

IN THE MATTER OF: :

PUBLIC HEARING - :

NEW JERSEY CLEAN AIR COUNCIL :

Department of
Environmental Protection
9:00 a.m.

B E F O R E: NEW JERSEY CLEAN AIR COUNCIL

GUY J. RENZI & ASSOCIATES

1 NEW JERSEY CLEAN AIR COUNCIL MEMBERS

2

3 JOHN MAXWELL, Chairman

4 MICHAEL EGENTON

5 JOSEPH SPATOLA, Ph.D.

6 LEONARD BIELORY, M.D.

7 RICHARD AICHER

8 RAYMOND MANGANELLI, Ph.D

9 STEPHEN PAPENBERG

10 MICHAEL BERRY

11 FERDOWS ALI

12 GENE FEYL

13 IRWIN ZONIS

14 BARRY SCHLEGEL

15 CHUCK McCARTY

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1 CHAIRMAN MAXWELL: Good morning,
2 everybody. Welcome to the 36th public, 36th
3 annual public hearing of the Clean Air Council,
4 and what I'd like to do is I'd like to, first of
5 all, welcome everybody here. This is a good
6 turnout, we will have more coming out as the day
7 goes on. What I'd like to do is ask for the
8 Council members to introduce themselves and say a
9 little bit about who they are, and then I would
10 also like to ask Irwin Zonis and Ray Manganelli,
11 who have been on the Council before it began, the
12 pre-Council which is an advisory board to the
13 Commissioner, to give a very brief overview of
14 the history of the Clean Air Council.

15 I am John Maxwell. I am proud to
16 have been elected by my peers here on the Council
17 as the Chair. We rotate the Chair, it goes
18 around. I think many of the folks have been the
19 Chair, and when I am not working on the Clean Air
20 Council, I work with the New Jersey Petroleum
21 Council.

22 MR. EGENTON: Good morning, I am
23 Michael Egenton. I am with the New Jersey State
24 Chamber of Commerce, and I handle specifically
25 environment energy and transportation issues at

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1 the State Chamber. Pleased to be here, thank
2 you.

3 MR. SPATOLA: Good morning, my name
4 is Joseph Spatola. I am the Executive Director of
5 the County Utilities Authority, and my
6 representation on the board here is as a public
7 member.

8 DR. BIELORY: I am Dr. Leonard
9 Bielory, Director of New Jersey Medical School in
10 Newark, New Jersey, director, appointed by the
11 Governor to represent the medical perspectives on
12 health/clean air.

13 MR. AICHER: My name is Richard
14 Aicher, assistant business manager with the
15 International Electrical Workers here in Trenton,
16 and I am representing New Jersey AFL-CIO and
17 Council.

18 MR. PAPENBERG: Stephen Papenberg, I
19 am the Health Officer of South Brunswick
20 Township. I am representing New Jersey Health
21 Officers Association and represent 115 health
22 departments servicing the 566 municipalities in
23 local and public health.

24 MR. BERRY: I am Michael Berry. I
25 represent the New Jersey Department of Health and

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1 Senior Services, and I am a epidemiologist and
2 research scientist with the Department.

3 MR. ALI: I am sitting in for Peter
4 Anderson. I am Ferdows Ali, the water specialist
5 for the Department but since air and water are
6 intimately related, they sent me to this meeting.

7 MR. FEYL: I am Gene Feyl,
8 representative of the New Jersey State League of
9 Municipalities, Mayor of Denville Township.

10 MR. ZONIS: I am Irwin Zonis. I am
11 retired and a public member of the Clean Air
12 Council.

13 Mr. Chairman, I need to correct you
14 because the first meeting of the Clean Air
15 Council was in September of 1968, the Council of
16 course, was set up by Legislature. I think our
17 first public hearing was in the spring of 1969, I
18 can't swear to that because memory dims after
19 these years, but in 1969 was the first public
20 hearing. This is the 34th --

21 CHAIRMAN MAXWELL: Thank you.

22 MR. ZONIS: I was a member of a
23 predecessor board which was the Air Pollution
24 Control Commission, that group was a regulatory
25 group not an advisory group and also set up by

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1 the Legislature, but it was terminated by the
2 Legislature in 1966. There was a lag time of
3 about a year between the Old Air Pollution
4 Control Commission and the New Council. The
5 Council of course, is regulatory -- the Council
6 is advisory and I would like to think that in the
7 period of time since September of 1968 this
8 Council and its members have been of some help to
9 the Commissioner of the Department of
10 Environmental Protection, and we hope that that
11 aid and assistance and advice continues for many
12 more years.

13 MR. SCHLEGEL: Barry Schlegel, I
14 represent the New Jersey section of American
15 Industrial Hygiene Association, and I work for
16 the Environmental Institute in Public Education.

17 MR. McCARTY: Chuck McCarty, I
18 represent New Jersey Commerce Commission.

19 MR. MANGANELLI: Ray Manganelli,
20 Rutgers Emeritus, I represent the public and I
21 would like to add a couple words on the history.

22 Going back in 1948 when the
23 Pennsylvania situation occurred which is of great
24 interest in air pollution that could happen here
25 and then in 1954 is when the first Air Pollution

1 Control Law sponsored by, I believe Senator Jones
2 up in North Jersey went in, I think it was among
3 the first laws in the United States that was very
4 strict and that's when the Air Pollution Council
5 was formed which Irwin Zonis served.

6 Then in 1967, when Senator Quarneri
7 came up with the change in the law; however, at
8 that time, he gave the powers to the Department
9 to make the laws and make the regulations enforce
10 it which was bad government, so they brought in
11 the Clean Air Council to look and keep everything
12 honest at this point.

13 Then there was a more recent change
14 in the law but still kept the Clean Air Council.
15 Going back we were under the Department of Health
16 at the time, and when the Department of
17 Environmental Protection was formed in the early
18 '70s and we were transferred to the Department of
19 Environmental Protection and, of course, Sullivan
20 was the first commissioner, this gives you a
21 picture, we have been working rather diligently
22 all these years.

23 CHAIRMAN MAXWELL: Thank you very
24 much. It is an honor to be here with all of you,
25 and Ray and Irwin have been the rocks of

1 Gibraltar here on the Council through all the
2 years. It is my great privilege to introduce
3 Brad Campbell, the new Commissioner of the
4 Department of Environmental Protection.

5 Mr. Commissioner, welcome to our
6 public hearing, we look forward to hearing your
7 remarks.

8 COMMISSIONER CAMPBELL: Thanks very
9 much and welcome to the Council. I want to
10 thank you for your contributions to the
11 Department and also welcome you to what I hope is
12 a new and exciting chapter at Department of
13 Environmental Protection and I hope will make it
14 a new and exciting chapter in the Council's works
15 given that history and the fact that you have
16 seen many commissioners come and go, we will hope
17 to make this an exciting several years for you
18 ahead.

19 I also want to acknowledge and thank
20 Sam Wolfe, who many of you know, the new
21 Assistant Commissioner for Environmental
22 Regulation, who is already bringing extraordinary
23 energy and leadership to Department of
24 Environmental Protection. I think that while
25 there are many honors in this job and a great

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1 honor in being selected by the Governor to lead
2 the Department, one of the greatest honors you
3 can have in a job like this is where you recruit
4 someone you greatly admire to come work for you,
5 and Sam is certainly one of those persons, and I
6 am grateful for his willingness to shift back to
7 public service after a brief stint in the private
8 sector.

9 It is an exciting time to be at
10 Department of Environmental Protection and an
11 exciting time to be in environmental protection
12 under a Governor who truly has a vision for the
13 environment and for our communities. First and
14 foremost, a Governor, one of whose earliest
15 priorities was for "Smart Growth" Executive Order
16 Number Four, to promote development in the areas
17 where we know it will make the job of protecting
18 clean air and clean water easier.

19 That vision and that commitment to
20 environmental protection extends not nearly to
21 Smart Growth and that initial executive order but
22 across a range of initiatives even at this early
23 point in the administration, most recently a
24 budget, a budget that not only is a contrast with
25 prior administrations confronted with budget

1 deficits in the sense that I think for the first
2 time since the creation of the commission, a
3 major budget deficit was not met by
4 disproportionate cutting funds at Department of
5 Environmental Protection, but a budget that
6 protects the Department's correspondence
7 functions and actually allows us to increase
8 enforcement by at least 5 percent in the coming
9 year also addresses the funding to the Department
10 by closing the corporate business tax loopholes
11 and addressing the inequity of a situation in
12 which, of the 50 largest employers in the state,
13 30 pay \$200 in corporate business taxes, less in
14 many cases than working families below the
15 poverty line.

16 That leadership which not only
17 extends to the budget but because a portion of
18 the corporate business tax revenues are devoted
19 to the Department onto environmental protection
20 not only ensures that over the short term we are
21 meeting state's fiscal challenge but over the
22 long term, the Department and environmental
23 protection will have more stable funding. That
24 having been said, and we do face enormous
25 challenges at the Department and particularly

1 clean air challenges, we remain in a posture in
2 which most, in fact, nearly all New Jerseyans
3 breathe unhealthy air for some part of the year.
4 We are in that posture at the very moment when
5 the scientific linkages between dirty air and
6 adverse health impacts are being more and more
7 strongly demonstrated, links between asthma and
8 dirty air. Links between pulmonary and cardiac
9 ailments. These links are being documented in
10 study after study and yet at that very moment we
11 can't assure the residents of the state that they
12 will have clean, healthy air. Curiously, those
13 links are being established in terms of the links
14 between health and clean air, those links are
15 being established at the very moment that we see
16 the Federal Government abdicated from its
17 responsibility to protect clean air. Most
18 recently in President Bush's proposal to replace
19 existing clean air programs with a much weaker
20 alternative called the Clean Skies Proposal might
21 more aptly be called the Brown Skies proposal
22 particularly for New Jersey because it is the
23 effort to clean up dirty power plants upwind of
24 New Jersey, out of State of New Jersey that are
25 one of the principal causes of dirty air in the

1 state. And not only dirty air, not only health
2 problems, but also have competitive challenges
3 for the state. We recently, for example,
4 announced a settlement with PSEG concerning some
5 of their power-generating stations that promises
6 cleaner air in New Jersey, that addresses dirty
7 plants here in New Jersey and yet in a
8 deregulated market those same generating stations
9 are competing with electricity generating upwind
10 in uncontrolled sources and by virtue of trying
11 to protect air here in New Jersey, by virtue of
12 the abdication of federal responsibility, I am
13 concerned that we need to push harder on the
14 Federal Government to make sure that the New
15 Jersey companies aren't at a competitive
16 disadvantage because of that abdication. There
17 are other challenges as well. Certainly the
18 fact that vehicle miles traveled, VMT's, continue
19 to increase at a time when vehicle miles per
20 gallon is not increasing and if the efficiency of
21 newer cars is not moving in the direction that
22 we'd like in terms of protecting cleaner air,
23 that is another set of challenges. We have
24 made progress particularly in controlling some of
25 the stationary sources in the state. That

1 challenge, which again ties back to the
2 Governor's vision for Smart Growth, is a
3 significant one, I think, for the Department in
4 the years ahead.

5 We also have an administrative set
6 of challenges that are linked to the challenge of
7 clean air. As the Council will know, the
8 administration comes into office inheriting a
9 significant backlog of Title Five permits under
10 the Clean Air Program, a backlog that has direct
11 impacts on protection of public health and the
12 environment. And those challenges in some sense
13 are both administrative policy and intellectual
14 in the sense that we need to change the way we do
15 business at the Department if we are ever going
16 to address those challenges in a way that
17 strengthens protection of clean air. The
18 challenge, and some of these challenges are ones
19 that I think are really challenges for the
20 Council in terms of the advice and the assistance
21 you provide to the Department, and the new ideas
22 that you can give to us, in terms of how we
23 address those challenges.

24 Let me list a few of them. First
25 with reference to the Title Five backlog, how do

1 we address that backlog? Process permits more
2 quickly move to more general permits by rule,
3 different, more innovative regulatory approaches
4 and still very clearly demonstrate that we are
5 enhancing protection of public health and the
6 environment, that we are strengthening standards
7 and protections for our communities, how do we
8 make that transition. In air, as in other
9 areas, the universe of activities and parties
10 regulated by the Department has actually, has
11 increased significantly, nearly doubled in
12 certain programs, and yet the resources available
13 to write the permits, oversee the permits,
14 enforce the permits, those resources have been
15 declining. How do we change the way we do
16 business to both process things more quickly,
17 give businesses the answers and the certainty
18 they need but give communities the assurances
19 they need that their health is being protected,
20 and that the protection is being put in place,
21 address the risks they face from dirty air.

22 How do we approach the issues of
23 Smart Growth when it comes to our clean air
24 challenges, how do we create a regulatory
25 structure in which we are actually creating

1 regulatory incentives to go to our already
2 developed cities, to redevelop in our older
3 developed areas, to look to new development in
4 our older communities, whether they are cities or
5 older suburbs. How do we create that incentive
6 structure? I'd like New Jersey, for example, to
7 be the leader in translating land use into Clean
8 Air Act incentives. For example, translating
9 every unit of residential population to an urban
10 or older suburban area into vehicle miles
11 traveled credits. Translating grant development
12 into reductions in emissions because we know by
13 creating employment in brown field areas, by
14 restoring population to our older cities and
15 older suburbs where there is transportation
16 infrastructure exist, where there is water
17 infrastructure exist, we know we reduced VMT, we
18 know we make it much easier. But the challenge
19 of translating those again and making the way for
20 different regulatory approaches, different
21 regulatory system ones that are going to be
22 fraught with people's challenges, fraught with
23 intellectual challenges and fraught with real
24 life practical concerns, for businesses, and
25 environmental organizations, and I look forward

1 to the advice of the Council as we begin to
2 address those issues in earnest. There are a
3 range of areas like that, I think, where we are
4 going to effect significant change in the
5 Department. We can't simple go on in a pattern
6 of environmental protection that was largely
7 established, not before, but shortly after the
8 Council first met in the late '60s. Most of our
9 statutes, most of our approaches were largely
10 scripted in the initial wave of environmental
11 statutes that came along in the early '70s. How
12 do we break away from some of those models in a
13 way that enhances environmental protection while
14 at the same time addressing some of the
15 frustrations with the regulatory system.

16 I think that is the challenge before
17 us, and the challenge to which we look to the
18 Council in its role of providing advice and
19 support to our efforts to protect clean air in
20 the State of New Jersey.

21 Again, I look forward to my work
22 with the Council, I think you are as aware as I
23 am of the challenges that we face. Fortunately,
24 New Jersey historically has been a leader in
25 environmental protection, a leader in

1 environmental innovations; I think under this
2 Governor's administration we will reassert that
3 role and we will do it with the help of the
4 Council in guiding us toward the right answers
5 and answers that are fully thought out in terms
6 of the impacts to health, the impacts to our
7 towns and cities, the concern for greater
8 environmental protection.

9 Thank you. I look forward to this
10 new chapter in your history and certainly a new
11 chapter in mine. I am happy to pause and answer
12 any questions that you might have.

13 CHAIRMAN MAXWELL: Dr. Manganelli.

14 DR. MANGANELLI: We certainly
15 appreciate very much and honored by your coming
16 here and your challenges that you have thrown to
17 us will certainly be taken up and very fine
18 challenges. One of the things we had read about
19 you that you were great on enforcement and we
20 would like to hear what your plans are for
21 enforcement of our regulations or the updated
22 regulations that you are planning to have.

23 COMMISSIONER CAMPBELL: I think
24 there are a couple of components of enforcement.
25 One is we are going to be much more focused on

1 outcome based enforcement demonstrating, as is
2 usually the case, clear environmental public
3 health benefits of the enforcement and targeting
4 enforcement to where we get the greatest
5 environmental public health benefit.

6 I think while there will be an
7 increase in enforcement activity, it is going to
8 be smart enforcement and targeted to the areas
9 where we have the most significant environmental
10 challenges. Part of that will involve not just
11 an increase in resources, but a redeploying of
12 resources. We are going to be looking for
13 models that allow us to spend less time at the
14 companies and permittees who we know to be
15 compliant and good actors, less time to the kind
16 of routine inspections that are unproductive,
17 more time on the serious issues of noncompliance,
18 and the people who frankly aren't yet in the
19 permit system, who we need to begin to address if
20 we are going to take on some of our enforcement
21 challenges.

22 As part of that, I think we need to
23 look very closely at some enforcement
24 innovations. One of those is to provide greater
25 incentives in the system for third party

1 certification of compliance as a substitute for
2 enforcement. Can we, for example, deem this is
3 less done under the air and air/water permits,
4 can we deem essentially third party certification
5 if adequate safeguards are in place, can we deem
6 a reinspection then so that we can have our
7 resources of other environmental enforcement
8 problems.

9 We are looking particularly in the
10 context of some of the environmental leadership
11 programs, the gold and silver track type
12 programs, how can we take those to the next level
13 of encouraging our very best regulated parties
14 not only to establish and submit to superior
15 levels in environmental performance but allows
16 their commitments to free us up to pay attention
17 to other more pressing problems. While we
18 reallocate some additional resources to
19 enforcement, we have to really revamp the system
20 if we are going to get environmental benefits
21 commensurate with the resources we are putting
22 into the areas. That are some of the areas.

23 MR. PAPENBERG: Commissioner, I would
24 like to remind you that you do have 115 agencies
25 out at the local municipal level and county level

1 that feel free to use us. There is a County
2 Environmental Health Act Program which is being
3 utilized now, but I think that can be enhanced
4 and you can actually bring in additional
5 resources because we are there. We are at the
6 local level and it is a lot easier many times for
7 your people, Department of Environmental
8 Protection, to pick up the phone and say could
9 you take a ride out to this site and just check
10 this out for us, rather than sending somebody
11 from Trenton 40 or 50 or 60 miles away. And
12 there is usually a tremendous interest at the
13 local level in assuring that, in fact, the
14 regulations are being adhered to.

15 COMMISSIONER CAMPBELL: Actually, I
16 am very interested in improving coordination
17 between what the Department does and the CEHA
18 programs, both in terms of making sure that we
19 are using our resources wisely and leveraging,
20 for example, each other's resources but also to
21 ensure that we are being consistent, that we are
22 setting common priorities, that we are
23 complementing the work that is done by the CEHA
24 agencies, coming from out of state took awhile,
25 what is the CAAA of that is a very high interest,

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1 I think enforcement, obviously enforcement always
2 has complaints that come about, people who feel
3 are being too hard, too easy, I think are at our
4 best in defending enforcement publicly when we
5 are consistent, when we are demonstrating
6 fairness and demonstrating real outputs in terms
7 of protecting health and environment and given
8 the significant role that the CEHA agencies play,
9 we can only do that if we enhance coordination
10 and any help that you can provide to me in making
11 that happen and setting up the mechanisms and
12 working with the Assistant Commissioner, Lisa
13 Jackson, Assistant Commissioner for Enforcement
14 who again, like Sam Wolfe, brings an incredible
15 resume to her job, has just recently won the
16 Administrator's Award for excellence as basically
17 the national leader in innovative management in
18 EPA, and I am looking forward to working with her
19 and with the CEHA agencies to have a more
20 coordinated effort .

21 MR. SPATOLA: Commissioner, brown
22 fields redevelopment and transportation issues
23 and air quality improvements always seem to be
24 intertwined and also seem to suggest some sort of
25 overlap within your departments, is that

1 something that we can be looking forward to in
2 terms of how this regionalization or
3 universalization of how you put it, Smart Growth,
4 will be attempted here are by the Department.

5 COMMISSIONER CAMPBELL: I think that
6 is one of the great advantages of Governor's
7 Smart Growth executive order, it really brings
8 all of the relevant agencies to the table and it
9 also reminds us that as a Department, that we
10 can't look at our jobs with blinders on in terms
11 of the missions of the other agencies.
12 Curiously, for some, I spent part of Monday
13 morning announcing the Griscomb bridge project
14 and I think there was a small amount of
15 speculation as to why an environmental
16 commissioner would be announcing a bridge.
17 Smart Growth means growth and we are only going
18 to have growth if we start aging some of our
19 development, where we want new growth and I think
20 that kind of inner departmental peace which
21 clearly the Governor, I am not only asking for
22 but I assure you will insist on is going to be
23 enormously important. I think it is a wonderful
24 testament to the Governor's abilities to select
25 cabinet members, which I think he has a wonderful

1 ability to select cabinet members.

2 (At which time there was a
3 discussion held off the record.)

4 In selecting Commissioner Knox, who
5 not only has a wonderful record with the
6 transportation industry but has a long record in
7 his roles whether it is working for Governor
8 Florio or Senator Torricelli on working
9 effectively on environmental issues are, in fact,
10 he is one to joke that when we first met he was
11 trying to save the ocean and I was trying to push
12 ahead with transportation infrastructure
13 projects.

14 DR. MANGANELLI: Commissioner, the
15 phrase of environmental health public benefits is
16 an excellent phrase and this brings to mind do
17 you think the problem of indoor air problems,
18 indoor air quality where we spend over 90 percent
19 of our time in confined systems, does it belong
20 in the Department of Environmental Protection or
21 do you have any plans to do something about it?

22 COMMISSIONER CAMPBELL: I think it
23 definitely belongs in the Department of
24 Environmental Protection. I think it is an area,
25 actually an area where I have also already spoken

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1 with our health commissioner, Cliff Lacey, and I
2 think it is one of the too long neglected
3 problems that we face in terms of air challenges.
4 Most people spend most of their time indoors.
5 To the extent there are issues of exposure, that
6 is an area that we must address. We are also,
7 it is also arising in other context, you know,
8 one of the most important management objectives
9 that I have at the Department is to get different
10 program elements to talk to one another, because
11 I think that's where we will make the best use of
12 our resources and the best decisions.

13 Right now, we have Super Fund cases
14 where volatile organic compounds coming from
15 groundwater are giving people in their own homes
16 unhealthy air, indoor air problems, Super Fund
17 problem, a testament to some of the complexity of
18 the challenges that we face on indoor air.

19 So I think that certainly should be
20 part of the agenda.

21 CHAIRMAN MAXWELL: Commissioner,
22 thank you, sir, for taking your time to be here.
23 I think on the part of the Council we agree with
24 your observation that the Governor has made some
25 fabulous cabinet choices and along that light

1 too, you have assembled a first rate team with
2 your assistant commissioners and the appointees
3 you have made. There are many fine folks in
4 Department of Environmental Protection that have
5 been there, and they are truly dedicated to the
6 environment and environmental protection,
7 protection of human health and you have enhanced
8 the Department by your presence and we appreciate
9 your bringing the energy, the insight and the
10 vision to New Jersey. Thank you very much.

11 COMMISSIONER CAMPBELL: Thank you.

12 CHAIRMAN MAXWELL: Next speaker is
13 Dorothy Bowers, the Chair for the National
14 Advisory Council for Environmental Policy and
15 Technology. We are delighted to have Dorothy
16 here today. She retired as the vice president of
17 environmental policy at Merck & Company. She
18 has had over 30 years of environmental management
19 in New Jersey, still very much involved in
20 environmental activities and on the board of New
21 Jersey Future which is a Smart Growth advisory
22 group. She is a member of the Environmental Law
23 Institute in Washington, which is part of the
24 leadership of the international standards
25 organizations and she's Chair of EPA's NACEPT.

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1 We welcome you here today.

2 MS. BOWERS: Thank you very much
3 and thank you all for inviting me here. I would
4 like it to go on the record that I am not the
5 oldest living environmental professional in the
6 State of New Jersey, Irwin Zonis and Ray
7 Manganelli were here before me, so they get the
8 credit for being here longest.

9 I think I am going to talk today
10 about a report that was recently released by the
11 National Advisory Council for Environmental
12 Policy and Technology. NACEPT is one of the two
13 major advisory councils to the administrator, one
14 is the Science Advisory Board which is bigger
15 than what we do and the second is the Policy
16 National Advisory Council on Environmental Policy
17 and Technology, the biggest strength is their
18 position from state agencies, private groups,
19 business and industry, government agencies and
20 NGOs, and so it really brings a cross-section of
21 people together to advise the administrator and
22 brings a broad expertise that is very difficult
23 for an administrator to find anywhere else, so I
24 think NACEPT is a very powerful organization.
25 The previous administrator actually asked NACEPT

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1 to do something for her and the charge was that
2 we look at how EPA might vision into the future
3 and look at how it should be changing itself so
4 that it is prepared to deal with future issues.
5 So we did that and we couldn't resist while we
6 were trying to figure out what the process would
7 be to do some looking into the future on our own,
8 and as a consequence of looking into the future,
9 we published a report that has a very long list
10 of recommendations to EPA that Administrator
11 Whitman sat down with us, spent over an hour,
12 actually going through the recommendations that
13 the Council made for EPA's future.

14 Now, that gets me to how that
15 relates to the Clean Air Council in New Jersey.
16 Joe Spatola called me a few weeks ago and asked
17 me if I would give a talk here today and gave me
18 this list of questions that I ought to address,
19 and I thought that was quite a challenge for 30
20 minutes until I actually sat down with the list
21 and started comparing it with the NACEPT report
22 and found that the issues and the answers to the
23 extent that we were able to come up with answers
24 to these questions were really very much embodied
25 in the NACEPT report. So I decided that what I

1 would do is to take the presentation that we have
2 been using for the NACEPT report and make some
3 adjustments to it, hopefully to make it go a
4 little faster. But so that I don't reach in and
5 pull out things in an unrelated fashion, I am
6 going to go through the report and I am going to
7 highlight the things where I think there is
8 specific application to the issues that have been
9 raised by the CAC in New Jersey.

10 We organized our look into the
11 future across half a dozen themes. Again, I
12 found it very interesting that many of the
13 questions that have been put forward by the Clean
14 Air Council actually touch on many of these
15 themes, and I am not going to list them because I
16 am going to go through them one at a time. The
17 first one is population and demographics. We
18 basically very quickly came to the conclusion
19 that there were really underlying driving forces
20 for all environmental issues. The first one is
21 population, the second is consumption, and the
22 third is technology, and population drives
23 environmental issues. And so while we had for
24 the EPA a fairly high level list of
25 recommendations, some of them actually do apply

1 down at the state level. First was we urged EPA
2 to raise the level of awareness about sustainable
3 development. Well, that sounds like something
4 that you do on an international, national level
5 which is actually what we were recommending, but
6 when you bring that back down to the State of New
7 Jersey, it's relevant in exactly what
8 Commissioner Campbell was talking about, getting
9 our growth to happen in the centers where we have
10 infrastructure, planning transportation to
11 support that kind of Smart Growth and population
12 and demographics is as big a driver, I think, on
13 the state level as we saw it to be on a
14 national, international level.

15 The second item we recommended EPA
16 was that they try to facilitate the export of an
17 environmentally superior technologies to
18 developing countries. I might, as I did, add in
19 green here that applies as well to the State of
20 New Jersey that Department of Environmental
21 Protection and others should be encouraging the
22 adoption of environmentally superior technologies
23 in the State of New Jersey, and applying those in
24 U.S. facilities, just as much as we should be
25 trying to export them to developing countries.

1 The second area that we focused on
2 in our report was natural resources and right out
3 of the top popped up energy which is clearly
4 right at the top of your list of issues for
5 attention, and I am only going to skim through
6 these because I am not going to have a lot of
7 time to deal with all of them. But some of them
8 I think are probably properly at the level of
9 encouragement to EPA, clearly Department of
10 Environmental Protection in New Jersey don't have
11 a lot of access to establishing green vehicle
12 labeling programs or partners with the DOE on the
13 freedom CAR, but as those things happened in
14 Washington and happened at a higher level will be
15 important for the State of New Jersey to tap into
16 those and take advantage of them.

17 Just one item that I wanted to
18 encourage to the group here is the last one which
19 is we were recommending that EPA spur investment
20 in renewables and efficiency technologies through
21 the CAA state implementation plans. Well, that
22 is something that the State of New Jersey and
23 Department of Environmental Protection has the
24 power to do on its own, and try to find ways, as
25 Commissioner Campbell suggested, try to find ways

1 to stimulate innovations. State implementation
2 plans are one avenue for doing that. Some other
3 energy concepts that I think trickle down to New
4 Jersey, the second one on this list, we were
5 strongly recommending demonstration projects for
6 methane to hydrogen conversion and using hydrogen
7 energy technologies at POTWS. One of the
8 questions in your brochures is what are some of
9 the innovative technologies being used at
10 industry and what opportunities are there in the
11 public sector. We have a lot of POTWS in the
12 State of New Jersey, they generate a lot of
13 methane. And we have some very, very active and
14 aggressive skilled universities in the State of
15 New Jersey who are quite capable of developing
16 and working on technologies to not only
17 demonstrate methane to hydrogen, but to look at
18 technologies for sequestering carbon, and
19 basically pushing the envelope of using hydrogen
20 as a primary energy carrier.

