the form of a resilient and secure grid, it comes in the form of jobs, it comes in the form of low energy prices.

I was delighted to sit through the first hearing that you had, Mr. Chairman, to hear the different perspectives. And I think, throughout that hearing, what I heard was that there was no vitriol, there was no opposition to nuclear power, per se; but there were some policy differences and some different points of view on the tactics for ensuring the preservation of the attributes that nuclear power brings.

I'd just like to address five of those issues, and then answer any questions you may have.

The first comment that was made by some people was that this was an intrusion into the wholesale power market; that this was an interference in the market. You'll hear that again today from some very talented companies, some very talented CEOs; people who I respect enormously. And the fact of the matter is, the market does work quite well for certain factors, and not well for others. It is a well-known and understood phenomenon that when there are public policy objectives to be achieved that are not directly reflected in the cost of producing energy, they go by the name of *externalities*. And if markets do not price those externalities, those technologies are at an unfair disadvantage. In the case of nuclear power, we are talking about its environmental attributes and its fuel diversity attributes; the fact that it is a secure fuel supply that can be operated with consistency and reliability.

So markets, in the absence of those externalities, will never reward nuclear for what they deserve to be rewarded with, and preserve their economic viability. So markets simply will not work in this case.

A second issue is, "Why now? Why rush?" And I guess everyone can have a different point of view what constitutes a *rush*. For eight years I've been having this conversation in the halls of Congress, in the halls of the Federal Energy Regulatory Commission, and now in the halls of Trenton to make sure that markets recognize the attributes of nuclear power. In this legislation, it will be 300 days before the BPU decides whether or not a plant is eligible to receive payment for those benefits that it provides. It will be 18 months before the plant realizes a dollar of those benefits.

Let me just take a moment to explain to you what will happen over the next 300 days at PSEG. Over that time, we will have to decide whether or not to invest between \$100 million and \$200 million in those plants, and make an estimate as to whether or not those plants will continue to operate for the remaining 20 to 30 years of their lives to make that money back.

As I speak before you today, we have \$275 million in commitments for fuel-related expenses going out to 2025. We will have to add tens of millions of dollars of fuel-related investments over the next 300 days.

Over the next 300 days, we will have to decide whether or not to commit to provide power in the year 2021 from those plants. If we do all of those things and then decide, at the end of that period, “Oops, we made a mistake,” it will take two to three years to retire those plants. This is not a rush; this has been an eight-year discussion. If you look at all of our SEC documents -- our Securities and Exchange Commission documents that I certify on a quarterly and annual basis, under potential penalty of imprisonment if I’m making something up, we have disclosed, repeatedly, the risk that our nuclear plants are under.

A third issue has been the fact that these plants have been paid for, in the past, for stranded asset recovery. To be sure, two decades ago the BPU made a decision that had a comprehensive set of circumstances, part of which was stranded asset recovery; part of which were massive write-downs by the company. And two decades ago, after that decision, this was fully litigated in the courts, up to the New Jersey Supreme Court.

I simply encourage you to recognize that driving a vehicle by exclusively focusing on the rearview mirror is not the safest way to proceed. Most businesses look forward at the prospects for their assets; and in this particular case, the look out their windshield -- as opposed to the look through the rearview mirror -- is a daunting one, and one that, if nothing changes, will result in the retirement of these plants.

A fourth issue that has been raised is the 0.004 cent-per kilowatt hour cap. It is important to recognize that cap. The Senate President correctly identified the \$280 million in the context of how we have valued the environmental attributes of nuclear, compared to the environmental attributes of renewable energy. It's fully less than half.

There have been two independent studies on what will happen to the price of energy in New Jersey if nuclear power goes away. The laws of supply and demand simply say that when you don't change demand and you eliminate 40 percent of supply, prices go up. The two studies independently put that number at \$400 million a year. The two studies independently put the environmental consequences at between \$150 million and \$530 million, the difference being what you believe the price of carbon is worth. And the lower number was put at zero, and the higher number was put at \$30, the standard National Academy of Science's social cost for carbon.

The two studies put the GDP impact at between \$400 million and \$800 million. If you add these numbers together, the benefit-to-cost ratio of this proposal, at the capped level, is 6-to-1; 6-to-1 benefit-to-cost at the capped level. The BPU has an opportunity to revisit that cap before one penny is paid out.

After the BPU revisits that cap, after an initial three-year payment period, the BPU has the opportunity to again revisit the cap, should the default rate for electricity go above 0.75 percent one year over the next.

The commitments that the BPU makes to the recipients of the payments, should they decide that the payments are warranted, are three-year commitments; notwithstanding the fact that every year we would be making 20- and 30-year commitments of capital in the range of \$100 million to \$200 million.

The final issue that people have put up is that this will crowd out a green energy future. Nothing could be further from the truth. If you don't do this, you will impact the state to the tune of anywhere from \$400 million to \$1.75 billion. That will crowd out opportunities to invest in a green energy future. And there is no technologically available green energy that can replace baseload nuclear power today at the same cost as nuclear power. This is an essential bridge to the future.

My final remark to you is the following. Everything I said to you in the past five minutes is subject to second-guessing, other points of view. You will hear from a lot of smart people in support of this Bill and in opposition to this Bill; many of them with the same three decades of experience I have in the industry. And it will be up to you to judge the value of that policy position and their perspective on tactics.

However, at the tremendous risk of some immodesty, I must tell you one thing. And if this is the only thing I ask you to remember from my testimony, it would be the following.

Not one person who you will hear from today understands the economics of these plants better than I do. And I will not, and my Board of Directors will not be subjected to the standards of anyone else, in terms of the fiduciary responsibility we have to preserve the financial integrity of this 115-year old company that proudly calls itself *Public Service*.

So what others define as *acceptable risk* and as *acceptable economic outcomes*, I can tell you is 100 percent irrelevant. I want those plants to stay open for the benefit of New Jersey; I want those plants to stay open for the benefit of our employees; I want those plants to stay open for the benefit of our environment. Make no mistake about our analysis, and what current circumstances portend for those plants.

Thank you, Mr. Chairman, for the ability to testify. I will be here for the duration of the day if you need anything else from me.

SENATOR SMITH: Mr. Rizzo, if I were you, don't let your chair get cool (laughter), because we're probably going to call you back several times.

DR. IZZO: Sure, absolutely.

SENATOR SMITH: If we hear testimony that we think needs further information, specifically from your particular side of the issue, we're going to ask you to come back up.

DR. IZZO: Thank you.

ASSEMBLYMAN DeANGELO: At this time, I'd like to call up Stefanie Brand, from the Rate Counsel, in opposition.

S T E F A N I E A. B R A N D, Esq.: Good morning, members of the Committee. Thank you for allowing me the opportunity to testify.

We did distribute some written testimony yesterday; and I won't just repeat that here. I just wanted to raise a few points that I hope will be of interest to explain, really, what this Bill does and how it will impact the ratepayers of the state.

Again, I need to stress that we do not have evidence in front of us to demonstrate that this level of subsidy, or any level of subsidy, is needed for these plants. While the Bill does have certain provisions for the submission of information, it is not like the Bill that was passed in Connecticut that makes it clear that there will be a comprehensive process that will make sure that nothing gets paid until we have a full understanding of the books of these plants.

Chairman Izzo is up here saying, "No one knows the economics of these plants better than me." Well, you know what? We need to fix that. We need to have the information necessary so that the BPU and our office -- who will be involved in these proceedings -- can really take a look and see what the situation is. We don't want to see these plants close either. All of the assumptions in these reports he's talking about assume the plants are going to close. But I challenge that assumption, and I think we need the information before any rate is set or any subsidy is provided.

And the consumer protections that are supposedly in this Bill really are an illusion; and I want to explain to you why.

First, it doesn't really require them to open their books. They provide what information they choose to provide. There is a process; our office will be there to look at this. But there are very short timeframes; and the ultimate equation that is going to have to be looked at is one that is -- really puts the thumb on the scale for the agency.

The criteria for eligibility is whether or not they're making their cost of capital. Now, they are deregulated so there is no set cost of capital that they are entitled to or that they are authorized to earn. This Bill does not define any of the terms that are a standard for the eligibility -- the fuel diversity, the air quality attributes, the cost of capital. None of those terms are defined in this statute.

So what is the cost of capital? What is the BPU supposed to be looking at, in terms of determining the eligibility of these plants?

Now, I would argue that they're not entitled to any cost of capital. When they were making money hand over fist a few years ago, they were probably earning a lot more than I thought they should be earning. Now they're earning less, apparently, than they think they should be earning. What is that number? It's not defined in the statute, and it is something that is really the crux of this proceeding.

They also decide whether -- if BPU were to lower-- There's a rate in this statute that I can't make heads or tails of. I don't know the basis for it. Chairman Izzo just referred to some studies; but if you open up at least the Brattle Group's study, the first thing they tell you is, "We didn't look at the costs. This is not a net analysis. We only looked at the cost if the plant shut down. We didn't look at the costs of any subsidies that might get paid." So even the people doing those studies recognize that further information would be needed.

But if BPU lowers the rate through a variety of proceedings that are allowed there -- they get a very short time period, once every three years, -- to look at that rate. But then PS can walk away. And I imagine we'll see the same kind of analysis that we see here, where they'll say, "If

you do that, then we're going to shut these plants down." And, once again, we'll be held hostage if we look at a lower rate.

But there's nothing that supports this 4-cents-per-kilowatt-hour (*sic*) rate. We don't know where it came from; I have no idea what it is, and we certainly don't know that it's just and reasonable.

The idea that there would be deductions from other programs -- from Federal, or other State programs, or regional compacts -- is also kind of an illusion. If we reenter RGGI, for example, that money will not get deducted from the subsidy because only things that are paid directly to the nuclear power plant would get deducted.

Now, if PJM changes its market rules or applies its market rules to these plants -- which it will do -- it's going to be very difficult to pull out -- and there's a variety of things they may do -- it's going to be very difficult to pull out what was attributed for fuel diversity or air quality because it's a price, it's a market. So you can't just say, "Oh, that \$10 is due to fuel diversity, and that \$10 is not." It doesn't work that way. What is likely to happen is that PJM is going to apply its market rules to these plants, and apply something called the *minimum offer price rule*, and then New Jersey ratepayers are going to end up paying for them twice. So our PJM rates are going to go up, and they're still going to get their subsidy.

And that's another way in which these consumer -- these supposed consumer protections are an illusion. Because there's a brief window of time at the beginning of -- the first period is four years, and the subsequent periods are three years. And then once that -- once BPU goes through that process, the charge is irrevocable. There are off-ramps for the company; there are no off-ramps for the ratepayers. So if the prices go up

in the second year, then we still have to pay this for another two or three years.

This is unfair; it's fundamentally unfair. There should be a stopgap -- a process by which if PJM rates go up so that these plants are then making windfall profits -- like they were a few years ago -- that there should be an ability to either get rid of these subsidies or reduce them. There is nothing in the Bill that allows that.

And, you know, overall, I just -- I really do have to come back to the fact that this rate is being set in the statute before we've seen any of the information. The process has been very rushed. While PSE&G may have been talking about it for a long time, we saw this Bill on Friday for the first time. And there is an obligation here to make sure, before you do an irrevocable charge to ensure that it is needed, that it is fair, that there is a balanced process; and that there is an ability of the BPU and my office to really review these things, and make changes if it turns out to be unfair. I fear that we are going to regret this, the same way we regretted the stranded costs, and the same way we regretted the LCAPP statute a few years ago. The time needs to be taken and the process needs to be tightened up so that the thumb is not on the scale in favor of the company.

And I'm happy to answer any questions; I will continue to offer to answer any questions that any of you may have.

SENATOR SMITH: Governor.

SENATOR CODEY: Yes; Ms. Brand, a couple of things.

And Ralph Izzo is here.

You said these power plants would not close?

MS. BRAND: I'm saying, we don't know if they are-- He's saying they'll close, but all we have is his word for it. We need more than that. We need to have a real review of whether or not they're not making money.

SENATOR CODEY: I mean, I thought that it was very clear that they would close.

MS. BRAND: No; all we have is PSE&G's statement that they will close. In fact--

SENATOR CODEY: Well, they're the only people that can close it. (laughter)

MS. BRAND: Well, actually, they don't have the unilateral ability to close them.

SENATOR CODEY: Well, I understand -- with the BPU and everything else.

MS. BRAND: Right, right. Well, you know, and that is-- So they are deregulated. There actually was a -- there have been some studies that showed that--

SENATOR CODEY: I don't know if they would agree with you on that.

MS. BRAND: There have been studies to show that actually there is plenty of capacity at PJM with or without these plants. But I am not advocating that they close. I am advocating, though, for a system that does not allow a single company to hold us hostage in this way. There needs to be-- If they're making money, but they're not making as much money as they want to, there needs to be an analysis; and there needs to be someone who says, "You know what? Okay, I understand that your 4

percent is not enough for you. But maybe you have to live with that, given that you were making 15 percent a few years ago.”

This is not something where we should simply accept--

SENATOR CODEY: I think they'd rather make the 15 percent.

MS. BRAND: I'm sure they're trying to make the 15 percent.

And listen, I understand that. PSE&G does have an obligation to its shareholders. But here, we have an obligation to the ratepayers as well. And all I'm asking is that there be review -- a truly independent review like there was in Connecticut, where Connecticut just turned around and said, “You know what? Our nuclear plants are going to be profitable until 2035; we don't need to do anything.”

So that's what we're looking for, because that has not happened. And the way this Bill is set up, the rates get set and the process gets going before we really have that analysis.

SENATOR CODEY: But the only thing with (indiscernible) is that this review -- the issue has been going on for a long time. It didn't start six months ago.

MS. BRAND: Oh, not for PSE&G; but it did for the rest of us, because we still haven't seen the level of information.

Now, the independent market monitor for PJM testified at the hearing -- and I believe he's here today -- he has more information than I do. But the rest of us don't have the information that PSE&G is using to claim that they're going to close.

Now, I admit they're claiming that, and I know that they're saying that, “We're not making enough money.” But I have had no ability

to test that; no one has had any ability to test that. And the way this Bill is set up -- the horse is out of the barn before anybody really has a chance to do that kind of review.

SENATOR CODEY: Well, the horse has left the pasture.

What would you say is going to happen to the consumers within the first year? This, being law -- if it, in fact, becomes law.

MS. BRAND: What's going to happen to consumers?

Well, initially, they will see a rate increase.

SENATOR CODEY: Of what kind, do you think?

MS. BRAND: Well this is worth about \$300 million a year. So for residential consumers, it will be about \$40 per year; for some of the large industrial users, it will be closer to -- some could be \$1 million a year.

SENATOR CODEY: Okay, where do you come up with those figures?

MS. BRAND: So what we did was, we multiplied the 0.04 (*sic*) cents per kilowatt hour number that's in the -- that is set in the Bill, times the load of-- Well, the total load of the state, and then the load of individual customers. And that's how we come up with that.

But understand, too, this is only one of several initiatives that are going to add to people's rates. There's also significant reason to believe that PJM rates are going to -- they went up a lot this year, but they're likely to go up again next year. There are a number of things going on at PJM that could easily raise our wholesale rates.

SENATOR CODEY: Mr. Chairman, could we ask Ralph Izzo what he thinks?

SENATOR SMITH: I will, as soon as I get the rest of the questions from the Committee members--

SENATOR CODEY: Okay; no problem.

SENATOR SMITH: --and then we're going to ask Mr. Izzo to come up and respond.

SENATOR CODEY: Respond to that--

SENATOR SMITH: Exactly.

SENATOR CODEY: --because I think we all want to know, in his idea, what would be those rates; as opposed to-- Whether he agrees with Ms. Brand or not.

MS. BRAND: Right. And I can tell you that what we use is-- For a residential customer, we use an 850-kilowatt hour a month rate, which is what PS has used in the past in some of its programs. And then, in total-- To reach the \$300 million, the total that we get off of the EIA -- which is the Energy Information Authority.

SENATOR SMITH: Senate President Sweeney.

SENATOR SWEENEY: To follow up on what Governor Codey said -- from hearing the process, nothing would happen in the first year, because it's a whole-- Right? Next year, because it's 300-and-some days before anything could happen. And my question is, this is a process to determine whether there's a need. Are you telling me that BPU is not capable of doing this?

MS. BRAND: The process actually allows for -- I left my copy of the Bill at my seat -- but I believe it's either -- I think it's 180 days when the tariffs have to be submitted by the other utilities. They will start collecting this money in less than a year.

SENATOR SWEENEY: It's 30 days for financials, 90 days to review, and then another 180 days. So that's, rough math, like 310 days to me.

MS. BRAND: But of you look at--

SENATOR SWEENEY: But my question is, that you didn't answer: Are you telling me the BPU is not capable of doing this kind of review?

MS. BRAND: I think it's going to be very difficult for the BPU -- with the staffing that it has right now, and all of the things that it will be doing in the midst of a transition -- to meet these timelines.

So for example -- I'll give you a good example. It really is only 90 days for the BPU to review the application of nuclear power plants. So they establish the program in 180 days; and then at 210 days, they will have to decide whether or not they're eligible. So that's a 90-day period that they will get to look at that; and that's a very short period of time if you're looking to do some due process in that.

SENATOR SWEENEY: Well, my concern is that the BPU does a review of a whole host of things. And you're telling me that they're not capable of just reviewing numbers. And would the BPU be doing a review-- You heard me earlier say that 3 percent of our energy is being subsidized by \$450 million. And the BPU supports that. That's good policy for ratepayers? I guess my question to you is--

MS. BRAND: Senator, you know I have railed against how much we're paying for solar for a very long time.

SENATOR SWEENEY: But--

MS. BRAND: But what I'm saying is -- I'm not saying the BPU isn't capable; I'm saying that the timeframes in the statute do not allow for a sufficient public process for there really to be an ability to test the submissions of the companies. And I will also say, yes, we're paying too much for solar. But there's also a tremendous difference between trying to do subsidies that are trying to jump-start an industry that's a nascent industry that we're trying to get started, and subsidizing an industry that's well established. And I am not saying that if there was an actual demonstration that they're losing money that we shouldn't do anything. What I'm saying is, we haven't had that demonstration. That hasn't occurred yet.

SENATOR SWEENEY: And I guess what I'm saying is, you're making a pre-determined decision before anything has happened to say the rates are going up. We have no control over PJM. We have no control over PJM, correct? Can you answer that "yes" or "no"?

MS. BRAND: Who's *we*? I don't know who *we* is.

SENATOR SWEENEY: The State of New Jersey; do we control what PJM does?

MS. BRAND: No, it's a market; it's a market.

SENATOR SWEENEY: That's right.

MS. BRAND: Market forces determine--

SENATOR SWEENEY: So my point is, the market determines that; we do not.

MS. BRAND: Yes, but--

SENATOR SWEENEY: The State of New Jersey doesn't regulate it, so no matter what we--

MS. BRAND: If I may answer, we don't have control over it. But when we do things that are going to change the market, you can be sure that PJM will take action to make sure that this does not destroy their market structure.

SENATOR SWEENEY: For someone who has said they haven't had a chance to review the Bill, you have made a whole lot of determinations on something that are almost in absolutes. And if you didn't have time to really review the Bill, I think you should take some more time to review it--

MS. BRAND: I have reviewed it--

SENATOR SWEENEY: --to be perfectly honest with you.

That's it for me, Chairman.

MS. BRAND: I have reviewed the Bill; and I really do urge you all to take a look at it because it is-- The language of the Bill is quite opaque; but it is pretty clear that the process allowed for ratepayers is insufficient to make the findings that this Bill makes.

ASSEMBLYMAN DeANGELO: Stefanie, I have, kind of, a more of response back to some of the things you said earlier; some of the concerns that I have today, going forward, and over the past couple of years of chairing the Committee.

When you said the possible threat of shutting down the reactors, and you have no information to validate that. And just the fact that Ralph Izzo would say, you know, "Were going to shut down," and how we're going to do this.

Over the past couple of years, and especially on June 30 when I saw approximately 650 megawatts shut down, half of that being about a

mile-and-a-half from here on the Delaware River in Hamilton Township, a coal burning generating station; and then Hudson -- up in Hudson County shut down. I looked at our State's energy generation portfolio and I have a concern. I'm not as optimistic on allowing other states to handle the generation for this state -- of electricity. I have a big concern there. I want to make more generation in-state; I want to create more jobs in this state; I want a well-diversified energy portfolio. And part of that -- and very strongly, in my opinion -- is nuclear. I see -- I don't view shutting down three reactors down south as a threat. I believe that, because I have seen them shut down part of their generation portfolio already.

We're losing a reactor in less than two years as we speak now; the country's oldest -- less generation in the state, bringing down our percentages probably to approximately 60 percent of what we use.

This is very important. Our concern and my concern is, if we -- if this shuts down, this falls apart, and we're looking at the renewables and our gas generation, and allowing other states to handle the generation, I see the jobs that have been recreated for the individuals who have lost their jobs in the two plants over here; and then their jobs that we're losing over at Oyster. You know, there are only so many times you can recreate jobs here. I can't allow that to happen to us; and I hear your testimony -- I think you need to be really aware of what's going on. I know you've given us your opinion; but we have read the Bill. I'm supportive of this effort, and I've listened to people's concerns. And I want to make sure that they're valid and not just creating a hysteria.

MS. BRAND: Yes; I'm very concerned about the issue of jobs as well. And I will tell-- First of all, I want to correct: These three plants

do not provide 40 percent of our electricity; they provide 33 percent of our electricity.

ASSEMBLYMAN DeANGELO: No; what they-- The generation potential on the capacity -- nuclear generates a lot--

MS. BRAND: No, the 40 percent includes Oyster Creek.

ASSEMBLYMAN DeANGELO: --more, it runs more. We'll have Mr.--

MS. BRAND: The 40 percent includes Oyster Creek, which is shutting down, and is not eligible.

ASSEMBLYMAN DeANGELO: (gavels) Stefanie, please don't interrupt me when I'm speaking, okay?

The potential of what their generation, and what they're actually generating, are two separate issues.

MS. BRAND: No, that's actually not true.

ASSEMBLYMAN DeANGELO: It is true.

MS. BRAND: The 40 percent refers -- it includes Oyster Creek; and Oyster Creek is closing whether or not we do it. These three plants provide 33 percent of our electricity, which is still a large amount; I'm not disputing that. And there are still a lot of jobs involved, and I'm actually very, very sensitive to that.

However, we also have seen a lot of plants open in this state, including -- PS is opening a gas plant very soon, and there are jobs associated with that. There are also jobs associated with the companies that are going to be paying so much more for their electricity that they may not continue to invest in the state. And I know some of them are here to testify today.

So we do have to look at both sides of the coin; and the jobs are very important. But we also have to look at, is this threat real? Is this something that really does need to be addressed? And I'm not saying that we want to see these plants close; I'm definitely not saying that. What I'm saying is we need to take the time to figure out -- if they are going to close, is this the right amount to be paying them? Where do these numbers come from? We don't have that here with this Bill, and we haven't taken the time to do that. And we really do need to do that before we commit ratepayers to paying \$300 million a year.

ASSEMBLYMAN DeANGELO: Stefanie, thank you for your testimony.

Unless there are any other Committee members that have questions--

SENATOR SMITH: Yes, there are, there are, there are.

SENATOR SWEENEY: I have--

SENATOR SMITH: Senate President.

SENATOR SWEENEY: Thank you, Chairman.

I have one quick question that I forgot to ask Stefanie.

If these plants were to close -- because they are closing around the country; it's not an *if*; they are -- what do you estimate -- what would happen to energy costs in the State of New Jersey if we had to replace 33 percent of our energy overnight -- well, within three years?

MS. BRAND: So it's unclear. And I will say that that \$400 million figure is something that we also would need to take a look at. When I read the Brattle Group report, they say, on the very first page, that they only looked at one side of the equation. So it wasn't a full cost-benefit

analysis; it was actually just looking at if they close, what would happen. They did not look at the cost that would be associated with keeping them open and the subsidies.

So I would want to look at that more. And I'm very, very attuned to making sure that, overall, we're not going to cost ourselves more than we're going to save. I agree with that. But I just don't think we've done that analysis; and I just think that we're committing ratepayers to \$300 million a year, why not have an off-ramp if it turns out that PJM prices go up? Why not have an off-ramp if it turns out that the numbers aren't what we're seeing today? There should be an ability not to commit ratepayers to pay this for four years initially, and then in three year tranches after that. There should be an ability to go back and look: Are the numbers-- Because don't forget, the numbers we're going to see are all going to be estimates, right? So there should be an opportunity to have an off-ramp for ratepayers to make sure that they're not paying more than they should be.

SENATOR SMITH: Okay; so as--

I'm sorry, Governor; you have another question?

SENATOR CODEY: Yes, I just wanted to have Mr. Izzo come up real briefly.

SENATOR SMITH: Sure. I am; that's the next move.

SENATOR CODEY: Okay.

SENATOR SMITH: I want to be courteous to Senators and Assembly people to make sure they've had their questions--

Senator Thompson, did you have a question?

SENATOR THOMPSON: Yes I did; thank you.

You indicate that if the market rates -- PJM rates do go up, the subsidy still remains the same, right?

MS. BRAND: Correct.

SENATOR THOMPSON: So it just gets extra profit in that instance.

Do we know if New Jersey is a net importer or a net exporter of energy?

MS. BRAND: Well, traditionally, we've been an importer; recently, we've -- there are times that we are now exporting. But I think, overall, we are mostly an importer.

SENATOR THOMPSON: Okay. Of course I noticed that last year, in Woodbridge, a new gas-fired plant was opened up which said that they could supply the energy to several hundred thousand homes. And of course, the need was being vetted before they came online, so--

MS. BRAND: Right.

SENATOR THOMPSON: --that's sort of like an excess energy resources.