21 So, you know, I really think there
22 are a lot of opportunities here in New Jersey for
23 not just looking at our own energy needs but
24 pushing the energy alternative energy field
25 across the nation, across the world.

GUY J. RENZI & ASSOCIATES

1 The second area that we looked at
2 under natural resources was water. Again, I am
3 not going to go through all of these. I will
4 have at the end of the presentation some copies
5 of these overheads for at least some people and
6 maybe the folks at Department of Environmental
7 Protection can duplicate more for others.

8 I'd like to actually kind of touch
9 on the second bullet here again. The NACEPT
10 Council was very adamant that we have to stop
11 looking at water quality and water supply as if
12 they are two different issues. They are not.
13 They are two sides of the coin and they have to
14 be dealt with holistically, and I think that is
15 one of the strengths of New Jersey state plan is
16 that it does look at how we grow and how we grow
17 relative to the infrastructure, the water supply,
18 the water quality that is there. Frankly, it is
19 just a start. We need to go a lot further, but
20 I think the way New Jersey is starting to look at
21 watersheds and using the State plan to direct
22 growth, I think really does offer a lot of
23 promise.

24 We also had several recommendations
25 on biodiversity, land use and food. And I would

1 like to just touch on the third bullet and where
2 we were recommending that EPA develop a
3 comprehensive list of biodiversity indicators to
4 give us some sense of how healthy are we
5 ecologically. In the State of New Jersey, the
6 previous governor created and funded an
7 organization called the New Jersey Sustainable
8 State Institute. It is housed at NJIT and
9 Rutgers who share the management of it. They
10 have just hired an executive director, and their
11 responsibility is to continue the report that was
12 first published by New Jersey Future called
13 Living With the Future in Mind, and subsequently
14 followed up by the Department of Environmental
15 Protection with a booklet called Governing with
16 the Future in Mind. And this organization, I
17 think will be at the leadership, not just in the
18 State of New Jersey, but in the country in trying
19 to help develop indicators of not just ecological
20 health but all of the indicators of a sustainable
21 state, education, safety, anything that you can
22 think of as being representative of quality of
23 life, I think that will be looked at by the
24 Sustainable State Institute.

25 Just to throw in a little bit of a

1 plug for the Department of Environmental
2 Protection. One of the recommendations the
3 Council made was to expand domestic and
4 international efforts to identify and control
5 invasive species. Department of Environmental
6 Protection about two years ago put together a
7 Comparative Risk Task Force to try to come up
8 with a procedure to evaluate risks and draw some
9 comparison. It was very interesting that one of
10 the high level risks that that group saw in the
11 State of New Jersey was the growing problem with
12 invasive species. At one point I think we had
13 it on the list as a bigger risk to the state, the
14 state's economy and ecological health than
15 mercury in the air. I am not sure if it still
16 stayed that high but at one point in time, we
17 certainly did rank it very high.

18 Continuing with natural resources,
19 we had recommended the EPA sponsoring research on
20 the cost and benefit of higher density community
21 development, that relates back to the state plan
22 and encouraging of growing happening in centers.

23 I just, this next one just struck me
24 because I came on -- I arrived yesterday
25 afternoon from a week's trip in Holland where I

1 stood on the soil and looked up at the dike,
2 realizing that the ocean was several feet above
3 my head, and then I looked at this bullet this
4 morning and said well, if we are going to assess
5 the ecological and economic impacts of sea level
6 rise from global warming, maybe we need to worry
7 that it is at LBI; LBI is probably pretty close
8 to sea level.

9 Getting closer to the focus of your
10 meeting today, air programs, I began focus on --
11 although let me touch on the first one since the
12 issue of indoor air was brought up, we
13 recommended to EPA that they continue with a
14 partnership that has been initiated called
15 Healthy Buildings, Healthy People.

16 The second bullet, Developing a
17 Total Human Exposure Approach to Air Emissions is
18 from multiple, diffuse sources. Similarly to
19 the issue in water, we really felt that we have
20 to stop just looking at air emissions from
21 industry, air emissions from transportation, air
22 emissions from a multitude of diverse and
23 unregulated and unmeasured and unmonitored
24 sources, and really look at what is the exposure
25 to the human element and that if we are going to

1 do that, we really need a lot of new technical
2 innovations in modeling and monitoring, as you
3 suggest in the questions in the brochure for
4 today's meeting.

5 I saw another similarity in our
6 suggestion that EPA support R&D for advanced
7 transit systems, including commercial vehicles,
8 and in fact one of the things that we talked
9 about was off-road construction vehicles and the
10 need to get those emissions managed as well as we
11 have for our highway vehicles. Support research
12 on ultraclean coal technology. I hadn't
13 highlighted that, but as I look at it now, it
14 reminds that at NJIT, Stevens, Rutgers, we have
15 very well-qualified graduate programs and
16 scientists who could be focused on technology
17 development for clean coal.

18 I was in Vancouver British Columbia
19 a few weeks ago and several of the coal companies
20 in Canada were announcing a joint venture to
21 develop clean coal technology. We really put a
22 lot of stake on development of science and
23 technology frankly so much so that one of the EPA
24 reviewers who looked at our draft document
25 suggested that we were looking at pie in the sky.

1 We thought about that and talked about that for e
2 quite a long time, and I think it is not pie in
3 the sky. There are a lot of science
4 developments, there are a lot of technological
5 developments that we are not taking advantage of
6 and can go a long way to solving problems. I am
7 not suggesting that we can solve all of our
8 problems with science and invention and
9 technology, but I think we don't really take as
10 much advantage of the opportunities as we could.

11 And again, there were a lot of
12 similarities in what we recommended to EPA such
13 as creating investment partnerships for energy
14 efficient technologies which, in our discussion
15 included environmentally friendly buildings and
16 promoting beneficial developments in
17 biotechnology and nanotechnology.

18 I will talk a couple minutes about
19 that. One of the specific questions that Joe
20 asked me to address, what is happening, what are
21 the leading edge things in industry that will
22 help reduce emissions and do those have some
23 opportunities for the public sector. Certainly
24 biotechnology and nanotechnology, I come from the
25 pharmaceutical industry, that is my background, I

1 know that when 20 years ago, 25 years ago when a
2 process came to me for manufacturing and I had to
3 evaluate the environmental impact, I was looking
4 at only a 40 or 50 step brutal force series of
5 chemical reactions to make the molecule that we
6 needed to make for the medical effect. Every
7 one of those steps had waste, byproduct, used
8 chemicals and then threw them away because you
9 really had only one way to get from all of these
10 building blocks up to the final molecule. There
11 is a new technology called nanotechnology, I
12 don't profess to be able to explain how it works,
13 I guess it is just too long since I got my
14 engineering degree, but I do know enough to know
15 that it will take away a lot of that force
16 requirement and allow molecular transformations
17 to take place with significantly more significant
18 operations.

19 If you look at the other side of
20 nanotechnology, it probably offers significant
21 opportunity to the public sector in treating
22 wastes, in being able to separate metals from
23 wastewater, for example, and as this technology
24 evolves in the industrial side, I think you will
25 see a lot of it trickle down to public sector

1 application.

2 We had a lot of discussion about
3 information management, again, it will be in the
4 overheads I want to show you; it is also in the
5 report which I urge you to take a look at on the
6 web page. Again, at the bottom here, we
7 recommended investing and incorporating
8 geospatial technologies into rule-making
9 regulatory compliance procedures. New Jersey
10 has been doing that for almost a decade now with
11 the GIS system which is effective in helping the
12 state. Remote sensing, watershed mapping, those
13 activities have been going on in New Jersey and
14 are part of the technologies that we recommended
15 to EPA. Economics in commerce, where there is
16 business there of environmental issues and we
17 felt that the way to deal with that is to look at
18 linking economics and commerce with environmental
19 protection.

20 One of the items in our brochure is
21 how could DEP help prevent 9/11 tragedies and be
22 prepared for dealing with them. That is one of
23 the recommendations that we made to EPA, we
24 didn't have any answers, we just felt that
25 September 11 was as big an environmental disaster

1 as it was a human disaster and that EPA does
2 need, the EPA needs to address the concerns, then
3 the Department of Environmental Protection does
4 as well. Cumulative risk assessments being
5 comparative onto the risk assessments being
6 worked on in New Jersey.

7 Providing international assistance
8 to prevent ecological and economic development
9 failures. I am not sure that that has any
10 direct application to New Jersey other than for
11 the export of the technology and knowledge in New
12 Jersey companies who do provide technologies to
13 developing countries.

14 Politics and social evolution. I
15 guess this is probably pretty close to home. We
16 really saw at NACEPT a shift in the balance,
17 maybe not so much the balance of power, but the
18 relationships between governments, levels of
19 government and the power, and we really felt that
20 EPA had several roles to fulfill, one to enhance
21 their own capacity to evaluate performance at the
22 state level, tribal level and the local level, as
23 well as an obligation to enhance the State
24 capacities to carry out their delegated programs.
25 And to appropriately reinstate Federal oversight

1 for distressed or failing state programs. We
2 had in the text of the document, a fair bit of
3 discussion about the evolution of power to the
4 states and to the state agencies, and while we
5 didn't come out and actually recommend it as a
6 bullet item, the suggestion was to EPA that power
7 should be delegated to the level at which it is
8 best and appropriately applied, and we suggested
9 that a lot of that could be at the state level.
10 We encouraged EPA to engage non-government
11 organizations and non-traditional stakeholders in
12 community- based approaches to environmental
13 protection. And to support U.S. participation
14 in global environmental initiatives. Support
15 ongoing U.S. participation in global
16 environmental initiatives conventions.

17 DR. MANGANELLI: In that first
18 bullet that you have there, non-traditional
19 stakeholders, a little more clarification,
20 community based approaches, this I think is very
21 important, and I would like to get a better
22 picture on what you mean by non-traditional
23 stakeholders.

24 MS. BOWERS: I think we
25 traditionally look at the people who sit in this

1 room who participate in public hearings and the
2 public regulatory process as the traditional
3 stakeholders and what we were urging was that EPA
4 would engage, would explicitly go out to engage
5 other non-governmental organizations, and maybe
6 go into the community to get stakeholders who may
7 not really have participated in the public
8 regulatory process at this kind of a level.

9 The last slide that I have is one
10 where I thought it would be worthwhile trying to
11 bring it home and talk about what it is that
12 might happen in this room or in this knowledge to
13 provide incentives that would help the kind of
14 innovations that we know we need to try to help
15 them happen.

16 I have to go back to my background
17 as an environmental manager and basically bring
18 to you a list of things that I saw as an
19 environmental manager that would have helped
20 promote innovations. The first is regulatory
21 clarity. People who have an obligation to comply
22 with rules need to be able to understand what
23 they mean. This is, frankly, I don't know if
24 Irwin and Ray would agree, but in the 40 years
25 that I have been dealing with environmental

1 regulations, they seem to get more complicated
2 and less clear as time goes on. The second is
3 that we need supportive and creative permitting
4 for innovations. And I will tell you that I
5 know of many cases where the DEP has been
6 supportive, has been creative, has helped
7 stimulate and encourage innovation in their
8 permitting programs. We need a lot more of
9 that, and we need it to be not just in Department
10 of Environmental Protection but all over the
11 country.

12 I think the last, where I have all
13 the sub-bullets is really very important.
14 Innovations has risk. Innovations, there is
15 always a potential that innovations will fail.
16 So if we are going to encourage innovations, we
17 are going to encourage innovations technologies
18 and approaches, we have to first of all, we are
19 going to need regulators with vision and
20 creativity to help us look at those
21 opportunities. We are going to need
22 administration to administration support.
23 Innovation does not happen on a four-year
24 election cycle, I am not pointing fingers to any
25 specific administration transfer. I have been

1 around for 40 years, long enough to have seen a
2 number of administrations transfer. It has been
3 a problem, and it is a disincentive to both the
4 regulator to stick his neck out and that a chance
5 on trying something new as it is to somebody who
6 needs a permit to take a chance on trying
7 something new. We need a public process for
8 evaluating that risk and deciding that the risk,
9 small or large, deciding that it is worthwhile.
10 I almost hesitate to put this down because the
11 model for evaluating public risk is Super Fund
12 which is not working very well, but we do need a
13 way to do that.

14 The last item is that we may need a
15 way to share the cost of innovations. There is
16 a cost of innovations, there is a cost of not
17 innovating. And we need to have this tied into
18 the public processes so that if we decide that we
19 will go ahead and take a chance on innovations,
20 the risk is shared. If we decide not to go
21 ahead with an innovative approach, we know that
22 costs that we are paying for that is shared.

23 And I think I probably well have
24 gone over my time limit, but there's a lot more
25 in this report, as I said, we spent well over an

1 hour with the EPA administrator going over the
2 recommendations. The report is on the EPA
3 website, that web address is not on the copy that
4 I have so if you want to copy it down, it is www
5 dot EPA dot Government slash OCEMPAGE slash
6 NACEPT dash page, dot HTM.

7 Good luck. I'd be happy to answer a
8 few essential questions, depending on how much
9 time the chairman will give me.

10 CHAIRMAN MAXWELL: I will be happy
11 to offer you as much time as you want. I want
12 to say a special thanks to you, Dorothy, for
13 preparing this and coming here before our Council
14 and also a special note to Joe Spatola for having
15 the insight to reach out to you, thank you. Any
16 questions?

17 MR. PAPENBERG: You had mentioned
18 on your presentation about assessing the total
19 risk that a resident may be exposed to. You
20 have seen the cumulative exposure reports that
21 have come out recently, haven't you?

22 MRS. BOWERS: To tell you the truth,
23 I am retired and I stopped reading all those
24 reports. Yes, I am aware -- I am aware that
25 there is an emerging technology. I am not able

1 to comment on, you know, I don't have a few a
2 view on how good or bad they are. Frankly, the
3 Council did not have experts in this area either
4 and our recommendation was not so much that we
5 hand-picked any particular model or any
6 particular approach but that it is time for us to
7 find an appropriate approach.

8 MR. PAPENBERG: I thought it would
9 be interesting to get your feedback on the
10 reports that have come out from I believe the
11 EPA, specifically as it relates to New Jersey and
12 using the data from the Right to Know reporting
13 from industries as well as the data from
14 Automobile Use and things of that nature.

15 MRS. BOWERS: There is no question
16 there is a lot of information out there, and it
17 just by and large isn't available to us in the
18 most meaningful form.

19 MR. ZONIS: Dorothy, one of the
20 things I find troubling about the subject of
21 innovations is that we continue to reinvent the
22 wheel or try to reinvent the wheel. What
23 specifically comes to mind is cleaning up the
24 emissions resulting from the generation of
25 electric energy. I know that there were

1 hundreds of million dollars starting in the late
2 '60s and '70s and early '90s, both by private
3 funds, by the utilities and by grants from the
4 Department of Energy and from EPA in developing a
5 whole series of innovative processes for
6 controlling car pollution emissions from the
7 burning of coal and so on. And here we are in
8 the new millennium and seems to me that we are
9 starting all over again. I think that perhaps
10 the results of some of these projects were not
11 entirely satisfactory from an economic standpoint
12 and when the price of oil and gas dropped, these
13 were put on the shelf. But time after time
14 there have been relatively successful projects,
15 oil Shell operation out in Denver comes to mind
16 where a beautiful, stainless steel plant was
17 built and never once operated because of the
18 price of raw materials dropped. Did NACEPT ever
19 consider some way of trying to resurrect the past
20 or try to restore valid innovative techniques
21 that have been put on the shelf to active
22 consideration. I find that an area of
23 frustration.

24 MRS. BOWERS: I think we share the
25 same frustration, although I am not quite as

1 pessimistic as you are, and I can think of
2 cobaltic tar sands are being used and the
3 technology is, I think, effective. And so, you
4 know, frankly, I think there are technologies
5 that are before their time and they get put on
6 the shelves. And we did urge EPA to look at a
7 lot of development work that it has done and it
8 has sponsored and paid for in the past to see if
9 it still, if it could be made applicable now in a
10 time that is perhaps ready for it. But I think,
11 realistically, we will continue to reinvent the
12 wheel, I am afraid that is part of technology.

13 CHAIRMAN MAXWELL: Any other
14 questions from the Council.

15 (No response.)

16 CHAIRMAN MAXWELL: Thank you very
17 much, that was enlightening, and we appreciate
18 you coming here and sharing with us and with the
19 folks in the audience here and the participants
20 here views that you have. Thank you.

21 I want to tick off a list of folks
22 that are scheduled to speak so you have a sense.

23 Next is Carlos Rodrigues.

24 Mr. Rodrigues.

25 MR. RODRIGUES: I am the Acting

GUY J. RENZI & ASSOCIATES

1 Director of Office of State Planning/Smart Growth
2 and the Department of Community Affairs. Thank
3 you for inviting me here this morning to speak to
4 you on the theme of innovative solutions to clean
5 air. Really what I am here to do is to talk a
6 little bit about the New Jersey State Development
7 and Redevelopment Plan which is a document that
8 was in its latest version adopted by the State
9 Planning Commission in March of 2001. The State
10 Planning Commission is a board that has public
11 members and state agency representatives much
12 like this one, 17 members altogether.

13 Just sort of to give you a little
14 bit of background, New Jersey has had state
15 planning for a very long time, something that
16 most people don't realize. I think most people
17 think that state planning started here in 1995
18 with the passage of the State Planning Act and
19 the adoption in 1992 of the New Jersey State
20 Development and Redevelopment Plan but, in fact,
21 New Jersey's first State Plan was adopted in
22 1934. That's right. And we had a State Plan
23 in the '50s and another one in the '70s. And
24 many of the ideas that were contained in this
25 document from 1934 are still very, very much

1 current today, and we have sort of come full
2 term, if you will, in a number of areas.

3 But the idea, for example, that we
4 need to develop in compact forms that our land
5 development pattern is very important and that
6 the compact form needs places where people can
7 walk and bicycle and that are supportive of
8 transit is a very old idea, as you all now know,
9 because that's the way we built our communities
10 for hundreds of years. And so while we took a
11 detour and sort of forgot that basic principle of
12 developing communities, particularly in the
13 period after the Second World War, these ideas
14 were embodied in earlier planning documents that
15 we had. So the 1934 State Plan talks about air
16 quality in terms of the problems that existed at
17 the time which was mostly smoke stack pollution
18 that was focused mostly in urban areas. That
19 was the issue at the time. That is not so much
20 the issue that we have today. And the plan that
21 we adopted about a year ago talks about air
22 quality in a contemporary context, which still
23 has the pollution coming from stationary sources,
24 but also has pollution from mobile sources,
25 particularly from pollution, the State Plan's

1 focus on air resource while the State Plan does
2 have a series of policies and it has specifically
3 a set of policies on air resources that talk
4 about clean fields and clean technologies and all
5 of that, but the real promise of the State Plan
6 is not so much this sort of technological mix,
7 but it really is addressing the underlying cause
8 of the problems which are, in our opinion, the
9 pattern of development. The more dispersed we
10 develop, the more we rely on vehicles to get
11 around, the more air pollution we have from those
12 mobile sources. And so the Smart Growth approach
13 to this is dealing with the underlying problem to
14 the extent that we can.

15 Now, I think I know that both of the
16 earlier speakers talked about Smart Growth and
17 talked about the State Plan, and I am sure that
18 you are thinking that all of this was carefully
19 scripted and that we came in here with a
20 coordinated message. In fact, it wasn't. This
21 is not carefully scripted. But what you are
22 seeing is the fact that we are all sort of
23 talking about the same things is that there is
24 emerging, there seems to be emerging consensus
25 that these are very important things that we need

1 to address, and this is a consensus that is
2 coming from a broad range of perspectives and
3 backgrounds. So it is not just the planners
4 that are talking about this, but it is a whole
5 host of other people.

6 I should say that the science behind
7 this, the science behind the valuation of the
8 benefits from an air quality as well as other
9 perspectives have compact mixed use, traditional
10 type of land development versus what we might
11 call, for lack of a better word, sprawl, which is
12 a dispersed single use, low-density pattern of
13 the development. The science on that is spotty
14 and for people who like to have absolute, hard
15 science evidence in front of them before they
16 make a decision, I have to say that we are not
17 quite there yet, in those terms. But there is
18 enough anecdotal evidence and enough evidence
19 coming from empirical studies as well as modeling
20 exercises to suggest that there are, in fact,
21 significant benefits along a whole array of
22 factors to developing more compact, more
23 pedestrian and transit forms. For example, a
24 number of studies that were conducted recently by
25 the U.S. EPA, the natural resources with Defense

1 Council and others comparing similar
2 neighborhoods suggests that in traditional,
3 compact communities people are four times more
4 likely to walk for everyday trips than in sort of
5 typical suburban subdivision. That people in
6 compact communities may drive 50 to 60 percent
7 less miles and may, in fact, make up to 50
8 percent less vehicle trips. Now, all of this,
9 as you can imagine, translates significantly,
10 these differences in travel behavior will
11 translate into less greenhouse gas emissions,
12 improved air quality, et cetera. But, and here
13 is the thing with Smart Growth, it's not just
14 about air quality, it is about a whole host of
15 other issues. We are only just now beginning to
16 understand this. Getting people out of their
17 cars and on their feet is just as important, for
18 example, from a public health point of view as
19 from an air quality perspective. The M.D.s on
20 this Council will tell you better than I can that
21 we are seeing alarming rates of increase in the
22 rates of obesity nationally, and the Center for
23 Disease Control is doing the research that shows
24 a direct correlation between that and the pattern
25 of development that we live in.

1 Now, this is particularly striking
2 with regards to children and, by the way, the New
3 Jersey Department of Health released a report in
4 the fall of last year that suggests that the
5 population of New Jersey is getting fat, similar
6 type of evidence. But this is particularly
7 striking with regards to kids.

8 Let me give you an example just a
9 few sort of facts from New Jersey to bring this
10 home. We have about 1.3 million kids in our
11 public school system in New Jersey and roughly
12 half of those are bused every day to and from
13 school by a fleet of over 20,000 school buses.
14 Countless others are driven to and from school by
15 their parents, their nannies, their neighbors,
16 whomever.

17 Now, as an aside, an interesting
18 aside now, we know because the State of New
19 Jersey subsidizes this type of travel behavior to
20 the tune of about \$280 million a year. And so
21 there is a very, very good accounting of every
22 child and every school district that is on a
23 school bus.

24 The kids who are not part of the bus
25 population we know nothing about. We have

1 absolutely no idea how they get to and from
2 school, whether they walk, walk by themselves, if
3 they walk with their friends, if they walk with
4 their parents, we know absolutely nothing. The
5 data collection process that we have is entirely
6 focused and centered on vehicular trips. This
7 is the same situation that we have with regards
8 to any other kinds of trips. We know an awful
9 lot about every vehicle trip that is done in New
10 Jersey, we know nothing about trips that people
11 make on foot or on bicycle. So our own data
12 collection system sort of reflects this bias and
13 makes it very difficult for us to get our arms
14 around the part of travel that is not done
15 through cars.

16 But to get back to our example with
17 public school children. The rate of busing is
18 not equal among school districts. There are
19 obviously school districts that have much higher
20 rates of kids in school buses than others. And
21 this is directly correlated, I think, to the
22 underlying land development pattern. In
23 traditional communities where there are sidewalks
24 and where there is a sufficient density of
25 development and kids live relatively close to

1 neighborhood schools, they will walk or bicycle
2 to school. And so you have less kids on buses.
3 More recent communities that are more dispersed
4 that have no sidewalks, that have no pedestrian
5 infrastructure or have spotty pedestrian
6 infrastructure, that have large streets, heavy
7 traffic that are dangerous to cross, kids will,
8 even when they live close enough to walk to
9 school, will not walk because it is not a
10 pleasant experience and parents are reluctant to
11 let them do that, it is dangerous.

12 So, the underlying sort of land
13 development pattern here has a tremendous
14 influence on the behavior, the travel behavior of
15 these kids. By the way, recent studies in
16 California are suggesting that the air quality
17 inside the school buses, because they are all
18 diesel-powered, is a problem inside the buses as
19 it is outside the buses.

20 So, the promise, if you will, or the
21 challenge of the State Plan is to make changes,
22 changes to the underlying land use pattern that
23 can give us back the types of communities where
24 people, not just school kids, everybody can walk
25 to school, to work, to shop, recreation, to civic

1 activities and to, you know, civic activities
2 like this meeting that we are at here today.
3 These types of changes are not changes that we
4 can achieve in the short term, it is not a
5 short-term vision. It took us 50 years to get
6 where we are now, it will take us a long time to
7 reverse this trend, but I think what you are
8 seeing is an emerging consensus that this is
9 something that we need to do, that we need to do
10 urgently. And in New Jersey, we are fortunate in
11 having the State Plan as a guiding framework that
12 will help us to achieve that goal.

13 Thank you.

14 CHAIRMAN MAXWELL: Questions.

15 MR. McCARTY: One of the problems
16 you will have to address with the busing issue
17 for schools is with the Department of Education,
18 the requirements that they have for school
19 construction and the amount of space that they
20 require for a new school construction to kind of
21 preclude the neighborhood schools, and I think
22 there's going to have to be some work with that
23 agency to coordinate what you are trying to do.

24 MR. RODRIGUES: Yes, you are
25 absolutely right. There needs to be better

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1 understanding by all state agencies of the
2 principles of Smart Growth, and we need to have
3 those principles then incorporated in the
4 agencies' procedures, in the rules and
5 regulations and the way they spend their money.

6 We have now what we didn't have
7 before which is a Smart Growth Policy Council, I
8 think Commissioner Campbell talked about that
9 earlier. That is the appropriate venue for
10 those issues to come out to be discussed, and to
11 be resolved. You are right.

12 The National Trust for Historic
13 Preservation released a publication called Why
14 Johnny Can't Walk to School. It shows how school
15 construction throughout the country is a very
16 important factor in fueling sprawl.

17 MR. ALI: It strikes me that we have
18 been hearing these things over the last 10 years
19 or so, Smart Growth, compact growth and cleaning
20 up everything, brown fields, talking about
21 hearing from the grapevine all common knowledge
22 that they are saying that they want to develop
23 the centers and they are counted and being in
24 more development, having more difficulty, air
25 pollution or traffic jams or congestion and

1 crimes and things like that.

2 If you go around the State, you will
3 find out, you don't have to go to Newark, you can
4 go to Camden, you will find out that you don't
5 have to do that, you can go right here, what is
6 the situation of the real estate here, go to
7 Hamilton Street and find a big development going
8 on, those are landmarks. Is there any state
9 policy or plan thinking about cleaning up the
10 downtowns altogether, having a trust corporation,
11 whatever, to have an inventory of all the houses
12 boarded up and give it to people coming from --
13 people go to Gloucester County, they do not go to
14 Camden. What is the real problem behind it.
15 The policy is good, philosophy is good but people
16 are saying it doesn't work, how can we make it
17 work?

18 MR. RODRIGUES: Well, I have a
19 slightly more optimistic perspective on things.
20 It is working in bits and pieces, not everybody
21 but if we look carefully and if we monitor
22 carefully what is happening out there, I think
23 there are reasons for optimism. It hasn't
24 reached Carroll Street yet, Camden is a
25 particular thorny issue which will require some

1 very bold incentives which we may not have yet.
2 But I think we are seeing a renewed interest on
3 the part of both the development community and on
4 the part of the private marketplace for both
5 housing and jobs in returning to places that
6 would qualify as centers under the State Plan.
7 In other words, places that are compact, that
8 are mixed use where people can walk, of any size.

9 And the State Plan is not just about
10 the '70s, it has a hierarchy of centers that goes
11 from the larger cities like Newark and New
12 Brunswick and Trenton and Camden all the way down
13 to hamlets which are very small units, but they
14 all have certain things in common.

15 But I think that if you talk to the
16 real estate community, you will see that they've
17 sort of reached these conclusions on their own,
18 based on their own analysis of what is going on
19 out there and where the marketplace is going.
20 Many of the larger developers in New Jersey are
21 very busy scouting urban sites and are very busy
22 developing expertise in urban redevelopment and
23 it is not just the Hudson waterfront that is
24 coming back big time, but there are a lot of
25 older industrial towns that are past that, you

1 know, phase where you had hundreds and hundreds
2 of acres abandoned and sort of no interest to
3 anyone, but are very actively thriving, using the
4 redevelopment statutes that we have in New
5 Jersey, very active developing plans, shopping
6 around for redevelopers and moving ahead.

7 So, I am optimistic that it is
8 happening anyway. It is not happening at the
9 rate that we'd like to see it happen, but it is
10 certainly heads and shoulders above where we were
11 five years ago, for example. And you will see if
12 you look at the building, where building permits
13 are being issued, you will see that there's, for
14 the last five years or so, there's been a shift,
15 there continues to be a shift with more and more
16 building permits occurring in urban
17 municipalities or in municipalities that have
18 these traditional characteristics as opposed to
19 just happening in towns, you know, where this
20 stuff is being built in the middle of cornfields.

21 So there are reasons. I know we
22 have all been talking about this and hearing
23 about it for a long, long time, and things didn't
24 seem to be happening, but I think they are
25 happening now.

1 MR. ALI: Do you have a crystal ball
2 in seeing in the future where there will be no
3 boarded houses n New Jersey?

4 MR. RODRIGUES: No.

5 MR. SPATOLA: Smart Growth requires
6 an integrated public transportation system in the
7 state, how do you see that being accomplished
8 here in New Jersey?

9 MR. RODRIGUES: Well, you know, New
10 Jersey is very fortunate in that it has a very
11 extensive rail network, very extensive. Some of
12 it has been abandoned.

13 MR. SPATOLA: A lot go to New York
14 or Philadelphia.

15 MR. RODRIGUES: That's true, and
16 that reflects the nature of this state which is
17 split between these two major metropolitan areas.
18 These two large poles of attraction. You are
19 right, and we can move people in and out of those
20 metropolitan areas relatively easily, although
21 those trains are very crowded these days. But
22 it is the areas that have developed in the last
23 50 years that were not very good at serving with
24 public transit. And the reason largely is that
25 the densities there do not support transit. So

1 it is a real problem.

2 Now, we also don't need to be stuck
3 on sort of the 19th Century times of transit, the
4 19th Century transit models, the spoke and hub
5 model. We have a more centralized pattern of
6 development, and we need much more flexible
7 approach to transit that demand smaller vehicles,
8 and I think that is an area that we need to
9 explore and that is an area where technology can
10 help us. New Jersey Transit is largely -- has
11 been largely focused on the rail and sort of
12 conventional bus operations. Then we have a
13 whole series of other types of transit that are
14 mostly run by TMA's which are local, you know,
15 county based organizations. I think there's
16 considerable promise for those types of more
17 flexible approaches to expand transit out into
18 areas that are already developed but don't have
19 the underlying density to support the more
20 traditional type of transit.

21 MR. EGENTON: Carlos, one
22 consideration when you are very interested in
23 your assessment of the children being bused to
24 school, I have a son and daughter and I am in
25 that dilemma. I think one of the issues you

1 need to also take a look at and address are
2 certain basic quality of life issues. I know
3 as a parent there is an issue of safety, we don't
4 live in the "Leave it to Beaver" world anymore
5 where back in the '70s when I walked to school,
6 my mother never had to fear for me on coming home
7 and making sure a predator or God knows, your
8 next-door-neighbor who you thought you trusted,
9 those are real life issues, and I bring it home
10 to you. And I talk to a lot of parents and they
11 are concerned about that.

12 And although I agree with you, and I
13 see the congestion of parents bringing their kids
14 to school vis-a-vis their cars. I am under the
15 two-mile limit close to school but obviously I
16 don't want my 7-year-old daughter walking to
17 school, out of fear there is a certain area where
18 she walks where there is no crossing guard, there
19 is no police protection.

20 So, I think times have changed too,
21 and I think until we address basic quality of
22 life security issues, you are going to have
23 situations like that.

24 MR. RODRIGUES: Yes, it is not an
25 easy thing to fix from a number of different

1 perspectives. I actually trust my neighbors, so
2 I am not expecting them to do anything weird.

3 But, yes, security is an issue, you
4 know, so in many places or in some places you do
5 have the infrastructure, the kids are close
6 enough to schools to walk, but there are safety
7 concerns that need to be addressed and those
8 can't be forgotten, they need to be looked at,
9 too.

10 I think what we need to do is get,
11 in this particular case, I don't mean to be
12 picking on schools, but I think it is a very
13 compelling sort of case study, I think what we
14 need to do is get school boards and planning
15 boards and municipal government and the
16 Department of Education focusing on the issue,
17 which they are not now. Most school boards are
18 not focusing on this issue. Planning, because
19 they think it is a planning board issue, planning
20 boards think it is a school board issue,
21 everybody thinks it is someone else's concern and
22 it's sort of lost in the shuffle.

23 I think what we need to do is get
24 people focused on the issue and then develop the
25 approaches and approaches will differ from

1 community to community, depending on the
2 situations, from neighborhood to neighborhood.
3 In some places you have parents groups that
4 organized parents groups, that walk their kids to
5 school so every day you have a different parent
6 whose job it is to take, you know, half a dozen
7 kids from that block, walk them to school, walk
8 back, and that gives them the sense of, you know,
9 comfort, the margin of comfort that they need
10 because they are there for the predators, they
11 are there for the traffic, they are there for all
12 of those things. That is one approach. And we
13 need to -- people are doing that on their own
14 because they feel that they should, we need to
15 pick up on those models, make them better known
16 and, in turn, provide incentives.

17 MR. EGENTON: I agree with you on
18 the air pollutions aspect. At our school, you
19 can see well over 100 cars sitting there idling
20 and you have to have better coordinated effort
21 and those models may be the type of models we
22 have to look at so maybe we can cut down on the
23 vehicles travelling to the schools, I agree.

24 CHAIRMAN MAXWELL: Thank you very
25 much. That is enlightening. I think we are

1 kind of seeing a theme here, something about
2 Smart Growth.

3 Next is Frank Sherman.

4 MR. SHERMAN: Good morning. My name
5 is Frank Sherman, and I work for Hillier which is
6 an architectural firm located up in Princeton,
7 New Jersey. I would like to speak towards some
8 of the issues of innovative solutions for clean
9 air. I would like to start off by first thanking
10 Dorothy Bowers for a great report, and I have
11 used the NACEPT report as a springboard for the
12 ideas that I would like to talk about today.

13 I would like to start off with a
14 quote from a NACEPT report and that is that,
15 "Poor environmental quality is already estimated
16 to be directly responsible for about 25 percent
17 of all preventable ill health in the world today,
18 with diarrhea and acute respiratory infections
19 heading the list." Clearly, the quality of our
20 environment has a direct affect on our health and
21 well-being. More than 17 million Americans
22 suffer from asthma and respiratory illnesses, and
23 4.8 million of them are children.

24 One of the arguments I would like to
25 make is that economic and environmental

1 well-being are ultimately inseparable. Even as
2 we move away from a manufacturing economy towards
3 information and service, our economic enterprises
4 are still based on making things and using
5 natural resources. Our economic strength is
6 tied to our command over and wise use of these
7 resources. When our natural resources are
8 poorly managed and wasted, we see the evidence in
9 the form of pollution and a degraded
10 environment. One of the things I would like to
11 put forth is that the future economic health of
12 the State of New Jersey is dependent in no small
13 measure upon strategies that promote a healthy
14 environment through pollution prevention, wise
15 resource use and sustainable development. Also
16 I'd like to thank the State Plan for lifting some
17 images out of their report last night.
18 Sustainable development is the use of natural
19 resources in a way that meets our needs today
20 without depleting those resources and without
21 hindering the ability of future generations to
22 meet their needs. To be able to use to meet our
23 needs today without hindering the ability of
24 future generations to meet their needs. That is
25 one of the cores of sustainable development.

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1 Ultimately the goal would be in this state to be
2 able to work in grand balance now and for many
3 years to come. The not so simple challenge for
4 the State of New Jersey is to promote sustainable
5 development on a macro level, while fostering
6 regional economic development and a healthy
7 diverse economy.

8 Well, so what does this have to do
9 with clean air and buildings? Some statistics
10 here. Commercial buildings in the U.S., they
11 consume more than 36 percent of all the primary
12 energy usage, 65 percent of the total U.S.
13 electricity consumption. 30 percent of the
14 total U.S. greenhouse gas emissions are created
15 by commercial buildings. We create 136 million
16 tons of construction and demolition waste. We
17 use 12 percent of all potable water in the U.S.
18 and 40 percent of the raw materials used
19 globally. This consumption of waste creates
20 waste in the form of solid waste and
21 contamination of our water and air. The concept
22 of waste to me is intriguing. We don't seem to
23 worry about waste when we have an excess of
24 resources to use. But we begin to worry about
25 waste issues when we see those resources being

1 depleted or compromised in some way.

2 Nature, on the other hand, looks at
3 waste differently. The model of nature is that
4 waste equals food. Waste produced by one
5 organism or process becomes the feedstock for
6 another organism or process. Eloquently simple.
7 The beauty of nature is the fact that it can take
8 incredibly complex diverse actions and express
9 them in simple, beautiful ways and if we, in our
10 actions, and in our technology can duplicate
11 nature, then we have gone a long way of creating
12 sustainable development in the state and in the
13 world in general. But in nature nothing is
14 wasted, and the cycle of food to waste to food is
15 closed and infinitely works. Ultimately, as
16 architects, designers, planners, inventors and
17 manufacturers, we need to eliminate the concept
18 of waste and treat pollution is a design failure.
19 Emissions should be regarded as unsalable
20 products. If you can't sell it, you shouldn't
21 produce it and you should design it out of the
22 process.

23 Energy efficiency and conservation
24 are actually two effective ways that we can
25 reduce waste in the form of air pollution or in

1 the production of greenhouse gases. This waste
2 is produced by the design and operation of
3 buildings, by automobiles and by industrial
4 processes. Reduction in the amount of pollution
5 going into the environment from the production
6 and consumption of energy is one of the goals of
7 the NACEPT report.

8 The strategy they recommended to
9 achieve this is to: Move away from carbon based
10 energy sources toward renewable sources; to
11 reduce the amount of carbon-based fuel sources we
12 use through advances in technology and improved
13 efficiency and focus on the cleanest carbon fuel
14 sources for our current needs.

15 We have the ability to reduce the
16 demand for carbon-based energy by designing more
17 energy efficient buildings and systems, by using
18 alternative energy sources, by reducing the
19 overall amount of energy that we use on a
20 day-to-day basis and also able to design
21 buildings that use less materials and resources,
22 that re-use -- that are less -- that we can use
23 materials that are less energy intensive to
24 extract and produce, and we can use local and
25 regional materials that reduce pollution

1 generated in transportation and handling. We
2 also need to design buildings with a sensitivity
3 toward climate, site and region. Building
4 strategies that are suited to the Northeast are
5 not very often strategies for buildings that are
6 in the Southeastern United States. Very often
7 buildings do not acknowledge issues such as heat,
8 sunlight, cold, humidity, wind and orientation
9 and these ultimately are less efficient, use more
10 energy to compensate for their flaws, and
11 contribute to a more polluted and less healthful
12 environment.

13 Actually, there is another aspect to
14 air quality and the built environment and that is
15 indoor air quality.

16 To quote the EPA report "Healthy
17 Buildings, Healthy People: A Vision for the 21st
18 Century":

19 "From the perspective of human
20 health, indoor air quality may well pose the
21 greatest environmental risk."

22 It is estimated that the average
23 American spends 90 percent of their time indoors
24 with a good portion of that in a working
25 environment. Health and well-being play a large

1 role in our ability to work, learn and in our
2 overall productivity. Currently, one of the
3 most effective ways of improving air quality in
4 commercial and public buildings in this country
5 is through the use and promotion of the U.S.
6 Green Building Council's "LEED Green Building
7 Rating System," and I will tell you about that.

8 First I will tell you about Green
9 Building Council is a national nonprofit
10 organization based in Washington D.C., made up of
11 a diverse member of organizations, it is
12 consensus driven and committee based, in its
13 approach to product development and developer and
14 administrator of the LEED Green Building Rating
15 System. LEED stands for Leadership in Energy
16 and Environmental Design. It is the measurement
17 system designed to measure new and commercial
18 institutions and high-rise residential buildings
19 and based on accepted energy and environmental
20 principles and strikes a balance between known
21 effective practices and emerging concepts.

22 What I will say is that it is not
23 all about new technology, we very often forget
24 traditional wisdom, and there are simple things
25 that you can do as well as enhance strategies

1 through innovative Technology.

2 LEED is organized into five
3 environmental categories, they look at
4 sustainable sites, water efficiency, energy and
5 atmosphere, materials and resources and indoor
6 environmental quality.

7 One of the things I also want to
8 stress about LEED, LEED really promotes an
9 integrated approach to design green and high
10 performance buildings. They acknowledge that no
11 issue is stand-alone, every issue has a direct
12 impact and can work synergistically with
13 solutions and other issues in designing a
14 building or effecting an environment.

15 One of the things that you were
16 seeing in terms of Smart Growth and State
17 Planning is the complexity and the interactions
18 between different needs and issues. One of the
19 beauties of a sustainable design approach is that
20 you can, in a way throughout approach, begin to
21 actually have solution multipliers where a
22 solution can lead you to be able to address
23 positively a number of different issues and be
24 able to effect positive change on a number of
25 different levels.

1 With the exception of water
2 efficiency, each of the categories up here
3 actually has a direct effect on air quality.
4 Were you to choose site a buildings, how you use
5 site strategies can affect pollution quality of
6 air. Clearly energy and atmosphere, the kind of
7 energy you use and the strategies used to design
8 the building will affect both the quality of the
9 air, the amount of energy that it takes to run
10 that building, the amount of pollution that
11 building will generate, materials and resources
12 chosen obviously will also help reduce pollution
13 through manufacture and transportation or
14 extraction and processing, but also many
15 materials in and of themselves contribute
16 directly to poor indoor air quality, health and
17 we will also look the issues such as that.
18 Improving indoor air quality through the careful
19 design and specification knowledge is achievable
20 and quiet necessary.

21 The EPA report, "Healthy Buildings,
22 Healthy People" identifies major indoor human
23 health risks that include asthma, cancer,
24 reproductive and developmental problems among
25 other health effects. These come from the

1 exposure to radon, environmental tobacco smoke,
2 carbon monoxide, lead, chemical and biological
3 contaminants, all of those can be readily found
4 in buildings.

5 Chemical pollutants includes
6 Volatile Organic Compounds, VOCs. Organic
7 compounds are chemicals that essentially contain
8 carbon. Volatile organic compounds vaporize at
9 room temperature and pressure and become
10 airborne. That is basically one of the primary
11 ways we are getting exposed. They are found in
12 many indoor sources, including many common
13 household products and building materials.
14 Chemical pollutants include chlorinated solvents,
15 formaldehyde, heavy metals, pesticides and ground
16 level ozone among others. I won't profess to be
17 a chemist but all that stuff is out there.

18 Biological contaminants are also
19 more and more of a concern, this includes molds,
20 spores, fungi and bacteria. Very often we see
21 these as the base causes of Sick Building
22 Syndrome. Reducing the risk of indoor
23 contaminant exposure is readily achievable by
24 specifying low or no VOC paint, adhesives and
25 sealants and products that do not off-gas

1 chemicals.

2 The EPA report noted, "A number of
3 studies over the past decade tracked where people
4 actually experience the largest exposures to
5 different toxic chemicals. In a great majority
6 of cases, these exposures occur inside buildings.
7 While regulations have focused on emissions into
8 the outside environment, exposures are occurring
9 primarily in indoor environments. The exposure
10 comes from off gassing from carpets and
11 furniture, sunlight falling on plastics and other
12 materials, construction products, cleaning
13 products, office machines, mildew and molds, and
14 a variety of other sources." Condensation and
15 wet humid atmospheres contribute to the growth of
16 mold and fungi, often in walls and ventilation
17 systems. Improved construction techniques,
18 better mechanical system design, increased
19 ventilation and decreased air re-circulation all
20 contribute to the reduction of airborne
21 contaminants.

22 In all of these areas, LEED requires
23 very high levels of building design and
24 performance with a focus on creating superior
25 Indoor Air Quality and overall Indoor

1 Environmental Quality.

2 LEED actually has become a national
3 benchmark standard for the evaluation of green
4 and high performance buildings throughout the
5 country. Federal, state and regional
6 governments have adopted LEED as the performance
7 standard for new construction and renovation.
8 To list just a few of the organizations that use
9 LEED as both an incentive tool and performance
10 base tool for construction, the Department of
11 Defense; Department of Interior; the
12 Environmental Protection Agency; the National
13 Park Service; the GSA; the State of Pennsylvania;
14 City of Portland; City of Austin, Texas, and
15 Arlington County, Virginia. This is a standard
16 that is being studied and embraced on many
17 governmental levels as a way, as an incentive to
18 create better buildings, higher performance
19 buildings, and as a way to create a better built
20 environment.

21 I think that what I would like to do
22 is, I think my primary recommendation here today
23 to the Governor and to the State of New Jersey is
24 that they seriously study and consider adopting
25 the LEED Green Building Rating System as the

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1 performance standard for all State funded Public
2 Building projects, and use LEED as an incentive
3 for private development and also use it as an
4 incentive for private development at all levels
5 throughout the State.

6 The one thing I will say is that the
7 school work coming through the district is
8 actually in the process of looking at LEED as a
9 performance standard to create better, healthier
10 and higher performing school buildings.
11 Ultimately, this is going to give you the ability
12 to better use state government funds in building
13 schools.

14 With that, I will take any
15 questions.

16 CHAIRMAN MAXWELL: Thank you very
17 much, I was completely unaware that anything like
18 LEED existed.

19 DR. MANGANELLI: You made a very
20 good case for the indoor air quality, I
21 appreciate that. You talked about sustainable
22 development and gave a very nice definition of
23 that.

24 What my concern here is this; as you
25 all know in New Jersey we have 8,000 square miles

1 and in the short time we will have another
2 million people added to that. I would like to
3 superimpose upon this increase of population
4 density, this idea of sustainable development as
5 you defined it. Are there any incentives here
6 that we can keep this density down? I realize
7 that there's other problems that were brought up
8 where you have a certain amount of density to
9 have a better rail system; however, if we just
10 keep going this way, a lot of this idea of the
11 use of the natural resources and sustainable
12 development, this won't work out. I'd like to
13 hear your answer.

14 MR. SHERMAN: One of the real
15 goals of sustainable developments is that you
16 assess your conditions and resources and make
17 wise and informed decisions about how best to use
18 those resources. I think realistically the
19 State of New Jersey will always continue to grow,
20 continue to develop. Can it develop in a way
21 that balances its resource use against its
22 resource inventory? There are many different
23 ways that that's going to have to be tackled, and
24 on many different levels and one of the
25 challenges of sustainable development is

1 understanding from a holistic point of view what
2 all of those issues be, what is the web of the
3 interrelationship of those issues, and I think we
4 are beginning to address some of them, but you
5 can see there's some kind of disparate parts and
6 pieces. The new urbanist movement for
7 traditional towns and implicitly certain aspects
8 of sustainable development, focusing development
9 in areas where readily none of this is available
10 for open space, also to Smart Growth planning, I
11 guess I also want to say using the resources that
12 we have, both intellectual and financial, are
13 also key parts of total sustainable development.

14 I think that one of the ideas is
15 that we have to respect the fact that we are
16 going to have population increases, that we need
17 to create certain levels of densities as a way to
18 produce the resources that we have in terms of
19 land, water and air. But we need to do that
20 with the knowledge that the cost and benefits
21 that have to be shared by everybody, and that is
22 the other part, the other part of this, when are
23 you are talking about sustainable development on
24 a regional level like the State, everybody really
25 has to participate entering that discussion and

1 everybody needs to be working towards similar
2 goals.

3 MR. McCARTY: The gentleman previous
4 to you spoke about the State Plan and
5 consolidation and trying to group everything, you
6 are talking about smarter buildings, Dorothy
7 Bowers talked about innovations and the
8 Commissioner talked about how to integrate all
9 these different things. My question would be
10 right now we have brown fields, do we not need
11 innovations and how to address the brown fields
12 and the clean-up of them to revitalize the inner
13 cities to cut down on the transportation.

14 And since you are an architect, is
15 there any way that that can go into the
16 engineering end of the construction of the
17 buildings so all that can be integrated together
18 to actually make some of the things that have
19 been discussed work?

20 MR. SHERMAN: I think the short
21 answer is yes because there are clearly
22 engineering and environmental technologies out
23 there that are advancing quickly to deal with
24 brown field redevelopment. I would still argue
25 as an architect that regulatory issues need as

1 much innovations as actual building and even with
2 engineering issues.

3 MR. McCARTY: That's what I was
4 referring to.

5 MR. SHERMAN: One of the things that
6 the LEED Building System looks at and promotes is
7 sensible growth, reuse of resources, the idea of
8 reduce, reuse, recycle as the tenets underlying a
9 lot of good, sustainable development can be
10 applied at many levels. When you look at
11 degraded sites, you really need to study not only
12 the kind of technology and the chemistry and the
13 history of why those sites, what they are, you
14 can find technological and engineering solutions
15 to overcome those.

16 From a planning point of view, from
17 let's say a municipal government point of view,
18 what you also have to be doing is looking at the
19 issue of how to best use resources such as
20 degraded sites to bring them up to a useful
21 state, and then find the appropriate actual
22 knowledge and planning solutions that best use
23 those resources, those degraded sites. Some of
24 them are potentially quite valuable but are being
25 hindered by obvious detriment to them.

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1 CHAIRMAN MAXWELL: One last
2 question.

3 MR. ZONIS: On a technical side,
4 Mr. Sherman, the Council has learned in recent
5 years about how the tenancy had been to design
6 and build buildings with a minimum amount of
7 leakage of air and as your EPA points out, has
8 led to higher levels of EPA air ventilation. How
9 does that conflict with improved fuel efficiency?
10 How do you solve both of those, reduce the amount
11 of carbon-based fuel and at the same time
12 increase ventilation.

13 MR. SHERMAN: The reason that
14 buildings become tighter based on the last energy
15 crisis was the idea if buildings were tighter and
16 we kept recirculating the air we didn't have to
17 continue to heat or cool it and with blinders we
18 solve one problem pretty well and reduce the
19 amount of energy that we have to use. The
20 better way of looking at buildings, buildings are
21 actually very permeable, and they ideally when
22 they are designed, really do live and breathe in
23 many respects and a building does need to breathe
24 or does need permeable fresh air and there are
25 ways, technology is out there now that can

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1 efficiently deliver heating and cooling at
2 minimal kinds of energy uses or using cleaner
3 energy technologies. And there are ways to
4 capture waste heat and there are more and more
5 technologies out there that can capture waste
6 leaving the building and transport that to
7 incoming air. So you can actually get the best
8 of both worlds.

9 MR. ZONIS: Does the LEED program
10 include the factors that you mentioned?

11 MR. SHERMAN: Absolutely. LEED is
12 based on a series of technical and regulatory
13 standards which they are referenced. One of the
14 things about the LEED program, they have created
15 higher baseline standards for building
16 performances than codes through many of the
17 states actually currently require. So they are
18 looking at current codes for energy performance
19 that are at a fairly high level although I am
20 happy to say that the State of New Jersey has
21 adopted the energy standard that LEED uses as
22 their baseline. What LEED does is say that is
23 your baseline, a minimal of 20 percent if you
24 want recognition, a minimal of 20 percent. They
25 have recommendations for ventilation

1 effectiveness, carbon monoxide levels within
2 buildings, so there are ways that LEED
3 identifies, addresses issues.

4 LEED is a design methodology that is
5 quite nice. It also gives you ideas, gives you
6 solutions, shows you what potential scenarios
7 are, shows you what the potential trade-offs are
8 and helps you find the appropriate solution to
9 your problem.

10 As much as buildings look alike, no
11 buildings are alike when it comes to solving
12 design problems.

13 MR. ZONIS: The Green Building
14 Council that you mentioned, is it their intention
15 to issue updates and state-of-the-art kind of
16 things as years go by and people come up with
17 these?

18 MR. SHERMAN: Yes. The reason the
19 Green Buildings created the LEED is to transform
20 the marketplace, to raise standards, to build
21 better buildings across the country. Currently,
22 LEED is at a version of 2.0, the second release,
23 they are working on 3.0, as more buildings come
24 on line that are high performance that are green
25 and sustainable and technologies are continuing

1 to be improved, U.S. Green Building Council is
2 continuing to raise the bar and saying we want
3 better, we want more innovative buildings that we
4 can prove on a national level that these
5 buildings are economically and technologically
6 viable and now we are going to continue to push
7 the envelope. LEED is a continuing evolving
8 rating system, and the nice thing is U.S. Green
9 Building Council is essentially made up of very
10 diverse groups, it's not a regulatory agency, it
11 is totally a consensus driven organization made
12 up of manufacturers, made up of government
13 manufacturers, private industry, public industry
14 and so the consensus of where they are going is
15 very strong and very careful.

16 DR. BIELORY: A quick question.
17 Everything in there is nice and dandy, what is
18 the impact of the health when I hear all this,
19 quite honestly, the more, the tighter the
20 building, the higher the health issues as well.
21 I know the breathability of the building has
22 increased, but the only way you open a building
23 now is throwing a brick through the window.
24 That solves energy issues as well, but on the
25 other hand, regarding health and exposure,

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1 allergies. I don't hear a health factor in the
2 LEED's assessment.

3 MR. SHERMAN: I will say that LEED
4 doesn't directly address human health factors.

5 DR. BIELORY: You have a healthy
6 building but I am not sure about the individuals
7 working in the building.

8 MR. SHERMAN: One of the positions
9 of LEED is that a building that has superior
10 indoor lighting quality, air quality is creating
11 a healthy, more productive place to work. Those
12 kinds of studies, the studies of productivity of
13 worker decreased absenteeism, those things are
14 actually currently in the process because it's
15 only been within the past six or seven years that
16 a lot of these buildings have come on line. But
17 there are studies out there, they are activity
18 being done that are looking at specific
19 cost/benefit issues to companies in terms of
20 overall productivity, reduced absenteeism,
21 reduced liability, and a lot of the bottom line
22 issues, at least from an economic point of view
23 that affect worker well-being in the workplace.

24 MR. BAKER: My name is Bill Baker.
25 I am with the EPA in New York. What I am going

1 to talk about is a little different, I am going
2 to talk about EPA approaches to innovations
3 specifically in its air programs. My remarks
4 are generally divided into two types, I am going
5 to talk about innovations in general, and then I
6 will cite specific examples of innovative
7 programs that we are employing in EPA.

8 My first slide gets into the former,
9 "Why Innovations," and I have a number of reasons
10 which I will get to in a second.

11 Yesterday, I was reading something
12 and I came up with another reason for innovations
13 which applies directly to a regulatory agency and
14 it is a quote from a man named Allen Watts who, I
15 have to admit, I have not heard of in a book or
16 paper, the quote is that: Government which is
17 run extensively for the good of the people is a
18 self-serving corporation. To keep things under
19 control, it proliferates laws of ever increasing
20 complexity and ever indelagatibility and hinders
21 productive work by demanding so much accounting
22 on paper that the record of what has been done
23 becomes more important than what actually has
24 been done.

25 And I can't think of a better reason

1 for innovations than that. I don't know if that
2 is true but to the extent that it is true, I
3 think it is a good reason for innovations.

4 "Why Innovation"? One reason is
5 the changing nature of the economy, things are
6 happening a lot more rapidly now than they used
7 to in the economy, and industry needs the ability
8 to implement things on a rapid basis. They need
9 the ability to change product lines quickly and
10 sometimes to even change the product if they are
11 manufacturing quickly. And if they have to wait
12 for government to catch up, then it slows down
13 the economy.

14 One of the things that the
15 Commissioner alluded to this morning is the fact
16 that there are scarce resources, and this is
17 true, there are scarce resources in government
18 and getting scarcer. We need to use the
19 resources that we have more efficiently. When
20 you have government involved in the
21 decision-making, that again requires resources
22 for that involvement. So, to the extent that you
23 can provide flexibility as government officials,
24 that is the extent that you have to use lesser
25 resources in order to manage the program.