MS. BRAND: Well, all of the studies -- DOE, PJM, and the Federal Energy Regulatory Commission -- have looked at this. I mean-- I'm sorry; the NERC -- the National Energy Research Council I think it stands for -- they've all looked at that. And we're fine; I mean, our reliability is in good shape, and there isn't -- there is not a shortage of generation in PJM.

SENATOR THOMPSON: Thank you.

SENATOR SMITH: All right. So that-- Oh, I'm sorry; one more question.

ASSEMBLYMAN ZWICKER: Thank you.

I want to go to the off-ramps that you talked about.

MS. BRAND: Okay.

ASSEMBLYMAN ZWICKER: So I'm just looking at the Bill right now, and there's specific language which seems to be about double payments and off-ramps for PJM, or RGGI, or other places. So could you just go back and give us some more details about why you're saying that there are not off-ramps?

MS. BRAND: Sure. If you look at that provision -- so it says if any State or Federal program provides payments for fuel diversity, air quality, etc., that that will be deducted -- you can deduct that, okay?

So what could those things be? Those things -- first of all, it could be RGGI, right? There's talk of us getting back into RGGI. The way RGGI works is that carbon-producing plants will pay a price for their carbon, right? And then that money-- In other states that are in RGGI -- that money goes to clean energy and energy efficiency programs.

Now, PS will get a benefit from that because their competitors would be paying that, and they won't be, right? But that money doesn't go, actually, to the nuclear plants; it goes to the State for clean energy and energy efficiency programs. And the language of that statute doesn't allow for the credit unless the payment actually goes to the nuclear plant. It only applies to payments received by the nuclear plant. So that is one good example.

Other programs that might start trying to account for fuel diversity and air quality attributes of a nuclear power plant include the DOE Notice of Proposed Rulemaking. We don't really know what that will look like yet. There's also -- PJM has two program that it's looking at; one

that would find a way to deal with states that do provide these subsidies, and make sure that when they bid into the market those plants are not being given a leg up against their competitors. And there's another one on energy price formation where they're looking at making sure their energy market-- The first one deals with capacity market, the second one deals with the energy market to make sure that they are, in fact, valuing these attributes appropriately. And that process is ongoing at PJM, and is likely to, I think, result in some changes to the energy markets. And if that happens, the prices will go up.

But figuring out how much of that price increase will be attributable to that, and not all the other programs, is going to be exceedingly difficult; and it's going to be very hard for BPU to put a dollar amount on that.

ASSEMBLYMAN ZWICKER: And one last follow-up.

Chairman DeAngelo raised an important point, I thought, about the percentages of total power that these nuclear power plants provide.

The way it's currently written, would a nuclear power plant outside of the State of New Jersey be eligible for applying for one of these credits?

MS. BRAND: Yes, it would; as long as it could demonstrate that it could somehow contribute to fuel diversity or clean air attributes. And there are some that could; I mean, I think Three Mile Island in Pennsylvania would likely have an ability to try to prove that. Certainly, anybody who's upwind of us could show -- or if they can show that they are

displacing a coal plant they might be able to make those showings. And then, yes, there could be an out-of-state plant that's eligible.

But understand, too, though, that a lot of the energy from these plants doesn't go to New Jersey. So we will, no matter what, be subsidizing people in other states.

SENATOR SMITH: Okay?

So we'd like to call Mr. Izzo back to respond to some of the concerns raised by Ms. Brand.

While Mr. Izzo is coming up, I want to remind members in both Committees that we received a really terrific memo from Judy Horowitz, Principal Counsel, OLS, who gave us a little bit of an overview on the nuclear power industry nationally; that I'm going to just remind you of one paragraph in that, which is that, "There are currently 99 nuclear power plants in the United States, which provide 20 percent of domestic power generation and 60 percent of carbon-free generation. Since 2013, 6 nuclear power plants have closed in this country, and 8 more are scheduled to close by 2019. In addition, 4 nuclear power plants are scheduled to close by 2025." And then she quotes, "The Nuclear Energy Institute has indicated that another 15 to 20 nuclear power plants are at risk of closing prematurely due to their inability to compete in the wholesale electricity markets." This is a real issue.

So Stefanie, I'm going to ask you to step aside--

MS. BRAND: Stay up here so that I can respond to whatever he says? (laughter)

SENATOR SMITH: Well, you know what? I don't want it to turn into *Saturday Night Live* with Dan Aykroyd and Jane Curtain. So I tell

you what, let me ask you to step back; and if we have a need to ask for further answers, we'll call you back up.

All right; Mr. Izzo, you've heard a number of concerns expressed--

DR. IZZO: I promise I won't turn it into *Saturday Night Live*.
(laughter)

There are seven items I want to address.

I want to begin by saying I've worked with Ms. Brand for a long time; I have nothing but respect and admiration for her dedication to her job and what she tries to accomplish for the customers of New Jersey.

I also feel like she and I owe you an apology. On a complicated issue, the last thing you need is conflicting numbers that don't appear to agree.

We're both telling the truth. For example, depending upon whether you look at nuclear as a percentage of the energy used in the state, or you look at nuclear as a percentage of the energy produced in the state, you get different numbers.

At the end of the day, 33 percent of the energy used in the state, or 40 percent of the energy produced in the state, is a big number. So similarly, \$41 a year versus \$31 a year at the cap -- why two different numbers? Well, Stefanie uses 8,400 kilowatt hours a year for the average customer. The BPU uses 7,600 kilowatt hours a year for the average New Jersey customer. We use 7,200 kilowatt hours a year for the average PSE&G customer. At the end of the day, the cap is a 2.4 percent impact on the total customer bill. So the numbers are the same; it's a question of the assumptions you make.

Now, as for some of the more substantive issues. Yes, the Brattle Report talks about the total cost to New Jersey -- the \$800 million in GDP; the \$150 million absent the price of carbon specific to the environment; the \$400 million in energy costs specific to energy. All of those are gross costs, and that's why the cap is at \$280 million. The cap should not exceed the benefits to New Jersey for keeping those plants online.

The need to open the books -- 100 percent agreement. I hope you all believe me, but I realize you have a responsibility to the voters of this state to make sure that what I'm saying is accurate -- not because I would lie, but because I am capable of mistakes; that circumstances are capable of changing. I, for one, believe that the biggest burden is on our company. We have 30 days from enactment to prove to the BPU that we are in the condition that I say we're in; 300 days before the BPU decides who gets paid. To me, 10 months from the date of enactment -- more than likely, 11 to 12 months from today -- is \$100 million to \$200 million in additional investment that we're making on the basis of the confidence that you will do the right thing for the State of New Jersey.

The legislation is totally open-ended on what the BPU can demand of us in terms of our financial information. We completely leave it up to them to say what they want to give us.

The notion of no off-ramps -- I don't know how many more off-ramps we could have put in this Bill. Number one, the BPU decides if we're eligible; number two, the BPU decides whether or not the cap is the right amount. And oh, by the way, if we're not eligible in the first 30 days, we are *never* eligible.

And then every three years they re-decide that eligibility. And every year after the initial agreement they re-decide whether or not the cap is the right amount, and if it should be lower. And oh, by the way, the trigger -- the trigger for whether or not they get to do that is a 0.75 percent increase in the BGS rate. Over the history of BGS, the average increase has been 4.85 percent. So they have a threshold that's literally about 15 percent of the average increase in the BGS.

The fact that there's a price formation being worked on by PJM -- I am not an unkind person, so I won't bore you with the details of *price formation*. Emphatically, it is a misstatement to suggest that price formation is an attempt to price the attributes of these units. There is zero attempt in price formation to recognize the environmental attributes of nuclear, and there is zero attempt to specifically price the resiliency of nuclear. Price formation is fuel agnostic; it applies to all fuels -- that is part of the public record at FERC which, unfortunately has been four years in the making. I think that was just an accidental misstatement by Stefanie.

Lastly, out of state. We have been very careful to point out the fact that New Jersey benefits from being part of a regional grid. We get power from out of state; we sell power to out to state. The reality is all of the studies that we have quoted are specific to the benefits to New Jersey. It's not a 1.75 billion cost to Pennsylvania, or to Maryland, or to Delaware that are part of PJM. That is an estimate by IHS Markit of the cost to New Jersey if the plants go away. We are simply trying to allow you to allow the BPU to set a cap that is one-sixth the size of that cost.

I am heartened by the fact that Stefanie has repeatedly said she doesn't want the plants to go away. I am heartened by the fact that she

wants proof that they are at financial risk. That's what this Bill allows you to do thoughtfully.

Any questions of me?

ASSEMBLYMAN DeANGELO: Any questions?

SENATOR SMITH: Governor, Governor.

SENATOR CODEY: Yes; I had asked that you respond to Stefanie's statement that the average residential homeowner -- their bill, if this Bill is passed and signed into law, would go up \$40 per year.

DR. IZZO: Right, right.

So she is using a number that is higher than the BPU number for average residential consumption. She's using an average residential consumption of 8,400 kilowatts. The BPU uses a number of 7,600--

SENATOR CODEY: Okay, but what do you use? What is your--

DR. IZZO: So for our average customer, it's \$31.

SENATOR CODEY: That's your prediction.

DR. IZZO: That's correct, that's correct.

SENATOR CODEY: Okay. And what percentages would businesses go up?

DR. IZZO: So it depends on the size of the business.

SENATOR CODEY: Obviously; I understand that.

DR. IZZO: So my communications people hate when I do this, but it's the only accurate answer. It's 2.4 percent.

SENATOR CODEY: We pay them; don't worry about it.

(laughter)

DR. IZZO: It's 2.4 percent, one-time elevation, that stays; provided the BPU opts to renew.

SENATOR CODEY: There's no guarantee on that.

DR. IZZO: There's no guarantee of the amount, or whether we get paid.

ASSEMBLYMAN DeANGELO: Vice Chair.

ASSEMBLYMAN WIMBERLY: Thank you, Chairman.

Mr. Izzo, along the same lines as far as the increases are concerned that the Governor had, I'm sure you've done some type of cost analysis; and obviously the AARP is in opposition to this. What impact will this have on our seniors who have a fixed income and, in particular, our lower income families that are already struggling with their electric bill?

DR. IZZO: It's an excellent question, sir.

So if the cap is what is paid, and it is always paid -- two huge *ifs* -- at the discretion of the BPU, rates would go up, on the aggregate, by \$280 million. If we do not take this action, rates will go up by \$400 million. So it is far cheaper to keep than not.

Part of the fascinating part of this conversation is you're going to hear from other companies -- and again, they are well-run companies; they are our competitors. They will argue that this is an intrusion in the market. They are very smart people, they are sensible people, and--

ASSEMBLYMAN WIMBERLY: So without this Bill, we will probably see a bigger increase.

DR. IZZO: Without question.

ASSEMBLYMAN WIMBERLY: With your expertise.

DR. IZZO: Without question.

ASSEMBLYMAN WIMBERLY: Okay; now, I'm going to ask you another question; and this is definitely, you know -- hopefully it just gets to the point.

On the other end, with your expertise, Mr. Izzo, what do you see wrong with this Bill for New Jersey consumers? Do you see anything negative?

DR. IZZO: No, I don't. I see a lot of worse for our company, because we're getting three-year commitments when we're making 10- and 20-year investments.

ASSEMBLYMAN WIMBERLY: Thank you, Chairman.

ASSEMBLYMAN DeANGELO: Thank you.

SENATOR SMITH: Okay; thank you.

Any other questions for Mr. Izzo?

ASSEMBLYMAN KEAN: Chairman, could I ask a quick question?

ASSEMBLYMAN DeANGELO: Assemblyman.

ASSEMBLYMAN KEAN: Thank you, Chairman.

I just wanted to follow-up with Senator Sweeney's question to the Ratepayer Advocate.

Mr. Izzo, do you have the information that, hypothetically, if the plants did close -- like we heard from the OLS memo; apparently that is the trend -- and the state had to depend on out of state to make up that 33 percent, can you put a price tag on what that would cost the ratepayers of the state?

DR. IZZO: Yes, that would be the \$400 million number; it would.

ASSEMBLYMAN KEAN: It would be \$400 million; understood.

DR. IZZO: But the lights would not go out, Assemblyman. There is excess capacity at PJM.

ASSEMBLYMAN KEAN: You answered it; thanks.

SENATOR SMITH: Senator Thompson.

SENATOR THOMPSON: Since the troubles that you're having are basically because the rates, as a consequence of the gas-fired plants, and so on, right now the payment-- The market price is less than you can produce nuclear. So I find it difficult to understand why if, okay, we don't have the nuclear but we rely on the others, then it's going to cost us \$400 million and more? I mean, you're going to sources of cheaper energy, but it's going to cost us \$400 million. Explain that.

DR. IZZO: Yes, certainly; thank you. An excellent question, Senator.

So the way in which the market operates is a plant is only allowed to charge PJM energy something known as its *short run marginal cost* -- what it costs to produce the next kilowatt hours of electricity. Under that definition, nuclear is very cheap. Our fuel costs are basically \$7 per megawatt hour, and a gas plant has a much higher fuel cost because it's less efficient.

The difference is nuclear has 1,600 employees at the plant; a typical gas plant will have 25 or 30. So what will happen is that very inexpensive nuclear plant -- as measured by the fuel cost -- gets removed; and somebody has to make up the supply. So the supply will be made up by a plant that is not running today because it's more expensive.

SENATOR THOMPSON: Again, those gas plants right now are supplying energy at a cost that you cannot supply energy. So I don't understand how it's more expensive for those other plants. I mean--

DR. IZZO: So it's the difference between having to cover your fuel plus your labor--

SENATOR THOMPSON: They're doing it--

DR. IZZO: --versus just having to cover your fuel. And the way the markets are structured you basically just cover your fuel. So that's the primary difference.

SENATOR THOMPSON: If they're not covering the labor and so on, I don't see how they are making money and producing the energy right now. I would think they're covering all their costs to be able to produce what they are producing.

DR. IZZO: No, so what happens -- so what happens is, the more efficient plants get paid the same price as the less efficient plants. So to the extent that you are more efficient, you make more money than the less efficient plant. The way the markets are designed right now, that gap, that difference is not sufficient to cover the labor costs of a nuclear plant. When a nuclear plant goes away, it will be replaced by a gas or a coal plant that is not operating today because it is less efficient. But it has to make up the 30 terawatt hours -- the 33 percent, the 40 percent. So that will have to be a more expensive plant. It's the equivalent of me going around the table and saying, "Okay, I need three plants today. What will you charge me?" You say zero, your colleague says one, and your further colleague says two. Then you retire your plant, and I still need three. So now I'm going to buy from the person who says one, two, and the next person who says three. So

suddenly the price becomes three, as opposed to two. And I can tell by your look you think I'm coming from Mars. (laughter)

SENATOR THOMPSON: But we just had a plant open in Woodbridge last year, which was gas-fired, etc. And I assume they are operating at a profit. Again you're telling me, though, that, no, (indiscernible) plants -- they won't be able to operate at the same cost that they're operating at today.

DR. IZZO: No, that's not what I'm saying. Plants that are running today will continue to run, and they will make money. But in the absence of nuclear, you will need different plants to run. The different plants are not running today because they are too expensive. So you're going to have to call on a more expensive plant to replace the less expensive nuclear plant. Not all gas plants are created equally, right? Some of them have different efficiency levels than others. So those that are less efficient and are not running today will be needed to run tomorrow. And because they are less efficient, they will need to charge more.

ASSEMBLYMAN DeANGELO: Assemblyman Zwicker.

ASSEMBLYMAN ZWICKER: Thank you.

I want to ask you the same question about off-ramps that I asked Ms. Brand.

And my question is more -- I asked her when she was saying -- I'm asking you; is not that it's the first three years, but the second three years, right?

DR. IZZO: Yes.

ASSEMBLYMAN ZWICKER: And let's be clear: I want these plants to stay open -- the jobs, the energy diversity, and the non-carbon source of energy.

So if I understood what she was saying correctly -- and that's why I raised the question -- that if the PJM market rate changed; if the Federal government changed, and there was a subsidy for nuclear; if RGGI comes in; all these various things -- that the issue has to do with the fact that in the first three years, you'll say, "Here's our books; we're open." This number -- let's say it's \$280 million, etc., right? Okay, so then we come to the three-year check mark, right? During those three years, one of those things happens. So can you take us through-- According to this Bill, then, what is the process so that we are not double billing the people of New Jersey?

DR. IZZO: As I read the language in the Bill, even within the first three years, on an annual basis, if the Federal Energy Regulatory Commission does something to recognize fuel diversity, there is a proceeding right now going on that may bring that about. On an annual basis -- an annual basis -- the BPU does not need to wait three years. They can reduce the level of the incentive payment on an annual basis, as the language is written, as it was intended to be.

After the three-year period, regardless of whether or not the Federal Energy Regulatory Commission and/or a regional body, or anyone does anything, the BPU may check the affordability of the program using its 0.75 percent trigger. So you essentially have ongoing, continuous assessment by the BPU of whether or not we're getting double paid, and whether or not the program is affordable.

ASSEMBLYMAN DeANGELO: Thank you, Mr. Izzo.

And Committee members, I just want you to be aware that we have approximately 45 individuals who are in support who wish to be heard; and about 24 or 25 who are in opposition who wish to testify and be heard. So we had two great individuals to kind of balance out the beginning; if we can just be aware of that.

SENATOR SMITH: Our next witness is former Governor Jim Florio.

G O V E R N O R J A M E S J. F L O R I O: Thank you, Mr. Chairman; and good morning to everyone.

You would be pleased to know that I'm going to abbreviate my remarks by identifying with the thoughtful comments that Mr. Izzo just provided to the Committee.

I support this Bill; it's a very important part of being concerned about our economy, as well as our environment. The Bill will preserve our nuclear benefits to New Jersey customers, and I think that's extremely important with regard to the environment; and I'll emphasize that in my remarks.

This Bill will prevent 14 million tons of carbon dioxide emissions from going into the environment. It also will prevent the release of nitrogen oxides, sulfur oxides, particulates, and mercury into the air. These are the externalities that Mr. Izzo was talking about previous to this.

If we allow our current nuclear capacity to close, we will wipe out all the environmental benefits that we've derived already from the solar investments, and the investment benefits that we anticipate coming from

offshore wind, which I think policies will change under the new Administration that's coming in.

I'd also call to the attention of our environmental friends, as well as legislators concerned about their constituents, about the pipeline issue -- that if people are not enthusiastic about pipelines in the Pinelands or in their neighborhoods, think about what will happen if natural gas takes the place, whether it is 30 or 40 percent, of the electric generation. That will be something that will have to be faced up to the people of the state.

But this is not just about the environment, however. As you have heard, 6,000 jobs are on the line. You are talking about \$820 million in economic activity generated by the nuclear energy industry. They estimated the cost to consumers to replace, as was mentioned, is \$400 million -- would be an additional assessment upon ratepayers.

The benefits of preserving the plants -- if we add the environmental benefits, economic benefits, and the avoided cost that would come from generating the lost generation power that comes from nuclear -- is \$1.7 billion.

What are the costs associated with this Bill? And candidly, the estimates have been \$300 million per year. A quick cost-benefit analysis shows that the benefits are six times greater than the cost of the changes that are encompassed in this legislation.

The cost per average customer is less than 10 cents a day. With the preservation of 6,000 jobs, the other benefits become, really, a beneficial cost-benefit analysis.

I would just conclude by talking about the protections for consumers, which obviously was a subject for discussion here now.

I want to commend the sponsors of the legislation for the things that they have done in dealing with this problem; which is not just a New Jersey problem, by the way. This is a national problem. This legislation is comparable to what we're talking about here today has been passed by Illinois, by New York. And those benefits in the legislation which have been upheld by Federal court decisions already, indicate that this is something -- a timely subject for us to be dealing with.

But the protections in the Bill-- Or rather, the owners of the plants must open their books to New Jersey regulators to demonstrate the financial need. If the need goes away, the payments will go away as well, through periodic reevaluations.

The payments to the plants will be reduced if there are other benefits received from the Federal government or from regional authorities. The plant receiving the payments will be required to stay open as long as the payments are available.

So I would just conclude by saying that it's important to note the cost to preserve the plants here in New Jersey will be less, on a megawatt basis, than that support that's given in the Illinois legislation I spoke about, as well as the New York legislation.

So the tremendous benefits of this Bill really are deserving of an expeditious consideration and approval of the Bill.

Thank you very much.

SENATOR SMITH: Thank you, Governor.

ASSEMBLYMAN DeANGELO: Thank you, Governor.

If I can ask Mauricio Gutierrez (indicating pronunciation) -- I know I made a mistake in your last name -- from NRG Energy.

Could you please just state your name for the record?

MAURICIO GUTIERREZ: Thank you, and good morning, Mr. Chairman and members of the Committee.

My name is Mauricio Gutierrez, and I am the President and Chief Executive Officer of NRG Energy.

I live and work here in New Jersey, as do hundreds of my fellow NRG employees.

NRG is a Fortune 500 energy company. And as probably you may know, our headquarters are right up the road on Route 1 in Princeton.

You know, the nuclear subsidy of the legislation before you is bad public policy. It creates only one winner and many losers, including my company and my employees. It is bad for the citizens and electricity consumers of this state. It is bad for the State's economy, and it is bad for the business climate.

It will increase the cost of electricity and make our state less competitive. It just sends the wrong message to anyone thinking about moving to this state or creating jobs.

This legislation is also unnecessary; and PSE&G has already told you that its nuclear plants are profitable today. I just struggle to understand why you are willing to consider legislation that would give additional money to a company just because their plants may be unprofitable in some unknown point in the future.

The state of Connecticut just went through a similar situation as yours. Their legislature did not pass a similar request from a nuclear owner in 2016 and 2017; but instead, decided to responsibly study the issue. Just last week the state's Department of Energy and Environmental

Protection released a report after considering confidential information provided by the nuclear owner. And it reveals that the plants are profitable through 2035; I mean, you heard correctly -- that's 2035.

With one just simple study, Connecticut learned that the facts just didn't support what the nuclear plant owner had told the state's legislature, the press, the local Chamber of Commerce, and their own employees. If the Legislature of New Jersey is so serious about this issue, they should conduct an independent study on the profitability of these nuclear plants. There is no emergency, and nothing needs to be done right now.

But in the end, you are accountable for what will happen to this Bill. This Bill represents an unnecessary \$300 million to \$400 million energy tax, per year, for millions of electricity consumers across New Jersey.

I believe the most sensible course of action is to direct the State to study the economics of these plants, just as Connecticut did.

You know, we moved our headquarters, back in 2004; and then we built a new headquarters buildings here in 2016. We believed this could be a good place for our business and our employees. I can tell you with certainty that if the Legislature had passed this anti-consumer, anti-competitive Bill before either of those decisions, we would not have located our headquarters here or invested in a new headquarters building.

You have an opportunity to send an unequivocal message to your constituents and businesses by saying "no" to this subsidy. Please show your constituents, and the consumers and businesses in New Jersey, that you stand with them and that you will not tax them to provide an unnecessary subsidy for the nuclear plants of one company.

Thank you for your time and consideration, and I will be happy to answer any questions you have.

SENATOR SMITH: Thank you for your comments.

And our next witness will be Ed Salmon, representing the New Jersey Energy Coalition.

Mr. Salmon is a former Assemblyman; and I think also a former BPU Commissioner, right, Ed?

EDWARD H. SALMON, Ed.D.: That's correct.

SENATOR SMITH: Okay; we'd love to hear your comments.

DR. SALMON: Good morning, everybody.

I look around this room and there are a number of people I know very well, having served with some of you.

Just for those who don't me, my background is -- I've had the privilege to serve 26 years in government, as a Mayor, a Freeholder Director of a County, and then in the State Legislature, and then in the Governor's Cabinet as President of the Board of Public Utilities.

In the last 27 years I've been dealing with energy all over the country. I've had the good fortune of working with the national association of all the utility regulators throughout America; and I've had the fortune to be at nuclear plants -- to be at Yucca Mountain five times where, hopefully, one day we'll get that issue resolved; and also to work on a variety of energy issues.

I wanted to just say five words to you today. And I don't want to read my statement; you'll get a copy of my statement. But I just want to talk to you from the heart from someone who has had a lot of experience in energy.

The first word is *diversity*. You have to have diversity. The more diversity you have in supplying electricity for our residents and businesses, the better and more effective we'll have, and it will lower the cost. Right now, we have nuclear as a major part; go 40 percent or 33 percent -- it's there. Natural gas; we have some coal, solar, hydra, and also methane from our landfills.

If nuclear is eliminated, 90 percent of our electricity in New Jersey will be provided by natural gas. That's putting all your eggs in one basket. It's very important to have diversity. We're very big on all forms of energy. I represent, and was Chair and Founder, of the New Jersey Energy Collation. I know we had Sam up at the nuclear facilities, and also to PJM. And we do a lot to try to educate the public on all the issues that we face and what the solutions may be.

We're for diversity. The things I mentioned we support. We support all those to be in the breadbasket. The more you have in the breadbasket, the safer your safeguards will be.

The second word I want to talk about is *reliability*. You and I know how important it is to keep the lights on. Boy, do we get the calls; when you're in public office, you do get the calls when the lights go out. You have to make sure that you're reaching out. We don't want to put ourselves in a position that the State of New Jersey could have, potentially, lights-off for a long period of time.

Just look at the polar vortex we had; the sub-freezing temperatures we had; the Mother Nature -- the hurricanes we had. What I would tell you is, nuclear was not affected by those; but other providers of electricity were affected. Nuclear helps keep the lights on.

Third word -- *employment*. There are 1,600 people who work at the three nuclear plants in Salem County. They do a great job; but besides that, there are thousands of other people -- contractors who work at those three facilities. I've been in the facilities; the safest place you'll ever want to be -- go to a nuclear facility. It's the safest place on earth.

My fourth word is *environment*. I believe in the environment. I believe we have issues, as a country and a state, making sure we meet our environmental goals. Nuclear is about the cleanest energy you can get; no carbon or other air pollutants. Nuclear accounts for 90 percent of New Jersey's carbon-free power. Think about that: 90 percent of New Jersey's carbon-free power.

And the fifth word I just want to share with you is *affordability*. You know, if you close those three plants, it would cost us an additional \$400 million. That was said before; that's a huge cost. You're taking away diversity, you're talking away reliability, you're taking away employment, you're taking away the benefits of the environment, and you're actually adding an additional cost.

I think those five words sum it up: *diversity, reliability, employment, environment, and affordability*. What you're doing, I praise you. It's an issue; it's a huge issue, and you're willing to face it. I thank you for doing that.

SENATOR SMITH: Thank you.

ASSEMBLYMAN DeANGELO: Thank you.

Next up, if I can have John Shelk, from the Electric Power Supply Association, in opposition.

J O H N E. S H E L K, Esq.: Thank you, Mr. Chairman, and members of the Committee, for the opportunity.

My name is John Shelk; I'm the President of the Electric Power Supply Association. EPSA represents independent power producers here in New Jersey and throughout the PJM footprint.

Our singular mission, for the last 20 years, has been well-functioning competitive markets. And as Chairman Smith said at the December 4 hearing, we're to speak from the heart, and that's precisely what I'd like to do.

We've provided you with detailed letters of December 4 and December 18, outlining the many deficiencies in the legislation; but let me just summarize a few of them for you.

As a former congressional counsel who drafted legislation, and a former congressional investigator, I long learned, many years ago, to follow the money. To follow the money with this legislation, you need to read the text, parse the words, connect the dots carefully, and finally, see what Wall Street is saying.

The conclusions I've reached are as follows. If you read the legislation, the stated purpose is to prevent premature retirement; but only of the 40 percent of the plants that would be eligible for the subsidies. Instead, it shifts the premature retirement risk to the rest of the plants. Why? Because all of these plants are competing with each other in the same wholesale market that Mr. Izzo properly said has flaws, and we've worked with them to try to fix them.

The major flaw in the legislation -- if you follow the money and connect the dots -- is a total disconnect between how a plant would be

eligible to receive money and the amount of the money they would receive. Let me explain that. Under the legislation -- as I and others read it -- you allow the nuclear plants to only give you projections of costs and revenues. And you know from the stranded cost experience, that's dangerous; because projections, particularly in this business, are inherently unrealizable. You then let the nuclear plants say to the BPU, based only on projections of costs and revenue -- let's say we might be \$3 million, \$5 million, or \$25 million short in that cap. Well, they're allowed to add costs to show the gap that would not normally be allowed in a retirement proceeding in the regional market. They are then allowed to compare that inflated cost to their projected revenues. There is never a look-back to make sure that you've calculated this correctly. And then, when that occurs, they can qualify under two separate ways: Either they're cash-flow negative comparing those inflated costs to projected revenues; or they haven't covered their costs to capital. And as you heard from Rate Counsel -- they're not supposed to be guaranteed recovery of that money.

But you would think at the end of the day, despite the inflated costs and despite the projected revenues, you would only pay them the difference that they themselves have provided to the BPU -- that \$5 million, \$10 million, \$15 million. That is not, ladies and gentlemen of the Committee, what this legislation says. This legislation actually says that you collect the \$4 per megawatt hour (*sic*), or what you have heard is \$300 million a year. And if one or more nuclear power plants actually has that gap -- whatever amount that gap might be between cash-flow negative and not recovering costs of capital -- the BPU has no discretion, as I read it; they have to distribute the entire \$300 million.

Now, to make matters worse, you heard a discussion between the Rate Counsel and Mr. Izzo about what would happen if there are increases in revenue, either while you're considering the legislation or during any of these three-year periods. Well, if you look very carefully at the language -- which I believe is in 3e(5) -- it does not -- let me emphasize -- does not say, as I read it, that if there are reforms at the PJM level, that there's a dollar-for-dollar reduction in the money. Just to give you a very specific example: The amount of money -- the \$300 million -- is about \$10 a megawatt hour; that's how much they would get as a subsidy, and then take that money and compete against my members armed with that \$300 million advantage. So let's focus on the \$10 a megawatt hour.

Mr. Izzo knows -- because he and I have had meetings at FERC together, and work at PJM -- the PJM proposal, now underway that you've heard about, is estimated by PJM to be \$3.50 a megawatt hour.

Now, read the language in 3e(5). It does not say that if PJM has price formation of \$3.50, that you then take that \$3.50 and reduce the \$10 per megawatt hour subsidy. It only says the company certifies to the BPU that these other payments -- like the \$3.50 -- in and of itself was not enough to *eliminate*-- That's the key dangerous word in 3e(5) -- that that outside subsidy from PJM has to be enough to eliminate, not reduce, the risk of closure. It says eliminate, which will be impossible. They say they'd be (indiscernible) only getting \$3.50; the way I read it, they'd get both.

And last by not least, I mentioned Wall Street. I would highly urge the Committee to read the presentations that Exelon and PSEG have made to the EEI conference recently; and hear the numbers that Wall Street has put on what's happening here. They, like others, have estimated \$300

million a year in subsidy. And you say, "Well, that's great if you need to do this to keep the plants open." But you've heard that's not what's going on here.

Here's what Wall Street is saying about this. The \$300 million would be split as follows: roughly \$200 million to PSEG; \$100 million to Exelon. One analyst estimated that's 22 cents a share to PSEG shareholders; which, if you do, based on their 560 million shares outstanding, that means \$111 million of the annual \$200 million doesn't go to the communities or the employees. It goes to the shareholders of PSEG.

A second analyst put the number higher, at 25 cents a share; which is \$127 million of the \$200 million. It goes right to the bottom line, goes to shareholders, and they can raise dividends

But there's more -- because the stock market, as we know, values these earning increases with a multiple. So a third analyst sends a report out saying this legislation is worth a dollar a share to PSEG. With 560 million shares outstanding, that is one-half a billion dollars in increased shareholder value that the people with the models and whose professional job it is to look at this legislation and determine the impact--

And last but not least, I would simply point out I had the pleasure of working with Governor Florio when he was on the House Energy and Commerce Committee; I have enormous respect for him. But with respect to the legal issues, we happened to be the plaintiff in the lawsuits in Illinois and in New York, which are still pending before the Court of Appeals.

And I would urge you, finally, to talk to your colleagues in the state of New York who had no say in this matter when these acts were passed by, and a fiat from, the Governor and the Public Service Commission. And the reaction of hospitals, and transit districts, and rank and file people when they found out what was happening was incredible.

And you've heard about the Connecticut experience -- and that's really why I came here to speak from the heart, Mr. Chairman, as you asked us to do -- because I've seen this playbook from the nuclear industry; we've been in these states with them. Nobody else this year, now that there's organized opposition to this approach, has gone down this road. And I urge you please don't be the only state to create this in these remaining weeks of this year.

And I thank you for the opportunity to speak from the heart, as you quite correctly suggested we should.

SENATOR SMITH: Thank you for your comments.

There don't appear to be any questions.

Dean Murphy, Brattle Group.

Mr. Murphy, in favor.

DEAN M. MURPHY, Ph.D.: Good morning, and thank you for the opportunity to speak again about the work that the Brattle Group has done to study the economic and environmental impacts of the Salem and Hope Creek nuclear plants in New Jersey.

I submitted written testimony, which I believe you have from the last hearing. Attached to that was the Executive Summary of our report; I believe a copy of that has also been handed out today for your reference.

Very briefly, I'll review the primary findings of our study.

We found that Salem and Hope Creek nuclear plants provide substantial benefits to the State of New Jersey. If those plants are lost, the average annual effects would be an increase of \$400 million in power costs; you've heard that number cited a number of times today. Those higher power costs would have effects on the State's economy to the tune of about \$800 million in GDP; \$37 million in lost State tax revenues; and about 5,800 jobs in New Jersey. As we have heard here, those are gross benefits, not accounting yet for the cost of the program.

The other benefit of keeping the plants is the environmental benefit: about 14 million tons of CO₂, which is equal to CO₂ emissions of all the automobiles registered in New Jersey. It's a big number. Tens of thousands of tons of nitrogen oxides, sulphur dioxide, and particulates, for a total social and public health cost of about \$733 million per year. That number is independent of and in addition to the economic effects that we found.

I get a number of questions, and I heard one today about how is it that prices go up if the nuclear plants close. And Mr. Izzo answered this question in one way; I'd like to provide a slightly different perspective.

Very simply, it's the economic law of supply and demand. If supply decreases, and demand stays the same, the price goes up. In PJM, for electricity, what we're talking about is an energy market that works on an hourly basis. Plants are dispatched in order from cheapest to more expensive, based on their short-run costs only, up until you get just enough to meet load in that hour. The short-run cost in the last plant that you need to run in that hour sets the price for everyone for the entire market.

If you remove the nuclear plants -- the nuclear plants are at the bottom of the stack. Their short-run costs are essentially zero, because they act as price takers in the market. They will operate; they will provide power to the market; they will accept whatever price the market offers, in the short run, once they're running, or as long as they are running.

But if you remove that power, the market has to turn -- the PJM market operator has to turn and find 3,500 megawatts of additional generation that had not been running before, because it was more costly than the last generator you needed when the nuclear plants were running. That additional 3,500 megawatts of generation has higher costs, and it sets a higher market price across the entire energy market for all consumers and all producers. That's the price impact that we see in the energy market. You see an analogous thing in the capacity market where the loss of a nuclear plant reduces supply and that pushes up price. We currently have a capacity surplus. Losing the nuclear plants does not create a shortage, but it reduces the surplus and it causes the price to rise.

Importantly, in our study these power price benefits that we found already take into account the market response to what happens if we remove those nuclear plants. Well, if you remove the nuclear plants, there is some additional supply that comes in; and that mitigates the magnitude of the price increase. We've already accounted for that in the \$400 million figure that we've determined for the increase in electricity cost.

As I've noted, the economic benefits that we've calculated are gross benefits. When we published our report there had not been a proposal put forward to preserve these plants; but now there has. Last week, the Bill was put forward, and we've heard the cost of the Bill cited a

number of times: about four-tenths of a cent per kilowatt hour becomes \$300 million per year. Because of how the price is set and how the payments are made, the actual payments might be somewhat less than that; maybe \$280 million per year to support these plants.

That \$280 million or \$300 million number is smaller than the \$400 million price effect. And that says that when you take both of those things into account -- because you get both or neither -- electricity costs for consumers, with the NDC program, will actually be lower than they would be if the nuclear plants were to shut and the electricity prices would rise.

So there's not actually a cost to consumers; consumers don't pay more to keep these nuclear plants around than if you did not support the plants. They actually pay less, because what they pay to keep the plants around is smaller than the price benefit that keeps them around.

It is also the case -- and very important and worth noting -- that even if you only look at the cost -- the direct cost of this program, that \$280 million, that is considerably smaller than the environmental benefits that we estimate at \$733 million.

So it's -- you get these other benefits -- the environmental benefits, also diversity benefits, jobs at the plants. What do you have to pay for them? Well, you may not have to pay anything; in fact, consumers may pay less than they would otherwise.

The other thing I wanted to note with respect to the Bill is the eligibility criteria incorporating the air quality and the diversity effects. Our study clearly looked at the air quality effects, and we found that \$733 million per year benefit to air quality from keeping these plants operating and preventing them from closing.

It is also very clear that fuel diversity in New Jersey will diminish considerably. Nuclear and gas are currently the only major generators in New Jersey; together they produce well over 90 percent of the power that's produced in New Jersey. Oyster Creek is going to close in 2019 in any case. If the Salem and Hope Creek plants also close, almost the only things left is natural gas, with smaller amounts of renewables than other fuels.

So in my opinion, the program to support the nuclear plants will provide benefits greater than its costs. That's true if you're looking even only at the electricity cost effects -- the aggregate electricity cost effects. It's even more true if you incorporate the environmental and other benefits that these plants will preserve.

Thank you, and I'd be happy to take any questions.

SENATOR SMITH: The \$733 million in air quality benefits -- did that include health impacts?

DR. MURPHY: That is-- Yes; that is putting a dollar value on the estimated health impacts of the emissions -- of the--

SENATOR SMITH: Of the non-nuclear?

DR. MURPHY: Yes.

SENATOR SMITH: So if the plants closed and we were taking particulates, mercury, SOX, NOX, from coal or natural gas plants, part of that \$733 million is associated with the lethal impacts on human beings in the State of New Jersey.

DR. MURPHY: In the State of New Jersey, and beyond.

SENATOR SMITH: Okay.

DR. MURPHY: Because the health impacts occur where the pollutants occur. The pollutants are emitted -- some in New Jersey; much of it out of state, because much of the replacement generation is out of state. And then, of course, you've got air transport to take into account and what populations are exposed. We did not go into that level of detail in our model.

ASSEMBLYMAN DeANGELO: Assemblyman Zwicker.

ASSEMBLYMAN ZWICKER: I'd like to follow up on Chairman Smith's question.

So I just want to know the assumptions you're making-- There's no doubt that nuclear power is carbon free. But we've heard you testify, and others testify, that there is diversity of power coming through the PJM grid. So are you assuming that if we eliminate the equivalent power from these three power plants that it would all be burned by coal?

DR. MURPHY: No--

ASSEMBLYMAN ZWICKER: How are you deciding -- what are you comparing this to? What's your source of non-nuclear?

DR. MURPHY: That's an excellent question.

And we performed a simulation of the PJM power grid over the next 10 years to get an answer to this. And what we found is that the very large majority of the replacement is gas-fired -- about 85 percent of the replacement is gas-fired -- most of the rest is coal and small amounts of other fuels.

ASSEMBLYMAN ZWICKER: So you are assuming an 85 percent gas, as opposed to coal, when it comes to particulate and things like that, right?

DR. MURPHY: In fact, that's not an assumption, but that's, rather, a result of the model. The model looks at what is the cheapest way to replace the nuclear plants, because that's how markets work.

ASSEMBLYMAN ZWICKER: Okay.

DR. MURPHY: And that's what we find; yes.

ASSEMBLYMAN ZWICKER: And per -- what? Per year, per 10-- Is this \$733 million over 10 years?

DR. MURPHY: This is per year over 10 years.

ASSEMBLYMAN ZWICKER: So is this number \$7 billion or \$733 million?

DR. MURPHY: It is \$733 million per year; and if you sum it up over 10 years, it would be \$7 billion and change.

ASSEMBLYMAN ZWICKER: Right, okay.

And then my last question is -- you also made a comparison to cars. So again, are you -- you said if we close these, and went to the cheapest forms of energy that the market would demand--

DR. MURPHY: Yes.

ASSEMBLYMAN ZWICKER: --that the CO2 -- the emissions from our cars from those, which is 80 percent natural gas -- equals the equivalent of every car in New Jersey. That's what you said.

DR. MURPHY: That the emissions associated with the replacement generation -- some of which is inside New Jersey, some is outside -- would be -- the carbon emissions would be about equivalent to the total carbon emissions of all the automobiles registered in New Jersey.

ASSEMBLYMAN ZWICKER: Carbon emissions.

DR. MURPHY: Not trucks.

ASSEMBLYMAN ZWICKER: What?

DR. MURPHY: All the automobiles, not trucks, registered in New Jersey. This is using the EPA's number of about 4.7 tons per car.

ASSEMBLYMAN ZWICKER: Very good.

Okay; all right. Thank you.

ASSEMBLYMAN DeANGELO: Thank you very much.

I'd like to call up Janet Tauro, from GRAMMES and Clean Water Action.

As she's coming up, I'm going to read the names, for the record, of those individuals who very graciously said there was "no need to testify."

Mark Longo, from Operating Engineers 825, in favor; Mike Travostino, from Associated Construction Contractors, in favor, no need to testify; Rich Lavesque, from the Mechanical Contractors of New Jersey, in favor, no need testify; Eric Richards, from the New Jersey AFL-CIO, in favor, no need testify; Mr. Menezes, from Atlantic Subsea, Incorporated, in favor, no need testify; Paul Stockton, former DoD official, in favor, no need testify; Karen Alexander, New Jersey Utility Shareholders Association, in favor, no need testify; Marlene Asselta, Southern New Jersey Development Council, in favor, no need testify; Jim Saxton, from Holtec, in favor, no need testify; Dave Bailey, Branch Hope, in favor, no need testify; Bob Perciasepe, from C2ES, in favor, no need testify; and Erica Jedynak from Americans for Prosperity, in opposition, no need to testify.

If anyone else wishes to come up and change their request up here to be heard to "no need to testify," that would be appreciated.

Thank you.

Please continue; introduce yourself for the record.

JANET TAURO: Yes, thank you very much.

Thanks for the opportunity to address you.

My name is Janet Tauro; I serve as the Board Chair of Clean Water Action; and I am also a founding member of Grandmothers, Mothers, and More for Energy Safety.

So just a couple of things.

Talking a lot today about economics and money-- And I wanted to bring up that there are other things, maybe, to consider in this Bill.

There's been a lot of talk of nuclear being environmentally beneficial, and clean energy. And I wanted to refute that by saying there's a lot that has to be looked into; and what's not being talked about is the tremendous amount of nuclear waste that comes from nuclear power. So that's one of the things that hasn't been addressed.

And other issues include -- other issues would be the routine, and regular, and consistent radioactive emissions; and there have been various studies that have shown increased cancer rates around nuclear plants. And I know you'll say, "Well, wait a minute; not in the United States," but yes, there have been independent studies that have shown that in the United States. There have been government studies that have shown that in France; government studies that have shown that in Germany. And we actually did secure a cancer study around Oyster Creek. We had fought very hard for that. But it was just abruptly cancelled, without any explanation, two years in, after the NRC was looking into those rates.

The other thing I'd like to bring out is when you say that nukes aren't carbon emitters. But the entire fuel cycle has to be taken into

consideration, from mining to decommissioning. And that requires major fossil fuel inputs.

So I'm not trying to really present myself as an expert on these things, but to encourage you to seek other voices that are experts. And it was wonderful that you had Dr. Frank Von Hippel at the last hearing; and I think you should engage him more. And you did offer a quote -- Senator Smith, you had quoted someone before -- about nuclear power in the United States. But that person was from the Nuclear Energy Institute, and that's a nuclear lobby.

So I think that it would serve the Committee well if you did get other voices and heard more people like Dr. Von Hippel -- who has offered us tremendously valuable information over the course of the years -- as has people like Arjun Makhijan; and Gregory Jaczko, former NRC Chair; Arnie Gunderson. These are people with vast knowledge who could help you greatly.

And I will wrap up, because I know there is a time limit. But when you did speak about jobs, one of the things that we have always consistently said is that the decommissioning of a nuclear plant -- the decommissioning is a job-generator. And if a company just closes a plant and walks away -- yes, those workers lose their jobs. But if a nuclear plant commits to a decommissioning, those jobs are retained, and that's a skilled workforce that is necessary for a decommissioning.

And so it looks like you're probably going to move ahead with this Bill, and you like this Bill. But I would add that maybe you should get something in return. And I would urge you to secure a firm commitment from PSE&G that when they do eventually close these plants -- because

they will eventually close -- when they do close those plants that they do a complete decommissioning and clean-up of the site, and that would happen. And I would urge you to get involved with the Oyster Creek decommissioning also, and do also secure from Exelon a commitment to fully decommission that site.

And I thank you very much.

SENATOR SMITH: Thank you for your comments.

Mr. Mike Maloney, New Jersey Pipefitters.

M I C H A E L M A L O N E Y: Is this on? (referring to PA microphone)

SENATOR SMITH: Yes, sir.

MR. MALONEY: Good news; I'll have the briefest statement you'll hear today. (laughter)

Good morning, Senator and Assembly Committee members. My name is Michael Maloney; I'm the President of the New Jersey State Pipe Trades. I'm also the Business Manager of Plumbers and Pipefitters Local 9. My organization includes plumbers, pipefitters, sprinkler fitters, welders, and HVAC technicians.

I'm here today to testify on behalf of Bills S-3560 and A-2180 (*sic*), and the important implications they will have to the people I represent.

The projected impacts of the 2019 closure of Oyster Creek plant are not indicative of the potential impact the closure of Salem and Hope Creek would have. Oyster Creek provides less than 10 percent of New Jersey's generation; Salem and Hope Creek provide over quadruple that amount.

Supply can still meet demand without Oyster Creek; however, I am here to warn that failing to provide a safety net to keep Salem's plants open will result not only in a loss of jobs, but a spike of energy prices due to a huge portion of the state's supply disappearing.

The nuclear plants in Salem County are a bastion of success in an otherwise struggling economy in that area. The regional environment is not situated to absorb the jobs that will be lost if Bill S-3560 and A-2180 isn't passed. It is in your hands -- not only the fate of the plants, but the fate of the families they support. If these jobs disappear, so will the money that is pumped into the economy by the secondary and primary benefits of the functionally employed workforce.

Thank you, Mr. Chairmen, for allowing me to testify.

SENATOR SMITH: Thank you.

ASSEMBLYMAN DeANGELO: Thank you, Mike.

If I can have Tanya Bodell, from Energyzt Advisors, LLC, please come up.

Tanya, are you here?

T A N Y A B O D E L L: Thank you very much.

My name is Tanya Bodell; I'm the Executive Director of Energyzt Advisors, LLC. We are an economic and business consulting firm.

We advise market participants, policy makers, and investors in the energy industry. Our analytical service offerings include financial assessments of energy assets for purposes of valuation, refinancing, and restructuring.

I have been a consultant to the energy industry, primarily the power sector, for nearly 25 years; and have testified before a number of

panels, commissions, the Federal Energy Commission, and arbitration panels.

I'm here to talk about two things: one is a financial assessment that we performed on Hope Creek and Salem; the second is to talk about the Brattle Group's benefits analysis.

The New Jersey nuclear plants -- Hope Creek and Salem -- have been profitable, and will continue to be so through at least 2021, based on our analysis. This is particularly true through 2019, due to very lucrative hedges worth around \$400 million that have been placed on the output of those plants by Exelon and PSEG.

The returns that have been generated by the New Jersey nuclear units, since competitive wholesale electricity markets began, has exceeded 50 percent per year, not including the stranded costs that have been provided. And any support payments from the State to the owners of nuclear plants in New Jersey that have announced retirement will simply flow to the equity investors who have already received very high returns on their investment.

The Brattle Report: The Brattle Report, in my opinion, given what is out there -- the summary report that's publicly available -- is not adequate to be relied upon to make any decision regarding support for the New Jersey nuclear power plants.

PSEG and Exelon retained the Brattle Group to perform a benefits analysis of keeping Hope Creek and Salem operational. The Brattle Report, as published, is inadequate and flawed. I highly recommend that it be disregarded until it can be thoroughly assessed and verified with the underlying detail; here's why.

The first is inadequate backup. The summary report that is publically available does not provide any backup or any basis for ensuring that the assumptions and the results are correct.

It is an incomplete analysis. The study does not account for the negative economic impacts of potential out-of-market support, as we've already heard.

It is deficient in reporting the results. The Brattle Report provides a limited set of high-level results without reporting key information that could be used to understand the broader implications of the analysis. For example, never in their 10-year projection -- by which they assess the change in prices that would occur if these nuclear plants retire -- do they report what the projected prices are. Those projected prices very well could be more than high enough to ensure the profitability of those plants.

And in addition, half of the assessed price change is based on changes in the capacity market. And in footnote 9 on page 9, Brattle reports, "Capacity price effects can be difficult to ascertain with confidence." In other words, these are not hard, set numbers. There's a lot of uncertainty around them, not to mention potential assumptions and other erroneous results that may end up providing the \$5 savings that is being relied upon here.

Beyond 2021, the market model most likely settles to a much-higher price that would be adequate to support the nuclear units.

There is a flawed premise. The report assumes that both units simultaneously retire in 2018. This is not going to happen. The plants -- with all due respect to Mr. Izzo -- the plants are committed to operate

through 2021 in the capacity markets. It is very costly for them to get out of those obligations. Based on our economic analysis, it would be more costly to retire prior to 2021, than to continue operating, because our analysis shows that they are profitable in the energy market; and capacity payments that are set cover their costs -- not counting, as I've already mentioned, the very lucrative hedges that they report publicly -- they have in place in 2018 and 2019.

There is also a ridiculously low discount rate of 3 percent that is applied to those benefits. Those benefits are uncertain; they depend on objective market prices; they depend on market conditions; and therefore, a 3 percent discount rate should not be used. In contrast, the payments that would be paid to support these nuclear units would be relatively secure and would require a lower discount rate. Without a proper comparison of cost-to-benefits, it is difficult to determine what the true implications of this legislation would be.

So in conclusion, there is no pressing need to make a decision now on whether or not to award out-of-market support to the New Jersey nuclear power plants. Both Hope Creek and Salem are committed to operate through mid-2021, if not later. Both Hope Creek and Salem have been extremely profitable, and are making significant profits through at least 2019 due to their hedges. And there is not a valid analysis of potential ratepayer benefits that would justify such support. The Brattle Report performed, on behalf of PSEG, is seriously flawed and unverified at this point.

Thank you very much.

ASSEMBLYMAN DeANGELO: Thank you very much.

SENATOR SMITH: I'd like to call Mr. Carlos Medina, the Hispanic Chamber of Commerce, in favor.

CARLOS MEDINA: Good morning, Chairmen, and members.

I'll mention this is a very important issue to me; and I am missing my own company's holiday party to be here because I feel it is important.

ASSEMBLYMAN DeANGELO: So am I. (laughter)

MR. MEDINA: The Chamber is the voice of the 119,000 Hispanic-owned businesses that call New Jersey home. We contribute \$20 billion annually to the New Jersey economy.