1 We have a new understanding of the
2 environmental problems that we have. I think we
3 found out that we have a bigger job to do and it
4 is a more complicated job, and in order to do
5 this job, it is going to require creativity, in
6 other words, creativity is innovation.

7 We also have an obligation to get
8 the most results at the least cost, and that is
9 certainly true of the private sector, but also
10 true of government. Again, it comes back to
11 doing things more efficiently and more
12 effectively. I guess the bottom line of why we
13 are interested in innovations is that the current
14 system will not and maybe did not achieve the
15 results that we wanted. While we did achieve
16 results, we didn't completely achieve those
17 results. For example, some of the problems that
18 we identified back in 1970 are still with us.
19 We can't keep doing things in the same way that
20 we have been doing them. We have to try to do
21 them in new and innovative ways.

22 "What Is Innovation." Here is one
23 definition: An aptitude where you view your job
24 as a problem-solver and not just as a program
25 implementor. This goes back to the Allen

1 Watts's quote that I started with, that was a
2 quote of a government that was made up of program
3 implementors and not problem-solvers.

4 Ways of being innovator is trying to
5 use the best tool to solve the problem, to
6 constantly improve the tools that you have, to
7 invent new tools where the old ones aren't
8 working. And also, and this was alluded to by
9 someone earlier, being willing to take
10 intelligent risks. We're trying to do this at
11 EPA and in a number of ways; one way we are doing
12 the air program is we are citing examples that we
13 find not only in the air but other media within
14 EPA of innovative thinking to bring this forth to
15 the staff. And in addition, we are developing
16 and putting on workshops, again, you try to
17 develop the ability to think innovatively and the
18 staff people, the people that are actually doing
19 the work in the agency.

20 Now, I'm going to run through some
21 examples of innovative programs that are in
22 existence. I have 11 examples, and I am not
23 going to go through all of them in detail but
24 they break down into four categories, Market
25 Based Regulation, Partnership Programs, Voluntary

1 Programs and Information Based Programs.

2 I guess the prime example of a
3 market based program which some of you may be
4 familiar with is the acid rain program, this was
5 a program mandated by the '99 Clean Air Act and
6 became the model for these type of market based
7 programs. What it did was set a goal for
8 reducing the precursors to precipitation,
9 nitrogen dioxides and allocated the reductions
10 among the large emitters and each year they are
11 given a certain amount of credit that was set as
12 a baseline, and if they go over that credit, they
13 have to buy, as a commodity from someone else and
14 if they actually come in under their target, they
15 can sell. And each year there is a summing up
16 to make sure that the target was reached. So a
17 lot of programs have been modeled on that.

18 One program is the stratospheric
19 ozone program. This was a program that was
20 mandated by the 1990 Clean Air Act, it was a
21 program to phase out chloroformic carbons by the
22 year 1996 and each manufacturer in this program
23 was given a target for the phase-out while it was
24 allowed, again like the acid rain, to trade with
25 other manufacturers.

1 What is interesting, and it is an
2 example of why these innovative programs can be
3 economical, in 1990, Clean Air Act was being
4 developed, an estimate was made as to what it
5 would cost to implement this type of revision,
6 and what they looked at was a 50 percent
7 reduction in chloroformic carbons from a certain
8 base and they were looking for that reduction to
9 occur by 1998, 50 percent by 1998. What they
10 estimated was that it would cost \$3.05 per
11 kilogram of CFC reduced. Now contrast that with
12 what the actual cost of the program was and here
13 we are actually looking at 100 percent reduction,
14 twice the reduction than in the first estimate
15 and it occurred two years earlier, in 1996. But
16 yet, the cost came in at \$2.45 per kilogram
17 reduced, contrasted to \$3.05 which was estimated.
18 So quite a bit cheaper, got more reduction and
19 got it sooner.

20 I am going to talk about
21 "Partnership Programs." An example here that I
22 choose to speak about is the Ozone Transport
23 Assessment Group, I take it some of you may have
24 heard of this. This was a consortium of states,
25 EPA, industry academics and non-governmental

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1 organizations that was formed in 1995 to examine
2 the ozone question. There were actually 37
3 states involved in this and it was the states,
4 all the states east of the Mississippi, and the
5 idea was to try to understand the ozone program
6 better to come up with a common understanding of
7 the program. I believe this group met from 1995
8 through 1997, and I think most people think that
9 actually it was quite successful. Actually, one
10 of the things that it led to was something that
11 was issued by EPA, which was a directive to the
12 states that were contributing to the ozone
13 problem, particularly the ozone problem in the
14 Northeast to reduce their emissions to a set
15 level.

16 The main thing was that the people
17 that participated in this, and particularly the
18 states, came out with appreciation for the fact,
19 the nature of the ozone problem, and the fact
20 that it is a national problem and it wasn't just
21 a local problem and the fact that states quite a
22 distance from the place that we were measuring
23 problems were actually contributing to them.

24 "Voluntary Programs." There are a
25 number of things, one is that is important to New

1 Jersey, the Radon Program, we talked a lot about
2 indoor air quality and this is a big indoor air
3 quality problem in New Jersey. It is a
4 voluntary program and one that encourages
5 homeowners to have their home tested for radon
6 and where a radon problem is found, to take
7 immediate action in their home to get rid of the
8 problem.

9 New Jersey, as many of you know, New
10 Jersey has a lot of areas that are subject to
11 this type of problem and it's been quite
12 successful. I know that problem areas in New
13 Jersey, 50 percent of the homes have been tested,
14 and that's remarkable if you think about it for a
15 voluntary program.

16 Another one I want to talk about
17 which has actually been alluded to earlier is the
18 EnergyStar Program. This is a voluntary program
19 which offers businesses and consumers
20 energy-efficient solutions, and these solutions
21 not only save money, but they obviously also
22 protect the environment by producing more
23 energy-efficient goods. And this EnergyStar
24 Program has gotten to a lot of the commercial
25 sector and you probably notice the EnergyStar

1 label on a lot of things you buy, now covers new
2 homes, residential heating and cooling equipment,
3 major appliances, office equipment, lighting,
4 consumer electronics and most of the building
5 sector.

6 These are examples of "Information
7 Based Programs." AIRNOW provides air quality
8 information. Sunwise provides information to the
9 HUB UV radiation, kids get them and cover up when
10 they go out in the sun and use sunblock and the
11 Green Vehicle program. This is an EPA website,
12 the address is www EPA dot Gov, forward slash,
13 one word, greenvehicles. And what this site
14 does is it rates new cars and trucks according to
15 their emissions and fuel economy. This was
16 begun back in October of 2000, but it is an
17 interesting site because it uses a 10 point scale
18 and allows you, if you are shopping for different
19 vehicles, to compare similar types of vehicles
20 and so if you want to base your decision on fuel
21 economy and pollution, you can do so.

22 We talked about some of the things
23 that were done; more needs to be done, and one
24 way of getting things done is to make innovations
25 the way of doing business. And what I mean by

1 this is that instead of being a specifications
2 where sometimes you look at innovations and try
3 to come up with your solution, it should be the
4 norm. In order to do this, we need to use
5 existing tools that we have, we have to develop
6 new ideas and work with others on their new
7 ideas.

8 And the last point is sort of the
9 advertising part of the message here and that is
10 that we have to make the case for innovations and
11 who do we have to make this case to? Well, we
12 certainly have to make it internally within EPA
13 which we are doing. We have to make it to the
14 states. In the case of New Jersey, obviously we
15 don't have to do that because the Council was
16 well aware that it wants innovations and we have
17 to make it to the public and to people like the
18 environmental community who a lot of times pushes
19 us in new directions, but sometimes are reluctant
20 to go in this new direction because they are
21 concerned that there may not be the control that
22 there was in the past.

23 The ability to take a risk has to
24 exist not only in government but has to exist
25 outside of government, which gets me to this

1 slide here which shows that there are sometimes
2 conflicting objectives when you are dealing with
3 innovation. One, that we face is the objective
4 of focusing on a group of priority programs and
5 applying innovations to those priority programs
6 as opposed to using the resources that we have to
7 trying to spread innovations throughout the
8 entire organization.

9 Another one, a second one there, is
10 increasing flexibility and when you do that,
11 sometimes you are decreasing accountability, so
12 there is a balance there between providing for
13 that flexibility but still maintaining the
14 oversight and approval you need to keep proper
15 oversight of the program.

16 There's the tendency to want to do
17 new things and contrast that with keeping the
18 base program which you may have going and may be
19 going well, and keeping that in existence. You
20 know the old saying about "If it's not broken,
21 don't fix it," and you have to be able to
22 determine if something is going to be improved
23 through innovations or are you just going to do
24 something different, you know, without much
25 benefit.

1 And finally, it is being able to do
2 things faster versus the desire to involve
3 stakeholders in what you are doing. The fact of
4 the matter is the more people you get involved,
5 the more opinions you solicit, the more time it
6 takes so there can be that conflict there.
7 There are a number of things going on in EPA that
8 are considered to be innovative, I don't have the
9 time to go into these, you can read them up
10 there. There's a list there, there's more
11 programs that we have that are innovative.

12 I just want to talk about two areas
13 that we are moving into where we are applying
14 these techniques which are on the horizon. One
15 is something called Green Airports. Airports,
16 it is becoming apparent that airports are a
17 greater source of air pollution than we once
18 thought they were. In the past, we focused on
19 aircraft themselves. It turns out that the
20 ground operations at airports are polluting and
21 so we are looking more and more at those ground
22 operations and ways of regulating them and
23 controlling them, and ways of doing this so that
24 it will be looked at and apply innovations,
25 innovation to the problems, stuff that we talked

1 about before.

2 Another concept is General Permits
3 or Self Certification. This is done in
4 Massachusetts, they have what is called a
5 Massachusetts Environmental Results Program and
6 what this is, this is aimed at permitting of
7 small sources, not things like power plants or
8 refinery, the smaller sources like a dry-cleaner
9 or gasoline station and what it does is it
10 provides the owner of the business with a
11 workbook that the owner can go through on a
12 step-by-step basis and assess the problem and
13 also can determine whether the business is in
14 compliance with pollution laws. And it also,
15 the workbook, describes necessary control actions
16 that need to be taken and how they can be taken.

17 So, again, this sort of moves
18 government away and allows for self certification
19 and what you have to do, like the IRS does with
20 taxes, you have to do random checks and audits to
21 make sure things are done properly, but it gets
22 you a lot more compliance a lot more rapidly than
23 you otherwise would.

24 Thank you.

25 CHAIRMAN MAXWELL: Mr. Baker, thank

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1 you very much. Every year just about you come
2 down to Trenton and you always bring something
3 good and useful and relevant and you have done it
4 again and we appreciate that.

5 I think we'd like to try, in the
6 interest of time, try to limit our questions
7 here, if we could.

8 DR. BIELORY: Actually, you skirted
9 over something that I thought the Clean Airplane
10 Council has performed, actually a symposium with
11 schools and actually from our preliminary report
12 was quite successful. You have indoor air
13 quality for schools, IAQ, it is an instrument
14 already in use, how successful, can that be an
15 indication for the young future leaders, that is
16 who is going to try the legislative pool, I don't
17 know how much arm-twisting I can do now, but the
18 future is to train the right people in the right
19 frame of mind.

20 MR. BAKER: That is tools for
21 schools. That is aimed at the Board of
22 Education or the administration, and it is a way
23 to get people who are responsible for the
24 building to go in and assess indoor air quality
25 issues in the schools and get them corrected.

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1 DR. BIELORY: How successful has that
2 been.

3 MR. BAKER: My understanding, fairly
4 successful, a voluntary program.

5 What you may have been getting at
6 with the question, you said something about
7 educating students. I don't have this listed
8 here, but actually there is a project that is
9 near and dear to my heart, one that I brought
10 down this area of the country, started in New
11 England, and we are going to be taking it
12 nationally where we are actually developing a
13 curriculum for use in middle and high schools to
14 teach students about air quality issues, and this
15 is being developed under contract by Pace
16 University, and we should have something out in
17 the fall on that.

18 DR. BIELORY: Is that similar to
19 toxic study?

20 MR. BAKER: This is more general
21 air pollution information.

22 MR. SPATOLA: Bill, in the interest
23 of encouraging and promoting innovative
24 technology to the various state agencies when
25 they are involved in permits and in the process,

1 does EPA expect to do any of those guidance
2 documents to try to bring this sort of thing that
3 is happening at the high school level throughout
4 the 50 states; what is going on in that aspect,
5 if anything?

6 MR. BAKER: I apologize, I raced
7 through it, there are actually a couple things up
8 there that addresses that question. We have two
9 guidance documents out there on voluntary
10 programs, one for the mobile source area, cars
11 and trucks, and the other for the stationary
12 source area which allows states to develop
13 controls in these two areas on a voluntary basis
14 and actually take credit for them in their state
15 implementation or clean air plans. And there's
16 actually a guidance document being developed that
17 is more general on how-to-build themes.

18 MR. O'SULLIVAN: You mentioned
19 Clear Skies. I really like your definitions of
20 innovations and your points about improving of
21 old tools and creating new tools. And you listed
22 as one of EPAs innovations the acid rain, the
23 commission program and that is getting to be over
24 10 years old, so that is now old and Clear Skies
25 is building on that old tool. In some respects,

1 Clear Skies has been a success, other respects
2 it's been a lightning rod for criticism. In
3 particular, it has failed with respect to local
4 air quality impacts, there's been national
5 reductions, yes, but in many cases as several
6 environmental groups have pointed out, a majority
7 of the coal plants in this country have decreased
8 their emissions and local quality air impact
9 have gone up. And we have an example right here
10 in New Jersey, that is near the Warren County the
11 plant where no control, relying on acid rain and
12 emissions, have been going up over the years.
13 My question: Is this an old program, yes, it was
14 innovative 10 years ago, it is an old program, we
15 have an opportunity to improve this old tool and
16 actually we have an obligation, I think, to
17 improve this old tool, particularly in the area
18 of local air quality improvement. What is EPA
19 doing in this area to take the new Clear Skies
20 program and change and build upon, innovate on
21 the old acid rain program.

22 MR. BAKER: Let me make sure that
23 people understand the two programs we are talking
24 about. We are talking about an acid rain
25 program which, as you correctly pointed out, has

1 been around now for over 10 years, and I think
2 has been deemed to be a successful program. This
3 is the one that uses emission credits and allows
4 trading of these credits like a commodity and
5 that has achieved the goals that was set for it
6 in reductions.

7 The Clear Skies program is actually
8 not yet in effect. This is a program that has
9 been promoted by EPA in order for it to be
10 implemented, there is some congressional action
11 that would be required, so the program has been
12 sent to the committee that is dealing with energy
13 matters. And I think it would be good idea to be
14 built into some sort of legislation. What it is
15 designed to do is to reduce sulfur dioxides,
16 nitrogen oxides and mercury, and it does this
17 similarly to the acid rain program by setting a
18 cap on each of these pollutants. It is aimed at
19 power plants as is the acid rain programs, and it
20 requires that these reductions occur in a certain
21 time frame.

22 As Bill pointed out, the program has
23 been a lightning rod for criticism on a number of
24 fronts, and for a number of reasons. I think it
25 is the position of EPA that the program, as

1 designed, if it is implemented, if Congress
2 adopts it as it is designed, that it will achieve
3 reductions faster and will achieve greater
4 reductions than if we continue implementing the
5 Clean Air Act as it is now structured. Keep in
6 mind that the last time the Clean Air Act was
7 amended was in 1990, and that amendment was 15
8 years in the making and corrected a lot of
9 problems with the older version of the Act. Ten
10 or 12 years from 1990 and the Act has become
11 stale. This is an attempt on the part of the
12 administration to inject some new things into
13 some new techniques and like I said, it is
14 believed that it will be more efficient and more
15 effective doing it that way. You can give me
16 reasons why it wouldn't and we can sit here and
17 debate it, but that's what the agency's positions
18 are, and there are people who feel otherwise.

19 MR. O'SULLIVAN: A lot of the
20 details haven't been released and we look forward
21 to that, in particular with respect to how the
22 new commissioner's training program will address
23 the local air quality impacts.

24 CHAIRMAN MAXWELL: Okay, thank you
25 very much.

1 (Recess.)

2 COUNCILWOMAN MILLER: My name is
3 Alison Miller. I am a member of the West Windsor
4 Township Council and a certified planner. I
5 have come here to speak on behalf of the New
6 Jersey State League of Municipalities to speak
7 about how the State Plan affects air quality.

8 Everybody wants clean air. Nobody
9 can fail to support the State Plan's goal of
10 meeting the provisions of the Federal Clean Air
11 Act Amendments of 1990 and involving local
12 governments in that effort. But problems can
13 arise when specific strategies are devised to
14 implement the most laudable of goals; and when
15 problems arise for local governments, they turn
16 to the League of Municipalities for help.

17 The league is a voluntary,
18 non-profit association of local governments in
19 New Jersey. All of New Jersey's 566
20 municipalities are members of the league. This
21 is very important to us because they are not
22 required to be members. They choose to be
23 members because the league serves as the eyes and
24 ears of local officials; mayors, council and
25 committee members, administrators, managers,

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1 municipal clerks, attorneys, engineers, code
2 officials, planning board members and everyone
3 else who participates in local government.

4 The league's annual conference in
5 Atlantic City is the largest annual municipal
6 conference in the United States and possibly in
7 the world. It is filled with hundreds of
8 educational sessions and exhibitors and is an
9 extremely important resource for local officials
10 who want to do their jobs well. The league also
11 does independent research on issues of importance
12 to local governments, holds hundreds of seminars
13 throughout the year, lobbies the State
14 Legislature on issues ranging from land use to
15 tax reform, and generally strives to protect home
16 rule, to improve the efficiency and effectiveness
17 of local government and to look out for the
18 interests of all taxpayers.

19 The State Plan, which the League of
20 Municipalities has studied most carefully
21 recognizes "the deleterious impacts of both ozone
22 and carbon monoxide pollutants caused by traffic
23 congestion in regional and local
24 plans." (Statewide Policy Structure, Section
25 B.11.Policy 4). Its proposed solution is to

1 alter land use patterns, promoting "center-based
2 land use patterns that reduce automobile
3 dependency, shorten automobile trip lengths and
4 encourage use of alternative modes of
5 transportation." (Policy 3) Implementation of
6 this policy falls directly in the laps of local
7 governments.

8 The League of Municipalities has a
9 reputation in some quarters being ineluctably
10 opposed to the State Plan. Municipalities are
11 seen in these quarters as obstructionists. In
12 the words of a February 3, 2002 Trenton Times
13 editorial:

14 "The New Jersey League of
15 Municipalities never has been a big booster of
16 the Plan, seeing it as a threat to home rule, a
17 principle which the League holds in high regard,
18 sometimes excessively so."

19 Because of the deserved influence of
20 the Trenton Times, the League felt compelled to
21 respond in a letter to the editor from the League
22 Executive Director:

23 "A review of recent history would
24 reveal that the League, in fact, was, and is, an
25 enthusiastic supporter of the State Plan and the

1 cross-acceptance process. We have grown weary of
2 the implementation of the Plan in recent years,
3 particularly when different state agencies send
4 out mixed messages, and when state government
5 chooses not to side with New Jersey's
6 municipalities when they have attempted to curb
7 sprawl."

8 In ther words, the League supports
9 the goals and objectives of the State Plan; they
10 are laudable and worthwhile. The League
11 supports the inclusory dialogue that is the
12 cross-acceptance process. On the other hand,
13 the League does not support attempts to mandate
14 the Plan, to erode home rule and to take away
15 land use decision making from those who live in
16 our communities.

17 Because New Jersey is as densely
18 populated as it is (more densely populated than
19 the Nation of India) efforts to reduce traffic
20 congestion are to be applauded. There are two
21 new Light Rail Lines in Northern New Jersey, the
22 award-winning Hudson Bergen Light Rail, which
23 serves an estimated 8,750 passengers per day, and
24 the Newark City subway system, which serves an
25 estimated 14,000 passengers per day. A third,

1 the Southern New Jersey Light Rail, which will
2 run from Trenton to Camden and serve an estimated
3 4,500 passengers per day, is scheduled to open
4 next year. New Light Rail Systems are an
5 illustration of the State Plan working well.
6 They have succeeded in getting some people to
7 switch transportation modes. It is too soon for
8 studies to tell if they have succeeded in
9 lowering air pollution generated by traffic
10 congestion to any measurable extent. It will
11 also be interesting to compare the journey to
12 work modal breakdown in the 1990 census with that
13 in the 2000 census when those numbers become
14 available later this year.

15 The new interest in Light Rail is an
16 example of the State Plan at its most effective.
17 Cooperation among the state, local governments
18 and regional associations produced projects which
19 furthered the goals and objectives of the Plan.

20 The region in which my municipality,
21 West Windsor, is located does not have sufficient
22 density to support Light Rail, even if it
23 achieves full build-out. This has been
24 demonstrated in a recent analysis by the Central
25 Jersey Transportation Forum. It does, however,

1 have sufficient density to support massive
2 traffic congestion. (West Windsor straddles
3 Route One in Mercer County, and is bounded by
4 Princeton Township to the west, Plainsboro and
5 Cranbury Townships in Middlesex County to the
6 north, East Windsor and Washington Townships to
7 the east and Hamilton and Lawrence Townships to
8 the south.)

9 And to compound the problem, the
10 region has been developing and is continuing to
11 develop at too swift a pace for its
12 infrastructure capacity to absorb. This is
13 especially true of the Route One corridor in West
14 Windsor.

15 The State Plan, for its part, seeks
16 to concentrate growth into high-intensity,
17 mixed-use areas, the so-called newer suburbs,
18 the places where development pressure is greatest
19 and would be greatest absent the Plan. The
20 State Plan has classified the Route One corridor
21 in West Windsor an "existing regional center."
22 In other words, the State Plan calls for new,
23 dense mixed residential and commercial
24 development in West Windsor in the vicinity of
25 Route One.

1 However, the Route One corridor no
2 longer consists of farms and hamlets ripe for
3 development according to the latest logical
4 planning theory. Its prime location has already
5 created build-up though not yet build-out, in the
6 traditional automobile-dependent suburban sprawl
7 pattern. Local officials like me cannot put on
8 our thinking caps, consult the State Plan and
9 design communities that will improve air quality
10 by reducing congestion by an auto-dependency. We
11 have to try to retrofit the existing development
12 into a new pattern, and the State Plan does not
13 help us.

14 First, we have a large constituency
15 which likes sprawl. They choose to live
16 auto-dependent lives in large-lot, single-family
17 homes. They don't want mixed use. Many of
18 them are two-earner families who have chosen to
19 locate midway between the two jobs. Many of them
20 expect to change jobs frequently, so a walk to
21 work just now is not a big part of their location
22 decision. And the development community and the
23 lending community see this and make their
24 investment decisions accordingly. People who
25 locate to West Windsor come primarily to send

1 their children to our excellent schools. That
2 creates pressure on us local officials to keep
3 the school excellent by limiting their growth and
4 providing ratables to support them. We try to
5 control property taxes by welcoming commercial
6 growth while discouraging residential growth.
7 Mixed use is problematic.

8 Second, we must either make use of
9 the existing road network to support the
10 increased density called for in the Plan or build
11 new roads. However, given the existing
12 development, building new roads or widening old
13 ones, means, for the most part, destroying
14 existing neighborhoods.

15 The State Plan gives no guidance on
16 retrofitting classic sprawl into mixed used when
17 the homes and businesses and developers are happy
18 with what is already there. But building new
19 mixed-use development, no matter what burden it
20 places on the schools and the roads and the
21 taxpayers, is the only solution offered by the
22 State Plan to problems caused by traffic
23 congestion in places like West Windsor.

24 The State Plan can help guide
25 development and redevelopment into centers. It

1 can encourage regions and localities to provide
2 and commuters to rely more and more on public
3 transportation. It can promote environmental
4 protection policies that will lead to cleaner air
5 and cleaner water, and it has. But it will take
6 more than planning policies to reach the clean
7 air goals for New Jersey articulated in the State
8 Plan. It will take money. It will take funding
9 of infrastructure improvements. It will take
10 adherence to tougher and more expensive pollution
11 standards. It will take the best efforts of
12 housing advocates and growth advocates and
13 preservation advocates. It will take cooperation
14 of private and public sectors, and it will take
15 an unprecedented level of commitment at all
16 levels of government, local, state and federal.

17 Thank you.

18 CHAIRMAN MAXWELL: Thank you very
19 much. That is very thoughtful, and I was
20 thinking how many hours I have spent in your
21 lovely township.

22 COUNCILWOMAN MILLER: How nice.

23 CHAIRMAN MAXWELL: Any questions?

24 MR. FEYL: I have one observation. I
25 think as we look at plans and what's happened in

1 the past, sprawl is largely a function of what we
2 tried to do years ago in controlling density.
3 As we upzoned two, five, and 10 acres, we ended
4 up with far more homes and infrastructure on
5 larger tracts of lands. Instead of vamping
6 local options and controlling our expansion to
7 stay through the State Plan and you, through
8 other legislation, takes away that local
9 oversight such as BOGA codes, the residential
10 site improvement standards, locally we can work
11 with development and do what is the right thing
12 for the community based on community standards as
13 opposed to diluting those standards as the State
14 Plan in many cases does and legislation and other
15 regulations does, being overlaid over the entire
16 state.

17 I think we have to be offshoots as
18 we implement plans that have a State Plan.
19 Innovation is stripped when you start overlaying
20 statewide mandates. You can do creative things
21 locally, but you can't do those things without
22 any funding. There again, it goes to the
23 infrastructure issue, the school issue, the
24 property tax issue, who are paying for these
25 things that are now mandated by a state overlay.

1 I had to amplify what was said.

2 COUNCILWOMAN MILLER: Thank you, it
3 is nice we're in agreement.

4 DR. MANGANELLI: I'd like to add a
5 note of disagreement. When you talk about plan,
6 immediate plan is more of a regional because
7 after all, planning doesn't add to our
8 communities' borders, and you have 566
9 communities in this state of ours, some of them
10 are big, some of them are small. And so
11 consequently you are going to have a conflict.
12 And you keep mentioning about home rule and this
13 home rule is one of the things that tends to
14 destroy good planning because each one has their
15 own agenda to keep, and I don't see how you can
16 have a good statewide plan, have a good idea of
17 reducing sprawl or reducing densities and still
18 maintain this home rule. And the specific agenda
19 I would like you to address this with regard to
20 home rule versus a good statewide plan.

21 COUNCILWOMAN MILLER: Well, from the
22 point of view of a local official, it is not so
23 much home rule but home responsibility. If you
24 are going to try to regionalize planning, you
25 have to regionalize everything else; you have to

1 regionalize funding, you have to regionalize
2 school funding and there have been problems with
3 regionalizations schools in the past. We want
4 to keep up the quality of education, that's why
5 New Jersey is such a good place where people want
6 to live because so many of our suburbs have
7 wonderful school systems.

8 We look at the property tax system
9 as the key to our responsibility, and as long as
10 we are responsible for the fund, we local
11 officials feel we should be responsible for the
12 decision making.

13 I was thinking, as I listened to the
14 last two speakers, of what questions I would be
15 asked, and I was thinking that I would be asked
16 about mixed use in West Windsor which I have
17 explained the difficulties of, and I thought
18 someone would say, well, what would it take you
19 to consider mixed use instead of have pure
20 commercial ratables. And the answer is massive
21 funding, not a Smart Growth grant this year and
22 then the right to apply for a grant next year and
23 then a little help for the schools the year
24 after. But think years of commitment up front,
25 to the costs, to the community of the extra

1 residents, especially the young ones needing
2 education. And I think that if the state and
3 the region were to develop innovative
4 revolutionary funding programs to back up their
5 wish for mixed use, you'd see an awful lot of it.

6 MR. ELLISTON: John Elliston with
7 the Department of Environmental Protection. A
8 question and then a comment on the area with this
9 as well. It is my understanding that the
10 Council is planning to have a meeting at the
11 League of Municipalities this year.