Many are small businesses, so they're vulnerable to both price increases, and they're also not self-redundant. They count on the industry to be redundant.

I saw the numbers, and they're quite compelling -- what would happen if these close. So a small increase is much more favorable than the risk of a large increase to our smaller members; and even to our larger members, such as Goya Foods. Sandy saw over a hundred of our members needing EDA support and loans -- they were bodegas, they were beauty salons, they were small law firms, and retail establishments.

So again, I think that this legislation provides checks and balances that are satisfactory to the Chamber, and we wholeheartedly support it.

Thank you.

SENATOR SMITH: Thank you for your comments.

ASSEMBLYMAN DeANGELO: Thank you.

Next, if I can have Mary Barber from the Environmental Defense Fund come up.

Ladies and gentlemen, it's almost 12:30. At this point, we've been here for approximately a little over two hours. So we're all professionals in the room, and there are really no normal constituents who are out there besides those who are advocating for a group or an interest.

If we can ask you guys -- please, please to summarize; I'm starting to hear redundancy on everything. So we're coming forth -- and if it's very important, you know, make that statement. But do the best you can to not read the statement that you have in front of you.

Thank you.

Mary.

MARY BARBER: Yes, thank you very much

Again, good morning. My name is Mary Barber -- good afternoon; I'm the Director of New Jersey Clean Energy for the Environmental Defense Fund.

And I will cut it short.

As stated in a joint letter to legislators from EDF, and ReThink Energy, and NRDC, EDF agrees that a time-limited, zero-emissions credit for nuclear plants should be considered if PS can demonstrate the plants are in severe economic distress. The support is narrowly tailored and tied to workers, communities, and the environment; and any program that's established to support existing nuclear plants includes a commitment to and plan to accelerate the adoption of clean energy. We need to move forward with our transition, as we're hearing, toward clean energy.

This Bill doesn't do any of that; and so we urge you to reject it.

I'll move to-- There are legitimate concerns about the premature retirement. But again, we need to keep the clean energy piece moving forward.

In Illinois, when the utility asked for a bailout, the Legislature first conducted a multi-agency study. The legislature found that the initially requested subsidies were \$300 million a year more than what was needed for the plants to keep running. At the end of the process, only two of the six plants for which a subsidy had been requested actually were found to be eligible to receive support. Today, all six are operating.

The Bill raises many questions and provides few answers. Some examples: There's no basis for some of the findings that are cited as support for the Bill. For example, page 2, Section 9, states, "The electric power demand in the state currently met by nuclear power plants would not be met by renewable energy sources if those nuclear plants cease production." What is the basis for that statement? How much demand could be met by renewables in increased efficiency? At what price? What are the alternatives to the subsidy being proposed? We simply don't know. We need more analysis, more facts.

We've heard about the kilowatt hour charge -- how that has been determined. There are a lot of questions about that. It needs independent analysis and independent verification.

Corporate handouts without open books, without a demonstration of need, and without a thoughtful look at benefits to be obtained don't make sense. Please reject this Bill; come back in the new session, and let's look at this thoughtfully so that it works for all ratepayers and everybody involved.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you, Mary.

SENATOR SMITH: If I might ask, maybe as a panel -- because we have four Chambers of Commerce represented, or a number of business groups.

Mr. Mike Kerwin, Somerset County Business Partnership; Chip Hallock, Newark Regional Business Partnership; Peter Crowley, Princeton Regional Chamber of Commerce; Tom Curtin, MIDJersey Chamber of Commerce; Paul Boudreau, Morris County Chamber of Commerce.

That's five, and they are all on the "in favor" list. So I would ask you to be brief; you're all in favor. If you would put whatever your unique spin is on this, and put it in front of the Committee. But again, we have, probably, another 30 witnesses to go.

Why don't we start with Mr. Kerwin?

MICHAEL V. KERWIN: Thank you.

We're in support of the Bill.

My name is Mike Kerwin; I'm with the Somerset County Business Partnership. We've been a Chamber of Commerce for 99 years. We also partner with the Somerset County Freeholders to provide economic development.

I found the arguments in support of the Bill persuasive. There were two tests that we applied: one is, we applied the principles of sustainability; sustainability is our mission. I'm surprised I hadn't heard that word yet. But I look at the Bill as meeting the needs of the present without compromising the ability of future generations to meet their own needs. And when I look at it that way, I think it meets that test.

The other point that was made, and the way we look at a Bill, is from economic competitiveness -- whether or not preserving a diverse supply of energy, that's clean, improves and maintains our competitive advantage in New Jersey; and Somerset County, in particular. And I think the Bill meets that test as well.

So for those two reasons, we support it.

SENATOR SMITH: Thank you.

The next gentleman, if you would identify yourself.

CHIP HALLOCK: I'm Chip Hallock; I'm President of the Newark Regional Business Partnership, a 400-member organization in Newark.

We are in support of the Bill. There is a great revitalization going on in the city that requires more and more power. And endangering that continued supply of power we need to move the city forward, we think would be a dangerous thing.

We don't take these rate increases on our members lightly; but believe that the reliability of energy in planning for the future is worth the incremental costs to our members for this -- for the energy.

The legislation strikes the balance of providing a safety net for New Jersey's energy future, and preserving jobs and ensuring consumer protections to the public, including our members.

Often in New Jersey we've postponed and avoided dealing with issues that are the lifeblood of our state's economy -- water and sewer infrastructure, transportation infrastructure -- we can't do so with this issue of maintaining nuclear plants to provide electricity for our members, and we urge you to vote in support of this Bill.

Thank you.

SENATOR SMITH: Thank you.

PAUL BORDREAU: Mr. Chairman, My name is Paul Bordreau; I'm President of the Morris County Chamber of Commerce. We have 900 members that employ over 70,000 people in Morris County and surrounding regions.

For us, it's two issues: infrastructure -- we need an amazing infrastructure in this state to make sure, as someone said earlier, that the lights stay on; and we need a diversity of energy resources for the future.

These two plants in South Jersey are assets for our state. We need to figure out how, as a state, to make sure they stay open, make sure we have a competitive marketplace, and get all those benefits that have already been mentioned in terms of jobs, and the environment, and so on.

So we've been a very active organization in the last few years; we've testified at a number of BPU hearings on infrastructure projects, pipelines, and the need for natural gas to come into the state. We need these plants for the future, and I look forward to your resolution of some of the issues we've heard about today.

Thank you.

SENATOR SMITH: Thank you.

PETER CROWLEY: Good morning.

Thank you very much for letting me speak.

My name is Peter Crowley; I'm the President and CEO of the Princeton Regional Chamber of Commerce. We represent 1,350 members, companies; over 5,000 individuals; and 150,000 employees in our region.

You've heard a lot of numbers; I won't go over them again. But we feel strongly that nuclear energy is an economic support of our economy,

it's a creator of jobs -- good paying jobs for our state, and a needed source of clean energy. And I can't reinforce the clean energy side; you've heard some of the arguments of what would happen if it did disappear.

I did just want to make one other comment to what my peers have said here.

As legislators, I look to you as the major oversight role. You provide a significant consumer protection in this area. You regulate the energy sector, making the owners of power plants open their books and operate in a safe and reliable manner. And we look forward to you doing that.

You sort of understand what financial strains are occurring with nuclear power. And that is a problem; I mean, it's changing -- energy costs have (indiscernible); nuclear power is, as you understand -- it generates a significant amount of energy for our region.

With that, I want to mention that the Princeton Regional Chamber is in favor of both these two Bills, and we're including our support to what the other Chambers have done.

Thank you very much.

SENATOR SMITH: Good.

Is there a gentleman named Tom Curtin up there, also with the MIDJersey Chamber of Commerce? (no response)

Okay; if not, he's now off the list.

MR. KERWIN: Thank you.

SENATOR SMITH: Thank you, gentlemen, for coming forward.

MR. CROWLEY: Thank you.

MR. BOUDREAU: Thank you.

SENATOR SMITH: Chairman.

ASSEMBLYMAN DeANGELO: I'm going to ask three gentlemen to come up before us: Buddy Thoman, Business Manager of IBEW Local 94, representing Public Service Electric and Gas employees; Dan Costner, Business Manager of IBEW Local 351 and South Jersey Trades; and Wyatt Earp, International Rep for IBEW, and President of Monmouth and Ocean Central Labor Council (*sic*).

KENNETH "BUDDY" THOMAN: Is this on? (referring to PA microphone)

Thank you, Chairman; I appreciate the opportunity to speak.

Written testimony was handed in, so I'll just make a brief statement.

My name is Bud Thoman; I'm the Business Manager and President of IBEW Local 94. We have 750 members who work fulltime down at these nuclear plants.

In addition to the critical jobs that they perform at these plants, they also contribute to the local economy as homeowners and consumers. And with the loss of jobs down there, it would have a negative impact on the economy. We would ask for the continued operation of nuclear energy and the jobs that go along with it.

WYATT EARP: Thank you.

My name is Wyatt Earp; you just read where I'm from.

I'm in good company when I'm talking environmental stuff, and I'm on the same side as Governor Florio; energy issues, I'm on the same

side as Ed Salmon; and corporate issues, when I'm on the same side of a pretty good corporate partner we have -- corporate citizen of Public Service.

I've supported many of the people in this room you've heard, who have been opposed to this. Interestingly enough, when they wanted money for their projects and their energy issues, we were there for them. I get it; everybody's trying to make a living here.

I just want to say -- from the questions I've heard and the testimony, I believe these two Committees have a great grasp on the issues. And we've heard a lot about the economic benefits. Nuclear fuel costs are low; fossil fuel costs are higher for actual fuel cost; and the environmental impact is higher for fossil fuels. But the fact is, when you include the thousands of people who are employed in the nuclear industry, the costs get a lot closer.

And you have the opportunity here to not only support good, clean energy at a very economical rate; but you also have to, at the same time, support people's jobs -- real human benefits, as well as economic benefits.

Thank you for your time.

ASSEMBLYMAN DeANGELO: Thank you, guys.

ASSEMBLYMAN ZWICKER: May I ask a question?

SENATOR SMITH: In opposition--

ASSEMBLYMAN DeANGELO: Assemblyman.

SENATOR SMITH: Oh, I'm sorry.

ASSEMBLYMAN DeANGELO: Assemblyman.

ASSEMBLYMAN ZWICKER: Yes, no doubt that we want these plants to stay open; and these are good, high-quality, high-paying jobs.

The question for either of you is -- does this Bill do enough, right? In other words, we're going to make sure we're going to keep these plants open, we keep these jobs. But do you think this does enough? And in particular, I'm thinking of other states that have gone further. Because the plants are going to close eventually; licenses will run out, right? So we are talking more than 10 years from now, I'd say.

But should we be considering putting protections in now? So California -- they worked with the nuclear plant owners to say, "We need to work together, collectively, on job retention or retraining; if we're going to put money aside for job loss to make sure that employees -- these people we're talking about right now -- are going to get a buyout package." So this is what California has done. I'm curious to see if you think it's something we should be looking at in New Jersey.

MR. THOMAN: Well I know, for now, what this Bill provides is a continued operation at the plants. I know without the Bill the jobs of my members working down there would go away. So what this does, 10 years from now, I don't know; but I know what's in front of me now.

MR. EARP: And I'll just add -- I appreciate your comments; and I think we can look at further stuff, but let's not make *perfect* be the enemy of a good Bill.

Thank you.

SENATOR SMITH: Thank you, gentlemen.

Next, in opposition, Jeff Tittel, Sierra Club.

J E F F T I T T E L: Thank you.

I'm just going to grab a little water; sorry.

Jeff Tittel; Director, New Jersey Sierra Club.

I just want to start out and say that one of my first jobs in Washington, when I was a kid, was I worked as an intern for the House Subcommittee on Environment and Energy. And the lesson that I learned then, which I think still applies, is that energy policy is all about subsidy, not about energy. It's really how you can manipulate the system.

And the reason I say that is because what you're doing here today is going to shape energy policy in the State for the next generation. And what I see as the biggest problem is you're doing it in a vacuum -- that you're not looking at actually putting forth a strong, bold energy plan for the future of the State. Instead, you're looking at a very narrow compartment where, to some of us, it would look like you're deciding to, basically, subsidize a Palm Pilot when the iPhone is being introduced.

We are heading towards a technological revolution in this country when it comes to clean energy: offshore wind, solar getting more efficient, cheaper; energy efficiency. Energy use in New Jersey has dropped, in spite of Christie's best efforts to steal all of the Clean Energy funds and not move us forward.

And so you can't look at this Bill in a vacuum -- that if we decide to go out and subsidize -- I won't pick a number; but whatever it is, \$250 million, \$300 million a year -- that's money that cannot go into clean energy.

And when you look at the other programs we already have in place -- the Societal Benefits charge, the solar SRECs program, and so forth;

going back into RGGI -- all of a sudden what happens is we will not be able to have the money to go forward with 3,500 megawatts of offshore wind. In fact, if we do that -- even though it's a major policy objective, I know, in the next Administration -- PSE&G and others will be here saying, "If we do that, it's going to threaten our nuclear power plants; and either we can't do it, or we're going to need more subsidies." And the Ratepayer Advocate says it's going to raise our rates even more, and so on, and so forth. And so you can't do this alone.

And I heard statements from Mr. Izzo and others about Illinois and New York. And Sierra Club is very much involved there. They weren't done in a vacuum. In Illinois, \$2 billion went for subsidies for nuclear power. Their public utility commission and legislature committed \$14 billion for renewable energy. In New York, Governor Cuomo, as part of their package, declared that the energy goal for New York was going to be 50 percent renewable by 2030. We're just saying we're giving PSE&G the money; we're not saying how it mixes with our whole, overall energy package.

And then I want to talk about a couple of little pieces of the Bill.

Under this Bill, as you've heard, any other company can come in, as long as they meet certain criteria; including Exelon. And in the case of Oyster Creek -- they could come in for Oyster Creek. Remember, it's only an ACO; it's an Administrative Consent Order between two parties. That can change all the time. Look at B.L. England; it's changed 10 times in the last 15 years. So this could end up going there; it can go to Three Mile Island; it can go to other things.

This other issue about deducting or looking at costs if there are other programs that go into place. You talk about energy mix, or diversity, and clean energy. But if the Trump Administration is going to go forward with a subsidy -- they don't like those words. It's going to be for base loading and it's going to be for reliability, which is not in your Bill, which means they can double-dip -- as just another simple flaw.

The other problem I see is giving so much power to the Board of Public Utilities. We've called them the *Board of Promoting Utilities* for years because they haven't done their job. When we go back to the energy deregulation bill -- which we opposed at the time -- they gave all this power over to the BPU to do things like decoupling and energy efficiency standards. They never did them. They also gave them the ability to look at stranded assets that were giving billions of dollars to PSE&G; and for 15 years they looked the other way before they ended the program.

So I don't trust them to actually do the right thing here. Unfortunately, that's been the case for too long -- that they've been a rubber stamp for the industry they're supposed to regulate.

And when I look at PSE&G -- they supported deregulation. They finally got deregulation; now they're complaining because they're not making as much money. And when they're complaining about cheap natural gas, they're building two gas plants. So you can't have it both ways.

You know, to me, it just boggles my mind that at a time when we see the Trump Administration rushing through a bill that's reversed Robin Hoodism when it comes to the taxpayers, especially of this state, we're doing the same thing with energy policy.

But if we really wanted to go forward-- Because we don't want to see these plants close now; we'd like to see them live out their life cycle and be replaced by renewable energy. But there's nothing in here that says that they will be. They could be replaced by gas plants. And that's the problem -- that when you look at this, you can't do it alone. That if this was tied to, let's say, RGGI and a carbon tax -- which is what RGGI is -- that would be a way of helping them raise their revenues that way, because the price of electricity would go up for RGGI and they would do better in the marketplace. We could also tie it to making sure that we move forward with a 100 percent renewable energy as part of any package; that we do the 3,500 megawatts of offshore wind, and we do an energy efficiency standard as part of this. But instead, we're just doing this by itself.

And that's really the concern that I have here -- is that we're going to be tying the hands of this Legislature, next year's Legislature, and future legislatures, and the next Governors with this *subsidy*, for a lack of a better word. And instead we should be looking at how we can recraft and redo our whole energy policies -- changing the SREC program and how to expand SRECs; getting offshore wind going; doing energy efficiency; and so on and so forth. This should be a comprehensive plan, not something rushed through in lame duck. And I'm concerned that when it comes to energy, this could make the next Administration a lame duck.

Again, you know, we need to be looking at ways of promoting clean energy and having these plants continued through their lifecycle. But there's nothing in here that says that's going to happen. Because it's only about a subsidy, not about any other energy sources.

And so, for us, we really believe that we should look at this all over again and start anew in the next Legislature. Again, you know, they talk about being a green company; and the only things green is the money they're taking out of the ratepayers.

You know, there are problems with that plant. One of the biggest subsidies they got was -- and Governor Florio was here, and I just -- I wish-- He had wanted them to build cooling towers; Governor Whitman cancelled it. They saved \$600 million; and meanwhile, we're going to subsidize them to kill 17 billion fish a year, still without having to build those cooling towers. But yet, they're going to get a public subsidy.

This is so misguided, and it is so wrong for this time. But more importantly, this has to be part of an overall energy package, not just by itself. And, you know, all this is going to do is benefit the bond holders and the ratepayers (*sic*).

And the other point I want to make is that, you know, when they go to the BPU, the public will not see what papers they're putting in, what their real financials are. You're not looking at the entire company. And that's part of the problem, because there are other areas that are making plenty of money that shouldn't affect this. And then when I heard that they might close it -- they're not going to close a \$10 billion asset like this. Their bond holders would never stand for it, and the PJM would probably give them a must-run order that those plants would have to stay open for a certain amount of time. So it's a lot more complex than what they're telling you.

And I just want to wrap up and just say that, you know, I hope everybody has a very happy and healthy new year; a wonderful Christmas.

But we shouldn't play Scrooge to the ratepayers and to the environment by pushing this Bill through at this time.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you.

If I can have Bill Mullen, from the New Jersey State Building Trades; AJ Sabath, from the New Jersey State Building Trades; Kurt Krueger, from the South Jersey Pipe Trades; and Steve Gardner, from New Jersey Laborers -- all please come up, gentlemen.

Good morning.

A J S A B A T H: Good morning -- afternoon, Mr. Chairman, and members of the Committee.

It's a pleasure to be here.

I've prepared very lengthy and detailed testimony that I've submitted in writing, both at the prior hearing and this one. So I just wanted to communicate a few brief talking points to you.

My name is AJ Sabath, and I am here on behalf of Bill Mullen, who is the President of the State Building and Construction Trades Council. We represent 15 construction trades; 13 county councils; and over 100,000 men and women, many of whom helped build both Salem and Oyster Creek nuclear power plants.

And we're here today just to kind of underscore a lot of testimony that you've heard about the economic engine that both the nuclear power plants provide for working men and women of the Building Construction Trades Council.

We also want to take a look at, and bring to your attention, what's happened in some other states that have decommissioned some of

the nuclear power plants, like in Vermont; and we've seen a huge economic downturn and the reduction in the labor force for skilled workers.

So to that extent, we really see this as not as much of a shot of adrenalin, but more a sustaining opportunity -- to kind of hold on to what we have that enables us to have a discussion about how we can enter the new millennium in such a way that we can look towards, collectively -- looking at alternative means of energy consumption.

So thank you very much for providing me the opportunity. And again, we have provided detailed written testimony for you.

So thank you, Mr. Chairman, and members of the Committee.

ASSEMBLYMAN DeANGELO: Thank you, AJ.

Steve.

S T E V E N G A R D N E R, Esq.: Hi; my name is Steven Gardner. I'm the Director of New Jersey LECET. I'm here on behalf of my Chairman, Ray Pocino. We represent about 25,000 members who live and work in New Jersey, and are signatory contractors.

And just to echo AJ's comments -- briefly, we helped build both plants originally. We help maintain the plants today. And we believe strongly that New Jersey maintain energy diversity. We believe this is a process -- this isn't a subsidy, necessarily; it's a process to get to a possible subsidy, but not necessarily. And we believe that we should have that in place for New Jersey in case we need it and someone needs it. It just keeps a diverse energy portfolio here as we move forward into-- And we believe, strongly, at looking at all future forms of energy; but we believe that we need this now.

So we're here to support it.

Thanks.

ASSEMBLYMAN DeANGELO: Thank you, Steve

Any questions?

SENATOR CODEY: Yes, AJ; I have to be honest.

I'm kind of embarrassed. I mean, when you worked for me, there was no way you'd go to a Committee room with a scarf on. (laughter) I swear to God, I'm so embarrassed.

MR. SABATH: Governor, thank you; I'd expect nothing less. (laughter)

SENATOR CODEY: Exactly.

ASSEMBLYMAN DeANGELO: Thank you.

If I can have Ryan Fitzpatrick, from Third Way.

RYAN FITZPATRICK: I'm glad I was jogging back from the restroom; that was good timing.

I'm Ryan Fitzpatrick; I'm the Deputy Director of the Clean Energy program at Third Way. And we're a policy think tank that focuses on pragmatic solutions for some of the most challenging problems that the country is facing. And we don't see one that's much more challenging than climate change. And we also don't see a solution that's more pragmatic than preserving nuclear plants.

Nuclear energy is clearly effective and a cost-effective way to reach our climate goals, alongside other clean energy sources like wind and solar. But it's also going to be extremely hard for New Jersey to reach its very ambitious targets for emissions reductions -- to stay on track of those -- and to ultimately maintain its leadership in climate without these plants; or if they do shut down within the near future.

You know, part of the problem that we see is actually backsliding, as has been discussed a little bit in previous meetings. But if these plants were to be shut down and replaced by natural gas -- which is optimistic because, as we've discussed, we will probably see some coal slipped into the mix there. But if it was just natural gas, that would cause emissions to rise, statewide, by 12 percent; this at a time when we're trying to reduce emissions by 80 percent.

But in this scenario, we would see emissions revert back up to where they were -- annual emissions in the state -- to where they were in 2009. So consider all of the results from the steps that have been taken on climate and clean energy over the past eight years wiped out. That's a serious issue, and a problem, and a loss of good momentum that the state's been making.

Now, our research shows that the cost of keeping a financially struggling reactor online is actually lower than the cost, in most cases, to replace it with another form of clean energy. So it does make it a cost-effective solution, in those cases.

And yes, preserving these plants does come with some cost; but we have to balance that against value. And we'll hear from -- we have heard from several people talking about the quantifiable benefits that come from cleaner air, from fuel diversity, from jobs, and economic activity. But the climate benefits alone are enough to outweigh the cost of this Bill. So as we read it, these Bills would result in a maximum of \$10 per megawatt hour subsidy for the nuclear plants. But they would actually be generating -- by keeping the plants online and avoiding fossil emissions -- be generating \$27

in climate benefits, and that's using the Federal government's social cost of carbon estimates.

As a side note, RGGI would only compensate for about \$3 worth of that \$27 in climate value.

So we're willing to spend much more than that on similar benefits from other sources. We've talked about the New Jersey State RECs -- solar RECs, which has traded between \$160 and \$200 per megawatt hour this year. The Federal Production Tax Credit, which helps lower the costs of wind projects by about \$15 a megawatt hour; that Federal Investment Tax Credit, which cuts solar projects about \$63 per megawatt hour -- up to that high, I should say.

So I don't say this at all to say that renewable energy does not deserve support; it most certainly does. It's an incredibly important part of a decarbonization strategy. And even if these plants do stay open, there is a lot of dirty fossil energy that's still producing power in the state that would need to be displaced with clean energy sources.

So I would hope that the State Legislature would continue to take steps to accelerate the development and deployment of renewables; if not in this effort, then in subsequent legislative sessions. But what my point is, is that nuclear plants are providing similar value, and it is fair and wise as a climate strategy to compensate that value and keep them online.

Thanks.

ASSEMBLYMAN DeANGELO: Thank you.

If I can have Joe Kerecman, from Calpine, come up.

J O E K E R E C M A N: Thank you very much, Mr. Chairman, and other Committee members.

I know it's getting late, so I will try to be very brief.

Again, I'm Joe Kerecman; I'm the Director of the Government and Regulatory Affairs with Calpine.

Ironically, my very first job as a young engineer out of college was at Hope Creek. And I'm starting to think about retirement myself.

But in any event, Calpine -- we are an independent power producer. We're not a regulating utility; we don't get guaranteed profits; we're generally not in asking for subsidies, to be honest with you. We usually work against them, which is why I'm here today.

You know, we have about 26,000 megawatts of power plants throughout the country. We have several here in New Jersey. We also have -- our retail operation for the East Coast is in Woodbridge. And we're in the process of getting acquired by Energy Capital Partners, and they are headquartered in Short Hills, New Jersey.

You know, my key message is that markets do work. You know, New Jersey has seen billions of dollars invested in new power plants over the last five years. We mentioned the PSEG plant under construction right now; certainly LS Power and CPV all built new plants in the state.

You know, stranded cost recovery came up; there was a lot of money paid to transition to PSEG and into Exelon at that particular point in time. But it's also important to recognize that that stranded cost was based upon what they thought the plants would be worth. And this is in a period of time -- pre-shale gas; we didn't know about the shale gas, or have any idea how much shale gas it would be. Gas prices were high. So between 2003 and 2011, PSEG and Exelon made billions of dollars of profits that nobody thought they were going to make. They never came

back in saying “We’re making too much money,” but now they’re here today saying, “We’re not making enough.”

A lot of the points I was going to cover, quite frankly, did get covered by others; so I will try to stay away from that. But, you know, this is a little bit like ready, fire, aim; you know, Connecticut came up; in Connecticut, we went through the same drill there. “The plants were unprofitable; the plants were unprofitable.” The state engaged their own consultant, who determined that the plants are very profitable and will be through 2035.

You know, earlier this year you were looking at a study bill; that probably is the right approach that we think you should take.

You know, you have to consider that we-- Again, somebody mentioned -- we just saw this Bill on Friday; the public just saw this Bill on Friday, to be honest with you. And you heard about -- is it \$31, is it \$41? You talk about the industrials. But think about the hospitals, the schools, the municipalities; State government will be impacted by higher electricity costs. New Jersey Transit -- I don’t know what their situation is, to be honest with you, but they’ll be impacted. They’re a very big energy user. What do they do; do they raise their rates? I don’t know.

And it was mentioned that there are quite a few efforts underway, whether it be the Governor-elect’s interest in rejoining RGGI, which could provide additional revenue opportunity for the nuclear plants; in addition to the PJM measures that are underway as well. Again, a study bill would probably be the appropriate way to approach this.

We’ve worked with PSEG and Exelon through the years. We’ve always worked hand-in-hand regarding support for competitive

markets. Nobody said it better, back in 2011, where PSEG warned, “The State’s interest in subsidizing certain power plants will cost New Jersey residents and businesses, and lead the State down a road of proven failure, job losses. New customer surcharges will undermine efforts to conserve.”

PSEG was correct in its warnings at the time, and we urge the Committee to heed these warnings now.

So with that, I’ll again thank you for the opportunity to testify, and I’m happy to address any questions.

SENATOR SMITH: Thank you for your comments.

Judd Gregg, former U.S. Senator, and a representative of Nuclear Matters advisory.

Senator.

S E N A T O R J U D D A. G R E G G: Thank you, Mr. Chairman -- Mr. Chairmen, and members of the Legislature.

It’s a pleasure to be here again to talk a little bit about our experience in New Hampshire -- unless you want me to talk about the New England Patriots. (laughter)

SENATOR BATEMAN: No, we don’t; thank you. (laughter)

SENATOR GREGG: First off, I want to congratulate you on moving swiftly and effectively to try to address this issue.

Nuclear Matters is a group of over 17,000 members of folks across the country who feel very strongly that premature closure of nuclear plants is counterproductive policy. Basically, these plants have an opportunity to run much further in their useful life, and that they contribute very constructively to the energy mix of the nation. We all know the statistics: 60 percent of the non-carbon emissions is nuclear, 20 percent

of the energy supply in this country is nuclear. It's higher here in New Jersey on both counts.

Closing these plants prematurely does occur; and I am here to tell you that it does occur, because we had it happen in New England, with Vermont Yankee. And the effects are fairly dramatic. We lost a lot of jobs -- very, very good jobs -- and I think the Selectman from the town where Vermont Yankee was located, Vernon, Vermont, is going to talk to you.

But the power that we had to import was not New England-produced; it comes from outside New England because we don't have power resources. We don't have oil, and we don't have gas -- much like New Jersey.

So we ended up importing natural gas to replace the nuclear closure, which meant that every amount of nuclear energy that was lost was replaced with carbon-emitting gas, at a cost which came from outside the state. Prices in southwest New Hampshire went up by about 50 percent on their electric bills; in northern Massachusetts, by about 35 percent. And it was the functional equivalent of putting a million cars on the road -- to close Vermont Yankee.

So this discussion which you've been having here -- as I've listened to it this morning and listened to it at the prior hearing -- is really about timing, to some degree. And I remember that old FRAM Oil ad -- some of you may also remember -- but it said, "You can pay me now, or you can pay me later." That's the situation I suspect you're in, because that's the situation we found ourselves in, in New England -- is you act now, and you believe nuclear power is a very important part of your energy mix, you

can keep it as part of your energy mix. If you don't act, you'll lose it; and once you lose a nuclear power plant, you never get them back.

Secondly, if you act now, you can probably avoid significant costs which are going to come to your ratepayers in the out-years if you don't have the nuclear energy as a producer.

And so you can pay me now, or you can pay me later -- both in the quality of your energy and where it's coming from; and in the cost of your energy and what the ratepayers have to pay. That was our experience in New England; I'm just here to confirm that in the real world, not in the theoretical-- Although we've sent you a wonderful study, by the way; the IHS study on what the effects would be here in New Jersey. But in the real world, when you close a plant, it really does impact; it impacts people, it impacts entire communities; more important -- equally important, it impacts the environment and it impacts the competitiveness -- the economic competitiveness of the region where the plant is located.

Thank you for your time and your courtesy in allowing me to speak to you again.

SENATOR SMITH: Thank you, Senator.

ASSEMBLYMAN DeANGELO: Thank you, Senator.

If I can have Evelyn Liebman, from AARP.

E V E L Y N L I E B M A N: Good afternoon, Chairman Smith, Chairman DeAngelo.

Thank you for the opportunity to speak this afternoon.

My name is Evelyn Liebman; I'm the Advocacy Director for AARP New Jersey, representing our 1.3 million members here in the Garden State, many of whom, who I know, have reached out to you in the last

several weeks, urging you to take their concerns into consideration and to slow down this process.

As we've heard today, and we agree -- this is a real issue; we agree this is important stuff. We don't agree that this is the right solution, and we urge members of the Committee to hold or oppose the Bill today.

You have my written remarks, and so I will try and be brief. But I think, as you've heard along with the Division's comments -- the Ratepayer Advocate's comments -- and others that you've heard from today, there are very real and significant faults in the Bill; indeed, its very premise is unclear as to its need. And we emphatically urge you to consider that the Bill is not supported by any independent, expert cost-benefit analysis or cost-impact study.

There are not enough consumer protections in this Bill. The fact that it actually establishes a rate that we will have to pay -- all consumers and all businesses in the state will have to pay before a single book has been opened; before anyone from the Board of Public Utilities or, indeed, this body has had an opportunity to review is, in and of itself, problematic and should be rejected.

We have no idea where the 0.004 dollar number comes from. Why isn't it 0.001; why isn't it 0.002; why isn't 0.007? Again, there is no determination that we can see, or any basis for that here in the Bill. And certainly, the Board of Public Utilities has not come up with that figure.

I also wanted to just briefly address the issue of off-ramps, which came up earlier. Our reading of the Bill, where it says, "Selected nuclear power plants shall initially receive NDCs for an eligibility period that shall run through the end of the first energy year in which the nuclear

power plant is selected, plus an additional three energy years,” certainly seems, in plain and clear language, that we will be committing ratepayers to pay a new nuclear tax over the next three to four years, regardless of whether or not the selected nuclear plant is profitable. And that does not protect consumers.

Finally -- and I think it's been given a little bit of short shrift here today -- the cost impact on consumers is a substantive issue, regardless of whether or not it's \$30, or \$29, or \$41 -- because it's *our* dollars. And while we support reasonable rates that are needed to provide safe and adequate service, we don't support providing a penny more for rates that have not been determined to be just and reasonable -- a finding that is not included in this legislation.

And as you heard before, in order to pay the electric bill most people need a job. You've heard from our members of the employers' community that they may not locate here in New Jersey if the operating conditions are not beneficial. They may freeze jobs; they may lay people off. And so if, as a result of higher operating costs, consumers lose their job, they're going to have a hard time paying their electricity bill.

Municipalities pay an electricity bill. They pay for that bill through property taxes, which we, as consumers, pay.

We're located in Princeton, so I took a look -- quick look at what Princeton pays for electricity. It's very easy to find that information; it's a very transparent and open process, unlike the process that's outlined here in this legislation. Princeton has allocated \$400,000 in 2017 for its electricity and non-natural gas bill. It has only provided about \$230,000 for its programs to support senior citizens. So when Princeton's electricity

bill goes up, is it going to raise our property taxes or is it going to cut back on services?

New Jersey Transit -- enormous electricity bills. Will we as consumers pay twice in increased fares, because the cost of a ride on a train or a bus goes up?

These are all the costs that we think have to be considered in order to determine a responsible solution for all this stuff. It always has to include the cost of the competitive advantage we're providing to those businesses and consumers outside of New Jersey, whose electricity costs will be less than ours because we are subsidizing it.

Again, as you've heard, we fear that this Bill picks one winner at the expense of everyone else. We urge you, as stewards of our money and public policy in this State, to find a solution that balances the interests of all concerned, particularly the consumers in New Jersey who are paying the bills.

Thank you very much.

ASSEMBLYMAN DeANGELO: Thank you.

SENATOR SMITH: So, in support, we ask for a panel -- two people -- Brett Rampal, Clean Air Task Force; and Maria Korsnick, NEI.

M A R I A K O R S N I C K: Thank you, Chairman Smith and Chairman DeAngelo, and your Committees, for this opportunity to speak today.

I'm Maria Korsnick; President and CEO of the Nuclear Energy Institute. Before joining NEI, in 2015, I spent 30 years of my career managing nuclear power plants. I've been an engineer, a Senior Reactor

Operator, a site Vice President, a corporate Vice President, and a Chief Nuclear Officer.

As Chief Nuclear Officer, I was responsible for five reactors -- those at the Nine Mile Point and Ginna plants in upstate New York; and Calvert Cliffs in Maryland.

I'm very proud of this industry; I'm proud to represent them. And I'm concerned about the potential loss of the nuclear plants here in New Jersey and, quite frankly, across the nation.

I think this Bill gives the Legislature an opportunity to really preserve these assets for the benefit of the local towns, for your state, and, quite frankly, for the nation.

You've heard a lot today on the economic benefits; and I'll try not to repeat some of the statistics that you've heard. But let's reflect, maybe, just a few minutes on the actual data for areas where plants have closed.

When the Kewaunee plant closed in Wisconsin -- and it closed back in 2013 -- the host town there lost 70 percent of its operating budget. Following the closure of the Crystal River plant in Florida, property taxes increased by 30 percent. And I think you're going to hear later day from someone from Vermont, who can reflect personally on what occurred in Vermont when Vermont Yankee closed.

You also talked about various economic analyses today. Rather than go back and forth on the validity, or lack thereof, I'd rather just go to actual data and to say that the estimates that you heard are consistent with the California consumers who, in that state, paid \$350 million more for their electricity after the San Onofre plant closed. And the estimates from

losing nuclear plants in Illinois, New York, and Pennsylvania show costs increasing by hundreds of millions of dollars for those customers as well.

You've heard much about the positive environmental impacts. I would really just reflect nuclear, to say, I think nuclear is an unsung hero for the reliability and environmental friendliness that it provides.

When we look at Vermont Yankee, for example, when it closed in 2014, all of the electricity used to replace that plant -- was replaced by natural gas; and the New England carbon emissions increased for the first time in over a decade.

When you think about reliability and resiliency, I guess I'll just leave you with one thought, and that is a quote from Tom Ridge. He was the first Secretary of Homeland Security, and he recently wrote, "The goal of grid resilience cannot be met without nuclear power."

Nuclear plants are hardened facilities; and by that I mean they're not only protected from a physical security perspective, but from cyber threats as well. Nuclear reactors can operate for 18 to 24 months between their outages, and they always they have their fuel onsite. So that means these plants are resilient to the risk of fuel supply shortages, enhancing their reliability.

We've talked about the fact that there are things in motion at PJM. But I would suggest that unless the markets are reformed, or policies enacted by folks such as yourself to value diversity, resilience, our environmental protection, the market will not provide them.

Over the last four years, five nuclear plants have closed before the end of their useful life; and NEI has previously warned of the possibility of 15 to 20 units that could be at risk for early closure.

The actions taken in Connecticut, New York, and Illinois will preserve the nuclear generation as their largest source of clean electricity in those states, along with the thousands of jobs that will support their continued operation. Conversely, states that allowed their plants to close, such as Vermont and California, saw increased emissions and higher electricity costs.

In any event, the PJM proposal that is being discussed is not aimed at the environmental or fuel diversity attributes; so the New Jersey Bill and the plants that you're discussing are important components, as we move forward.

I would suggest that New Jersey not leave its energy future in the hands of others; and not to delay in addressing the risks to the state, as nuclear plants cannot be mothballed and reopened later, as they immediately begin a decommissioning and dismantling process.

Passing this Bill will have implications beyond New Jersey. The early closure of U.S. nuclear plants has implications on our national security. There are 58 reactors being built worldwide today. The global expansion of nuclear power is being driven by China and Russia. If the U.S. forgoes its role as a leader in the global nuclear industry, the world will look to those embracing the technology for the leadership, and putting them in a position to develop future standards for this technology.

Getting this right is important for our country. An electricity system that is over-reliant on a single fuel source can leave us vulnerable to attacks or other disruptions. A robust nuclear fleet allows the U.S. to maintain international leadership on nuclear issues. Allowing well-run plants to close doesn't help the communities that have grown up around

them, it doesn't make electricity more affordable for consumers, it doesn't help provide jobs to New Jersey, and it doesn't support our energy and national security.

You should not leave your energy future in the hands of others. You have this opportunity to preserve these plants, and I strongly encourage you to do so.

Thank you.

B R E T T R A M P A L: Good afternoon, Mr. Chairmen, members of the Committee.

Thank you so much for the opportunity to speak here today.

My name is Brett Rampal; I'm representing the Clean Air Task Force. But like Maria, my background is originally as a nuclear engineer; so I would echo the statements Maria made about economic and security implications of nuclear power plants and continued American nuclear leadership.

However, today I'd like to focus on the clean air and emissions aspects of nuclear power plants, and how they avoid climate change.

I'm born and raised in Florida; and I never thought in my life that I would see storms, like what I grew up with, affecting regions like this -- Sandy, and comparing to Andrew and things I grew up with. And it's general scientific consensus right now that the increased emission of carbon influences and exacerbates these climates changes, and the increases of superstorms and droughts that we're now seeing around the world.

Along with that, nuclear power is a carbon-free source of electricity. If we look at our atmosphere as a bathtub collecting carbon dioxide, it can only drain away so slowly. And at this point, there's a lot of

consensus out there that we may be actually even saturating our ability to drain away the carbon sources that are being emitted, so making our currently non-emitting energy sources even more valuable to our electricity grid.

In New Jersey -- one of the few states that does not have hydroelectric power dams around the country -- New Jersey is in the top three of clean emitting states for electricity emission. Removing your nuclear power plants would take back that leadership that New Jersey currently experiences. And as we've stated previously, we're only likely to see that replaced with fossil fuel-burning energy sources.

New Jersey's grid is currently about 5 percent wind and solar, and that took maybe almost two decades to get there. So the time scale we're talking about, to replace the nuclear power plant with the wind and solar type replacement, really doesn't work in the general sense. The world's largest off-shore wind farm and the world's largest on-shore wind farm wouldn't even begin to equate to the amount of electricity that the nuclear power plants in New Jersey provide. You'd be talking about 10 or so of these farms in order to make up for this nuclear power.

And while CATF, and myself, and many others are deeply supportive of renewable energies and renewable energy credits, we can look at the current situation and see that this subsidy kind of equates to about \$10 per kilowatt hour; whereas Federal renewable energy subsidies currently are at \$24 per kilowatt hour for wind and solar.

And this Bill-- Our first best policy should be to treat them equally, treat them across the board. But this Bill in front of you addresses

just nuclear; and as the song goes, “If you can’t love the one you want, love the one you’re with (*sic*).”

So that’s the Clean Air Task Force position on the Bill; and we appreciate the time and are available for any questions.

SENATOR SMITH: Thank you.

ASSEMBLYMAN DeANGELO: Assemblyman.

ASSEMBLYMAN ZWICKER: So you’re both nuclear engineers, nuclear operators; so experts in the operation of nuclear power plants.

So there’s no doubt about the fact that nuclear is a non-carbon source of fuel, that it’s reliable, that it’s 24/7, that it doesn’t care about whether the sun is shining or the wind is blowing. No argument.

But it is also true -- no one is talking about it, so I want to bring it up with you -- the fact that it’s not that long ago that the worldwide slogan was “no nukes,” because of concern over safety. And I am no way implying, in any way, that these plants don’t do everything they possibly can to be as safe as possible -- right? -- and that the men and women who work there work to the highest safety standards.

But the reality is, we’re talking about keeping these plants open for the course of their licenses. And there is no other place to put the fuel, because the deep underground storage is caught up in Federal politics, right? So as you both know, the fuel stays on-site; and there are two different ways to keep it. And when it comes out, it comes out very hot -- literally hot, right? -- and it is put into swimming pools. And then, after some period of time it can be put into dry cask.

So there is a real debate -- and we heard testimony during our hearing last time -- about whether or not -- and this just goes beyond New Jersey -- whether nuclear power plants are running into an issue because they have to put their fuel into these swimming pools at a density that if, God forbid, there was a weather event -- an earthquake; like what happened just a few years ago at Fukushima in Japan, right? -- causes the water to come out. And no one wants to think about a terrorist attack, etc.

These are really serious issues. The odds are small; but they're not zero. So I'd like to ask you to comment about this; because in the end, this is an economic issue versus a safety issue, right? We can spend money to move these rods into -- when appropriate; and there's a debate over what length of time, right? So I see you nodding -- you know exactly what I'm referring to -- what length of time to move them into dry cask, which is the safest way.

So I am personally very, very concerned about that, separate from every other issue that we are here talking about. And I'd like to get-- I mean, you are the ones who are nuclear engineers who run power plants. I'd like to get your thoughts about that.

MS. KORSNICK: Sure; I'll start, and then ask you to provide any additional comments.

So I don't know; you said *safety*. I don't know if you have any broader safety concerns at plants, but specifically around fuel and the storage of fuel--

ASSEMBLYMAN ZWICKER: Well, the leakage of water out of the pools is my specific question--

MS. KORSNICK: Yes, thank you.

ASSEMBLYMAN ZWICKER: --with some extreme, unknown event, right? And the density of the fuel rods that are currently being kept inside the pools.

MS. KORSNICK: So as you accurately stated, when fuel is first removed from the reactor it's hot, physically hot, so it's put in the pools to cool, if you will. Typically, it will stay in the pool for somewhere around five years, or so, before you're going to move it to a dry cask facility. It can stay longer than that, but you wouldn't typically move something out of a pool in less time than that simply because, again, it's physically warm. And when you move it to these casks, and it's stored there safely in these casks, these casks currently are stored on-site. When the Federal government is complete with its -- I'll just say the *politics* of the issue; just to be clear, it's not a technological problem, it's a political problem in terms of where we want to store this fuel. And then there's an opportunity to do that.

Again, I would kind of step back and say, you know, let's look around the world, and let's look at what other people are doing. France has safely stored their fuel; they reprocess their fuel. This fuel that we talk about -- we use the word *waste* here because we look at it in that way. And I would encourage you to look at it in a different way -- you know, sort of, today's trash is tomorrow's treasure. There's 95 percent still usable energy in these fuel rods when they are removed, after they already provided the energy that they've provided. There is still 95 percent of energy left.

Our children and our grandchildren will be removing this used fuel and will be using it again, I promise you. So it's a matter of how do we want to keep it safely right now. And we're doing that at the stations, at

the sites. The concern that was just brought up here was relative. "Well, but they're in the pools right now, and maybe you have them too close together." There are rules and regulations about how many of these fuel assemblies you can have in a pool, so you can't have too many. There's a limit.

And if there were to be a leak, such as what was just suggested, I can assure you that there are multiple systems that are in place to add additional water to this; systems that are on-site. And then should you have some sort of devastating event on-site, there is equipment that is stored -- not only off-site of each reactor, but stored at all of the reactors in the United States -- which can be backed up to each other. And we have two national response centers -- one in Phoenix and one in Memphis -- that also have equipment that can be deployed to each site, pre-staged, pre-packaged; ready to be transported by truck, or it can be transported by air to any of these facilities.

So I have a high level of assurance that any leak in a pool can be very safely mitigated.

ASSEMBLYMAN DeANGELO: Thank you.

Any other questions?

MR. RAMPAL: I'll just add, real fast -- the NRC has authorized removal of fuel from the spent-fuel pool, before, in three years' time. So if it's necessary, fuel can be off-loaded very, very quickly.

The redundancies that Maria was talking, about keeping the spent fuel pool level at its height and cooled, were redundancies that were not present at Fukushima. In many cases, some of these redundancies were

a part of American policy prior to Fukushima; and some of these redundancies were added after Fukushima.

Additionally, if you looked at an aerial footprint of a plant, the people don't recognize that the dry cask storage and the actual fuel storage that we're talking about is about the size of a parking lot. It's not that much material. It's a very insignificant amount of material when compared to, say, a coal, or an oil, or a natural gas plant that would produce, perhaps, the same amount of mass of waste -- that is produced by all nuclear power plants in their lifetime, in America -- in a single year.

ASSEMBLYMAN DeANGELO: Thank you.

If I can have Joe Bowring, from the Market Monitor for PJM.

J O S E P H B O W R I N G, Ph.D.: Good morning, and thank you for the opportunity to talk to you.

I am the Market Monitor for PJM. I testified before you a few weeks ago. I do not speak for PJM, just for clarity.

So New Jersey and PS both chose markets, back in 1997 -- chose to proceed with markets, rather than continuing with costs-of-service regulation, because it was more efficient and lower costs for customers.

Markets shift the risk and reward of making investment decisions to individual investors, and that's the way it's worked at PJM very effectively. The PJM market has been a success; it's provided reliability and resilience since 1999.

But as a result the single lowest price in PJM history since the introduction of markets in 1999, in 2016 we had the lowest energy prices in the history of PJM. And as a result of that, PSE&G is asking for long-term subsidies for several of its plants.

If you think about what the definition of a *retirement signal* is in the market -- this is not my definition; this is a standard economics and business definition -- it is the amount covering the going-forward costs, your annual out-of-pocket expenditures. In this case, I would include required, ongoing incremental capital expenditures. If you're not covering those, then you are receiving a retirement signal. But there is no evidence that these power plants are actually receiving that signal.

So just as an example: Using entirely public data -- rather than relying on trying to find confidential data -- using the prices that the actual *bus* received by the nuclear power plants, as well as the cost data from the Nuclear Energy Institute, we can calculate that, over the last five years, these three units -- two plants -- received \$1.4 billion in excess of their going-forward costs over the last five years. In 2016, they received less than the going-forward costs by about \$80 million.

So PSE&G is asking for \$300 million a year in subsidies from customers, which is about a third of what their going-forwards costs are, according to the NEI. Their going-forwards costs are around \$31; this Bill will provide \$10, or a third of their going-forward costs, despite the fact that they have covered their going-forward costs on a regular basis, with the exception of 2016.

So if you want to go forward with it, I recommend that there be clear definitions of the actual need for the payment. At the moment the Bill does not provide a clear definition of the need for subsidies; it actually has two very different standards -- one is covering going-forward costs, and one is a very vague statement about achieving a reasonable rate of return.

It's not quantified; it's very difficult to quantify; and it's much, much higher than going-forward costs.

The Bill does not provide that PSE&G would pay customers back if they earned more than the target amount.

The Bill does not provide that if there was a windfall in revenues as a result, for example, of high gas costs -- which occurs almost every winter; 2014, 2015 being the most recent examples, where the net revenues of nuclear plants doubled -- it does not provide adjustment for that; it does not provide to reduce the payment.

As a result, the Bill is likely to result in, based on these numbers, a significant overcompensation of PSE&G by New Jersey customers.

Even if you want to do it, this is not the way to do it in a way that provides the intended benefit, but minimizes the cost to customers.

So if you believe that the units need customer subsidies to ensure that they do not retire, the Bill should clearly define a goal of covering going-forward costs, including incremental cap of expenditure. And again, you can't calculate that on a three-year going-forward basis. You can calculate it on an annual basis; but there is no way to accurately forecast either the revenues or the costs three years forward. So projections are not actual costs, and projections can vary wildly from actual costs.

So given the lateness of the day, I wanted to just focus on a couple of key points, and I'm available to answer any questions about the PJM markets. I've heard a lot of commentary about the PJM markets today; so if you have any questions for me, I'd be able to answer those as well.

SENATOR SMITH: Thank you very much.

DR. BOWRING: Thank you, sir.

SENATOR SMITH: Melissa DeCastro, a Salem County Freeholder.

Melissa, are you here?

F R E E H O L D E R M E L I S S A D e C A S T R O, Esq.: Hello, everyone.

Thank you for letting me speak this afternoon.

My name is Melissa DeCastro; I am a Freeholder from Salem County.

I'm here to speak and encourage action today, and support nuclear power. I will just add my personal thoughts; you have the written transcription copy as well, but I'll make it a little briefer.

I am born and raised in Salem County. I have a one-year-old son who I'm raising about 20 miles away from Salem Hope Creek nuclear plant. So I do believe in its safety or I would not have my one-year-old being raised there. So I do believe in the workers, the ability of them, and the safety of it.

Currently, Salem Hope Creek is our largest employer in the County. As most people know, Salem County is an agricultural-based County. We struggle because of our location; we struggle also because, just, we have -- the nature of agriculture is not as high as certain ratables.

So having the nuclear power plant is truly a blessing in our County, because they employ so many of our residents. Not only that, but when there are outages, we have contractors who come in and they also stay

in all of our hotels; they stay and they eat in our restaurants; and they help support our businesses. And we need them.

So I just encourage a vote in favor of this.

And thank you very much; and if you have any questions, please feel free.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you.

If I can have Geoffrey Brown from GRAMMES.

G E O F F R E Y B R O W N: Thank you, Mr. Chairman, members of the Committee.

I didn't realize this was going to be a marathon, but I appreciate the opportunity to talk; I appreciate the Assemblyman's comments today.

I have represented before, because I have been frustrated in the previous hearing, and this hearing, that nuclear power is treated in isolation -- not in terms of its total lifecycle; as if just the current operations are all that we're concerned about.

To me, the issue is an emperor's new clothes issue; I think the basic premise of the legislation is incorrect. Nuclear energy is not clean. We have talked about nuclear waste in the abstract; but as you may know, some of the elements that are created in this nuclear waste generating station lasts for 300 years, for 23 million years, for 230,000 years in terms of how long they will be toxic. We're not talking about something like silt on the road, and you sweep it up. This is going to be around for a long time.