12 CHAIRMAN MAXWELL: Yes, we are, in
13 November.

14 MR. ELLISTON: Maybe some of this
15 dialogue can continue at that time because it's a
16 very good subject that should go forward and
17 Council will be at that meeting. My question is
18 if this hangs on the question of planning, at one
19 time I heard that there were several thousand --
20 goes to a question of 566 municipalities,
21 literally many thousands of miles of line
22 delineations along all the municipalities in the
23 state. You straighten them out one end to the
24 other and comes out to many thousands of miles.
25 And it is no secret that the municipalities tend

1 to zone their undesirable things at the borders
2 of their neighboring municipalities, and the
3 question that I have here is, is that good
4 planning? Because it kind of defeats exactly
5 the things that you are trying to talk about.
6 As a citizen of one community and I see what
7 happens in the next community and what they put
8 at their borders next to ours, it occurs to me
9 and occurs to many, many, many tens of thousands
10 of citizens month by month by month. How do you
11 address that issue.

12 COUNCILWOMAN MILLER: The way I
13 address it as a local official is to reach out to
14 all my neighbors and work with all my neighbors.
15 I take very seriously the municipal land use law
16 regulations, that we examine our master plan's
17 consistency with the master plans of our
18 neighbors. I think that joined mutual master
19 planning would be a good idea. What I don't
20 really like are some proposals for non-mutual
21 master planning, that is community A has not
22 developed on its border, community B has, but it
23 was a long time ago, community A wants to
24 develop on B's border, community B wants to have
25 some of kind of say on this. I think what we

1 need to do is address borders mutually and work
2 together.

3 Now, we do have 566 municipalities,
4 but there's an awful lot of steps towards
5 consolidation, there's mutual school districts,
6 of course, but we have different proliferation of
7 those, there are 611 of them. I don't know
8 exactly the number; West Windsor has a joint
9 Health Department with two of its neighbors.
10 Many other municipalities are reaching out across
11 the borders, and there are incentives to study
12 consolidation, and when I was first elected,
13 there were 567 municipalities so progress has
14 been made.

15 MR. McCARTY: This goes back to the
16 league, is there a way for the league to actually
17 participate and coordinate municipalities working
18 together on these planning issues; if you don't
19 want the outsider to come from the top, do you
20 know, is there a way for the league to work
21 within its own membership to coordinate this
22 planning across families of adjoining
23 municipalities?

24 MR. FEYL: If I might address that,
25 however, because it becomes so regional in

1 nature, I believe that the counties have done a
2 great job of coordinating the regional plan or
3 the State Plan. The State Plan has really
4 fallen for the counties to coordinate, and I
5 think they have done an effective job of that.
6 There are boundary issues that the county can
7 address and there is regional planning. But I
8 think the suggestion of having the panel at the
9 league addressing the State Plan and the various
10 pros and cons would be outstanding for November,
11 not necessarily this meeting at the league that
12 we have talked about before but having a man
13 necessarily have those who have a stake in what
14 happens at the State Planning.

15 On the home rule, you live where you
16 live because you like the character of the
17 community. I live where I live because I like
18 the character of the community, I pay outrageous
19 taxes and you may pay outrageous taxes, that is
20 your choice and that is your right, that is the
21 home rule, our right to choose where we live in
22 this state or anyplace else in the United States.
23 Once we overplay the same color signs, we lose
24 our individuality as community.

25 CHAIRMAN MAXWELL: Thank you very

GUY J. RENZI & ASSOCIATES

1 much, that was great.

2 (Recess.)

3 MR. DELLA FAVE: My name is Joseph
4 Della Fave. I am from Newark, I reside in
5 Hoboken, but I am the executive director of
6 Ironbound Community Corporation which is a
7 34-year-old community services organization. And
8 one of the people we have worked with in the past
9 is Bill Imprezzi, who is a member of your council
10 and asked me to come and share some thoughts with
11 you. I don't purport to be a clean air expert
12 of any sort.

13 Our organization is primarily a
14 social services one providing everything from
15 child care to Meals on Wheels with a number of
16 things in between including teen pregnancy
17 programs as well as children's asthma programs
18 and adult education, et cetera.

19 Our concern about clean air stems
20 primarily with our work with children and health
21 issues and what apparently the quality of the
22 environment in Ironbound contributes to in the
23 way of their health. I would like to give you a
24 little context from where our comments are coming
25 from in terms of what our community looks like

GUY J. RENZI & ASSOCIATES

1 in Newark and in the Ironbound section.

2 The Ironbound gets its name from
3 historically being surrounded by railroad tracks.
4 It is that part of New Jersey which borders on
5 the Passaic River, Newark Bay and is surrounded
6 by the Amtrak train line on one side, Routes 78,
7 One and 9, the turnpike around it. Along the
8 Amtrak lines is Route 21, a major entry and exit
9 way to Newark and the Passaic River is Raymond
10 Boulevard. Essentially, we are surrounded by
11 major highways which obviously would contribute
12 to air pollution within the community. It is
13 also an extremely congested community, about a
14 mile square with about 50,000 people within that.
15 From that, you might be able to surmise that
16 there's tremendous traffic and parking congestion
17 within the community as well. That type of
18 congestion, obviously, would also contribute to
19 the air quality in the community.

20 Surrounding that immediate
21 community, immediate residential community, is a
22 great deal of manufacturing, between One and 9
23 and the Newark Bay, between South Street, a
24 borderline street that sort of divides the
25 residential from industrial all the way to Newark

1 Airport. Many of those industries are both
2 chemical industries as well as trucking
3 industries. So, in many ways, we are sort of
4 trapped in this community surrounded both from
5 within and without, air pollution being emitted
6 from vehicles and factories. In addition, we
7 also house the state's largest garbage
8 incinerator within the community.

9 For those of you who have done work,
10 Department of Environmental Protection, would
11 know it is the site also for the major Super Fund
12 site, the Diamond alkaloid site which is the
13 major, as well as known contaminants sites on the
14 Department of Environmental Protection list.

15 There are two public parks,
16 recreation sites, which have been closed due to
17 contamination for a number of years now and that
18 kind of gives you a brief context from which we
19 look at the issues of environmental quality and
20 clean air.

21 I asked my staff to give me a list
22 of things that would contribute to cleaning up
23 the air somewhat within the community, and I
24 wanted to read that to you. Just go through it,
25 and then focus on a couple of these, if I could.

GUY J. RENZI & ASSOCIATES

1 Reduce auto traffic and trucking by providing
2 alternative support for mass transportation.
3 Subsidize both passenger and freight
4 requirements, encourage barging at all ports,
5 strengthening the SUV acts, diesel trucks and
6 cars should have to meet the same standards.
7 Enforce factory emission standards. Focus on the
8 polluted areas, urban areas, stop putting
9 transfer stations, et cetera and dealing with the
10 environment issues which are related, put money
11 into urban parks, especially highly polluted
12 areas. Provide funding for massive tree
13 planting, stop developers to build housing with
14 concrete where nothing can grow.

15 I am going to touch on a couple of
16 those. Before I do, I want to say that our
17 community is currently engaged in a planning
18 process, developing a neighborhood master plan
19 and one aspect of that master plan is a
20 recreation open space plan or element which is
21 one of the two roll-up maps that I brought. I
22 think I probably could explain it to you pretty
23 easily. One of the things that we are
24 confronted with in our community, and I am not
25 sure it is the case in all urban communities but

1 certainly within ours, we have one-half of an
2 acre of open space, of park space for every
3 thousand residents. There are about 28 usable
4 park acres in the community. The national
5 average in large cities such as Los Angeles, New
6 York, Chicago, et cetera, is about seven
7 and-a-half acres per thousand, so the disparity
8 is tremendous. I bring this up because parks
9 are not only where baseball fields are and
10 see-saws and things of that sort but also lots of
11 trees. In fact, we engaged in a struggle a few
12 years ago to save a public park which included
13 numerous 100-year-old trees, it was a homestead
14 design park, in order not to have that park
15 demolished -- demolished for a baseball stadium.

16 My point in a nutshell is simply
17 that in places like Ironbound, we need more
18 parks, we need parks that have trees, we need
19 trees. Obviously you guys know the data on this
20 better than I do, that certainly contributes to
21 the quality of good air by consuming pollution
22 rather than by emitting it.

23 So the policies that help us in
24 urban communities, expand parks, grow trees is an
25 important one as small as it may be.

1 Another aspect of our open space
2 plan is to create green corridors throughout the
3 community and the green corridors would do a
4 couple of things; they would connect people by
5 visual sightings to their parks, so this would
6 connect one park to another across the community.

7 Secondly, there would be trees
8 planted along these streets; again, something
9 small, but we think is important for places like
10 ours for the quality of life as well as the
11 quality of the air. And they would also be, by
12 virtue of their architectural design,
13 pedestrian-friendly and by doing that, we are
14 hoping to support people walking around their
15 neighborhoods as opposed to driving around their
16 neighborhoods.

17 Again, the types of policies that
18 support this type of neighborhood planning and
19 that type of redevelopment, if you would,
20 neighborhood improvements, I think, are extremely
21 important for places like ours.

22 Brown fields was mentioned. There's
23 been a tremendous amount of redevelopment in our
24 community which on the one hand we may say is
25 good, on the other, nearly all of it is

1 residential redevelopment on former industrial
2 properties. And nearly all of those industrial
3 properties are contaminated to one degree or the
4 another. The most commonly used, in fact, I
5 think it is the only used remediation tool has
6 been capping.

7 In addition, on the many other
8 problems this may cause down the line, obviously
9 capping is not allowed for the growing of trees,
10 let alone the growing in backyards. We are
11 getting housing developments which have a number
12 of problems, but this is one of them, the use or
13 the allowance by Department of Environmental
14 Protection for capping to be the remediation tool
15 on any one site I think has to be seriously
16 looked at when the accumulation of this means
17 that lots of contamination is left in the ground
18 across the community and trees are being
19 prohibited from being grown in order to green the
20 community. So, in both regards we don't think
21 this is a very healthy development. Naturally,
22 there are other issues involved with that. The
23 fact that development sites are being provided
24 with the approval to grow in such fashion as
25 opposed to being required to have on sizable

1 development proposals any type of open space,
2 included within that, is something which we don't
3 think is a good thing and it ties our hands
4 somewhat.

5 Municipal land use laws do not
6 currently permit, I don't think, a mandate to
7 have open space within sizable developments
8 within urban communities. And anything which
9 can address that issue would certainly be helpful
10 to communities like ours. We are looking for
11 well-planned redevelopment projects, and by
12 well-planned, we mean ones that contribute to the
13 quality of life in the community in all regards,
14 to their balance in both their economic and
15 social and in various other considerations, they
16 are balanced in the terms of the numbers of units
17 that they provide as well as the number of trees
18 and open space areas that they provide for kids
19 to play in. This we regard as smart and good
20 development as opposed to what we are seeing in
21 our community, which is what I had just
22 described.

23 Clearly, in places like our
24 community where many municipal budgets don't
25 allow for bus loops of any sort, budget

1 constraints don't allow for that, anything which
2 contributes to increase in public transportation,
3 the ability of people to get around through means
4 other than the private vehicles as we have in
5 such a congested community as ours would be very
6 helpful for us as well.

7 I would tell you that in our
8 surveys, in dealing with children's asthma in
9 our community, we find that, and this is
10 primarily anecdotal for your information as
11 opposed to any scientific study, we do know that
12 children's asthma and asthma episodes is the
13 number one cause for admissions into the local
14 hospital. Children's asthma is cited by school
15 nurses, teachers and principals in every
16 Ironbound school as to the number one cause for
17 children's absences. And we know in our own
18 pre-school that I think it is the last survey we
19 did, 50 percent of the poorest families in our
20 pre-school children in those families were
21 suffering from asthma. There are lots of things
22 that we do in order to help families dealing with
23 their asthma problems and to minimize the
24 triggers to asthma, both in the home and
25 elsewhere. But when people get out of their

1 house and into the air, there's not much more
2 that they can do. And I think that's where the
3 matter of providing good, clean air comes in, and
4 it is not just an environmental academic issue
5 but one which is extremely important for people
6 who live in communities such as ours,
7 particularly children who have astonishing asthma
8 rates and have to contend with that, and that is
9 one of the biggest impediments of their healthy
10 growth and development, not only physically,
11 emotionally and academically, if you are not in
12 school, you can't learn. So the relationship to
13 clean air to children's asthma to us is extremely
14 critical.

15 The last thing I would say is that I
16 also, I am a member, although by proxy, someone
17 else usually attends the Commissioner's
18 Environmental Equity Advisory Council, and I
19 think some good efforts were made on the Council.
20 We need stronger efforts that give communities
21 greater opportunities before and after approvals
22 are granted so that people's voices can be heard
23 and the types of problems that I am describing
24 can be heard and can be strongly considered when
25 the siting of facilities such as incinerators or

1 waste transfer plants or other types, or even
2 factories which emit a tremendous amount of
3 pollution are granted their approvals. The
4 current environmental equity process, more
5 dispute resolution process really does not allow
6 for that. So I would strongly recommend that
7 communities are fully informed and that
8 communities are given an opportunity to talk
9 about these things and, in fact, influence
10 decisions such as these.

11 I know science is important. There
12 is no question, though, that children's absence
13 from schools, even the academics, every single
14 principle is also extremely important in these
15 cases.

16 That's pretty much it for me. I
17 brought maps to show you some planning, et
18 cetera, but I don't really need to roll them out,
19 I will provide them to you. Thank you very much.
20 Unless you have any questions.

21 CHAIRMAN MAXWELL: Thank you, Mr.
22 Della Fave, you are a compelling speaker,
23 representative of the Ironbound area and we thank
24 you for making the trek down here. I am sure
25 that Council has a question, I have one question,

1 Ironbound, from whence does that name derive?

2 MR. DELLA FAVE: It derives from the
3 neighborhood itself being surrounded by various
4 railroad lines, the Conrail lines, the old Penn
5 lines, et cetera. You want me to roll a map on
6 out and show you the lines?

7 CHAIRMAN MAXWELL: Please.

8 MR. DELLA FAVE: Newark is much
9 larger but this is the Passaic River, this is
10 Penn Station, in Newark, and the Amtrak line runs
11 here towards the airport, the airport is south of
12 here, Newark Bay is where you are at.

13 (At which time there was a
14 discussion held off the record.)

15 MR. DELLA FAVE: The railroad lines
16 went right along right up here. Obviously here,
17 the old lines used to run, in fact, right through
18 the community. You can see this here, this
19 little spacing, this green space here, this line
20 here, that is an old railroad right-of-way as
21 well, the Morris Canal ran through here which
22 transported --

23 DR. BIELORY: Point out Raymond
24 Boulevard.

25 MR. DELLA FAVE: This here is

1 Raymond Boulevard and you would be coming off the
2 highway right over here and this is Raymond
3 Boulevard. So that is here. This, in fact, is
4 One and 9 and the turnpike goes through here, 78
5 wraps around here. Route 21 is here and is
6 being expanded at either end from four to six
7 lanes, so there will be more traffic there.

8 The Newark arena, which will be the
9 site of the Devils and Mets, will be right here.
10 This is Lafayette Street, it will be right here
11 with an estimated 6,000 cars per night probably
12 not being able to get through McCarter Highway or
13 down through 21, will probably be a thoroughfare
14 for some of those 6,000 cars as well.

15 If you took a poll in this community
16 right now, the Newark arena would probably get a
17 resounding no because of the tremendous concerns
18 about the traffic and parking implications for
19 the community.

20 This is River Bank Park. It was to
21 be the site of a minor league baseball stadium
22 which has been developed downtown. Here are the
23 only two major parks you can see in the
24 community.

25 DR. MANGANELLI: Where are the

1 stationary sources, the factories and
2 incinerators?

3 MR. DELLA FAVE: Diamond alkaloid,
4 which is the dioxin Super Fund site right here,
5 the county sewerage plant is here. This is all
6 manufacturing and trucking. All of this as well
7 is within the community as a residential and
8 industrial community. This master plan hopes to
9 separate the industrial in purple from the
10 residential so that we can perceive the good
11 industry that is here because residential
12 development in the industrial sector will only
13 create really bad neighbors for one another and
14 probably end up driving jobs and industry out.
15 So we are trying to draw a line. It might seem
16 simple and obvious, but this is the most feasible
17 area to invest in Newark and, in fact, a lot of
18 development has occurred here, a lot of
19 investment, residential investment is encroaching
20 on the industrial sites. We are not for
21 polluters, but we are not for losing jobs; this
22 is the different balance you have to strike
23 sometimes. I'd like to see a line drawn so the
24 best of the neighborhood community is preserved
25 and that no more industry comes in here. There

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1 are streets in here right now.

2 I just came from a meeting at the
3 State House Childhood Education policy. The
4 Department of Environmental Protection statistics
5 on the amount of hazardous material and various
6 types of the toxic materials which are
7 transported through the community is astonishing.
8 Part of that is not only because it is going
9 through to get through Raymond Boulevard or
10 another part of Newark, but also those plants
11 within the residential community and the
12 long-range vision obviously would be to find
13 places, including brown field sites, here where
14 you have a nice transfer, a nice ease highway
15 movement of an industrial site within the
16 community to a brown field site outside the
17 community making best use of both sites. That
18 is mores easily said than done.

19 MR. ZONIS: You might point out in
20 the industrial section to the right while you
21 lost an employer you now have a new occupant for
22 that site which is the Essex County jail for
23 about 2,000 inmates. There is a mix use for you.

24 MR. DELLA FAVE: That's right. The
25 jail was originally part of the deal, you take

1 the jail and we will give you a stadium. We
2 really didn't want the stadium, but we do have
3 the jail nonetheless.

4 DR. MANGANELLI: The mixed uses as
5 presented to us before the mixed use and you have
6 it set up like this, more people would walk and
7 yet you have triple parking and everything else
8 down there. How come being that you have
9 everything within walking distance, anything you
10 can imagine down there, yet the cars are still
11 parked all over the place? It is high usage for
12 automobiles which destroys this other idea of a
13 plan or mixed use and the people walking.

14 MR. DELLA FAVE: I think the answer
15 is twofold, it is not a simple answer. Part of
16 it simply is not everything is necessarily within
17 walking distance, Ferry Street is a great
18 commercial district as well as Lafayette Street
19 is, you still who have lots of double parking
20 around, you don't have enough parking spaces, it
21 is not only that traffic is moving but people
22 actually parking for the day as a double parked
23 vehicle. There's a certain way of life that
24 people understand and when you double park, you
25 keep your window open to hear for the horn that

1 might be blowing so you can come out and move in
2 time.

3 DR. BIELORY: That community was
4 built for one car, one family, and now you have
5 two or three cars per family and the area has not
6 grown, so the space is the same. Our children
7 all have cars.

8 DR. MANGANELLI: Doctor, what do you
9 think is triggering this great asthma problem?

10 DR. BIELORY: Number one, don't
11 take it out of context, all urban centers, Newark
12 as a whole thing. What he has allocated for you
13 is there's some things have to be taken with a
14 grain of salt, so to speak, but the City of
15 Newark there are incredible parks. The question
16 is how do you average it per area. The reason
17 for poor health we are talking about Clean Air
18 Council and clean air is getting improved health,
19 that's probably why the whole concept Department
20 of Environmental Protection came out of it before
21 in the Health Department, so to speak, is because
22 of irritants, doesn't make a difference, you have
23 an acute effect of any exposure causes ocular,
24 skin and respiratory effects, long term,
25 asbestos you will cancer in 20 years. You need

1 legislation to take care of that, but you need
2 something to take care of the immediate impact
3 and allergies are on the rise and that has to do
4 with environmental exposure.

5 If you want to know what that place
6 looks like, every time you land, that line on the
7 right-hand side is the landing path to Newark
8 Airport, you come down Route One and 9 to land in
9 the airport. You will see on the right-hand
10 side, Ironbound, and on the left-hand side, the
11 terminal, the trucking industry and everything.

12 But the reason for that is the
13 density and irritation. Bergen County is the
14 most densely populated county in New Jersey and
15 New Jersey is the most densely populated in the
16 United States and per capita is one of the most
17 heavily populated states in the United States and
18 has the highest asthma and allergies in the
19 United States.

20 My attitude is I think we still need
21 to open up the window, so you get a little
22 sneezy, but on the other hand, you breathe a
23 little better. Having a healthy building, you
24 know, the patient is dead.

25 MR. DELLA FAVE: I mentioned this

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1 area right here Celanese, and this is Ironbound
2 stadium closed for about 15 years or so due to
3 pcb's in the ground there. So this is closed.
4 River Bank Park was closed for three, four years
5 to be remediated due to arsenic, and a few other
6 metals. Those are two of the sites that we had
7 to deal with. This is extremely costly, that
8 will be quite awhile, this whole site.

9 We are hoping, I will mention this,
10 we are hoping to take the whole stretch of the
11 waterfront which is part of a redevelopment plan
12 and hopefully green the entire stretch of this
13 here.

14 This site here on the opposite the
15 River Bank Park has been part of River Bank Park
16 but it's extremely deteriorated. This site
17 right here is where all the containers were
18 stacked, this was Wellco Gas, these sites are not
19 developed right here, but we are hoping that
20 between the city and county -- and we have a
21 meeting with Green Acres in about a week or two
22 in fact. We are hoping between the various
23 government entities we can get some planning and
24 develop some implementation strategies for
25 greening the entire waterfront. It is the last

1 people of this community that we can contribute
2 to open space, not to mention that it would
3 enhance the downtown development scheme, much
4 like Central Park did.

5 DR. BIELORY: Did you ever think
6 about a river walk concept?

7 MR. DELLA FAVE: Yes, that is
8 planned and it is being implemented by the Army
9 Corps of Engineers and that is going to stretch
10 from here up to Bridge Street, but it is just a
11 40-foot walkway and we are trying to use that as
12 a hangar to use the rest of the sites as a green
13 site.

14 CHAIRMAN MAXWELL: Any questions
15 from the Council members?

16 COMMISSIONER CAMPBELL: There was a
17 comment made about the population of cars. Many
18 communities in New Jersey now are tapping into
19 some state money, I don't know what the
20 particular fund is, to establish shuttle systems
21 in the rush hours. I know Maplewood has one, I
22 used to live there, and I think they were one of
23 the communities to set it up. You might want to
24 consider seeing if a shuttle system would have
25 some people get rid of some of that, it is a

1 congested area and adds to the overall air
2 pollution problems.

3 MR. DELLA FAVE: It is a great idea.
4 I would like to say that we are going to have new
5 schools built as an Abbott community. All the
6 Ironbound schools will be replaced, the
7 elementary schools were built in 1888. In doing
8 that, you know one of the conflicts you run up
9 against is where teachers park versus where kids
10 play and playgrounds have turned into parking
11 lots. We are pushing the notion of perimeter
12 parking lots from where teachers are shuttled to
13 their schools, and we will see how that pans out.
14 We will check with Maplewood.

15 CHAIRMAN MAXWELL: Any other
16 questions?

17 Sir, thank you very much.

18 Steven Flint from the New York
19 Department of Environmental Conservation, the
20 chief of light and heavy duty vehicles.

21 MR. FLINT: I am from New York DEC,
22 and I want to talk a little bit today about
23 technical innovations and maybe even policy
24 innovations also under impact of air quality.

25 I would like to thank the Clean Air

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1 Council for the opportunity to speak today and
2 present New York's view on technical innovations.

3 New York like New Jersey is faced
4 with a variety of difficult issues regarding
5 reductions in emissions of air pollutants. Metro
6 New York is classified as a nonattainment for
7 ozone based on the current standards. And
8 implementation of the new ozone standards will
9 require further reductions in New York as well as
10 implementation of new PM standards also require
11 additional activity. We have already put in
12 place a wide range of controls in New York,
13 pretty much on everything that we can control, we
14 have smokestacks, we have requirements for
15 architectural coatings and paints, we have stage
16 2 gasoline vapor recovery, and we have motor
17 vehicle inspection maintenance programs, and I am
18 sure all this sounds familiar. We even have
19 controls on personal care products like
20 deodorants and hairs sprays to deal with ozone
21 precursors. Even with this broad range of
22 controls, we still need to do more and again we
23 are faced with similar issues on particular
24 standards and this is really only starting to
25 come to the forefront in particular, since we

1 have learned more and more about the impact of
2 toxins to the respiratory system.

3

4

5

6 Mobile sources, both on road and non-road, and
7 that includes cars, trucks, buses, heavy trucks,
8 construction equipment, pretty much anything that
9 moves, are a large and growing portion of our
10 inventory. They're a major contributor to NOx
11 and they are the dominant portion of our PM
12 inventory. While we have had a lot of successes
13 controlling the emissions across the board, it is
14 the mobile that continues to grow. In fact,
15 since we have had a lot of success in reducing
16 the emissions from the tailpipes of automobiles,
17 those reductions have been more than offset by
18 the increases in VMT, and increases in the light
19 truck fraction. The number of cars, increases in
20 the numbers of miles driven and then as changes
21 in the weight fractions of vehicles, the
22 incidence of more light trucks and a greater
23 fraction of light trucks than there used to be
24 has resulted in an increase in the light truck
25 fraction. Mobile sources are a significant

1 source of air toxics and greenhouse gases. Only
2 through extensive reductions from this sector
3 will we be able to attain our air quality
4 objectives.

5 The Clean Air Act places fairly
6 stringent restriction on what states can do for
7 new motor vehicle emissions. States may adopt
8 the federal standards which are automatically in
9 place across the country or they may adopt the
10 California standards. They may adopt standards
11 identical to California and there is a fairly
12 stringent set of restrictions there as well.
13 Those are the only two choices, you can't have a
14 state-specific standard. If you are an
15 automobile company, it would be pretty onerous,
16 you can't build a car for different states, it
17 will really mess up their products. In the
18 early 1990s, New York adopted the California
19 standards. And since that time, we have gone
20 through a number of regulatory revisions and
21 adoptions and changes to remain "identical" with
22 California. We have also gone through some
23 fairly extensive litigation to defend our
24 program. We remain fully committed to
25 implementing a California program in New York.

1 We continue to do this, we, as recently as two
2 weeks ago, we proposed an additional set of
3 regulations to maintain the identity with the
4 California programs.

5 Back in 1994, the Ozone Transport
6 Commission called for implementation of the
7 California Low Emission Vehicle program
8 region-wide, the area from basically Washington,
9 D.C. to Maine, to address the transport and
10 severe ozone attainment issues in the East Coast.
11 That spawned a series of negotiations with EPA
12 and the auto industry that ultimately led to the
13 National Low Emission Vehicle program which
14 implemented standards, put standards into place
15 for 2001 nationwide earlier than could have been
16 done. According to the Clean Air Act, they
17 didn't permit that until 2003, so this process
18 started at the OTC and developed through the end
19 of that program was actually a bit of an
20 innovative policy development in and of itself
21 and actually Bill Baker had that on his slide
22 this morning and he didn't talk about it.

23 That led to the Tier 2 program which
24 was yet more stringent and it was more stringent
25 than I think most of us expected, most of us have

1 been involved with. Despite this, we have in
2 New York chosen not to opt into that program and
3 we chose to continue the California program and
4 its offspring, the LEV II program rather than the
5 federal Tier 2 program. They were both
6 excellent programs, they took the standards far
7 beyond where we thought they would be. However,
8 our air quality issues in New York were such that
9 we felt we needed the extra step that could come
10 from the California program.

11 One of the highly attractive aspects
12 of the LEV program is the technology forcing
13 aspects of the program. While most people have
14 heard of the Zero Emission mandate and that is
15 technology forcing and the most highly visible
16 and highly controversial technology forcing
17 aspect of the program. There are other factors
18 as well. To see what they are, you need to
19 think about what constitutes advanced technology.

20 Twenty years ago in automobile,
21 advanced technology was something like fuel
22 injection or electronic ignition; today, you
23 can't buy a car with a carburetor. All cars
24 today include advanced, on-board diagnostics
25 which have the capability of measuring small

1 changes in the operating parameters which could
2 cause a change in emissions. The on-board
3 diagnostic stores this information in an on-board
4 computer and notifies the operator to "check
5 engine soon," the light in the dash. On board
6 diagnostics has reached a point where it has the
7 capability of measuring misfires in a single
8 cylinder, the car is turning over at several
9 thousand revolutions per minute and may be firing
10 a cylinder per second and will determine a single
11 misfire. It measures leaks in the fuel system,
12 thousandths of an inch. Stores through pressure
13 sensor, stores that information. Are equipped
14 today with on-board refueling vapor recovery and
15 now as a result of these elements and on-board
16 diagnostics and/or other advancements in the
17 controls, feedback loops, measurement of exhaust
18 in the tailpipe as well as advanced formulation
19 of the catalytic converters, cars are routinely
20 meeting ultra low emission standards which is an
21 84 percent reduction in hydrocarbon emissions
22 when compared to the federal Tier 1 level which
23 was the rule 10 years ago. So thus, in many
24 ways, every new car sold today is loaded with
25 advanced technology.