Secondly, nuclear power plants routinely release radioactivity to the environment and have likely negative human impacts. I have a graphic that the NRC put out, in terms of the effluence that comes out of nuclear plants. I got active around Oyster Creek -- that stack is there not as a smokestack; it's there to disperse the elements when they have problems.

So the routine operation of plants releases pollutants. Although we can't see them, we can't smell them, we can't taste them, they impact our bodies; they attack our genetic code.

I have a reference to the French Institute of Health and Medical Research in 2012, which found that kids living within three miles of nuclear plants in France had double the risk of developing acute leukemia as those living far away. And this confirms the, what's called, *Kick Study* in Germany of children; impacts -- there are impacts from these plants.

The failure of the much-touted Waste Isolation and Pilot Project (*sic*) -- WIPP -- on Valentine's Day in 2014, after only 15 years of operation, cast doubt over our species' ability to manage and secure highly radioactive waste for decades, not to mention for centuries and millennia. WIPP, of course, was created to isolate the waste of nuclear weapons program; try to clean up Hanover (*sic*). But what caused the problem? Somebody in Los Alamos decided to change the kind of kitty litter they used to keep the drums dry, and it went from inorganic to organic and there was a reaction; radioactivity released; and it was released into the environment. So they couldn't operate for 15 years without an accident. How are we going to put this away for 250,000 years?

That's the kind of weight I think that should be on the scale when you're saying that it has environmental impacts. Yes, it doesn't have

a lot of the soot going up the stack; but it's going to have long-term impacts.

My conclusion, again, is that nuclear power is extremely dirty and dangerous; and thus the concept of premature closing of a nuclear plant is an oxymoron. Please do not let this failing industry extort more money from us ratepayers and taxpayers.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you.

SENATOR SMITH: Thank you.

Mr. Joe Dominguez, from Exelon; in favor.

J O S E P H D O M I N G U E Z: Thank you.

Chairman Smith and Chairman DeAngelo, good afternoon; and members of the Committees. It's a pleasure to be here today.

You've heard our name in the context of this conversation. We own 42 percent of the PSEG asset at Salem. We don't have any ownership interest in Hope Creek.

PSEG operates the facility; we simply take the power that is proportionate to our ownership share and then we sell that into the market, and that is our involvement here.

Mr. Izzo began with a discussion of the economics. As a co-owner, I'd like to share with you our view of the economics.

One of the things, as between us, in our ownership agreement, is we do not have the ability to shut down Salem. That's a decision that can only be made by PSEG under the operating agreement.

We do, however, have the ability to stop putting money into the facility. As Mr. Izzo talked about, we spend \$100 million to \$200

million annually at this facility in terms of capital that goes into the machines. And for any amount over \$5 million, Exelon is able to say no.

And so as we looked at the market forwards -- and the chart that I have up here on my right-hand side, and we can get to the numbers here real quickly -- we started to have this discussion with PSEG at the beginning of this year. However, our concern was that we could no longer invest in the machine, given what we were looking at, in terms of future energy crises. And we shared that concern with PSEG.

The technical teams got together; we have a very good and collaborative relationship. And we have deferred, and began to defer, capital projects at Salem in anticipation of the closure of that facility.

So a lot of people talk about this in terms of decisions that may need to be made coming down the road, but decisions that haven't been made. I can tell you, we are already acting on the belief that if adequate attribute payments aren't provided for nuclear energy in New Jersey, we're going to take the unit out of service or, at least from Exelon's perspective, stop investing in the machine.

The reason we're doing that is the picture over here to the right-hand side. Now, you heard Dr. Bowring a moment ago talk about his own economic analysis of the plant, and his conclusion that, in five of the last six years -- he looked over a six-year period; you have this in his testimony -- that in five of the last six years the plant was able to recover its cost of operating, as well as its risks, in energy market revenues.

What I'm showing you here (indicates), from left to right, are the energy market revenues available at the PSEG Salem bus, or the plant. And what you could easily observe there is that between 2011 and 2015,

energy prices were significantly more robust than they are today. We saw a sea change in 2016 when, as Dr. Bowring confirmed for you, we were not able to recover out operating costs. But most importantly, for our decision in terms of continuing to operate this asset, is the market forwards for the period from 2017 through the ends of its life. And that's the step change we've looked at.

The commission in Connecticut -- when they reviewed similar issues for the nuclear plant in Connecticut -- were looking at a far different energy picture. Their energy revenues are \$10 to \$15 higher than the green lines that you see here. That is why the commission has made a preliminary decision that that plant is not in jeopardy. We don't earn those revenues in South Jersey. Connecticut is a different market; it's a different market because natural gas pipeline access and other issues prevent lower cost generation from being built in that market; environmental pressures as well.

So that's the picture we're looking at; that's what we will present to the BPU.

There has been talk here that we're not opening our books. I've looked at the language, and literally every cost category we have has to be shared with the BPU within 30 days. We have to fully open our books. That is what we did in Illinois, that's what we did in New York -- two initiatives that I led at Exelon in terms of getting policy support for nuclear power in those states. That's going to happen here. And we've talked a little bit about this Connecticut process to review the costs. A lot of the opponents cite that study. That analysis was done by the commission in Connecticut in less than three months. Senator Sweeney had a back-and-

forth with the Ratepayer Advocate early on in this hearing about whether 300 days was adequate to do the analysis. In Connecticut, they were able to do it in slightly over the 60 days. I have every bit of confidence that the BPU here is as able as the commission in Connecticut to do this analysis. We have to open our books fully, and we intend to do so. The picture is the picture I'm showing you here.

Frankly, Dr. Bowring's analysis just misses the point. Looking at the last six years of historical revenues is completely irrelevant to the future of this facility. Looking at -- and this pains me to say this -- but looking at 2011 revenues for Salem is about as valuable as looking at the win-loss record for the Giants in 2011 when they won the Super Bowl. It has -- it bears no indication in terms of whether or not they are a good team today. What's important is their record today which, as I said, is quite painful, so I'm going to stop talking about it at that point.

I want to just jump over to some of the questions and comments that you heard from the fossil generators that appeared here -- EPSA, NRG, Calpine, Dynegy. Those companies participated in the process in Illinois and New York; they made very much the same arguments that they've presented here. "The plants aren't going anywhere and, therefore, this is just windfall profit being paid out to nuclear generators."

Interestingly, when they filed their lawsuits in court, they said something very different. They said the harm that was being caused was harm attributable to the fact that the nuclear plants would indeed close; and in so doing, they would drive up energy prices far higher, and their profits would be higher for their coal, gas, and oil facilities. That's the harm

they were forced to allege in court, otherwise they would have no standing to challenge the legislation.

I understand that copies of the quotations from those lawsuits are now in front of all of you. Take a look at those. You will see that the plaintiffs in those cases -- the fossils generators -- alleged that, in the case of New York, preserving the nuclear plants would hold down energy prices by \$15 billion over the life of that project, essentially confirming what the experts have already concluded in many states; and many states have relied upon and have presented their conclusions for what the effect would be here in New Jersey. It's not rocket science.

Senator, I know you had a question about how this really works in the supply and demand market. Mr. Izzo was talking to you about the different marginal costs of units and how it drives up prices. Let me just read to you the quote from our opponents, as filed by them in their lawsuit in New York.

It says, "A large price-taking unit," they're talking about the nuclear units, "significantly decreases energy prices paid to competitors as it injects large quantities of energy into the grid, which lowers market clearing prices." Exactly what Mr. Izzo said to you is exactly their complaint to a Federal judge in New York; which was, in fact, rejected.

Now, you ought to also know that across PJM, over 15 different technologies already receive attribute payments. We may not like that; we may not want the market to the price in all environmental externalities, but that's the reality. Things like wind and solar, that you support here -- but also geothermal; waste burning; biomass; hydroelectric, both small and large; and a host of other technologies, like Bloom Boxes and other things

like that -- already receive attribute payments in this market, that we say will be harmed by simply adding nuclear energy to the list of participating resources. I think that's nonsense.

I think we also have to realize, quite honestly, that the gas, oil, and coal burners also have received subsidies. Gas and oil receives about \$20 billion in Federal tax subsidies annually. I wish they didn't; I wish it were a more level playing field. But that's the reality.

They get the pipelines that move their product built, in rate base. They're able to take lands to install those pipelines; and effectively, their fuel supply delivery system is paid for by customers and ratepayers. I wish it weren't, but that's the reality.

And the biggest benefit they get in today's market is that these companies are able to use the sky, presently, as a free dumping ground for carbon and other pollutants without having to pay a price. We would say those are pretty significant subsidies, if you will.

Now, Joe from Calpine came up here and said that their plants aren't seeking subsidies. Well, quite honestly, they're already receiving them; and it would be odd indeed for us to be having a discussion about giving a subsidy to coal, oil, and gas units on the basis of environmental pollution that is avoided. That's why they have not been in the discussion in any of the 13 states; nor will they. But you must understand they sell a different product than we sell.

The clarion call across the country is that our consumers no longer are willing to accept the compromise between bad air quality and reliable and affordable electricity. In state after state what they're looking for is electricity that's reliable, but does not have an air pollution

component in it. The legislation that you have before you is no different than the legislation that has now been passed in 30-plus states, recognizing the value of resources that produce electricity without air pollution. Nuclear has been excluded thus far from the conversation because of this picture. It didn't need it before. Today, frankly, it does; and as a result of this picture, Illinois and New York have acted before you.

I'm going to end by just simply saying that I have a different recollection of the New York proceeding and of the program that is in place up there. Governor Cuomo is very proud of that program that supports nuclear; oil and gas interests did attempt to get legislation passed last session in New York to undermine that program -- to effectively eviscerate it. That legislation never even made it out of either chamber; in fact, it didn't make it out of a single committee in New York.

So to the extent the hospitals and others are concerned about the program in New York -- that did not resonate at a political level. And that program remains intact today, and is expected to continue to go forward for another 11 years. It's a successful program and one, frankly, that you should follow here.

With that I'll close, and take any questions you might have.

ASSEMBLYMAN DeANGELO: Assemblyman.

ASSEMBLYMAN HOUGHTALING: With the four nuclear plants we have in the state -- they all run 24/7. Could you give me an idea of how many of the gas-burning plants that we have in the state can run 24/7?

MR. DOMINGUEZ: That's a great question, and it's a complicated question to answer. So let me-- So bear with me here.

What we see -- in terms of technical capability to operate, you could get capacity factors out of gas plants that are in the 80 percent or better. So they could operate close to 24/7 if called upon, from a purely technical standpoint.

But the better question I think is this one: Are they always able to operate; i.e., do they have fuel supply to operate? And during the polar vortex, in 2014, what we found is that 53 percent of the natural gas-fired generation could not operate; the lion's share of that was as a result of just not having gas available. So what we currently have is a hierarchy of need. When we get into shortage situations with natural gas, we focus on home heating customers first -- which is a bit of an irony, because most people need both electric and gas to heat their house; it's not the old systems. Then we look at industrial uses; and gas-fired generation last.

And so what tends to happen in these extreme events is that gas-fired generation gets curtailed. And so although it's technically able to operate as a pipe connected to the plant, there's no gas in the pipe. That's a concern that the Department of Energy, and PJM, and many others -- NERC -- are looking at right now. You know, in 2014, in the transmission side of the business, we started to pay really careful attention to cyberattacks and other impacts on transmission. What we have never focused on, and what is being considered in Washington these days-- I'm sorry; I'm getting a little bit of feedback here, so-- What's being considered in Washington these days is what would happen if we have an attack -- either a malicious attack or we have a weather event that takes out the gas pipeline system; and what would happen, in terms of a cascading impact, on the electric system.

To give you some sense of this: Our contingency planning, right now, in the electric system, is basically a nuclear plant going out. You lose a big nuclear unit; that's a huge a reliability issue. It spikes prices -- all the things that we've talked about here. You lose a big transmission line, you could lose 3,000 megawatts in a big transmission line.

PJM did a study two months ago of what would happen here if you lost one of the gas pipelines: 11,000 megawatts go out simultaneously. We've never seen anything like that before, in terms of a resiliency impact; And right now, the rules of the road do not require us to even look at that. That is the very active conversation that's occurring in D.C. that you have heard about through the course of this hearing.

ASSEMBLYMAN DeANGELO: Thank you.

ASSEMBLYMAN HOUGHTALING: You know, in my career I've worked on a lot of the peaking stations that we have in the state. I know that before them to run they had to get permission from the gas company to have an allotment of gas.

MR. DOMINGUEZ: Right.

ASSEMBLYMAN HOUGHTALING: And the trouble that we're having in the State of New Jersey now, with infrastructure and trying to build gas lines-- I mean, I see our foreseeable future very difficult with gas; with fossil fuel production. Would you agree with that?

MR. DOMINGUEZ: Well, I think the issue probably isn't on the production side, the well-head side. I think what we're seeing is a push-back on pipeline construction, really across broad swaths of the country. There's a sense that the gas industry has done extraordinarily well through this revolution; it's effectively replacing coal-fired generation. This is a good

outcome for the environment. But there is a concern that, as some have said before me, we're putting too many eggs in one basket. In places like New England, they resist additional pipelines because they don't want to become more dependent on gas because of the resiliency issues that I'm talking about. So I think it's a little bit of a political thing, and I think it's a lot about maintaining some fuel diversity. And in places like New England, where all the coal plants are basically gone, and even a couple of the nuclear plants have retired, it's the hot topic of the day.

ASSEMBLYMAN DeANGELO: Thank you.

Next up, Lena Smith from Food and Water.

Is Lena here; are you here? (no response)

Seeing not, let me have Steve Goldenberg, from New Jersey Large Energy Users.

STEVEN S. GOLDENBERG, Esq.: Good afternoon.

There's been a lot of discussion about numbers. I'd like to continue that discussion for a little bit.

There are a lot of questions about the four-tenths of a cent for kilowatt hour rate that appears in the Bill; questions about where it came from, why is it set at that number. We know that it was not the result of any kind of stakeholder process; it was not the result of any BPU involvement. And as far as I can see, there's no attempt to correlate that number with the proposed or projected losses that apparently some of you have heard about.

It's actually pretty easy to figure out where it came from. A decision was made about what subsidy they want, and that number is

spread over all of the usage, on an annual basis, that occurs in the State of New Jersey.

So in 2015, that number was about 75 billion kilowatt hours. So you take the number you want, spread it over that, and what comes out is 0.004.

The problem with that, obviously, is the way it was derived. When you do something that way, there's no reason to assume that it's a just and reasonable rate, which is required by the Public Utility Law, and has been so for 100 years. And the fact that it's made largely irrevocable, but for one very short proceeding the Board could conduct -- which Stefanie has already spoken about, and I share her views on that.

I can understand if the members of the Committees view this as a very small number; it's 0.004. How does that register? Well, it is a small number; but a small number can become a very large number when you multiply it by a large number. And the numbers I wanted to share with you today are the numbers that apply to my members who are in the New Jersey Large Energy Users coalition; they are some of the state's largest businesses; they are some of the state's largest consumers of electricity and natural gas. And when you apply that figure to their usage levels, as you will see, you get some very, very large numbers that you should be very concerned about.

The vast majority of members of the group, if they have to pay this figure, will pay more than a half-a-million dollars per year for this subsidy. What is problematic about that, apart from the number, is that under the proposed Bill there is no end date for the payment of this

subsidy. Unlike stranded costs, there was an end date; we knew the obligation would end. And these are stranded cost-level payments.

Now, Mr. Izzo says you shouldn't look at this Bill through the rearview mirror. If you're making policy, you have to look forward. I think you should be equally cautioned by that old adage that if you ignore history, you are doomed to repeat it. And I have already spoken to this group about the stranded cost issue; it is a real problem. And you could very easily repeat it here.

Now, if the focus of this Bill is on jobs, let's talk about that. Let's not talk about it in a narrow sense; let's talk about it in a more holistic way, and let's talk about it in terms of the companies that I represent. There you have people concerned as well. When a company has to pay upwards of \$1.5 million per year for this fee-- And the largest fee to be paid by a member of my group is about \$1.5 million; second place was \$1.2 million; and there were a lot between \$500,000 and \$1 million. When they have to pay that kind of fee, regardless of how it's justified -- and I would submit this one wouldn't be -- to their managements, you have to be concerned about the impact on jobs, you have to be concerned about the impact on decisions made about capital investments, about where a production line would occur for a multi-state entity -- whether it's in New Jersey or somewhere else where prices are cheaper -- and ultimately, on the issue of closure.

And you have to appreciate that on this issue, I am not crying wolf. The Large Energy Users coalition has been in existence for 15 years; and I can fairly trace the ups and downs of the New Jersey industrial base through this group. It was founded by Hoffmann-La Roche; it was founded

by Lenox China; it was founded by some of the glass companies -- Gerresheimer Glass -- and others that were in Salem County that are no longer there. It was founded by Gerdau Ameristeel, which is an interesting case study because Gerdau, at one point, was PSE&G's largest customer by far. That was the Perth Amboy mill that they ran, which they made steel there. They used an arc furnace which used a lot of electricity. It's not there anymore; and it's not there anymore largely because of the state's energy costs. So how many jobs were lost there; how much economic impact was lost as a result of the closure of the Perth Amboy plant? I suggest it's significant.

I've been authorized to say on behalf of the Passaic Valley Sewerage Commission that this would result in an increase in their rates of approximately \$770,000 per year, which would represent a 5 percent increase in their projected electricity costs. This, in turn, would result in a greater than 2 percent increase in their 2018 Municipal User Charge, which is charged to some of the poorest people in the state. And this would be passed through -- unlike some of the other companies I represent -- the Passaic Valley Sewerage Commission can pass through these extra costs. And who will it be charged to? The communities in Newark, Jersey City, Paterson, Passaic, and Kearny; something you should really consider.

Several members also have gone through the processes of getting grants from the State, whether from the EDA or elsewhere, to help them make capital contributions. And usually attendant to those grants is an obligation to hire, which is appropriate. There are two members that I'm aware of that got half-a-million dollar grants from the State after doing a lot of work to get it. At least one of them will pay here, for this fee, \$656,000

each year. So if they're working hard to get a half-a-million dollars to try and grow the business, now we're paying more than that each year for an indeterminate period of time. What effect do you think that has on those companies? I would suggest it's devastating.

And it's not enough to view it through this very narrow lens. We need to put this in context, and not consider it in a vacuum. After I left here last Monday, I attended the settlement conference on one of PSE&G's pending petitions to modernize their gas system. They're asking for \$2.7 billion there. And they rationalize it by the fact that, "Well, you know, gas prices are down, so people won't realize that we're making all these improvements, they won't see it in their rate." Which is something interesting, given what I heard the day before about, "Gas prices are down, so we have to spend \$3 billion here."

And it doesn't end there. If you pay attention to your electric bill, since 2009 your transmission rates have gone up about 450 percent because of the many billions of dollars of transmission investment that are being made. On February 1, they're filing a rate case which will increase both their gas and electric rates. There's an Energy Strong 2 filing coming -- we don't know how much is involved there -- but in the first one, we're talking about \$4 billion. And I am led to be told that there's a multiple-billion-dollar Energy Efficiency filing coming. All this allows PSE&G, as has been said before, to tell their investors to tell the Wall Street community, "We're making \$15 billion worth of investments; we're getting subsidies for our nuclear plants." And this has certainly fueled their earnings to the point where they continue to increase their dividends; the stock is up \$10 a share since June. So when Mr. Izzo talks about his obligations to

shareholders, I would submit to you that he has satisfied those obligations, and then some.

You and I should be more concerned about your obligation to your constituents, because through all these programs PSE&G has largely shown that they're indifferent to the financial pain that some of these programs can inflict.

There is no rush here; we can deal with this responsibly. This Bill doesn't address the issues responsibly or fairly. This is a massive giveaway based on unwarranted fears that have been fanned by PSE&G, and I ask you not to go along with that. Scrap this Bill; let us deal with this problem.

Thank you.

SENATOR SMITH: Thank you for your comments.

Josh Unruh from -- a Selectboard Chair for Vernon, Vermont.

Mr. Unruh.

J O S H U A U N R U H: Good afternoon, Chairman; members of the Committee.

I appreciate you having me here to speak today.

I don't come here to speak about opinions; I don't come here to speak about numbers. I come here to speak about the economic and personal impact of closing a power plant.

As of next Friday, three years ago Vermont Yankee nuclear power plant closed in my town. We have a town of 2,200 people who worked very hard to keep that plant open.

Our government, our statehouse, did not put in the work to keep that plant open. They didn't look ahead, to what you guys are trying to do here today. In fact, they did nothing.

They looked at the facts, and they said, "Okay; yes, they should be okay." And they heard people, and they said, "Oh, yes, they should be okay." Everything that I'm hearing here today is what's happened in Vermont, and ended up closing Vermont Yankee.

In the closure of Vermont Yankee, we lost \$58 million just in salaries that circulate throughout Vermont; \$300 million in tax revenues. These are huge numbers. That is what's going to result here in New Jersey if something isn't done.

Besides the economic impact, we lost families, we lost friends -- because these folks go to other plants. They have to find work within their field; they're high-paying jobs. Their donations to nonprofits -- all the things that they do personally go away; along with everything that the power plant does, for your state and your nonprofits, go away when you lose a plant as well.

Over the last three years we've seen a 20 percent increase in our municipal tax rate; and over the last three years, we've seen a 20 percent increase in our property tax rate. These are huge numbers for 2,200 people to support. And from what I'm understanding, there are very similar towns that your power plants sit in. We're an agricultural town; we're a power generation town. We've had a nuclear plant; we still have a hydro dam. For a real small town, this has caused us big problems.

So I urge you, as the leaders of New Jersey, to not follow in the footsteps of Vermont; and to do what's best for your constituents.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you very much.

If I can have Jim Benton and Scott Ross from the New Jersey Petroleum Council come up.

JAMES E. BENTON: Good afternoon, Chairman.

Jim Benton with the Petroleum Council. I appreciate the courtesy of allowing my colleague, Scott Ross, and I to testify on the legislation before you today.

And Chairman DeAngelo, you are correct. Most of the comments that we do have, have been stated before. We will not attempt to restate them in any fashion, and we will move along expeditiously.

We do agree with Dr. Izzo in that there are flaws in the New Jersey marketplace; there are flaws in the energy market. We are here as competitors to say that we are ready and able to bring natural gas -- through new infrastructure that we're building throughout the state -- to supply natural gas generation and electricity here in the state. We are prepared to do that. We believe that that remains an integral part. We'd be happy to sit at a table to continue to work on this significant policy issue, anticipating not only this, but all new forms of energy -- electrical generation in New Jersey that may yet come down the road.

We have carefully reviewed the legislation; you've heard some of the issues of concern. I know staff has heard the issues of concern that we have with regard to lack of a sunset, lack of legislative oversight, impacts from the Federal activity, from anticipated activity rejoining RGGI, and PJM. We believe it's incumbent to hear from our Board of Public Utilities at a hearing like this; we believe it's important to hear from PJM, our

regional oversight. Because as you know, if the nuclear plants were to close down, as Dr. Izzo suggests, PJM would have oversight responsibilities. We'd like to hear exactly how PJM would react to that. We know you received a letter from PJM directly, suggesting their position. We believe that deserves careful attention.

And as far as time schedules -- we believe that this legislation should mirror the time schedules that are already before the BPU in their administrative proceedings to allow for ample time to consider what we believe is a monumental issue.

In closing, we recognize this as a defining moment in this Legislature; a defining moment before this Committee. We believe it carries the utmost importance because, obviously, New Jersey has had a reputation of lightning in legislation. And we believe the time that this Committee -- this Joint Committee has taken in reviewing this legislation is of critical importance, even though the legislation was only introduced last week.

We thank you for your time; we thank you for the opportunity to present our brief concerns. I hope we expressed them as briefly as we could.

ASSEMBLYMAN DeANGELO: Thank you.

SENATOR THOMPSON: Question.

SENATOR SMITH: Question -- Senator Thompson.

SENATOR THOMPSON: Questions have been raised about reliability of gas supplies, electric energy -- path lines, etc. Would you care to comment on this?

MR. BENTON: Yes, sir.

We do believe the changing energy dynamic that has embraced New Jersey, our region, and indeed the United States and the world is continuing to evolve. You've seen examples of that as new infrastructure is being built; you've seen benefits from the direct competition which we've engaged in, with PSE&G and others, in supplying and meeting those challenges. We believe a careful review of the ability to continue to provide that generation is critical and has been underscored.

Let me give you a couple of examples, briefly, Senator. If you were to look in Woodbridge Township; many of you are familiar with Woodbridge, one of New Jersey's largest municipalities, geographically. Within that municipality is a new BP-fired electrical generation, powered by natural gas, in Woodbridge. Right down the road, again in Woodbridge, is a PSE&G plant that is also producing power. You've seen new generation produced in different spots, including down in South Jersey; as one of my predecessor testifiers from Calpine testified, they have new generation down there.

We believe a careful analysis of New Jersey would show that natural gas has made an important contribution to generation in New Jersey. We look forward to continuing to compete with nuclear and all other forms of energy as they come on stream. But we believe New Jersey's energy future is secure; but it's important that this Legislature take the time to understand this issue, and get it right for the benefit of all New Jerseyans -- commercial, industrial, and residential.

SENATOR THOMPSON: You're not addressing my question.

MR. BENTON: I'm sorry, sir.

SENATOR THOMPSON: The question was, they were suggesting relying on gas -- natural gas is not reliable. You can have a pipeline blow up, or something else; you'd have no gas for (indiscernible), solar vortex, and so on. So thus would you care to comment on the reliability of gas-fired plants?