1 In the context of the LEV program,
2 the California program, it has a slightly
3 different meaning. The LEV program includes
4 technology forcing elements, that is, specific
5 requirements that result in continuing
6 developments and implementation of continuing
7 technological developments that further reduce
8 the emissions of motor vehicles over their life.
9 One of these elements is something referred to as
10 declining fleet average which requires the
11 overall sales fleet of each manufacturer to be
12 cleaner each following year. As a result, you
13 see new emission control technology evolving from
14 a few, usually smaller cars, into broader
15 application over the entire fleet being applied
16 on a vehicle, usually on a small, low products
17 vehicle, small displacement engines and as
18 experience and understanding is gained through
19 that technology, it expands over the entire
20 fleet. Again, if I go back to the Ultra Low
21 Emission Vehicle which in the early 1990s the
22 California law emission program was being
23 developed, there was a lot of discussion as to
24 whether it was going to be technically feasible,
25 never mind economically feasible. By the 1997

1 time frame, the first Ultra Low Emission Vehicle
2 certifications were being sold. Now, some
3 manufacturers are reporting that the ULEV
4 technology will be 30 to 40 percent of their
5 sales fleet. By the end of this decade, eight
6 years from now, the required fleet average is
7 drops below ULEV levels, so nearly all cars will
8 be ULEV or cleaner. That is technology driving
9 throughout the fleet.

10 The more visible and controversial
11 technology forcing element is the Zero Emission
12 Vehicle mandate which also we in New York have
13 adopted and we have gone through much pain over
14 the years. Under this program, the six largest
15 manufacturers are required to sell a specific
16 portion of their fleet as Zero Emission Vehicles.
17 And right now that probably means the
18 battery electric vehicles. Under the more recent
19 programs, California has also established a
20 credit mechanism so that certain exceptionally
21 clean vehicles can also receive ZEV credit, and
22 other advanced technology vehicles, such as
23 hybrid electric vehicles, can also receive
24 credit.

25 The attractiveness of the ZEV

1 program relative to advanced technology vehicles
2 cannot be overstated. The recent modifications
3 adopted by California extend these benefits to a
4 class of vehicles that are not typical ZEVs,
5 non-battery electric vehicles, bring us to some
6 other very distinct advantages but contain other
7 advanced elements - vehicles classified as
8 partial Zero Emission Vehicles - or PZEVs.

9 California has established stringent
10 threshold criteria for a vehicle to be considered
11 a PZEVs, to be considered it must meet Super
12 Ultra Low Emission Vehicle, SULEV, or tailpipe
13 emissions standards, which are a fraction of the
14 ULEV standards, 0.01 g/mi HC, 0.07 g/mi NOx, they
15 must meet zero evaporative emissions criteria;
16 and they must be warrantied for 150,000. Think
17 about how long you own a vehicle. In order to
18 be a PZEV, a vehicle must be certified as zero
19 evaporative emissions, which, if you start
20 looking at your inventory, fuel evaporation is a
21 significant component. Very interesting element
22 of the PZEV criteria is 150,000 mile warranty.
23 This last requirement speaks to a real benefit of
24 ZEVs that is often overlooked, that is, that they
25 don't experience deterioration over their life.

1 The car, a PZEV that is warrantied for 150,000
2 miles is very clean the day you buy it but also
3 very clean 10 years later, whereas conventional
4 automobiles deteriorate over time, and that's why
5 we have I&M programs. I don't need to tell
6 anybody in New Jersey how controversial I&M
7 program is.

8 Interesting, manufacturers are
9 already responding to the challenges and
10 opportunities of PZEVs. Honda markets a natural
11 gas fueled vehicle that is PZEV certified.
12 Nissan has a conventional gasoline fueled
13 vehicle, available in California, that is PZEV
14 certified, not available in the northeast because
15 our fuel is not as clean as California. Several
16 manufacturers are either currently or in the near
17 future will be marketing hybrid electric
18 vehicles, and we expect many of them to also meet
19 PZEV standards. We think hat Honda has the
20 insight, Honda will be selling a hybrid PZEV
21 vehicle in the near future. The domestics will
22 be offering in the foreseeable future. We
23 expect that many of these vehicles are going to
24 be PZEV certified, not all, as the technology
25 matures and manufacturers become more comfortable

1 with it, they will be. The interesting thing
2 about these PZEVs is that we think they are going
3 to appeal to a much broader portion of the car
4 buying market than the true ZEV. Many, many
5 more people will have use for a hybrid ZEV
6 vehicle. You don't need to look at the number of
7 ZEV vehicles on the road today that will have use
8 for a battery electric vehicle, battery electrics
9 are somewhat limited in the application.
10 Therefore, we think they will receive much wide
11 distribution.

12 In our most recent adoption of the
13 California ZEV requirements, and we did that at
14 the end of this last calendar year by emergency
15 rule in order to meet necessary lead types, we in
16 New York provided manufacturers with some added
17 flexibility in implementation of a ZEV program
18 through what we call Alternative Compliance
19 Option. Under this option, manufacturers can
20 elect to participate in a program whereby
21 additional credits are granted for various
22 qualifying vehicles, provided they start the
23 introduction of those vehicles earlier than would
24 otherwise be required. ZEV mandate in New York
25 will go into effect in the year 2005. It had

1 been in place since the start, we lost it in
2 court and because the changes have gone on in
3 California and requirement for lead time,
4 manufacturers are required to be given a minimum
5 of lead time, 2005 is the earliest we could put
6 the ZEV program in place.

7 We think that this, the program,
8 again, in order to opt into the program,
9 manufacturers must start a year earlier. So
10 while the requirement of the California mandate
11 has applied to the start 2005 under the applied
12 option they would have to start 2004 but we would
13 receive additional credits for vehicles. We
14 think this provides the opportunity for early
15 introduction of advanced technology vehicles
16 while providing manufacturers with the ability to
17 ramp up their production and marketing efforts to
18 the levels required under the mandate. In
19 addition, manufacturers can complete
20 infrastructure projects which may be necessary
21 for full roll-out of their PZEV technology, and
22 receive credit for those programs.

23 Several, but not all of the
24 manufacturers who would be affected by the
25 mandate, have indicated to us their intention to

1 participate in the Alternative Compliance
2 Program.

3 A discussion of advanced technology
4 in mobile sources would not be complete, from my
5 perspective, without mentioning some of the
6 developments we are experiencing regarding heavy
7 duty vehicles. A number of years ago, the DEC
8 embarked on a research project to demonstrate and
9 test the use of Continuous Regenerating
10 Technology particulate traps on the NYC Transit
11 buses. After a year of the demonstration
12 program, Governor Pataki announced that the New
13 York City Transit would be retrofitting their
14 entire diesel fleet with this technology. The
15 benefits of the filter technology are striking.
16 We receive in excess of 90 percent reduction in
17 hydrocarbons, including toxic compounds and
18 particulate matter as compared to conventional
19 buses. This retrofit by New York Transit is
20 ongoing and will be completed by the end of 2003
21 when over 3,000 diesel buses will have been
22 retrofitted with traps. In addition, New York
23 City Transit is purchasing new natural gas buses,
24 and high technology diesel hybrid electric uses,
25 equipped with traps, of course. This conversion

1 to trap technology required the use Ultra Low
2 Sulfur Diesel fuel, which needed to be at 30
3 parts per million sulfur, or less, as compared to
4 roughly 350 parts per million typically on road
5 sulfur content.

6 So, in September of 000, which by
7 the way was before EPA promulgated rules for
8 Ultra Low Sulfur Diesel fuel to go into effect in
9 2006, before they promulgated those rules, New
10 York Transit started taking delivery of the
11 diesel routinely and operates all of its diesel
12 fleet on this fuel. Interesting, this very
13 large purchase agreement led to the availability
14 of this fuel for other agencies and therefore
15 allowing other groups to participate in this type
16 of retrofit technology. More and more groups in
17 the metropolitan area are looking at this
18 technology advancement as a viable option for
19 reduction of particulate matter, and the
20 associated toxic emissions from diesel engines.
21 For instance, power authority is embarking on
22 project to retrofit school buses with similar or
23 comparable technology. We are continuing to
24 look at other places where it can be applied: New
25 York Sanitation, New York DOT, as well as state

1 agencies will be investigating methods to extend
2 it into other private operations as well.

3 We look forward to continuing to
4 work with New York City Transit and other public
5 and private partners in development, testing and
6 implementation of new technologies from all
7 mobile sources.

8 Technology advances that are going
9 to help us reach our clean air goals are going to
10 come in a wide range of forms: fuel changes and
11 additives may result in emissions improvements,
12 materials developments may result in vehicles
13 that are lighter and therefore result in lower
14 emissions but not without loss in strength,
15 improvements in emissions monitoring technology,
16 on board a vehicle may result in a tighter
17 envelope for the vehicles to operate in. Other
18 changes, such as conversion to hydrogen-based
19 fuel cells are also going to bring major emission
20 improvements, but will take longer and might also
21 bring issues of infrastructure and cost of
22 roll-out. We are committed to exploring these
23 technologies as they emerge, and working with
24 industry and government to identify and resolve
25 issues in the most efficient way possible.

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1 We think technological developments
2 will be incremental in nature, with small
3 improvements built one upon another. We don't
4 expect to see a home run on air pollution, I
5 don't expect to see hydrogen fuel cell buses and
6 trucks operating in the immediate future;
7 instead, we are going to see small bits and
8 pieces working one on top of the other and
9 getting gradual and small increases across the
10 board. We would like to look at the heavy duty
11 market, we think that is where the greatest
12 potential is to reduce emissions; there is not
13 much that comes out of the tailpipe of a car, as
14 I understand, you can't asphyxiate yourself from
15 cars anymore if they are operating properly.

16 We remain "data driven," we are
17 looking at the science behind all of these
18 technologies. We confront new claims of
19 technological achievements and advances with a
20 need to verify that these advances produce the
21 emission benefits that it claims. We want to do
22 that before it becomes part a part of our control
23 strategy.

24 While we will continue to rely on
25 technological innovations to help us meet our air

1 quality goals, these innovations will not occur
2 without investment in research and development
3 programs. Government policy and programs, such
4 as the LEV and ZEV programs provide some of the
5 impetus necessary to promote such investment.

6 I thank you.

7 CHAIRMAN MAXWELL: You gave us a
8 lot right here.

9 (At which time there was a
10 discussion held off the record.)

11 DR. MANGANELLI: You mentioned about
12 the on-board diagnostics; what impact will it
13 have upon our I&M, you also alluded to New Jersey
14 problems.

15 MR. FLINT: As the OBD penetrates
16 the entire fleet, I&M programs should get easier.
17 You can plug into the port on a car and read
18 whether there are stored codes. Stored codes
19 will tell you if there is a fault in the system.
20 OBD does not measure emissions, it measures the
21 performance of the control system, so it is not a
22 direct comparison, but it is a pretty good
23 indicator. And EPA has policies on how to do OBD
24 inspection programs, there are some vehicles that
25 are still going to need standard I&M program, you

1 still might need a dynamometer down the road for
2 certain vehicles.

3 MR. EGENTON: I was interested in
4 the success, the bus fleet in New York. I sit on
5 one of the advisory boards at New Jersey Transit,
6 any cooperative effort there across the state
7 lines that you can share that information with
8 them as far as your bus fleet is concerned?

9 MR. FLINT: We have had tremendous
10 successes working with MTA and New York City
11 Transit in this program. They have embraced the
12 program, they are fully committed to it, they
13 have people whose sole job it is to make sure
14 that buses are being retrofitted. I am
15 estimating there's probably 750 buses currently
16 retrofitted and more being done daily.

17 A key issue is the fuel and with MTA
18 contract, the fuel is available in the port.
19 Now, large volume, MTA purchases 50 million
20 gallons per year, that does a lot towards making
21 sure there is a supply there. They obviously
22 also have to have a committed supply. We don't
23 deal across the river into New Jersey, we would,
24 I am sure, be happy to work any way we could to
25 help facilitate that. Certainly we see a lot of

1 traffic across the river that goes in both
2 directions, we see air that moves across the
3 river in both directions, to the extent regional
4 implementation works, it helps all of us.
5 Certainly I would be happy to volunteer myself
6 and rope others into technology transfer stations
7 wherever that might be applicable.

8 MR. ZONIS: I'm sorry, I lost track,
9 PZEV partial ZEV does electric hybrid fall into
10 that category?

11 MR. FLINT: Yes.

12 MR. ZONIS: What else fits into that
13 PZEV if it omits the UZEV requirements and
14 certified as zero evaporative and has 150,000
15 mile warranty, it can be classified as PZEV.

16 MR. FLINT: There is a Nissan Sentra
17 CA is a gasoline conventional vehicle, meets that
18 requirement and has been certified as a PZEV.
19 Honda has a natural gas vehicle that has been
20 certified as a PZEV, Honda Civic GX I believe it
21 is.

22 MR. ZONIS: Thank you.

23 COMMISSIONER CAMPBELL: Bob
24 Campbell, I personally want to thank you and
25 your colleagues at New York DEC for the

1 leadership you have demonstrated in this area of
2 coming to grips, thank you very much.

3 MR. BAUMAN: I am Steve Bauman from
4 New Jersey Central Power & Light. The program I
5 am going to be talking about and the technologies
6 that you I want to feature are statewide in
7 application. We are talking about two things: a
8 statewide energy incentive program and also some
9 innovative technologies and I will feature one
10 technology as an example, not that it is the only
11 one.

12 I have the best job in the world;
13 what I do is give money to people to make their
14 facilities operate for efficiently, something
15 they do anyway, but don't have the money to do
16 it. The reality is saving energy saves air,
17 improves the cleanliness of air. For every kWH
18 of electricity that you save, you save 1.39
19 pounds of CO2. Likewise 100 CF gas saved
20 reduces CO2 emission by 11.5 pounds.

21 New technology and utility incentive
22 programs can help people save energy, it will
23 encourage them to. The reality is more time
24 than not the energy-efficient equipment has
25 higher first-cost than standard equipment and the

1 bottom line is people relate more to what it
2 costs them when they write out the check
3 sometimes when it will save them long-term.
4 That is the reality and we are dealing with it
5 pretty effectively.

6 In the program, the statewide
7 program is New Jersey Clean Energy. That
8 includes everything residential, commercial,
9 industrial which I will be talking about and
10 renewable. There's rebates for wind power, fuel
11 cells and biomass so take a look at that website
12 and all the technologies will be excellent for
13 improving the air quality.

14 The goal of the program is to offset
15 the difference in cost between the standard
16 technology and the higher efficient technology.
17 Again, when people decide to build or replace a
18 piece of equipment, they have a choice, either by
19 standard what they have before or what is on the
20 shelf or they can go that extra yard and get
21 something more efficient but that more efficiency
22 is going to cost them a little bit.

23 The goal of the program is going to
24 offset that difference to the point where it
25 becomes insignificant and ultimately to encourage

1 the threshold of energy efficiency to the point
2 where we don't need rebates, we are priming the
3 pump.

4 How do you encourage people, you pay
5 them. Simple, we give monetary incentives, we
6 give grants to help design efficiently. We give
7 rebates based on equipment efficiency ratings and
8 we have been in the rebate business in New Jersey
9 since 1988, so we have a whole list of equipment
10 that we know will save energy, how much it will
11 save and we give so many dollars in rebate to
12 help the station. The other thing I guess
13 promote awareness, what we try to do to our trade
14 allies or any organization trying to grow the
15 awareness of the program and the benefits
16 throughout. We are promoting new technologies
17 in many different ways. This is not done with
18 tax dollars, this is not done with public funds,
19 this is actually done through the societal
20 benefits portion of the utility bill so when you
21 look at your deregulated utility bill, three
22 portions: one for the actual commodity, the kWH
23 that you use for the electricity or the amount of
24 gas; two, you pay for the transmission or
25 distribution; and three, you pay societal

1 benefits. From those benefits a lot of different
2 programs are covered including the rebates that
3 we are talking about. What I am saying is that
4 we can make everybody more energy-efficient, not
5 have to fund it from public funds and actually
6 the rate payors themselves are funding it and we
7 are rewarding the ones who become more
8 energy-efficient by giving those dollars back to
9 them. It is a nice program and everybody wins.

10 Now, the New Jersey SmartStart
11 buildings is a subset of the New Jersey Clean
12 Energy program which deals with the commercial
13 and industrial sector. Design assistance
14 grants, and by the way, everybody was talking
15 about Smart Design, Smart Planning, we are Smart
16 Building, so it ties together. In a New Jersey
17 Smart Start Buildings, we offer to pay a design
18 team to get together before the first line is
19 drawn to talk about energy-efficient alternative
20 ways to do things; in other words, if you are
21 building a school, a choice will be for your
22 consultants to reach over his shoulder and pull
23 out a set of drawings that he had done for the
24 last 15 years or start with a clean piece of
25 paper. What we want to encourage the school

1 boards to do and the consultants is to start with
2 a clean piece of paper, define a baseline and
3 come up with a couple alternative ways of doing
4 it. We will pay for brainstorming energy,
5 bottling it and incremental design costs so the
6 one who is going to be paying the bills will have
7 the objective benefit of looking at all the
8 possibilities there. We have prescriptive
9 rebates for proven equipment. We have custom
10 rebates for non-prescriptive applications. We
11 have rebates offset most of incremental cost.
12 We want to stay open for new technologies or
13 other application, for existing technologies
14 under the custom program, if someone comes to you
15 with a block box technology that is going to save
16 you 50 percent, we will say fine, where is your
17 customer, let's take a look at it and we will
18 help pay the engineering studies and then
19 afterwards pay some of the incremental costs
20 after that. We are looking for people who think
21 outside of the box. As I said, the rebates are
22 designs to offset that increment in cost between
23 standard and high efficiency.

24 We looked at the Reality, now we are
25 looking to see how we can modify that Reality to

1 clean-up and help people save energy. The
2 rebates will bridge the money gap we are trying
3 to let people know that the rebates are there, if
4 they want to do something, we will help them pay
5 for it. We want to let them know that
6 first-cost doesn't make a lot of sense. If you
7 are looking at a facility, a building according
8 to -- has a life of 40 years, and out of that 40
9 years, 50 percent of the cost that will go into
10 that building is operating and maintenance
11 cost, 11 percent is front-end initial cost, so
12 what sense does it make to look for a simple
13 payback. When you are putting in a piece of
14 capital equipment, you want to look at what
15 happens for the life of that system, for the life
16 of that technology. So we want to convince
17 people not to just look at first-cost but to look
18 more at life-cycle mind-set and we want to let
19 people know if they can save kilowatts or gas, it
20 is not only good for their business, it is good
21 for the U.S., good for the economy and good for
22 the environment as well, a win/win situation, and
23 that's why I have the best job in the world, to
24 talk to people about it.

25 One of the things I want to stress

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1 today, I think we have an opportunity with public
2 facilities, with public buildings, we can set an
3 example. The private folks do what is required
4 by code or what they think makes sense or
5 whatever we can do. The public acts as the
6 stewards of the public dollars, we should do what
7 we can to encourage a life-cycle mind-set.
8 Nothing that I hear works, and I hear it a lot,
9 state-funded programs and maybe have
10 electric-resistant heat in them because it is
11 cheap. You are going to pay tax dollars on
12 that for the rest of the building's life. That
13 is not the example we want to set for the private
14 sector.

15 You should consider using more
16 innovative technology, don't use what was good 10
17 years ago and designed 20 years ago, let's use
18 what is proven now and going to be the
19 technologies of the future.

20 So we want to be open to new
21 energy-efficient technologies, and that leads me
22 to one of the things I want to talk about today
23 in that line would be what some people call
24 geothermal, I use the term GeoExchange. What it
25 does is it is a technology that utilizes the heat

1 of the earth in the wintertime to heat buildings
2 and I want use the heat sink of the earth in the
3 summertime to cool buildings. You are
4 exchanging BTUs between the earth and the
5 buildings and the electricity doesn't make heat,
6 it moves heat. There is a different between
7 that, and I will show you where that goes. The
8 federal government is taking a strong leadership
9 position in that because now they are looking at
10 systems which will deliver the lowest life-cycle
11 cost and both the EPA and the DOE have assessed
12 that the GeoExchange has the most environmentally
13 friendly system and the lowest life-cycle cost
14 and they are going to the point of baselining it
15 as a reference point when they are doing new
16 facilities.

17 Some of the largest GeoExchange
18 facilities in the country are federal
19 installations. I think someone from Stockton
20 will be here later, they had the largest system
21 in the world. The technology is around long
22 enough, you are not guinea pigs and has been
23 proven and analyzed.

24 Just real brief because I don't want
25 to get technical but quickly, you have Mother

1 Earth has a BTU; in the wintertime you have a
2 series of loops, this is a Bore Field, you have
3 plastic pipes in the ground, you have water that
4 runs through this loop field, it is a heat
5 exchanger basically and that connects up to heat
6 pumps inside the building and from inside the
7 building that connects to air distribution
8 systems like that that will move the BTU in the
9 building or out of the building.

10 In the summertime, you can't say
11 that but once you get below 10 feet, it stays
12 below 50 degrees year round, there is a lot of
13 heat in 50 degree geology. The water will bring
14 that into the pump room and the heat change
15 refrigeration cycle will take it out of the
16 building. Summertime you reverse the cycle,
17 take the BTU out of the building and run it to
18 the geology which is cool in the summertime and
19 an excellent place to get rid of the heat. It
20 is an exchange system and you are not using the
21 electricity to make heat, you are using it to
22 move heat.

23 So you have the air loop inside the
24 building to move the air around that carries the
25 BTU, you have refrigeration loop inside that

1 changes the BTU between the room air and the
2 ground, and we have the ground which takes the
3 BTU into the earth.

4 But does it save energy and keep the
5 air clean? I put together some data for a
6 presentation that we did in Atlantic City in
7 January and it was kind of amazing to me when you
8 put all the efficiency ratings, the most popular
9 systems together and this 1.54 kW per ton is one
10 of the methods that they use. It goes from 1.54
11 kW/ton and the higher the number, the less
12 efficient it is all the way through most of the
13 popular systems you have seen even to the most
14 efficient chillers down to about 0.81 kW per ton.
15 With everything considered, you can save up to 47
16 percent with a kW per ton on a GeoExchange
17 system.

18 From a heating system efficiency, it
19 is more phenomenal. How can you have a 400
20 percent efficiency? Simple. The definition
21 behind this is how effective you convert energy
22 to heat. Remember what I said, you are not
23 using the electricity to make heat, you are using
24 it to move heat. Those heat pumps can move the
25 BTU within the building so it is self-supporting

1 system to a degree. That's why you can get high
2 efficiency on it. We know that it is going to
3 save energy.

4 Now will it clean the air. Just as
5 a scenario, I put this together, I assumed about
6 100 tons of cooling which is a small, medium size
7 commercial load and if I use a 1.4 kW/ton rooftop
8 and I take away the 88 kW/ton GX closed loop, I
9 save about half a ton -- half a kW per ton.
10 Now, each kW saves 1.39 pounds of CO₂, so every
11 hour this particular system runs, I have stopped
12 emitting 72 pounds of CO₂. When you think of
13 pounds and gas, you have to realize that is a lot
14 of gas you are talking about, that is one hour.
15 Typically, you might have a 3,000 hour cooling
16 system or 2,000 hour, you are talking probably
17 150,000, 200-, 250,000 pound per year for this
18 one small system, that is in the cooling mode,
19 on the heating mode as well.

20 I took a closed loop 320 percent
21 efficient, 92 percent condensing gas boiler, I
22 went through the numbers and found out that I am
23 going to be saving 28 pounds of CO₂ emission for
24 every hour that operates. So, for a longer
25 period of time, you are going to have a

1 significant benefit in the reduction of CO2.

2 People say yeah, but it costs a lot. Wait a
3 minute, let's talk about costs a bit.

4 "Relative Installed Costs." This
5 comes from data collected in the State of New
6 Jersey in 1999 over various projects, and you
7 can't see this but those are the least expensive,
8 the PTAC up to the four pipe fan coil chiller.
9 This is cost per square foot. The GeoSystem is
10 right about in the middle, \$17.00 or \$18.00 per
11 square foot, the most expensive is up around
12 \$25.00, and the cheapest is around \$8.00, so it
13 is not way up there and it's certainly not way
14 down there, but it's in the ballpark, even from a
15 front-end cost and less expensive than some
16 systems.

17 What about the payback on it.
18 Let's take a look at "Relative Operating Costs,"
19 and kWh square foot per year. This is the most
20 expensive system, you are talking over \$25.00 per
21 square foot and this is a GeoExchange system
22 about \$7.00 a square foot. It is not going to a
23 lot of years of operation for that small
24 difference in the front end to be paid back and
25 when you consider it does promise a nice rebate

1 that even reduces that time further.

2 So, if you hear people say it costs
3 too much, we are not going to consider it, they
4 haven't looked closely enough. You have to do
5 some due diligence and be open to look at new
6 things.

7 "Customer Benefits of GeoExchange."

8 The very same system does the cooling and the
9 heating, you don't have any outside components,
10 you don't have cooling towers outside, you don't
11 have things along the coast that are going to
12 deteriorate quickly with the salt air or the
13 sands. You don't have things to be vandalized.
14 Everything is underground and the pipes are
15 guaranteed for 55 years. The most important
16 thinking is a good as-built drawing because you
17 don't want to dig them up accidentally. If you
18 are dealing with a new construction in, say, a
19 school and you want to air-condition that school,
20 you save enough footprint in that building to get
21 a free classroom, you can easily do an entire
22 high school in less than a quarter of this room
23 here, entirely mechanically equipment space.

24 We had the lady from West Windsor
25 here, they had done that there. You had the

1 other gentleman, they had done the Middletown
2 school systems with geothermal.

3 New Jersey is on the leading edge
4 now, and I think we can stay that way because it
5 is going to be good for everybody. It is easy to
6 operate and maintain, you are not dealing with
7 high pressure stacks, you are not dealing with
8 any fossil fuel, you are not dealing with
9 anything that is hard to deal with on the site.

10 Indoors, every classroom or every
11 office can control independently so if you have
12 that school I mentioned before with a hot side
13 here and a cool side next door, this room can be
14 air-conditioned and this room can be heated and
15 strictly staff-controlled, whatever you want to
16 do with it. It is also going to maintain a
17 better relative humidity in the wintertime
18 because it is not heating the air quite as high.

19 Long-term operating/maintenance cost
20 we talked about this afternoon, it is the lowest
21 life-cycle cost but slightly higher possible
22 initial cost. But presently, the statewide
23 program does pay \$580 per ton rebate which could
24 equate to 25 or 30 percent of the outside field.
25 So it doesn't take a way the home front-end

1 difference, but as you can see from the savings,
2 it is going to pay back quicker.

3 In summary, I would ask you to
4 continue to support new energy-efficiency
5 technology, have people look at the rebate
6 programs because we talked about the GeoExchange
7 but there's rebates for all high-efficiency
8 design.

9 Promote life-cycle cost particularly
10 when it comes to new facilities or replacement of
11 capital equipment because life-cycle is
12 meaningless, it doesn't say what happens after
13 the life-cycle is returned. Unlike stocks you
14 buy these days, the money that you invest in
15 energy efficiency will continue to pay the
16 dividends as long as you operate the facility.

17 Continue to support rate-payer
18 funded utility rebate programs. Again, we are
19 not asking for public funds to do it, we are
20 asking more or less for awareness and people to
21 participate in the program.

22 And, again, the only thing I guess I
23 can stress again is the fact that we can set an
24 example in the public sector, that's where the
25 tax dollars go to run these things, to set a good

1 example.

2 We talked about the LEEDs program
3 earlier. The LEEDs get heavy credit for the
4 GeoExchange system. Look at life-cycle, look at
5 where the tax dollars are going for the long
6 term, that is the 50 percent you are committed
7 when you build that building, that is a long-term
8 operating savings.

9 As I say, I am here on behalf of the
10 New Jersey Utility Company which is the gas and
11 electric people throughout the state. The
12 website is in the information that you have in
13 that tri-fold you have there.

14 And I thank you for the opportunity
15 to come and talk to you about it, and if I can
16 answer any questions, I would be happy to do
17 that.

18 DR. MANGANELLI: In New Jersey, does
19 the type of geology make an influence.

20 MR. BAUMAN: Yes. The best geology
21 for GeoExchange is wet sand. The worst geology
22 for GeoExchange is dry sand. Moisture content
23 is very important, doesn't matter if it is rock,
24 doesn't matter if it is sand, but if you have a
25 good moisture content, the moisture content

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1 really helps a lot.

2 But to answer your question, in New
3 Jersey we have had some systems installed in
4 1990, 1991, working extremely well.

5 DR. MANGANELLI: Around New
6 Brunswick area is a lot of shale.

7 MR. BAUMAN: That's okay. The only
8 thing it doesn't like is carbon is in limestone,
9 you have to drill in a bore and then you put in
10 plastic pipe and you have to fill it in from the
11 bottom. If you hit a cave, you are not going to
12 grout the cave.

13 The other thing, if you do have a
14 hazardous waste deposit down there, you don't
15 want to disturb it.

16 Those are the two things you don't
17 want to deal with.

18 DR. BIELORY: So the Pine Barrens are
19 fine when you talk about the moisture content.

20 The other question, an environmental
21 issue. We discovered new life forms at the
22 bottom of the ocean at 500 feet, what life forms
23 or what are we disturbing when we do the change
24 of heat? Has research been -- what is their
25 biological systems, are we changing the

1 temperature of the water?

2 MR. BAUMAN: What you have, you have
3 a fixed volume, you have plastic pipes. It is a
4 closed loop. You are changing the heat. Now,
5 remember, the operative term here is exchange,
6 the ideal system has as much heat out as puts
7 back into it. If it is a cooling dominated
8 load, you'll vent, actually pick up the geology
9 slightly over five- or six-year period of time,
10 maybe a degree or two. Stockton, who will be
11 here later on, has done some work on that to
12 watch temperature change. Moisture is one of
13 the active parts as well.

14 Generally speaking, the underwater
15 table does have some motion to it to refresh
16 itself.

17 To answer your specific question, I
18 don't know if they have done life tests on what
19 might be down there, but I think again, the ideal
20 is to take out as much as you are putting back.

21 DR. BIELORY: That would be ideal,
22 but we know that the efficiency of ideal doesn't
23 exist meaning we are going to disrupt something.

24 MR. BAUMAN: When they design the
25 bore field, they design it depending on the

1 nature of the load a slight temperature shift,
2 maybe a degree or two degrees.

3 DR. BIELORY: The bottom line is we
4 don't have that specific information?

5 MR. BAUMAN: I don't have the
6 specific answer to that, that's correct.

7 CHAIRMAN MAXWELL: Thank you,
8 Mr. Bauman. It is good to hear that Jersey is
9 out front as it is in a lot of areas and your
10 proactive involvement in it and we wish you the
11 best of luck.

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1 (PUBLIC HEARING.)

2 CHAIRMAN MAXWELL: Mr. Bob Campbell
3 of the New Jersey Sierra Club.

4 MR. ROBERT CAMPBELL: The title of
5 my talk today is "New Jersey Needs to Adopt a
6 California Low Emission Vehicle, Phase II
7 Emission Standards."

8 The New Jersey Department of
9 Environmental Protection, Bureau of Air
10 Monitoring, in its 1997, 1998, 1999 and 2000 Air
11 Quality Reports, states: "Ozone and particulates
12 are New Jersey's two most pervasive air quality
13 problems and more measures need to be taken to
14 ensure that those health standards are attained
15 in future years." Motor vehicles contribute
16 nearly half of all pollutants that cause
17 ground-level ozone. They also emit tiny
18 particulates that can lodge in the lungs.
19 Recent studies estimate that these particulates
20 cause numerous health ailments and as many as
21 tens of thousands of premature deaths each year.

22 The current fleet of gasoline and
23 diesel engines are inherently dirty and
24 inefficient. Tailpipe controls and improved
25 fuel quantity only marginally slow the growth in

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1 the pollution from cars. The effect of these
2 reductions in mobile emissions, however, has been
3 further diminished by the increased popularity of
4 light trucks, SUV's and minivans, which produce
5 far greater amounts of pollution than passenger
6 cars, and by increases in the annual total miles
7 driven per vehicle.

8 Congress first enacted the Corporate
9 Average Fuel Economy, CAFE, Program in 1975.
10 The CAFE Standard for passenger vehicles was last
11 increased in 1986, effective in 1990 to 27.5 mpg
12 and the CAFE Standard for all light trucks -- by
13 the way, the definition of a light truck is
14 anything that weighs less than 8500 pounds gross
15 weigh four and one-quarter tons --increased in
16 1993 to 20.4 and is now still only 20.7 mpg. It
17 is worth noting that the actual average CAFE MPG
18 for all vehicles sold in the U.S. in 2001 was
19 actually below the levels required by the law.
20 For the first time ever, SUV's, light trucks and
21 vans accounted for more than 50 percent of all
22 vehicles sold in 2001.

23 In January, 2000, the Massachusetts
24 Department of Environmental Protection and the
25 State Executive Office of Environmental Affairs

1 announced the state would be adopting the
2 California Low-emission Vehicle, LEV II,
3 standards for tailpipe emissions and that the
4 standards would apply the same emission
5 requirements of passenger vehicles to SUV's and
6 light trucks beginning in year 2003. In November
7 2000, New York State adopted regulations to
8 require the new, cleaner California Low Emission
9 Vehicle, LEV II, standards for all light and
10 medium-duty motor vehicles sold in the state
11 starting with model year 2004. Vermont has also
12 adopted the CA LEV II emission standards.

13 The failure last month of the
14 United States Senate to approve an increase in
15 the CAFE standards, the average miles per gallon
16 required for the entire fleet have vehicles sold
17 by major manufacturers represents a major loss in
18 the battle with the automotive and oil industries
19 to reduce our nation's dependence on foreign oil
20 and to reduce the massive volumes of Nitrogen
21 Oxides, NOx, Volatile Organic Compounds, VOCs,
22 and small particulates emitted by the cars,
23 pickups, vans and SUV's to be sold in the United
24 States between now and 2015.

25 The failure to raise the CAFE

1 standards also means that only one opportunity
2 remains for New Jersey to significantly reduce
3 the exposure of its residents to the high levels
4 of ground level ozone and particulates produced
5 by mobile sources. It makes it vividly clear
6 that we need to act now to do more to reduce the
7 mobile emissions of vehicles registered in the
8 state and to protect the health of its 8.4
9 million residents. If nothing else changes,
10 everyone in New Jersey, and especially those
11 living in urban areas and near major highways and
12 roads, will be forced to continue to breathe air
13 containing excessive levels of ground level ozone
14 and small particulates.

15 The adverse impact on the health of New
16 Jersey residents caused by the continuing high
17 levels of air pollution resulting from mobile
18 emissions can no longer be tolerated. The people
19 of New Jersey should not be expected to wait any
20 longer for federal legislation to require a
21 significant increase in the CAFE Standards. New
22 Jersey has an obligation to do what it can to
23 protect the health of its population.

24 There were 6.4 million vehicles
25 registered in New Jersey in 1999, and that is the

1 latest that I have from NJDOT and their number
2 has likely increased since then. It is essential
3 that the State Senate and Assembly, the New
4 Jersey Clean Air Council and the New Jersey
5 Department of Environmental Protection work
6 together to approve the bills introduced last
7 year in both houses of the legislature, now
8 Senate Bill 121 and Assembly Bill 409, calling
9 for New Jersey to adopt a more stringent
10 California Low Emission Vehicle, LEV II,
11 regulations for vehicles sold in New Jersey
12 beginning in the year 2006.

13 CHAIRMAN MAXWELL: Thank you.
14 Questions? Dr. Zonis.

15 MR. ZONIS: Yes. Mr. Campbell,
16 thank you for your presentation. Straightening
17 you out on a couple situations. I see that
18 Massachusetts is going to require the tough
19 standards on SUV's and light trucks. Does that
20 also apply to New York, and if that is the case,
21 how can New York pick and choose, isn't it the
22 case that you adopt the California standards or
23 adopt the National Standards?

24 MR. ROBERT CAMPBELL: We have
25 different standards for light trucks, SUV's

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1 currently, as I said, all vehicles under 8500
2 pounds gross vehicle weight. I am not in a
3 position to explain how it was that the law
4 passed in New York was different than was passed
5 in Massachusetts.

6 MR. ZONIS: Do you know, does CAFE
7 apply tougher standards on SUV's as well?

8 MR. ROBERT CAMPBELL: I do not know.

9 MR. ZONIS: It seems to me that you
10 made a very strong point, I think quite a proper
11 point, about SUV's, light trucks and vans
12 accounting for more than 50 percent of all
13 vehicles sold. So if we are really going to be
14 going in this direction, you've got to follow the
15 mass pattern rather than be confused, I will say,
16 by what New York does.

17 MR. ROBERT CAMPBELL: The bills were
18 introduced last year and the Assembly and the
19 Senate call for the same emission standards to be
20 applied for both the light trucks and SUV's.

21 MR. ZONIS: Okay. I always think of
22 diesel trucks as being the source of
23 particulates, that is also true of gasoline
24 engines and the motor cars.

25 MR. ROBERT CAMPBELL: Absolutely,

1 absolutely. You see more of it from the large
2 diesel vehicles, and, in fact, I am assuming most
3 people in the room know that the new low sulfur
4 diesel fuel were signed into law, went into the
5 federal register about a year ago, I forget the
6 exact date, whether it is 2004, 2005, but it also
7 requires manufacturers of heavy-duty diesel
8 engines to change the design on those engines and
9 be ready to handle that low sulfur fuel when it
10 is available. We made good progress on diesel
11 here in the last year or two. We have failed
12 miserably to address the pollution from light
13 trucks and other passenger vehicles.

14 MR. ZONIS: Thank you.

15 DR. MANGANELLI: This corporate
16 average fuel economy that you mention said they
17 haven't followed it in the last few years; is
18 that correct?

19 MR. ROBERT CAMPBELL: When you say
20 followed it, it is not -- they are not going to
21 volunteer to stop selling light trucks because
22 someone in the back room doing the calculation
23 that says our fleet average is going to exceed
24 what the law allows us, sort of one of those
25 incorporations you find it out after the fact and

1 when the tabulations were done for vehicles sold
2 last year and the EPA rated miles per gallon,
3 that's what they concluded.

4 DR. MANGANELLI: That is only a
5 guideline, nothing enforceable by law, is that a
6 guideline.

7 MR. ROBERT CAMPBELL: I don't know
8 as I am prepared to discuss how that piece of
9 the law is enforced. What it is, it is a target
10 and the companies, the manufacturers of
11 automobiles and trucks and so forth are obligated
12 to design to those increased mileage standards,
13 but they don't control demand for their vehicles,
14 at least they would suggest they don't, but if
15 you watch the TV ads, it appears to me that they
16 promote it.

17 DR. MANGANELLI: I am not clear, you
18 say they obligate it but it is obligation
19 without --

20 MR. ROBERT CAMPBELL: The first time
21 it happened and the Senate was trying to set a
22 plan for increased miles per gallon for all
23 vehicles over the next 17 years, he didn't have f
24 the votes to carry it.

25 DR. MANGANELLI: What is the Sierra

1 Club doing about it?

2 MR. ROBERT CAMPBELL: I am here today
3 speaking to you and others about it in the room,
4 and I am promoting New Jersey -- I am promoting
5 New Jersey adoption of the California LEV II
6 emission standards.

7 Thank you. Thank you very much.

8 CHAIRMAN MAXWELL: Next is Jeff
9 Tuttle from the New Jersey Sierra Club.

10 MR. TUTTLE: Thank you for allowing
11 me this opportunity, and I am glad when I follow
12 one of our members who is active on issues that
13 matter to all of us and that is what the Sierra
14 Club is about. We are a state, national and
15 local environmental group made up of volunteers
16 as well as staffing on the different levels, and
17 that's what drives the club and where it goes.
18 What is really very important to us is this, it
19 is something that we all need and we can't do
20 without it.

21 When you look at the quality of air
22 that we have here in New Jersey, you have a
23 serious problem. We have spent billions of
24 dollars trying to improve the air over the last
25 30 years, and we have also had a series of

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1 setbacks and I think we need to look at some
2 other areas where we may be able to make some
3 gains. We have been focusing a lot on mobile
4 emissions; enhanced I&M, hasn't give us as many
5 gains as we hoped. In New Jersey, we have newer
6 cars and we didn't get to as many older cars as
7 we thought we would get at.

8 We tried things like the Open Market
9 Emissions Trading Program, but it didn't have any
10 set protocol and problems with that kind of
11 program, though on the other hand OTAG has worked
12 somewhat better.

13 We have problems with Title Five
14 where only about 30 percent of the facilities in
15 New Jersey have come in and been able to be
16 permitted because of either budget cutbacks or
17 other problems in trying to get that program
18 going forward which means that there are
19 facilities out there in the state, and we are not
20 sure what they are doing, polluting more or less.
21 We have no concept compared to New York state
22 which is at about a 77 percent compliance on
23 Title Five and Pennsylvania which is at 79
24 percent. So, we have problems and we need to
25 look at ways of trying to get at some of these

1 problems.

2 One thing that I like to see happen
3 in the air program, and I know in this year's
4 budget there is money for the NJ I&M program, the
5 technology program in the Department that we
6 should move for that. It makes for the applicant
7 to get the information and looked at much easier
8 and better and easier for the citizens to be able
9 to review things. That might be one way that we
10 can get at some of the backlog that we have by
11 investing in the technology to make it easier and
12 more user-friendly for us.

13 We need to look at the Clean Air
14 Council, which is one of the few parts of
15 government that tries to look at air, but we need
16 to have a better coordination between the
17 agencies of government that really affect air and
18 it is not just the Department of Environmental
19 Protection but the Department of Community
20 Affairs which has a limited and small greenhouse
21 program and needs to be expanded. Also the
22 construction codes and the types of materials
23 that we use, maybe look at more air quality
24 issues, especially with paint and varnishes and
25 things like that.

1 We have the Board of Public
2 Utilities that sets energy policy, and again we
3 need to look at energy policy more from an air
4 perspective, not just from a rate-payer
5 perspective or utility perspective. The
6 Department of Transportation, which is one of the
7 biggest providers of dirty air in New Jersey, not
8 necessarily their own fault but building the
9 infrastructure is one of the ways that we help
10 promote more sprawl and more air pollution. New
11 Jersey Transit, that we need to do more for mass
12 transit and Department of Commerce have
13 sustainable business to encourage more businesses
14 that are green friendly. We really need to more
15 broadly look and integrate the different parts of
16 government to move forward. And we need to work
17 with the business and the regulated community as
18 well as the environmental community and local
19 governments at large because that is the only way
20 that we are going to get at some of the
21 reductions that we need in the future.

22 We have new technologies coming
23 about every day and they are really important;
24 that we are on guard to using them, whether it is
25 California car or going to zero emission vehicles

1 which may not work for everyday people, but
2 something that can be used, encouraged by fleet
3 for businesses.

4 I will give you an example. One of
5 the problems that we have in New Jersey is that
6 we don't have a real trip reduction program and
7 we need to bring that back and work. I have a
8 friend of mine who lives in Pasadena, and he was
9 given a natural gas power van and he picks up
10 seven of his co-workers to go to work. He pays
11 no car insurance, doesn't pay for the gas. He
12 and his wife can get by with only one car and he
13 picks up the co-workers. The company, in turn,
14 gets benefits in tax breaks, they save having
15 extra parking spaces and they keep a couple pool
16 cars in case somebody works late or has a family
17 emergency. We need to do those kind of things in
18 New Jersey more, especially so many people
19 commute to some of the large businesses in the
20 state, and government offices, working together,
21 we should come up together with saving on air
22 pollution and energy.

23 We need to start looking at ways to
24 encourage people to use more electric lawn motors
25 and not just those that you plug in but try to

1 encourage lawn mowers actually have battery
2 operators, weeders, blowers, not saying that we
3 should ban that stuff but giving incentives and
4 encouragements from having people away from
5 having the John Deere that pollutes more than
6 your family car to something more cleaner.

7 We need to look at dealing more with
8 airports, at federal issues, state issues.
9 There's been bills around for years and the State
10 legislature is looking at a bubble bill to look
11 at air quality and reduction around airports; the
12 volume that we get and the problems that we have
13 from them become more and more. Two-cycle
14 engines, not just lawn motors but motorcycles and
15 jet skis which are annoying. We should be
16 looking at ways to try to encourage the
17 development of smaller four-cycle engines so they
18 are a lot cleaner and less noisy, not only with
19 the air but less headaches.

20 We need to look at smart highways to
21 try to move cars faster, more efficiently. One
22 of the biggest problems we have, we went to Easy
23 Pass, we have a low speed Easy Pass; in Europe
24 they have Easy Pass and in other states they are
25 going to look at Easy Pass going through at 55

1 miles an hour. Not only does it hurt us because
2 it undermines the average citizen with
3 environmental regulation when we say we want Easy
4 Pass or I&M, it undermines to some extent their
5 support for what we are trying to do. We need
6 government to try and do things more efficiently
7 and explain things better for people so that they
8 can continue to support and support even more and
9 expanded programs to help clean air.

10 We need to do a lot more on bus
11 technology in the State of New Jersey, the
12 largest purchase of diesel buses in history.
13 That was a shameful episode by the Department of
14 Transportation and yet they said we will help
15 deal with it by going to low sulfur fuel. And
16 this year, with the budget crisis, they said we
17 will go back to high sulfur fuel because we will
18 save money. That is wrong. These buses are
19 going through the communities that have the
20 dirtiest air and need the technology the most.
21 These are cities in New Jersey where in the
22 summertime, mothers are afraid to let the kids go
23 out and play because the kids have asthma.

24 The time is now to start making
25 changes for the future. The technology is

1 coming in place. I think the will from the
2 public is there. You have a new administration
3 and a new Governor who is committed to protecting
4 the environment. And this is a time to come up
5 with newer solutions and not just go after the
6 big piece, which is mobile cars, but also start
7 looking at some of the smaller pieces we can also
8 add because each time we reduce something, even
9 though the mobile is the biggest chunk, some of
10 these things we can start pulling in, trying to
11 work with business to go after fungible emissions
12 not just out of the smokestacks. These are
13 things that we can do now to help reduce air
14 pollution in New Jersey for future generations.
15 I think everything is in line to entering the
16 right direction and it is a matter of us pushing
17 a little harder and thinking of some new things
18 for our government to do, and I think we can do a
19 lot, and if we don't, it is going to be our
20 generation of shame that the next generation is
21 going to be walking around with more respiratory
22 problems, not less.

23 Thank you.

24 CHAIRMAN MAXWELL: Any questions?

25 MR. McCARTY: You gave a very fine

1 list, one on the emission reduction travel you
2 had a group of people in the van which we had in
3 New Jersey and it failed and was one of the
4 reasons EPA backed off --

5 (At which time there was a
6 discussion held off the record.)

7 MR. McCARTY: New Jersey backed off,
8 what are your ideas that maybe we can make it
9 work the second time around?

10 MR. TUTTLE: We also made it a
11 voluntary program, and in California, it is
12 mandatory program. People don't necessarily
13 like mandatory but mandatory does work.

14 The other way to do it is through
15 incentives. Maybe one of the things we can do,
16 since everybody is talking about the corporate
17 business tax, companies invest in van pools and
18 car pools using alternative fuels, they get a
19 nice tax break. Part of the things that
20 companies can do as part of savings, smaller
21 parking lots, saving money in the long term. I
22 think we need to look at potentially some
23 governmental regulation involved, but I think
24 first we should try a little more of the carrot
25 and maybe if we sit down with New Jersey's 50

1 largest business that employ the most, plus state
2 and county government and start looking at ways
3 of coming up with incentives for them to do more
4 van pooling, also better bus service, jitney
5 service, there is ability to do that.

6 One of the things mentioned was that
7 we work with getting the moneys for the start-up
8 program in Maplewood, they actually do jitney
9 service.

10 Another thing we have been watching
11 and it hasn't gone anywhere is using computers
12 for jitney service in Bergen County. They were
13 trying a pilot program in Hackensack where people
14 dial their phone number and a jitney picks them
15 up to take them to the train. And we have the
16 ability there and we have to start trying more.
17 I think the technology is there, and I think
18 people are more willing today than years ago,
19 especially if they are going to take a train, why
20 do you need to drive your car and park, why not
21 have a jitney? I think they are encouraging, so
22 we can do it financially and potentially, maybe
23 with some regulations.

24 CHAIRMAN MAXWELL: Next is Travis
25 Madsen.

1 MR. MADSEN: Thank you for allowing
2 me to speak today. My name is Travis Madsen. I
3 work on Clean Air Policy for the New Jersey
4 Public Interest Research Group. New Jersey PIRG
5 is a non-profit, non-partisan environmental
6 consumer advocacy organization with 23,000
7 members across the State.

8 We have been working on clean air
9 issues for quite a long time now, everything from
10 cutting down on emissions in the state to some
11 federal level things like improving emission
12 standards for cars and trucks and most recently
13 working to stop the Bush administration's attempt
14 to weaken the new revision of the Clean Air Act
15 which is important in New Jersey.

16 We are here to advise the Clean Air
17 Council on innovative ways of reducing the levels
18 of smog and can-causing toxics in our air. With
19 a 2007 deadline for northern New Jersey to meet
20 the decades-old public health standards for smog
21 and a tougher 88 ppb standard coming down the
22 line in the future, New Jersey needs to use every
23 intelligent, creative approach to clean the air
24 that is available. Reaching these health
25 standards is really critical for the people of

1 the state. It will literally prevent hundreds
2 of thousands of asthma attacks and even prevent
3 new cases of asthma for children across the
4 State. In addition to this, we face threats from
5 cancer-causing chemicals in our air continue to
6 be a growing problem.

7 I will focus my brief remarks on three
8 issues. First, I just want to recap our air
9 quality situation because I think it gives good
10 perspective on where we are where we need to go,
11 and then I will talk a little bit about how some
12 recent studies have really solidified the link
13 between air pollution and respiratory problems.
14 And finally, I will make a few recommendations to
15 the state, including that we require auto
16 manufacturers to produce cleaner cars and trucks.

17 So, although New Jersey has really
18 made some progress on the road to clean air in
19 the last three decades, there's still a ways to
20 go. About 95 percent of the people in the state
21 still breathe air that is unhealthy on many days
22 throughout the summer.

23 Let's take a look at our progress
24 over the last 10 years. (Fig. 1). This is
25 monitored by the Department of Environmental

1 Protection over the last decade. You can see
2 that we made significant progress in lowering
3 peak ozone levels in the early 1990s. However,
4 that progress bottomed out in 1994 and we are not
5 on track to meeting the 1979 health standard by
6 the appropriate deadline.

7 The 8 hour, 80 ppb ozone standard will
8 apply as soon as we read the current standard, so
9 there is a lot of work left to be done, in the
10 short and long term. We need emissions
11 reductions beyond what is currently outlined in
12 the state implementation plan for ozone.

13 Smog is formed in the atmosphere by
14 an interaction between nitrogen oxides and
15 volatile organic compounds by the presence of
16 sunlight. So where do these compounds come from?

17 (Figs. 2,3) Looking at the 1996
18 emissions inventory for the state, this is the
19 Department of Environmental Protection emission
20 inventory from 1996. You can see here that
21 light-duty gasoline cars, basically passenger
22 cars, are responsible for the lion's share of
23 these emissions, more than twice coal-fired
24 electric emissions in the State and looking at
25 VOC emissions, again, we have passenger cars as

1 responsible for the lion's share of emissions,
2 more than double the solvent and paint use in the
3 state.

4 So thanks to tighter emission
5 controls and technological advances like the
6 catalytic converter, cars are a lot cleaner. But
7 changes in what and how we drive are threatening
8 to offset that progress. SUV's burn more fuel
9 than normal cars, and there are a lot of have
10 them on the road, they account for about 50
11 percent of new car sales in New Jersey. Also,
12 the amount that we drove in the last 30 years
13 increased at a rate three times faster than the
14 population growth. All this on top of the fact
15 that petroleum is inherently dirty, and these
16 cars, the emission controls tend to fail and
17 degrade and over time makes it not so much of a
18 surprise that mobile sources are responsible for
19 about a third of the smog in our air.

20 It is not just smog that we have to
21 worry about either, there are hazardous air
22 pollutants in our skies that increase the risk of
23 lung cancer and other diseases. We released a
24 report this November analyzing hazardous air
25 pollutant modeling data from the US EPA, called

1 "Invisible Threats." It is available on our
2 website newsroom at www.njpirg.org. That looked
3 at some modeling data for the hazardous air
4 pollutants for each county in New Jersey.

5 What we found was that the average
6 New Jersey resident is exposed to levels of toxic
7 chemicals in outdoor air that is higher than any
8 other state but New York. (Fig. 4) We estimated
9 the average cancer risk over a 70-year lifetime
10 for an average person in New Jersey to be 1600
11 per million which is over one thousand times
12 higher than the goal set in the 1990 amendments
13 to the Clean Air Act.

14 (Fig. 5) Just to give you an idea,
15 here are some of the ranges of risks that people
16 face in different parts of the state, the Clean
17 Air Act goal is basically the baseline so we have
18 a long way to go to reach that. Most of the
19 risk stems from diesel particulates which contain
20 hundreds of different chemicals that are known or
21 suspected to cause cancer and also things like
22 benzene from gasoline and some lower combustion
23 byproduct contribute to that list, 88 percent of
24 it comes from mobile sources because diesel fuel
25 things are usually mobile, including cars, trucks

1 and all sorts of off-road types of equipment and
2 other assorted vehicles. So these things really
3 stand out as the major challenge between the
4 status quo and healthy air for the people in New
5 Jersey.

6 Ome recent studies have nailed the
7 relationship between dirty air and health
8 problems. Earlier this year the California EPA
9 and University of Southern California completed a
10 study that actually showed that smog can cause
11 asthma in children. We have known for a long
12 time that smog can trigger asthma attacks, but
13 this is the first really strong evidence that we
14 have seen that it contributes to new asthma cases
15 in children who breathe air in dirty parts of the
16 country.

17 There was also a study that came out
18 earlier this year by a George Thurston at New
19 York University and some of the colleagues at
20 Brigham Young University that documented a
21 significant increase in lung cancer risk in
22 people that lived in polluted metropolitan areas.
23 And most of New Jersey qualifies as that. The
24 risk stems from combustion related particulate
25 matter and mostly diesel related combustion and

1 lodges deep in the lungs and even transmit some
2 chemicals into the bloodstream.

3 They found that the risk is
4 comparable to living with a smoker and being
5 constantly exposed to secondhand smoke.

6 Given this new evidence, we must
7 renew our commitment to providing clean and
8 healthy air to all New Jersey residents, and do
9 everything we can to promptly achieve and exceed
10 our public health goals.

11 So we feel that it is absolutely
12 clear that vehicles in the state need to produce
13 less pollution. As the major in-state source of
14 smog-forming emissions and toxic chemicals in our
15 air, vehicle emissions are a major obstacle
16 between the status quo and a healthy future for
17 the residents in New Jersey.

18 We have several recommendations to
19 put New Jersey on a course to clean air, clean
20 cars and clean heavy-duty vehicles so far.

21 We agree that New Jersey should
22 adopt California Low Emission Vehicle Program
23 Phase II, to join Massachusetts, New York and
24 Vermont in moving to the forefront in a national
25 struggle to achieve clean air.

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1 Conventional cars and trucks can
2 take us many places, but unfortunately they can't
3 take us to a future of clean and healthy air.
4 That is why California designed this program in
5 the first place and I think Steve Flint explained
6 in detail about how the program works.

7 I want to mention three things that
8 New Jersey PIRG thinks are critical:

9 It will strengthen emission
10 standards for all new cars sold in the state
11 which will put us on a long-term course to
12 eventually really drastically cutting down
13 emissions from these vehicles.