MR. BENTON: We believe natural gas is reliable; it is domestically produced; it has shown to be able to deliver to New Jersey in a quick, prompt, and effective way without interruption from foreign sources, from operations malfunctions. Obviously, there is always a possibility that terrorism or some other unforeseen event could interfere, but the reality is we believe natural gas has earned its share of the marketplace that it has right now, as well as the other forms of energy that are competing.

Clearly, all forms of energy would be challenged in the event of security or other operational malfunctions.

Thank you, Senator.

SENATOR SMITH: Okay; thank you so much.

Our next witness is Jennifer Tutterow, from PSE&G, the Employee Business Resource Group.

Jennifer.

JENNIFER TUTTEROW: Good afternoon.

Thank you for giving me the opportunity today.

My name is Jennifer Tutterow, and I am an engineer at the Salem station.

And we have heard a lot of opinions today, but I want to talk about, as one of the 1,500 employees at the plant -- that this Bill is not just

about power and money and anything else; it's about those of us who work there.

I'm a born and raised Jersey girl; grew up in Jackson right down the street; pursued my degree in chemical engineering from Rowan. During my career at Rowan I did two internships at the plant, and realized that nuclear power was my career.

ASSEMBLYMAN DeANGELO: Just relax; just look at us -- four of us up here actually had tools in our hands at one point in our careers (laughter), so we're blue collar guys. So just take it easy.

MS. TUTTEROW: Sorry.

But over the past six years, I actually have friends and family at the plant; I met my husband there. We're getting ready to start our family, and it's scary that it might not be there.

But the other thing that I want to touch on is STEM outreach. It's something that I have a lot of passion about also. Ever since I was an intern at the plant I have gone to numerous career fairs, judged science fairs, Boy Scout merit badges -- all of that. And we really do a lot of outreach all the time, and it's something that the community is going to lose also. The opportunity for me to stay in New Jersey, stay with STEM, and do what I wanted -- if these plants shut down it's not going to be there for the next generation.

So, really, that's one of the things that I wanted to kind of bring to the table today -- is both those of us who work there -- the career paths, our friends and family; and then the next generation.

So, thank you.

SENATOR SMITH: Thank you.

And I want to say to Public Service: This is the most unfair witness you've ever presented at a legislative hearing (laughter). How can we go against a pregnant, first-time mom? (laughter)

ASSEMBLYMAN DeANGELO: Thank you.

If I can have Dennis Hart from the Chemistry Council--
I'm sorry; you had a question?

Jennifer -- Jen?

ASSEMBLYWOMAN PINTOR MARIN: Jennifer?

ASSEMBLYMAN DeANGELO: Jennifer?

ASSEMBLYWOMAN PINTOR MARIN: Hi, Jennifer.

ASSEMBLYMAN DeANGELO: We're going to torture you; can we bring you back up for a little bit? (laughter)

ASSEMBLYWOMAN PINTOR MARIN: No; I just want to say -- I just want to applaud you for, first, coming up, because I know it takes a lot of courage; and I want to congratulate you.

And I just want to say thank you, because there are not a lot of women; and we have a huge push in the State of New Jersey towards promoting our young children, especially our women, in what STEM education is all about and the career choices that it offers you.

So thank you.

SENATOR SMITH: Thank you.

MS. TUTTEROW: Thank you.

ASSEMBLYMAN DeANGELO: Thanks.

Dennis.

SENATOR SMITH: Can you top that? (laughter)

D E N N I S H A R T: Thank you; thank you, Mr. Chairman, for this opportunity.

I just, with your indulgence and your permission, I have Bill Radigan. He also signed up to testify as one of the members; I'd figured we'd save time by doing it together.

I want to get back to--

ASSEMBLYMAN DeANGELO: And who is with you, for the record?

MR. HART: Pardon me?

ASSEMBLYMAN DeANGELO: Who is with you?

MR. HART: Oh, I'm sorry. Bill Radigan -- introduce yourself.

W I L L I A M R A D I G A N: Bill Radigan, DSM; DSM North America.

MR. HART: My name is Dennis Hart, with the Chemistry Council of New Jersey, representing manufacturers in New Jersey; manufacturers of pharmaceuticals, flavors, and fragrances, vitamins, nutritional products, and the chemicals that we all need in this state.

I'm going to get back to -- I apologize; I'm going to call her by her first name, *Jennifer* -- because it's important that I'm following her, and I'll get to that reason.

But first I want to say that in Mr. Izzo's testimony, he sort of shrugged off an increase of 2.4 percent as not being much. Well, I guarantee you, if Mr. Izzo and I each get a 2.4 percent salary increase this year, that difference in money is going to be substantial. And this Bill here -- the difference of 2.4 percent added energy costs-- I've given you documents, submitted as part of my testimony, what the increase is going to

be to manufacturing facilities in this state. I'm not talking about the big ones; our big manufacturing facilities that I represent will have bills of well over \$300,000 to \$400,000 increased electric cost. At the same time, they're paying 56 percent higher for their energy right now than even their sister companies in Delaware or Texas. So how do we compete in manufacturing in New Jersey if we're going to lay on additional costs to these people?

You, in your wisdom, have set up the Manufacturing Caucus to try and get more manufacturing to locate in New Jersey, to expand in New Jersey, and to even stay in New Jersey. Jennifer is very similar to the people who work in our manufacturing plants. I'll give you an example: There is a plant that I represent in Middlesex County. They're in a competition to expand their product line against one of their sister companies in Texas. They employ 60 people; about 3 of them are managers and health and safety people, and the rest of them are chemical plant operators. They come out of Middlesex County Vo-Tech, they come out of the local JFK High School. They come there; they get trained, they get certified, they have a good, well-paying job.

The impact of this Bill is going to take the hit on those people, just like if the Salem plant went away it's going to hit Jennifer and her family. Those same people would be here telling you the same exact thing. Because they have no choice. When you have a small plant that's going to be hit with a \$200,000 energy increase, how are they going to take that off? What really is going to happen is, when there's a downturn in the economy our New Jersey facilities will be the places that will take the hit; not Delaware, that's being subsidized by-- The Delaware competitors are being

subsidized by this Bill. They're the ones that are going to take the hit; New Jersey manufacturing is going to take the hit.

Now, I'm going to turn it over to Bill. But I just want to talk about two things in this Bill that haven't been talked about yet. One thing is, we're talking about sending the BPU a private company to be regulated. Not a public company; these units are a private company. And so BPU should be directed as to what counts as profit, what counts as an expense. If PSE&G decides to build a corporate-wide training center at Salem, does that go into the capital expenditure that goes against the subsidy? I don't know. But as a Legislature, that should be directed to them -- what should be counted in costs, and what should be counted as expenses.

And then secondly, there has been talk about PSE&G being committed to an open and fair process; that they're to open their books throughout this process. But this legislation says that the information submitted by PSE&G "shall be kept confidential, irrespective of common law or public information requests." How can we have a public process if this information is going to be held confidential?

And just yesterday, Governor Andrew Cuomo signed a bill ordering PSE&G to open their books for their operation of the Long Island Electrical system. The assemblyman sponsoring that legislation said it is too important to the people of Long Island to have this information be held and shrouded in secrecy and not being put for the public. Cuomo signed that legislation; and PSE&G's response to that legislation was, "We'll have to take a look at it." So this is monumental decision that you're going for.

In closing, before I turn it over to Bill, New Jersey 101.5 -- they bill themselves as the state's radio station -- the morning host has been

talking for months about the benefits of nuclear power. I believe in the benefits of nuclear power too. So this morning, yet another two hours on the topic, and I called in and I got 10 minutes on the air with him. After 10 minutes, he agreed that this legislation is going too fast and the issue of the subsidy needs to be looked at before it gets voted on by the Legislature.

The public doesn't know this is going on. I meet my neighbors at the mailbox, and they pull out this cute little flyer of parents teaching their kids how to ride their bicycles; all because of nuclear power now, their kids know how to ride bicycles. But there's no mention in there that that postcard is actually a bill -- a bill to them, and a bill to the companies they work for.

So I'm really asking -- that there are a lot of smart people, a lot smarter than me, who have testified so far, that could sit down with the Legislature, work in a committee or task force -- lets build a subsidy program that works; that works for PSE&G, works for nuclear, works for industries, works for the citizens.

And at this point, I'll turn it over to Bill.

MR. RADIGAN: Hi; I'm Bill Radigan, I work for DSM; DSM Nutritional Products, specifically here in New Jersey.

We are a global company. I am the Energy Procurement Manager for North America, not just New Jersey.

We have 26,000 employees worldwide, but only 500 here in New Jersey.

Just 10 or 15 years ago, that number was more than twice that. We had well over 1,000 people, and we lost them because of the cost of manufacturing here.

Now, New Jersey is a tough place to do business; but we've been scraping and trying to improve things there. We've taken advantage of the Office of Clean Energy Energy Efficiency grants to make things more efficient at the site. We've installed a \$25 million co-generation to reduce our cost of electricity. And we also installed a 6 megawatt solar field, which is one of the largest in the state. So we're trying really, really hard.

We are a DSM finalist to have a fermentation expansion at the site -- that DSM's is going to spend between \$80 million and \$100 million on this expansion. Okay; that's pretty remarkable, considering how difficult it is. It's the first time DSM is talking about investing in our manufacturing site in Belvidere, New Jersey, in at least 15 or 20 years. So just to be a finalist is pretty remarkable.

And something like this has its impact. This -- the proposed \$4 a megawatt hour (*sic*) would cost us over \$300,000 a year. And we have already suffered through this with stranded cost; I just don't want to see us make the same mistake again. The story is true on both sides. We can lose jobs also because of irresponsible costs.

That's the message I wanted to bring to you.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you, gentlemen.

SENATOR SMITH: Our next witness is Joel Givner.

J O E L E. G I V N E R: Good afternoon, and thank you for allowing me to be here to speak on behalf of -- with PSE&G and their nuclear power program.

My name is Joel Givner--

SENATOR SMITH: We're not hearing you so well.

MR. GIVNER: Is that better?

SENATOR SMITH: I don't know; maybe you have to get a little closer to the mike.

MR. GIVNER: All right.

Is that better?

SENATOR SMITH: Much.

MR. GIVNER: My name is Joel Givner; I'm employed by J Givoo Consultants, a certified WBE here in the State of New Jersey, as well as New York, California, and the Port Authority.

I have a Bachelor of Science degree in Physics and a Master's of Science degree--

(loud feedback; changes seats and microphones)

I guess we're causing all kinds of problems here.

I also have a Master's degree in Nuclear Science. I've been around this industry for 40 years; I've been all over the country; our company has been all over the country.

We provide a niche--

(microphone feedback)

SENATOR SMITH: Shut the other one off (referring to PA microphone).

MR. GIVNER: We are a niche industry for instrumentation controls and employee -- we are the largest provider of union-affiliated instrumentation technicians in the country. We do all our work through the International Brotherhood of Electrical Workers, specifically on the island, Local 351; and also the United Association of Steam Fitters and Pipefitters and Plumbers.

In the case of the island -- the artificial island, it would be UA Local 322.

We are at the island two times a year for outages, whether it be Salem Units 1 and 2, or Hope Creek. And during those six weeks' timeframes for each one of those outages, we employ approximately 45 to 50 union-affiliated technicians.

The loss of these units would not only affect the local community, but also the workers who we bring in. Because we're allowed to bring them two times a year, we have a continuity factor which allowed us to take these employees and transfer them throughout the nuclear industry to perform these highly skilled tasks they do.

We also have been entrusted through PSE&G, over the last couple of years, to perform their under-vessel nuclear instrumentation maintenance doing the Hope Creek outages. We used to do that for GE many years ago. But because of the pricing out there of all industries, we come in now with a more efficient pricing schedule for PSE&G, with the same talent that a lot of these larger companies provide, and therefore we're able to do it more cost-effectively for the utility; and thus they save monies and obviously become a more competitive industry.

I just want to thank everybody for allowing me to be here. I am a proponent of nuclear power, and we will do everything we can to stay viable, to decrease our costs to become more efficient; so PSE&G can also become more viable in this terrible time that we have due to the natural gas industry just killing the nuclear industry.

Thank you.

ASSEMBLYMAN DeANGELO: If I can have Diane Slifer from PJM Power Providers Group come forth.

D I A N E S L I F E R: Thank you, Chairman Smith, Chairman DeAngelo, and members of the Committees for allowing me to testify today.

I am Diane Slifer; I am here today on behalf of the PJM Power Providers Group, known as P3.

We submitted, this morning, written testimony; so I'll just briefly highlight a few points.

P3 is a nonprofit organization made up of power providers whose mission is to promote properly designed and well-functioning competitive wholesale electricity markets in PJM. Combined, P3 members own more than 84,000 megawatts of generation assets in PJM, produce enough power to supply over 20 million homes, and employ over 40,000 people.

In the electricity industry and wholesale power markets, New Jersey is not an island on its own. Rather, New Jersey is part of the largest electric grid in the country, PJM, a grid that is benchmarked by other countries.

New Jersey is a state within PJM; it does not need to address challenges in a vacuum. Further, PJM is overseen by FERC, and markets are monitored by the Independent Market Monitor.

Currently, PJM markets are working well. Power prices are at historic lows, reliability is high, air emissions have been reduced, and the generation mix is diverse. Granted, markets are not perfect, and there are

issues that need to be addressed. However, both FERC and PJM are currently working hard to address these issues.

Today, New Jersey has an opportunity to either learn from the past or repeat a mistake. As the Committee knows, LCAPP was passed seven years ago; seven years later we see that LCAPP was unnecessary and was deemed unconstitutional.

P3 urges the Committees to not rush into another energy policy mistake. Since there is no immediate crisis, the Committees have time to learn more about this very complicated topic, to fully understand the market dynamics that are occurring in today's markets, and to appreciate the efforts that are currently underway at PJM and at FERC that could improve the economics of nuclear units; and to develop thoughtful, informed, and sound energy policy for the Garden State.

In conclusion, PJM urges the Committees to reject Senate Bill 3560 and Assembly Bill 5330. Please do not force New Jersey's consumers to pay millions of dollars unnecessarily.

P3 welcomes the opportunity to partner in the future with the Committees to discuss as it develops energy policy in the future.

Thank you for this opportunity to testify today.

SENATOR SMITH: Thank you.

Tony Lowman, from Rowan University.

Mr. Lohan -- Mr. Lowman, rather. (indicating pronunciation)

A N T H O N Y M. L O W M A N, Ph.D.: So thank you for the opportunity; thanks to the Chairman and Committee for having me today to speak.

My name is Tony Lowman; I'm the Dean of the Henry M. Rowan College of Engineering at Rowan University. And I submitted a written statement, so I'll be brief -- just highlight a few points of why I'm here.

I'm really here to talk about a different impact than what you've been hearing about today. I've heard conflicting sides of the money; is it good or bad? I've heard the environment, good or bad? I'm going to talk about one impact here that I don't think can be disputed. And that is probably what I think is really the number one asset in this state, going forward, and in our state being competitive and a leader, going forward. And that's our students; it's today's children, how they're going to be educated, how they're going to be trained to become the skilled workforce in this state.

Our college, in the last five years -- we have more than doubled our student population. We've added a thousand students to our population. So a small, sleepy college that was producing 100 engineers in the state, a little more than five years ago, this year will produce 400 engineers who are going to go out in the workforce of New Jersey and around.

That's happened with the help of this Legislature. You have been tremendously supportive in the last five years of our programs -- adding new buildings, new faculty. But we can't really change the dynamics of STEM education without great industry partners -- partners like PSE&G.

PSE&G has worked with our engineering programs for a number of years. They have provided opportunities for K-12 students. Over 5,000 students have come through -- middle school and high school

students -- through our programs in the last five years, during schools days, over summer camps -- designed specifically to attract women into engineering, to increase underrepresented populations in engineering, and really help create a STEM pipeline for the State of New Jersey.

It's given tremendous opportunities for our graduates and our current students. Annually, our students visit nuclear power plants and get a chance to intern at nuclear power plants. You want to hear what the impact of that is, as a student? More than 20 years ago, I interned at a nuclear power plant in Virginia; my first job was at a nuclear power plant in Virginia. It raised my curiosity to such a level as an engineer that I went on to pursue my Ph.D.; 20 years later, I'm the Dean of a College of Engineering thriving in southern New Jersey.

Really, I just want to talk about the tremendous impact on a continuum of students from K -- kindergarten, through college age. If this goes away, our students are going to suffer; our pipeline of STEM engineers is going to suffer.

So I am asking you today to support this legislation. But not from the standpoint of supporting nuclear power or supporting one individual company; but to support our greatest asset, our students and our future.

Thanks.

SENATOR SMITH: Thank you for your comments.

ASSEMBLYMAN DeANGELO: If I can have Bill Paulin, from the Kuehne Chemical Company.

WILLIAM PAULIN: Members, thank you for letting me speak today.

I'm Bill Paulin with Kuehne Chemical; I'm Senior Vice President and one of the equity owners of Kuehne.

You've heard a lot today: money, how it's going to help. I don't think what you have heard today is a small business. We are a 100-person, or 130-person manufacturing company in Jersey. We recently invested a significant amount of money on an IST manufacturing building in Kearny, New Jersey. What we manufacture is sodium hydrochloride, which is bleach. It's not pretty, it's not fun; but it's important. Everybody in this room -- if we weren't around, you couldn't drink the water or flush your toilets. That's what we do. We're critical infrastructure.

The IST that we placed in service -- 50 percent of our raw material is energy. This Bill hits us. And what that does -- it's going to be a multiplier effect. Our price goes up, Passaic Valley Water -- their price is going up. Dennis Hart was here from CCNJ; he talked about Passaic-- Oh, I'm sorry; Steve Goldenberg talked about Passaic Valley Water. Their price, on just the energy side, is 5 percent. Well, they're going to get a hit on the bleach side too; and that means all the members and all of our residents -- 9 million people -- are going to get a price increase.

We either deliver the product directly to the residents of the state or our competition; or our distributors are delivering all that bleach. There will be a multiplier effect. This isn't a \$300 million cost. If I was an economist, I probably could tell you what that real cost is; my guess is, it's probably over \$1 billion, when all is said and done. And it's not just the 5,000 or 6,000 jobs that we're talking about; it's the 9 million residents of this state.

So I had a lot of other stuff to talk about, but I know we're limited on time.

The only other thing I could add is, if you're going to do something like this, you might want to try to promote business in Jersey. Why don't you put a *Buy New Jersey* component to this -- that if a manufacturer or a business in Jersey is going to a municipality, we get preferential treatment. Because I am going to be competing with Pennsylvania, Delaware, New Jersey, Connecticut; I have competition in New York; and yes, they do have the subsidy. But my competition in New York didn't do the responsible thing. They didn't put an IST -- inherently safer technology in. They did it the old way. They bring rail cars of chlorine and caustic in, and they manufacture bleach that way. We've eliminated rail cars of chlorine.

We've done the right thing for this state, without public assistance. We have to figure out how to make money without going to each of you and asking for the help. I think PSE&G needs to kind of figure out how to do that too.

And that's my statement.

SENATOR SMITH: Okay; thank you for your comments.

Vinod Menezes, with Atlantic Subsea, are you here? (no response)

Okay; the gentleman is--

Okay; Chairman, why don't you call--

ASSEMBLYMAN DeANGELO: If I may call Dale Bryk, from National Resource Defense Council.

DALE BRYK: Thank you.

Okay; we're still here.

Thank you so much. I'm Dale Bryk from NRDC. We're a national environmental organization. We work on every issue, and we have very deep policy expertise in the climate and energy space; that's our biggest focus by far.

We work on State, national, international, and Federal policy. We've been in New Jersey for over 20 years, working on energy policy back from before the days of restructuring; which was fun, and which we did support.

We have over 3 million members and activists, including 65,000 here in New Jersey who care deeply about this issue. And we have been very involved in some of the states that you heard about already: California, and the Diablo Canyon proposal that we negotiated with the company and the labor partners there; the New York and Illinois legislation which you've heard about; and we have been monitoring the situation in Connecticut very closely, but then we didn't negotiate that deal.

And we care about the whole host of issues; obviously, environment is our deepest expertise, but we really do care about the community and labor impacts of these kinds of policy deals as well.

I have -- I brought along an issue brief that we prepared, which is sort of the details of what's happened in each of the four states that have grappled with this already, and the lessons learned from those -- the best practices extrapolated from the experience that we had in these states. And they're quite simple -- that any financial support for nuclear has to be narrowly tailored; obviously, predicated on financial distress to the plant;

that it has to be time-limited. We don't want to subsidize nuclear plants forever, no matter the cost or anything else that's going on.

And the real purpose of subsidizing these plants, or having a transition plan, is to create exactly that transition, so that when the day comes that these plants close -- whether it's 5, 10, 15 years -- we're not all sitting here again, saying the same set of issues; that we've used that 10-year period to build the efficiency and renewable resources that will ultimately be able to replace those plants, but can't replace them right now. And to create a plan for the employees of those plants, and the communities that rely on them for the tax base -- as we've heard, a whole host of other good corporate citizenship benefits that PSE&G is delivering. Those employees and the towns need that time to either have a transition plan or alternative economic development plans for the communities.

And none of the elements of a transition plan are part of the Bill that's before us. And that is a primary, overarching concern that we have.

But having said that, we do support keeping the plants open, and we support having a credit-type system -- in other states, it's been a Zero-Emission Credit -- as a tool to keep nuclear plants open in order to have that time to build that transition.

Which leads me to specific concerns that we have about the Bill, and the way that it's drafted here.

The first one is that it doesn't use the Zero-Emission Credit that the other states have used, and that has already been litigated and has passed legal muster -- at least at the District Courts, so far -- in those two states. So instead of the Zero-Emission Credit, we have the Nuclear

Diversity Credit, which requires not just the environmental benefits, but also showing fuel diversity and resilience benefits. And those are all *ands*; you have to show all three of those things.

And we are truly concerned about a requirement to show a resiliency and fuel diversity benefit, because New Jersey lives in the PJM marketplace, which is a sprawling, ginormous marketplace. And the likelihood that the Board of Public Utilities will be able to find that these two plants have -- first of all, *resilience* is not even defined -- but have a resiliency benefit and a fuel diversity benefit-- We do think that those things are important, but that the Board would be able to find those -- it really jeopardizes the functionality of what you're trying to do here.

So we would really like to take -- urge you to take more time to make sure that this is structured in a way that it works.

I'll just cover some of the other things briefly, because others have covered them.

On the financial discretion and narrowly tailoring issue: The idea of cost of capital, and getting back into the business of the State looking at what is the profitability -- what is the appropriate level of profitability of PSE&G, something that they've gotten out of the business doing -- is very concerning. It's not how the other states have handled it. So we understand that nuclear plants throughout the country are facing financial challenges, and many of them do need support. But the trigger should be, "This plant is in financial distress," not profitability. So we urge you to take another look at that.

I mentioned the California deal around Diablo Canyon. In that deal, there is a plan that's developed and that's already planned how to pay

for it to transition workers that -- they're either going to be part of decommissioning; they're going to move elsewhere in the company; there's going to be severance package; you know, a transition for everybody. And that costs money; I think it was \$320 million in California. We're not asking PSE&G to use a penny of the \$300-odd million a year that they're getting, and put any of that money away for workers or for the community. We're going to be back in 10 years -- or whatever the number of years is -- asking this question again; and then those costs are going to fall on ratepayers, instead of figuring out now whether PSE&G shareholders should be footing part of that bill, or all of that bill.

And there's a similar issue with nuclear safety. A couple of times have come up -- Professor Von Hippel's testimony from last round -- about using this opportunity to negotiate an agreement with PSE&G to expedite the transfer of nuclear waste to dry cask storage. And this may be the only opportunity for the State to do that. And we strongly endorse his testimony and, again, urge you to speak more with him about including a provision like that in here.

I've been sitting here all day, and I sat here all day on December 4, and I have not heard a single person articulate a reason for doing this Bill this minute. And I don't agree with some other people who testified that we can do this two years from now. I think it does make sense to address this now, and have a plan in place, and not wait until the day that these plants are going to shut down. But we could do this in a month from now, in two months from now, and address all of these issues much more carefully than we have the time to do now.

And so I'm saying this, as an organization -- on behalf of our 65,000 members and activists -- that we don't support this legislation because of the concerns that I outlined here. But we do support keeping the plants open and doing this in a really smart way that addresses all of the issues for the environment, the employees, and the communities. And we don't think this Bill does that; we think we can do that very quickly, as soon as we get to the beginning of the year and have a little bit more time.

So thanks for the time; and I hope we can work together on that in the new year.

ASSEMBLYMAN DeANGELO: May I ask Barbara Blumenthal from ReThink Energy New Jersey.

BARBARA BLUMENTHAL, Ph.D.: Good afternoon.

Thank you, Chairman Smith, Chairman DeAngelo, members of the Committees, for the opportunity to testify.

My name is Barbara Blumenthal; I'm with ReThink Energy New Jersey. We're an energy campaign, supporting a transition to clean, renewable, efficient energy

We recognize the important role that nuclear power plays in providing carbon-free energy. And at the same time, there's no evidence of urgency; and we echo exactly what Dale just said. We have time to do this in the next few months; not today, but in the next few months.

I just want to make a couple of points that you haven't heard already.

Dale also raised the point about some of the preamble language about diversity not quite getting it right, and that we should be careful. I want to raise a point about paragraph 7; there's been some discussion today

about paragraph 7 that says -- it suggests that capacity challenges and supply constraints on natural gas pipelines are causing reliability concerns. It makes a link between difficulty in siting and constructing new gas pipelines and system reliability.

I want to make a couple of points. First, PJM has said, emphatically, that electric reliability is not at risk. Second, various independent experts have said that it's not a problem. We've talked today about the North American Energy Reliability Council; does everybody know what NERC is? NERC is the people who assess reliability. They issued a report on the polar vortex, and they said that of the 19,000 megawatts that went offline, 17,000 megawatts was due to frozen equipment. They go on to say the primary issue with cold weather has been freezing, especially instruments; not the lack of fuel supplies.

So there's a lot of misinformation and exaggerated myth about what happened in the polar vortex, and what the link is to gas and gas pipelines. And I'd be happy to share a lot of research we have on that topic with you at any time.

So in closing, we urge you not to move forward with this legislation at this time. Instead, work with the new Administration, with stakeholders, on the role of nuclear energy as part of a comprehensive package. We did release a study in September of this year, looking out to 2030, and asking the question, "How do we reduce emissions in this state by 50 percent? What combination of energy resources?" And we looked at the cost side of that. The purpose of the study was to look at what would it cost. And the bottom line was, it doesn't cost any more than the business as usual.

But of course, there are a lot of assumptions built into that study, which we would like to share with you in great detail. Some of the assumptions are moving ahead with cost-effective, sensible policies. So we have work to do. But we know that we can get there, to reduce emissions in New Jersey by 2030, with or without nuclear. We hope that nuclear is affordable, and that it will stay online. But if it isn't, then we have to plan for a future without nuclear.

Thank you.

SENATOR SMITH: Thank you.

John Connors, South Jersey Mechanical Contractors, in favor.

Are you here? (no response)

John Connors is not here.

Sara Bluhm, NJBIA, seeking amendments.

S A R A B L U H M: Thank you, Chairman.

Sara Bluhm, New Jersey Business and Industry Association.

We are the country's largest employer association, representing over one million jobs in the state.

And NJBIA supports nuclear plants and fuel diversity; however, this is a national and regional issue. And if the State is going to be acting upon this Bill, then we feel it must have offsets for all ratepayers.

As you've heard me say many times, the commercial and industrial customer consumes 64 percent of the energy in the state. And currently, that electric bill is 24 percent government-imposed taxes and surcharges, and this would add to that.

New Jersey business needs to remain competitive in a high-tax, high-cost state. And we feel that the following concerns need to be addressed in this Bill, and we can still keep it a clean Bill.

First, the Bill has residential relief, but none for the commercial and industrial customer. We feel that if you're going to have residential rate relief, there needs to be for commercial and industrial as well. And within the Bill it says, *affordability for residents*.

And if you look at it, your load-weighting is tied to the residential BGS rate, not commercial and industrial rates.

Secondly, we feel that PJM and FERC need to be added. Currently, the legislation states *Federal law*; that is different than *Federal regulation*. In addition, we feel that PJM is not a regional compact; it's an independent system operator. The Bill should state that they are also included.

Third, in regards to returning money to ratepayers, the Bill does not specifically list out how this will be done. Will it be an on-bill credit, or will there be a check? If you have moved from one service territory to another, because your company has relocated in the state -- perhaps you went from PSE&G to JCP&L -- how would you receive that credit? Likewise, that would apply to a residential customer, as well, who moved and paid this.

Looking at the Board's costs -- if the application fee does not cover it, then the money collected through the tariff, paid by ratepayers, will cover it. We don't feel that it's fair for the ratepayers to be on the hook for any additional costs for the Board to review these applications. We think that they should have the flexibility to adjust that if need be.

Fifth, the definition of *nuclear power plants*. We think that there needs to be recognition that these plants could be outside of New Jersey that receive these subsidies as well.

And sixth, there is no sunset provision within this Bill. So in theory, this Bill will go out until 2046. We think you should also examine that as well, too, because ratepayers could be on the hook for a long time for this.

Thank you for your consideration.

Happy holidays; hope you all get to it soon.

ASSEMBLYMAN DeANGELO: Thank you.

If I can have Jerome Montes, New Jersey Main Street Alliance.

J E R O M E M O N T E S: Thank you for having me here today.

Again, my name is Jerome Montes, and I am the Business Representative for the New Jersey Main Street Alliance. We represent about 1,600 small business owners throughout the state -- independently owned businesses.

We're here to express, basically, our alarm at the haste in which this legislation is being pushed through.

We understand-- First of all, I want to make it clear that we're not against the plants staying here; we're not in favor of any businesses closing down. What we are asking you is to balance the needs of PSE&G with those of small businesses throughout the state. Small business employs about 1.7 million people throughout the state. This is obviously a big deal; this is legislation that needs to be considered carefully.

We do have some small business owners -- you actually heard from a couple here who are high energy users. But I want to emphasize

again the multiplier effects, right? The prosperity of small business owners, their ability to maintain their payroll or expand their payroll, is also dependent on the prosperity of medium-sized businesses, large businesses, hospitals, universities, other institutions of that nature.

So this is obviously very important legislation. And for that reason, we think that there should be a far more deliberate approach. Frankly, we're concerned that this is being pushed through towards the end of December, with only a few weeks left in the lame duck session. Mr. Izzo has said that PS has been considering this for about eight years. Well, it strikes us that a few extra months of a proper, independent study wouldn't go amiss.

We are very concerned about the fact that the Bill turns this study over to the Board of Public Utilities. If there is any doubt whatsoever about the Board's capacity, or willingness, or ability to conduct a proper study as to whether PS really needs this, then there should be another entity involved. You know, we heard from Exelon, for example, that in the case of Connecticut it took about three months to conduct a proper study. What's the rush right now? We are talking about \$300 million over an extended period of time; we are talking about something that is going to impact small business owners, something that is going to impact ratepayers everywhere. What is the rush?

If you were to put something together properly, if you were to move deliberately, we can probably come up with an independent study that could satisfy all the parameters. We're heartened that Mr. Izzo has said that this should be a transparent process; that this should be a process

that is proper. Well, we should do that; we should actually have a Bill that makes that effective.

So in any case, for this reason and for many others, we are opposed to this legislation. We again join our colleagues and our allies here in asking that you move deliberately, that you move cautiously, and you do not try to rush this through a lame duck session.

Thank you.

ASSEMBLYMAN DeANGELO: And our last person who requested to testify -- Doug O'Malley from Environment New Jersey

D O U G O' M A L L E Y: Congratulations, Mr. Chairman and all members of the Committee. We all should get certificates for the *Iron Butt Club* at the end of this hearing. (laughter)

What we've heard, over the last four years -- excuse me, over the last four *hours* (laughter) -- it feels like four years, doesn't it? -- you know, is a lot of competing assertions going back and forth.

We started off this hearing with testimony from Ralph Izzo, talking about how PSE&G has been having this debate for the last eight years. Well, in this Legislature, we haven't even had this debate for the last eight days. And honestly, the optics of having a debate on a massive subsidy that's going to whack ratepayers doesn't smell right in lame duck. And we clearly have seen, from the goals and aspirations of the incoming Murphy Administration, that there are a lot of huge challenges ahead for us on clear energy. It does not make sense to be rushing this forward in the lame duck period, especially when we are going to have a process, through the Energy Master Plan in the Murphy Administration, to deal with all the energy issues in front of New Jersey. And by moving forward with a nuclear

subsidy now, we're going to be kneecapping some of those clean energy priorities.

We've heard a lot, earlier in the hearing, from the Ratepayer Advocate; and specifically, the concerns on the processes around the BPU. And I think we just have to be honest; the BPU does not have the capacity right now to be able to handle this review process, especially with the vague language, especially with the reality that the language does not allow the independent analysis that's required.

And I think that's one of the other aspects that's missing here -- is that PSE&G was opposed, this June, to an independent analysis; and there's a good reason why they were opposed to an analysis. Because of an independent analysis in Illinois, Exelon was not able to get as rich of a subsidy as it wanted; the same thing goes for Dominion in Connecticut. That's why we need to have an independent analysis now, and not after this Bill gets passed.

I also just wanted to reference the fact that we've heard, over the last four hours, a lot of testimony that every single environmental organization that's in-state has been opposed to this bailout. And the reason is quite simple -- is that, obviously, PSE&G has not proven, outside of an assertion, its need; and the fact that, if we are going to move forward with a clean energy future here in New Jersey, we can't just rely on RGGI. We're going to need to move forward on offshore wind; we'll need to move forward on energy efficiency; we're going to need to move forward on electric vehicles.

And ratepayer money is not endless; we need to ensure that we're getting the appropriate bang for the buck. And when we're looking at

the subsidy that's required here -- this does not have an end period. This is, intentionally, an endless subsidy that's going to be very hard to rein in once it's out the door.

And so that's why I respectfully ask this Committee, and members of the Legislature, to acknowledge that we're not Vermont, we're not New Hampshire, we're not Illinois, we're not New York. We need to have an independent analysis, and we should not be moving forward in lame duck with this Bill.

Thank you.

ASSEMBLYMAN DeANGELO: Thank you.

Ladies and gentlemen, I'm sorry. An additional person decided to put in something, after five hours of testimony.

David Pringle, from Clean Water Action, in opposition.

That will be the last testimony of the day, regardless of slips.

DAVID PRINGLE: Thank you, Mr. Chairman.

I wanted to voice our support, without being duplicative, of all of the opponents.

It is truly a coalition of strange bedfellows when the environmental community, consumer advocates -- like AARP, Citizen Action -- the Chemical Industry Council, Large Industry Energy Users, and the Independent Market Monitor for PJM all agree that the Bill before you is a bad deal, not just for New Jersey ratepayers, but for climate change and renewables.

A couple of things that haven't been talked about: You talked about jobs at Salem; \$300 million a year -- \$300 million a year in

renewables is 3,000 jobs. You get twice as many jobs (*sic*) by investing in renewables than you would be investing in Salem.

I think it's been well documented that PSE&G has not demonstrated that they need this now, let alone later. And PJM has clearly stated that the alternatives are cheaper. Why, when PJM is suggesting there's a multi-state solution here, should New Jersey pay the entire bill for a multi-state solution? But that's what this legislation does.

It's been talked about, that the definition, under this Bill, that nuclear energy is *clean*, is ridiculous. Ask the victims of Fukushima and Chernobyl if nuclear is *clean*. It is not. And while this is about keeping power open, I think you really need to take a much harder, closer look at that.

PSE&G has zero skin in the game under this Bill. They take, but they don't give. You are asking nothing from them. You're not asking Mr. Izzo to maybe take a little out of his \$9 million paycheck, \$9 billion in revenue? They're spending more on the PR campaign in the last week on this Bill than the fee they'd have to pay to get the nuclear credits before BPU.

You're not asking them to do dry cask storage immediately; you're not asking them to decommission immediately when they do close. They will close in 5 years, 15 years, 20 years. Without that commitment, without those strings attached, they could mothball those plants for 40, 50, 60 years. And the same thing at Oyster Creek; you're not calling for an immediate decommissioning.

So there are many details here; but I think, unfortunately, most outrageous is this process. We all know this Bill was not written last

Thursday, but it only became public last Thursday. We all know why we're trying to do it the day before Christmas and right after the New Year. And it's wrong.

And you, as representatives -- I know all of you, at some level, care about public trust. And you are feeding the problem that this country faces right now with Donald Trump. We are losing faith in government; and if you move this Bill during lame duck, you are part of the problem.

So hold the Bill; let's do this right in January, and February, and March.

Thank you.

SENATOR SMITH: Thank you for your comments.

That concludes the--

(confers with staff)

We're done.

ASSEMBLYMAN DeANGELO: Were done.

SENATOR SMITH: Right?

Mr. Chairman, if you don't mind, I'd like to try to do the Senate side of this Joint Committee first.

We've now listened to in excess of five hours of testimony. This may be the most vetted Bill I've seen in a long time. And despite some of the comments -- if I might say this as a sponsor of the Bill; I don't put my name on bills very easily -- there's this constant question about, "Why now?" And the answer is, because it's one of the greenest bills we're going to do; number one; and number two, we can get it done. I don't know that you can get it done next month, or the month after, or the month after.

Let me tell you a horror story. It took six years to get a stable source of funding for Open Space. And a good part of the reason was that many of the very fine people in this room were very green; all had different ideas about how to fund it. And there are legitimate issues about efficiency, about renewables, about RGGI, about Smart thermostats, about resiliency, about storage -- and we're getting to all of it. The next six months in the new Legislature I think is going to be the greenest six months in the history of the State Legislature.

But you now have an opportunity to get this green part of our energy future, done. You have a Governor who has at least made sounds as though he would be willing to consider it. And we think there is support in the Legislature for it, going forward.

Now, we're going to test that in one second.

But personally, when I listened to all the testimony -- and this is now two hearings and eight hours of testimony -- there is no question in my mind that our nukes -- across the country and in New Jersey -- are in trouble. Not even a doubt about it. And there's also no doubt that they have to be part of our transition to a renewable energy future. And I also bought the information from the Brattle study that if you don't act, the increase in rates to our ratepayers is going to be significantly higher and have greater impact on citizens and businesses than if we allow them to close. I mean, that's absolutely insane.

We had AARP arguing for rate relief; but if we have a \$400 million increase in rates every year from out-of-state sources, that's not so good for seniors, it's not so good for the businesses that the Large Energy Users -- Mr. Goldenberg's group -- represented here today.

And also -- for a lot of our green guys who are out there -- what I hear in my District Office -- and I don't know what you hear in your District office -- but there's always concern that, "There's going to be a new gas pipeline going through my District; there's going to be a new overhead transmission line that's going through my District. You, legislator, do something about it."

Well, if you allow these nukes to close down, you think you had a problem with that issue now? You wait until you see what it is when we have all the new gas-generating facilities that will result if we don't protect the nuclear side of the equation.

Now, I also bought all the arguments, Mr. Senate President, that the nuclear energy that we get in New Jersey is the equivalent of all of the cars on the roads of New Jersey, every day, putting carbon dioxide into the air. And if you don't think we have a climate change problem, come down and visit my shore house -- which is now restored, which cost a quarter-of-a-million dollars to restore after Sandy. We didn't do all that badly in Irene, thank God. But this is real stuff. And in the Legislature-- And we're doing this a lot of years. People are here -- generally are here for a lot of years. Things don't happen easy in legislative activities. It's very hard to get two houses to agree; it's very hard to get a Governor to agree to something, especially when it's big policy.

Some of the concerns I heard today were, "We're missing a big opportunity to beat the crap out of PSE&G. Because if we wait until next year, all of these issues will be on the table." And that's true. All of these issues will be on the table, and nothing will get done. The reason it's being done now, in my opinion, is that we can get it done; and it's the right thing

to do for the people of New Jersey to keep them from higher rates, and to keep them with clean electricity.

So, Mr. Senate President, you're the prime sponsor, and I may have stolen a little bit of your thunder. But I just wanted to put it in perspective.

Would you like to say a few words?

SENATOR SWEENEY: Yes, Chairman; and you really did sum up the reality of what's going on in the state.

And I am taken back when I hear environmentalists, like the last speaker-- Tomorrow's not Christmas, though, right?

SENATOR SMITH: That's true; inaccurate.

SENATOR SWEENEY: Have to get the calendar right; it's not tomorrow.

SENATOR BATEMAN: My shopping's not done yet.
(laughter)

SENATOR SWEENEY: But, you know, it's dirty (*sic*); it's a zero-carbon footprint. I remember 15 years ago -- because I've been here 15 years -- when everyone wanted natural gas. Natural gas was the energy we had to have because it was going to reduce the pollution.

Now, natural gas is seen as dirty. To quote a very wise man -- my Chairman -- do you want 21 pipelines throughout the state? We have to strike a balance here, and we are striking a balance. And this is not about helping PSE&G out.

And I'm going to go back to the beginning. This is a process that is established at the BPU to determine whether they need support or

not. And if you listen to the *antis*, they don't need it. And it ain't going to happen then, if they don't need it.

So my point is, you never put all your eggs in one basket. If we go to natural gas, all to natural gas, and they say it's cheap -- watch how fast it gets expensive. But when you have a balanced portfolio, it's critically important. I was proud that I sponsored RGGI with you, Chairman; SRECs with you; ORECs with you; and we believe in all those alternate forms of energy. But let's not kid anyone. There's not a chance in the world if we did everything but ORECs and SRECs -- and let's not forget the \$450 million for the 3 percent of the energy that we're getting out of solar -- isn't that ratepayer money? Isn't that money coming out of the pockets of energy users? Why are they not offended by that? It's sexier, nicer; it's a newer technology. I would argue that nuclear is an important piece in our portfolio. And as you said, Senator Smith, this isn't new. This is not new anywhere, and the *antis* have been lining up and meeting with -- the people who are against this have been meeting since April with our members. And, you know, I get it; it's business. The gas guys want to put out the nuke guys; I get all that.

But at the end of the day, we have to be concerned about our residents. If we're so offended, then how about having a conversation about \$450 million annually for solar? Do we want to expand solar? What I heard here was, we absolutely want to expand solar. We want to be number one in the nation in solar. Is \$1 billion not offensive to anyone here for solar?

We need to do what's right for the people of this state. Besides the fact that there are 6,000 jobs, direct and indirect, that hinge on this.

Energy security is critical to an economy in the state; and having the diversity that we have is critical. And I do think the BPU has the ability, and the tools, and the talent to review this and make a determination.

So Mr. Chairman, I really appreciate -- when people say you're rushing-- You did a four-hour, five-hour hearing a week ago; you heard what people had to say. We have a Bill that guarantees nothing but a review of a process. That's it. And since everyone who has testified against this has said they don't need it, well then, it won't happen if that's true. But one thing we are going to do is ensure that our nuclear power plants are not retired early. They need to be here, they need to be sustained.

And again, Chairman, I want to thank you for everything you do with it.

And may I make the motion to move the Bill?

SENATOR SMITH: Please.

SENATOR SWEENEY: I make the motion to move it.

Oh, there has to be one amendment.

ASSEMBLYMAN DeANGELO: Yes.

SENATOR SMITH: As a result of testimony today from Sara Bluhm.

SENATOR SWEENEY: Yes.

MS. HOROWITZ: In the Senate Bill, there will be two amendments: one to correct a typo, and another to change a word -- and that is in paragraph 3 of subsection *j* of Section 3. And the sentence will read, once the amendments are made, "Notwithstanding the provisions of (1) of this subsection" -- it should say "paragraph (1) of this subsection" --

“and”-- instead of *any* -- “to ensure that the NDC program remains affordable to New Jersey,” and it will replace the word *residents* with “customers,” “the board may, in its discretion, reduce the per-kilowatt hour charge imposed in paragraph (1) of this subsection, provided that the board determines that a reduced charge will nonetheless be sufficient to achieve the State’s fuel diversity and air quality objectives by preventing the premature retirement of the nuclear power plants that meet the eligibility criteria established pursuant to subsections (e) and (f) of this section.”

SENATOR SWEENEY: May I make the motion to--

SENATOR SMITH: Motion to release by the Senate President.

SENATOR SWEENEY: Thank you; as amended.

SENATOR SMITH: As amended.

SENATOR BATEMAN: Second, as amended, Mr. Chairman.

And I’d like to have an opportunity to make a statement.

SENATOR SMITH: Absolutely. Well, how about we do it while we’re doing the vote?

SENATOR BATEMAN: Okay.

SENATOR SMITH: All right; so we have a motion and a second.

Let’s take a vote on the release of the amended Bill.

MS. HOROWITZ: On Senate Bill 3560, with Senate Committee amendments; Senator Thompson.

SENATOR THOMPSON: Senate President Sweeney, I am offended by the billion dollars for solar. (laughter)

There are a number of provisions within this Bill that trouble me quite a bit. And I don't think we have to be in quite such a rush; say, it will be two years before they're really in trouble. However, I do feel we do need to protect nuclear; we need to have nuclear. Consequently, I will vote to bring the Bill out of Committee.

MS. HOROWITZ: Senator Bateman.

SENATOR BATEMAN: Mr. Chairman, members of the Committee, I'm concerned, with all due respect.

Legislation of this magnitude -- and I know there are a lot of reasons outside of our control -- we shouldn't be doing this during lame duck. This is a very important Bill, and if anyone has been coming to these hearings for -- since 2007, since I was fortunate enough to end up on the most interesting Committee in the Legislature, you know I'm an environmentalist; I'm green at heart.

And one thing I've been doing -- and I've been consistent -- is I have been fighting the Penn East pipeline. Because the Penn East pipeline goes through some of the most environmentally sensitive areas of this state, right through my District. And I have done it, in a bipartisan manner, at the congressional level, at the Freeholder level, at the State level, at the local level.

I'm concerned; I mean, nuclear -- there's not question -- is a very important component of our energy policy. I don't want more pipelines. I think this is not a perfect Bill, but I think it needs to go forward, because I don't know what we would do in the alternative. And believe me, I'm an environmentalist, and I think this cuts both ways. But I think that we had some assurances from the top person at PSE&G, and I

take his word for it. And what's more important, I think, in the legislation is we have the checks and balances. Hopefully BPU will do their job.

So I'm going to support it. And I want to thank both Chairmen, because these have been two grueling meetings, very long meetings, and I know it's not easy. But I vote "yes."

MS. HOROWITZ: Senator Codey left a "yes" vote.

Senator Sweeney.

SENATOR SWEENEY: Yes.

MS. HOROWITZ: Senator Smith.

SENATOR SMITH: A very enthusiastic "yes."
Chairman.

ASSEMBLYMAN DeANGELO: Thank you, everybody, for enduring the past five hours of testimony. It was very interesting to hear both sides on this.

With the conversations of the Senate President and the Senate Chairman, I share their very similar views, moving this Bill forward as amended. I will entertain a motion to release, as amended.

We need to-- In our house, we need to review the amendments.

SENATOR SMITH: With the amendments.

ASSEMBLYMAN DeANGELO: Yes.

MR. DIACONU (Committee Aide): The Committee amendments make a technical change, and change the reference from New Jersey *residents* to New Jersey *customers*.

ASSEMBLYMAN DeANGELO: We need a motion to release, as amended.

ASSEMBLYWOMAN PINTOR MARIN: Motion.

ASSEMBLYMAN DeANGELO: Second?

ASSEMBLYMAN EGAN: Second.

ASSEMBLYMAN DeANGELO: Roll call.

MR. DIACONU: On the motion to release A-5330, as amended.

Assemblyman Kean left a “yes” vote.

Assemblyman Zwicker.

ASSEMBLYMAN ZWICKER: Thank you, Mr. Chairman.

I want to echo my colleague from the 16th Legislative District about the importance of nuclear to New Jersey from an environmental perspective, from a climate change perspective, from a good quality jobs perspective.

And I am thankful that we made an amendment in terms of tweaking the language to make sure that it wasn't just residential.

I think it's important that this process continues, and I am voting this piece of legislation out of this Committee.

I would urge us to look-- We've heard very compelling testimony about other pieces of this legislation where the language needs to be tweaked to ensure that we are not double-charging our customers; to make sure that when -- if and when there is an increase in the subsidy from a Federal level or regional level, that we do this properly so that it will clearly be dropping down in terms of what we offer to PSE&G.

And I said before, and I have to say to again, this is our time to ensure that we get the safety of the spent fuel rods just right. We must get

this part right. But it is also crucial that we move all this forward, and so I am voting “yes.”

MR. DIACONU: Assemblywoman Pintor Marin.

ASSEMBLYWOMAN PINTOR MARIN: I just want to say thank you everyone for being here.

I just have a few quick things.

Obviously it’s important to -- for all of us here to support clean energy, and supporting clean energy means us having a diversification. Therefore, I’m voting “yes.” I think it’s important for us to maintain nuclear as part of our clean energy footprint, and I think that Mr. Izzo has given us his word, as the PSE&G CEO, that he will continue to look out for our ratepayers, who are our customers. And being from the 29th Legislative District, and PSE&G being in my backyard, I take very seriously what PSE&G says, and the proponents -- that they put out in the Bill to assure us that ratepayers are not going to always foot the bill.

So thank you; I vote “yes.”

MR. DIACONU: Assemblyman Houghtaling.

ASSEMBLYMAN HOUGHTALING: Thank you.

Thank you, Chairman.

And I want to say thank you to everybody who is here today, for your testimony. A lot of what I heard is, “Why are we rushing it?” And to a certain extent I can understand that. But I can also say that there would never be a good time to do this; that no matter whenever we presented it, it would continue to move on, and on, and on. And I think that we need, right now, to draw a line and say yes, we support the nuclear plants that we have in our state.

They're reliable; they run 24/7. And, you know, to replace them with any other form of energy it would be -- first of all, would be an environmental impact to our environment. And the nuclear plants run very clean, very reliable, and I think that's what we need to offer our residents of our state.

But I would like to urge this Committee and with this legislation to continue to look to try to make any improvements that we can to make sure there is no windfall for PSE&G. I think we owe that to our residents, and they would be very comforted to know that we had done all we can. And hopefully, the BPU will be able to look at this, as well, and make sure that everything that we do is needed.

And I vote "yes."

And thank you.

MR. DIACONU: Assemblyman Egan.

ASSEMBLYMAN EGAN: Thank you, Mr. Chairman; and actually, both Chairmen and other Committee members.

And I appreciate everybody's testimony today; it was very interesting. But at the end of the day, I feel more strongly that this is the right time to do this Bill. And I am not going to remunerate all the things that my colleagues said, but I believe the safeguards are in place; I believe the BPU will do their job; and I look forward to a vote on the floor, and this being passed and signed by the Governor.

And I vote "yes."

MR. DIACONU: Vice Chairman Wimberly.

ASSEMBLYMAN WIMBERLY: Thank you, Chairman.

You know, everything's been said; it's been a long day. I've grasped everything that's come in -- or tried to grasp everything that has come in.

I understand the *cons* to it, but I definitely hear the *pros* loud and clear also.

I vote to move it out of Committee; "yes."

MR. DIACONU: Chairman DeAngelo.

ASSEMBLYMAN DeANGELO: Yes. It was a unanimous vote; the Bill is released.

(MEETING CONCLUDED)