14 Second, it promotes a transition to
15 inherently low-emission technology by including a
16 requirement that vehicle manufacturers produce
17 new types of cars with very low and even zero
18 emissions. And hopefully some of you got to see
19 some of the cars we had out in the courtyard
20 earlier today.

21 And third, this program is a
22 critical step in lessening New Jersey's
23 dependence on oil, and beginning to reduce carbon
24 dioxide emissions from our transportation sector.

25 These benefits will become much more

1 apparent in the long term. We estimate total
2 vehicle emissions of air toxins and smog will be
3 roughly 25 percent less in 2020 than what we
4 would achieve under the federal program. Taking
5 this small course correction now will result in
6 major changes in the future which will magnify in
7 the year 2020 when zero emission technologies
8 really begin to be commonplace.

9 The zero-emissions challenge is an
10 enormous economic opportunity for New Jersey.
11 We have the chance to attract a technological
12 revolution, all while improving public health and
13 protecting the environment.

14 There's a lot of high technology
15 companies in New Jersey that provide an example
16 of what this could be like. One that comes to
17 mind is Millennium Cell, a company up in
18 Eatontown which designs fuel cells and they came
19 out with a product that drives hydrogen from
20 liquid sodium borohydride. How to store
21 compressed hydrogen, Chrysler installed it in one
22 of its demonstrations. These types of advanced
23 technology come really, I think, of a potential
24 to become an economic engine for the State of New
25 Jersey. We don't have to trade economic progress

1 for clean air progress, they can go hand in hand.

2 New Jersey should position itself to
3 become a nucleus for these types of things
4 beginning by requiring auto manufacturers to
5 start paying more attention to these types of
6 technologies.

7 Also to reduce the high levels of
8 diesel particulates in the state, it is good that
9 the EPA recently passed, we should take what we
10 have learned and expand it to off-road vehicles
11 and look at some of the particulates that
12 Mr. Flint was talking about earlier.

13 In the short term, we think that the
14 Smart Growth idea is looking at ways to reduce
15 vehicle miles traveled with improved
16 transit-friendly design, energy-efficient
17 building standards, urban redevelopment, and
18 renewable energy projects, all of these things
19 have potential to help us clean our air.

20 So, in conclusion, New Jersey and
21 the nation as a whole is at a crossroads. On the
22 one hand we have clean air and a vital economy
23 fueled by energy efficiency and on the other hand
24 we have the status quo were we agree that air is
25 contaminated by the combustion byproducts of

1 fossil fuels, and other states like California
2 and New York are in the better position of
3 becoming the nucleus of clean air technologies
4 and for the long-term health of its citizens and
5 the environment, we sincerely hope New Jersey
6 will make the right turn.

7 CHAIRMAN MAXWELL: Thank you very
8 much, and thank you for bringing in the cars this
9 afternoon, that was a smart move, it was a bold
10 strike, so to speak, and we really appreciate it.
11 It was fun looking at them and chatting with the
12 folks who brought them. Thank you for being here.

13 Any questions?

14 DR. MANGANELLI: I would like to
15 commend Travis on his excellent presentation and
16 thank him for the excellent ideas that he brought
17 forward to the Council.

18 MR. ALI: I saw three of the cars in
19 the back of the building. Do you have any idea
20 how many of those are on the roads in New Jersey,
21 are they used or just on display.

22 MR. MADSEN: Three cars we had out
23 there, one is a natural gas -- we have 1800 I
24 hear, 1800 plus, so the natural gas program is
25 pretty big. I know of seeing electric cars that

1 the DOT is using in Trenton and other parts of
2 the state to help people commute from the train
3 station to places where they work, so those are
4 left over from a demonstration project a couple
5 years back. And the gasoline electric hybrids
6 have taken off, they have been introduced to the
7 market in the last couple years by Honda and
8 Toyota.

9 (At which time there was a
10 discussion held off the record.)

11 MR. ALI: The other question is the
12 SUV. Everybody is talking about this, it is a
13 popular car, van, and how is it being popular
14 with the young people, you must be familiar with
15 the young generation, what can you to really
16 promote the negative effects of the SUV's to the
17 young generation?

18 DR. BIELORY: If we go into a
19 recession, they won't have the money. You have
20 to pay more for your bottle of water than you do
21 for the gallon of gas. A bottle of water costs
22 \$2.00 and a gallon of gas costs \$2.00.

23 (At which time there was a
24 discussion held off the record.)

25 MR. MADSEN: I hear that will get

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1 35, 40 miles to a gallon. Ford plans on
2 introducing one and there's been some
3 demonstrated applications of fuel cells in things
4 as large as submarines, so I don't see why they
5 couldn't put one in a SUV.

6 MR. ALI: I don't know who is
7 promoting it, but whoever is doing it is
8 effective promotion for SUV's and possibly that
9 promotion can be used for something else to be
10 positive.

11 MR. MADSEN: Sounds like a good
12 idea, thank you.

13 CHAIRMAN MAXWELL: Mr. Paul,
14 Stephen Paul.

15 DR. PAUL: My name is Stephen Paul.
16 I am from Princeton University. I am no stranger
17 to the committee. I think I came and gave a talk
18 once back in about 1994, 1995. This is in a
19 completely different subject and what I'd like to
20 mention to you, and I am glad to be able to bring
21 to your attention today is not so much a
22 restatement of the problem in a direction where I
23 feel we need to go as much as I can be true to
24 innovative solutions for clean air, and I think I
25 have at least a partial solution to some of the

1 issues that were brought up in the brochure that
2 was handed out. I went through it fairly
3 carefully, and I think I have e at least somewhat
4 of an answer for the possible innovations in
5 alternative energy that can be used in energy
6 that can benefit the citizens. In there, it
7 talked about less dependence on imported
8 petroleum products, energy security, avoidance --
9 in order to become much less vulnerable to
10 terrorists attacks, et cetera.

11 I wanted to bring to your attention
12 an alternative fuel that was a introduced by the
13 Department of Energy back in 1999 that is
14 non-petroleum, largely renewable and a good bit
15 cleaner -- a good bit on lower emissions than
16 gasoline running in the same automobile. What I
17 wanted to also bring up to point is that there
18 are many tens of thousands of alternative fueled
19 vehicles on the road already not owned by the
20 state. As a matter of fact, most of the owners
21 don't even know they're alternative fuel
22 vehicles Chrysler has been putting out, Ford has
23 been putting out in their Taurus and Rangers and
24 Chrysler in their Voyager and Caravan, mini-vans
25 and GM in their SUV, cars known are flexible

1 alternative fuel vehicles that can run on
2 alternative fuels. The benefits of those
3 vehicles have not been realized in this part of
4 the country because they have been designed to
5 run on ethanol. Ethanol is a good fuel to use if
6 it is available, but most of it is available in
7 the Midwest, there is no real infrastructure to
8 bring it out to the East.

9 I took a look at the design of the
10 cars back in 1996, and I designed a fuel for
11 those cars that was much, much less dependent
12 than ethanol. It is the -- the fuel came to be
13 known as a P-Series and this is an actual copy of
14 the website that the alternative fuels data
15 center, which is part of the Department of Energy
16 has to their website. As I said, 1999 it was
17 approved by the Department of Energy as an
18 alternative fuel, and it happens to be a
19 home-grown idea from New Jersey, and I think this
20 is one of the innovative ways that New Jersey can
21 not only follow other states, but actually leap
22 out in front. The very, very important point is
23 the fuel is made out of materials that have not
24 been able to be used before, people have been
25 trying for many, many years in order to make

1 ethanol out of biomass, and the National
2 Renewable Energy Laboratory, one of its main
3 reasons for existence has tried to find out a way
4 to make ethanol as opposed to sugar cane which is
5 how it is made now, but this is a fuel that is
6 made largely out of cellulosic biomass, that is
7 paper, paper mill sludge, wet paper, agricultural
8 waste, food waste, and urban/industrial wood
9 waste and it can be turned into more fuel
10 components. It also uses another component
11 called hemicellulosic biomass which is a large
12 part of corncob that has not been able to be used
13 economically to be transformed into ethanol. And
14 since there is a lot of wood and a lot of
15 cellulose waste in the area as opposed to a great
16 deal of corn in Metropolitan New York and
17 Philadelphia, this is a fuel that can be produced
18 locally.

19 I am not going to go into any of the
20 fuel properties. If you are interested in
21 taking a look at that, please grab a hand-out or
22 you can go to the alternative fuel data center
23 website which is right here.

24 All I wanted to do was take a look
25 for a couple minutes at the benefits and be able

1 to explain to you why and how using such an
2 alternative fuel, again in existing cars with
3 existing fuel distribution technology, this is a
4 liquid fuel that mixes with gasoline. It does
5 not require development of a huge infrastructure,
6 it uses, for the most part, conventional liquid
7 fuel dispensing technology; as a matter of fact,
8 once it is inside the car, it can be mixed freely
9 with gasoline, there are no issues of complicated
10 fuel management that the owner of the vehicle has
11 to deal with. If you have half a tank of this,
12 you can put in half a tank of gasoline and vice
13 versa, which means that even during the time when
14 the infrastructure is being built up, you don't
15 have people who are being stranded on the roads.
16 And, indeed, that is one of the major concerns of
17 fleet managers, here you can purchase the cars,
18 use it on gasoline if needed, but, of course, you
19 can also use the alternative fuel.

20 But the emission reductions are
21 really quite substantial and they are more or
22 less summarized: It displaces gasoline on about a
23 one-to-one basis; in other words, for about every
24 gallon that is used of this alternative fuel, it
25 displaces roughly a gallon of gasoline.

1 It is made from over 60 percent
2 renewable resources, made from 100 percent
3 non-petroleum resources, essentially sulfur-free;
4 has an oxygen content that is higher than the
5 oxygenated fuels, about 19 percent, that is going
6 to be the cases as with a biomasterite fuel but
7 the emission products are, in my mind, fairly
8 impressive, a 49 percent decrease in non-methane
9 hydrocarbons and another premium grade 55 percent
10 decrease, regular in terms of the carbon monoxide
11 showed 24 percent decrease, premium showed 25
12 percent decrease and given the number of tests
13 that were done on the number of vehicles, a
14 statistical analysis was done and it was shown to
15 show you how much, whether these percentages that
16 I am saying were on sort of wild results that
17 were random because the results were not that
18 repeatable, that is not the case. You can get
19 decreases where the level of statistical
20 significance is quite a bit less than the change.
21 In the last two cases in NOx it was very
22 comparable to gasoline with differences, 16
23 percent being quite different to what you can
24 subscribe to chance.
25 NOx; here is an opportunity where

1 New Jersey has the opportunity to reduce these
2 emissions. There are cars already out on the
3 roads and it is a material that since it is made
4 from waste biomass can go a long way to even
5 addressing solid waste issues, not only in New
6 Jersey but in other states such as New York. New
7 Jersey may have a thing or two to teach New York
8 also, I think. If New York -- if we help solve
9 NOx, New York solid waste problem in terms of
10 organics that is going to make driving at least
11 down Route One significantly more pleasant
12 experience.

13 And so I have a challenge to the
14 Clean Air Council, I think I have shown to you
15 what at least potentially can be a solution to
16 some of these issues that we are talking about,
17 and I would like you to be able to tell me
18 whether you think this fits into your goals.

19 I can tell you that the Department
20 of Environment Protection, a fairly substantial
21 greenhouse gas reduction program and plan they
22 put in the climate change to the program, they
23 put in the last year or two ago, using this
24 particular fuel was significant components of
25 reducing greenhouse gas emissions in mobile

1 sources.

2 I would like you to be able to take
3 a look and say, Does this fit in? If it does, I
4 would like to be able to get in contact with some
5 of the people at the Department of Transportation
6 who are responsible for alternative vehicle fuel
7 purchases to see if a liquid gasoline would be
8 acceptable or preferable to where they are headed
9 now and at least to be done in conjunction with
10 it. And would I like very much to see the State
11 fleet become more general or more specific or
12 less concentrated on one alternative fuel and see
13 if this fits into the programs.

14 I think unlike the compressed
15 natural gas concentration that is there now, if
16 this is used and introduced to New Jersey because
17 there are so many of these vehicles out on the
18 road, I think it could very, very rapidly spread
19 into general use by the population. And as you
20 saw from these reductions, I think that can be a
21 substantial environmental benefit.

22 Thank you.

23 CHAIRMAN MAXWELL: Thank you. I
24 have a question on that in terms of products --
25 by the way, there are people in DOT who do

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1 alternative fuels. Mike is here from the
2 Office of Innovative Technology. You get good
3 attention for it.

4 But in terms of products and you
5 know all of that kind of stuff, is this fuel used
6 anywhere else, currently, is this something that
7 has just come up relatively recently.

8 DR. PAUL: The fuel has been used
9 for a year in the test demonstration City of
10 Philadelphia, it is not commercially available
11 and part of that reason is in this climate
12 investors are somewhat reluctant to put in big
13 investments until they are certain that there is
14 a customer base out there. And the customer
15 base is interested and asked the question that
16 you asked, well, is it out there in the market,
17 anything that can be done, state fleets are
18 fertile grounds are for this. Anything that can
19 be done to show that there is acceptance, and it
20 is convenient and that it works will go a long,
21 long way to getting the financial community
22 interested. It is a critical part.

23 CHAIRMAN MAXWELL: I think the Town
24 of Medford Lakes as well as the N.J. Transit --
25 yes, N.J. Transit, Hamilton, are both running a

1 biodiesel demonstration project, they have been
2 doing that for a couple years. Sharon is the
3 one that you want to talk to.

4 DR. PAUL: This is a fuel for
5 regular spark-ignited gasoline engines, this in
6 particular is not a diesel fuel but does share
7 some of the advantages.

8 DR. BIELORY: It can be used in cars
9 in existence today?

10 THE WITNESS: Flexible fuel
11 vehicles.

12 DR. BIELORY: What vehicles, selected
13 vehicles that are out?

14 DR. PAUL: Since 1998, the Dodge
15 Caravan, the 3.3 liter engine has been made with
16 this. The Ford Taurus, a large portion of the
17 Ford Taurus vehicles that are produced have this
18 capacity.

19 DR. BIELORY: You are probably
20 correct. Has anybody done a survey of the owners
21 of these vehicles whether they realize that.

22 DR. PAUL: You have to dig into the
23 owner's manual.

24 DR. BIELORY: They don't know that
25 they have this.

1 DR. PAUL: Most people don't know,
2 this is made from biomass, making ethanol fuel in
3 New Jersey is going to be difficult because most
4 of it is grown in Kansas and Nebraska.

5 DR. BIELORY: We had a presentation
6 about something like this, the question.

7 DR. PAUL: Ethanol is a component
8 for the fuel, use it as an octane additive and
9 clearly anything that we can do to make that
10 locally, and I know the New Jersey Farm Bureau is
11 interested in that, that would be of tremendous
12 help, it is a natural.

13 DR. BIELORY: I am trying to bridge
14 the concept in a report, the concept is
15 intriguing, meaning it is out there, the question
16 is: Do you have a sample station for these Dodge
17 Caravans to pull up, what would be the cost per
18 gallon, if there was one?

19 DR. PAUL: I have estimates on the
20 cost per gallon, it depends a great deal, since
21 this is waste biomass, it has a great deal to do
22 with what the cost is of the waste material that
23 you get. My given standard fees for disposal,
24 this fuel would have cost between one twenty-five
25 and one-forty a gallon at the pump with taxes.

1 DR. BIELORY: I would ask the Chair
2 if we could get a summary of that. I would like
3 to see it when we come to make the report just to
4 think about it.

5 CHAIRMAN MAXWELL: Sure, whatever
6 we can.

7 DR. PAUL: If you ask for more
8 information or you want me directly for more
9 information, if you go to the website, it will
10 take you to other links that explain it. But
11 there is no financial analysis on it because that
12 is not really appropriate for the Department of
13 Energy website.

14 MR. McCARTY: What is involved in
15 the process in converting this and what possible
16 emissions and things should we be concerned about
17 in this conversion? Is this going to, in making
18 this good fuel, is that going to create another
19 problem that we are going to have to worry about
20 in 10 years, I don't know.

21 A VOICE: I understand, it is a
22 completely valid point and if there are any
23 chemical conversion processes, there are
24 emissions. And I can tell you that the emissions
25 that are from the ethanol part of it are fairly

1 well known because there are ethanol plants all
2 over the country dealing with waste biomass is a
3 little bit more difficult to deal with because
4 the inhomogeneity of the materials that you are
5 getting play a role. All of it is controllable.
6 This is not -- this is a digestion or a
7 liquefaction process, it is not a combustions
8 process. In the course of making this fuel you
9 don't burn things the way that you do in an oil
10 refinery. A great deal of energy is used in
11 order to make gasoline. This does not actually
12 even use oxygen in the air, there is no burning,
13 there is -- it is almost a digestion process;
14 however, to use a pun that is appropriate here,
15 you have the issue of garbage in and garbage out.
16 Any material that comes in, for example, is
17 metallic is not going to be made into fuel, but
18 it is not going to disappear.

19 So if you have anywhere from safety
20 pins to batteries that make it past the screening
21 process, that is going to be left in the residue.
22 You are no worse off than you were when you
23 started except for one thing, it is more
24 concentrated than it was before.

25 If you take a stream and every

1 single stream has, for example, heavy metals in
2 it and then you take all the organics out of it
3 which is 97 percent and then the concentration
4 goes up. That don't mean that you are making
5 pollution, just means that you are concentrating
6 it. And some people would say it is more
7 management what is going to come out of the tail
8 ends of this but not in the fuel is all the waste
9 that goes into it and that has to be disposed of,
10 of course. Now, whether you say that this thing
11 actually makes that pollution or not is, to me,
12 is a question of semantics, whatever goes in and
13 isn't used, is going to come out.

14 MR. McCARTY: The fermentation
15 process you are going to have high VOC and you
16 are also going to have --

17 DR. PAUL: In this case, this is
18 not a fermentation process.

19 MR. McCARTY: Digestion is going to
20 create VOC, isn't it?

21 DR. PAUL: It's going to create
22 VOC's, there is no question about it, that can be
23 put into a gasifier and actually used to make
24 nitrogen for the process. This can be talked
25 about in great detail. I am not going to tell

1 you that there is no -- there has to be, any time
2 you are converting, that kind of degradation is
3 occurring also. If you take this trash and put
4 it into a landfill, that is happening there too,
5 everybody knows where the methane and other
6 chemicals come out it, that is going to happen
7 regardless. The question is, can you put it in a
8 spot where you can control it, manage it and use
9 the waste as opposed to trying to put it in a
10 hole in somebody else's state and trying to
11 forget about it.

12 CHAIRMAN MAXWELL: Thank you.

13 MR. CURRY: Good afternoon. My name
14 is Jim Curry, and I am representing the
15 Environmental Education Fund located here in
16 Trenton, and we are the research and education
17 arm of the New Jersey Environmental Lobby. EEF
18 does research and outreach in support of our own
19 educational mandate and to aid the operations of
20 the lobby, which is a organization of over 100
21 local, regional and state groups as well as over
22 1,000 individual members.

23 I am here today to talk in response
24 to the issue of air pollution about two things
25 that I think is a consensus that is the most

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1 critical areas of attack that address air
2 pollution, one being transportation and two being
3 power generation.

4 At the risk of being repetitive to
5 all the wonderful speakers that came before me
6 about the Low Emission Vehicle II Standard, I
7 will be brief on that. I guess one of the
8 things that people used to argue against
9 legislation is that it is an economic burden that
10 we shouldn't have to bear, and it isn't worth the
11 public health benefits that you would gain by
12 doing it. In fact, the California Resources
13 Board, which are the originators put out a study,
14 '99 or 2000, concluding that LEV II standards
15 would cost only about \$70.00 to implement for a
16 regular car, passenger car, and about \$200.00 for
17 a light truck or SUV, Ford 150, Ford Explorer,
18 something like that. So, in essence, to a
19 consumer purchasing a new car, these costs are
20 somewhat inconsequential compared to the overall
21 costs of buying a car. But the investment that
22 costs like this that makes into public health, I
23 would imagine, I don't know what the exact
24 figures are, would be an excellent investment in
25 public health, reducing health care costs that we

1 incur from increased asthma rates, increased
2 diseases of all kind that occur from air
3 pollution, from transportation. I think we
4 should look to the majority support that this
5 legislation has in our government. Very quickly
6 when it as introduced, it received majority
7 support in both the Senate and Assembly which was
8 impressive and really underlines the necessity
9 for a program like this in New Jersey, so we
10 support this LEV II and hope that it goes
11 through.

12 In the area of power generation, New
13 Jersey residents have few but still limited
14 choices for cleaner power. Right now, you can
15 buy electric power from Green Mountain Energy,
16 there are a few thousand people in New Jersey
17 that do this, it is a little more expensive, it
18 is a little more expensive than your standard
19 utility power, but a lot of it is made from wind
20 energy which has no emissions, from solar energy.
21 I think they also include low-impact hydropower
22 in there as well. So that is an option for New
23 Jersey residents but not something that most
24 residents really know about.

25 In addition, as a speaker before

1 touched on, we have the New Jersey Clean Energy
2 program which was set up by legislation in 1999
3 and provides lots of money every year for
4 efficiency and renewable energy programs. When
5 it was first implemented, in 1999, it was \$350
6 million over the next four years for these
7 projects. And as the previous speaker said, this
8 money comes not from taxes but from a fraction of
9 a cent per kilowatt-hour charge his utility bill
10 which altogether comes out to be quite a bit of
11 money and helpful for this program.

12 What you can do with New Jersey
13 Clean Air Energy Program, it can help the
14 homeowner, the business owner, to purchase energy
15 power sources that they can site at their
16 businesses, homes, solar panels, wind power and
17 the fund provides rebates that defray up to 60
18 percent of the costs, both for equipment and
19 installation and on most of these renewables that
20 are covered under the program are zero emissions.
21 And even when you look at them over the
22 life-cycle costs, their emissions are lower than
23 if you were to purchase your 44 them H coal-fired
24 power plant, oil or gas. The program has
25 actually been quite successful so far, still has

1 a few problems.

2 In some ways the program has been a
3 success. I believe between December 2001 until
4 now, we have both proposals and actual projects
5 that will be getting up to 2.5 megawatts of new
6 and proposed solar photovoltaic power
7 installations, enough power if we were to
8 harness, power 1,250 homes. We have come a long
9 way recently from where we had been. This is
10 promising.

11 There are some problems with the
12 program, problems associated with one of the
13 benefits which is net metering which is install
14 these technologies and sell power back to the
15 utilities to cover costs of power that you are
16 buying at night if you had a solar panel. There
17 are caps on the amount of power that you can sell
18 back which are becoming, more so for our
19 commercial and business customers, kind of a
20 roadblock for the development, for example,
21 vocational technical school in Kearney recently
22 installed a 55 kilowatt solar panel array and
23 because of their status, they fall into the
24 categories, under the regulations, that they can
25 only sell back power at 10 kilowatts or less so

1 they are making extra power that they can't sell
2 back. It is a regulation that needs to be
3 changed.

4 Obviously, the rebates have stirred
5 much interest in the residential communities so
6 there is a desire for this technology and moving
7 this roadblock would help a lot. The problem
8 where the clean energy problem is in its
9 administration, there is a staff at each of the
10 seven utilities that is charged with making up
11 regulations for the people that fall into that
12 utility and administering the program funds.
13 Initially, this sounds reasonable but you see in
14 other states like New York the mandate for
15 managing the fund has been handled much more
16 efficiently by an independent statewide
17 administrator. And actually an audit process is
18 going on right now for the project that will
19 decide whether or not utilities will continue to
20 be able to manage these funds or it will be
21 appointed to meet independent administrator.

22 In addition, as far as power
23 products, we can do a lot in our state to offset
24 the problems, air pollution cost by fossil
25 powered electric industry. We have to look at

1 the power generation; air pollution comes from
2 power plants that are operating without controls
3 for decades and hopefully not continue to do so.
4 New Jersey and other states in the Northeast must
5 continue to pursue all available options to force
6 these power plants to reduce their emissions.
7 We're proud of our state's efforts in the area
8 but dismayed, as previous speakers have
9 expressed, by our federal government's proposed
10 roll-back of regulations governing these plants.

11 The transportation and energy
12 programs represent important steps in the ongoing
13 process to reduce air pollution in our state.
14 We are realizing that it is against our interests
15 to burn finite resources to provide power for our
16 daily needs. Clean sources of power, both
17 stationary and mobile, can over us positive
18 changes in our quality of life. Clean power is
19 also an economically sound solution, providing
20 jobs for workers and the capacity to achieve
21 economic growth, not economic ruin, as those that
22 oppose such energy choices would claim. In
23 fact, several studies have predicted that per kWh
24 produced, renewable energy creates more jobs than
25 fossil fuel energy. New Jersey PIRG predicts

1 that with the modest increases in renewable power
2 use, New Jersey could see a net gain of 20,200
3 jobs by 2010.

4 In conclusion, New Jersey faces an
5 uncertain future. The question, do we hold fast
6 to the status quo or harness existing and
7 practical technologies and policies for our
8 energy needs? We, really must do the latter for
9 the sake of public health, the economy and our
10 quality of life.

11 Thank you. Any questions.

12 (No response.)

13 CHAIRMAN MAXWELL: I appreciate the
14 fact that you gave us a source guide here in your
15 testimony; that is very good, thank you very
16 much.

17 We have Marie Curtis up next.

18 MS. CURTIS: Good afternoon. I am
19 Marie Curtis, Executive Director of the New
20 Jersey Environmental Lobby and as our previous
21 speaker mentioned, we do represent roughly 100
22 local, regional and statewide organizations and
23 in addition, we have another 1,000 individual
24 members and we have a long history of fighting
25 for cleaner air here in New Jersey.

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1 It is almost a decade since we first
2 supported the California car program here in New
3 Jersey, but our legislators at that time weren't
4 primed to listen to us. In fact, two of them
5 actually laughed and we then promoted the idea of
6 electric vehicles, including then Jersey Central
7 & Power and Light before it become GPU, before it
8 came back to Jersey Central Power & Light, and we
9 worked hard and long on that, but we were told by
10 the legislators that those cars wouldn't be ready
11 for decades and here we are today with electric
12 hybrids and some pure electric automobiles on
13 the road, and some of have them right here for
14 demonstration purposes at noon today.

15 This is all very good for our air
16 and good for our economy, but there are other
17 areas that produce even more air pollution per
18 engine but we seem to ignore the possibility of
19 regulation or change in these sectors. I will
20 refer as Jeff Tuttle did briefly earlier to the
21 most polluting of machinery, the off-road
22 vehicles and mechanisms that have no catalytic
23 converters and merely spew their emissions into
24 the air.

25 We all know about the two-stroke

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1 engines, the things that power jet skis and
2 snowmobiles; those are the most polluting in the
3 world. In one hour, they can emit the
4 equivalent of the pollution from 100 cars. Here
5 is where we have to turn our attention, I
6 believe, and soon. At least two manufacturers
7 are currently making four-stroke, less polluting
8 engines for such recreation vehicles. This is a
9 step in the right direction, we should encourage
10 such moves. I know that the greater Yellowstone
11 area is fostering the use of these four-stroke
12 engines because of pollution in Yellowstone
13 National Park.

14 Other machinery that pollutes our
15 air off-road, includes construction vehicles,
16 things like gasoline lawn motors, leaf blowers
17 and the like. Now it would be nice if we can
18 make these pollution devices disappear, but we
19 know we can't do that. However, we can regulate
20 their use, especially on high ozone alert days.
21 We know that we have the means to alert the
22 public in advance when we anticipate a high ozone
23 day, we already do that. The Department of
24 Environmental Protection does that for us and
25 they do a good job by and large. We then ask

1 our seniors , our children and other populations
2 at risk to take appropriate measures to stay
3 indoors on such days. Wouldn't it make equally
4 good sense to limit the discretionary use of such
5 polluting machinery on these days? If we
6 alerted the homeowner, perhaps to the
7 discretionary use and how he would be
8 contributing to an already bad health situation,
9 it would make these users aware of the dangerous
10 emissions that are involved in what they are
11 doing and perhaps it would make people think
12 twice when the time comes for a replacement lawn
13 mower,maybe then we will look at the electric
14 mower instead.

15 We are limiting water usage already
16 because of the drought; is air pollution with its
17 attendant asthma, emphysema, and other related
18 any less serious a problem? I would say no. We
19 are not comfortable to ask the public to forego
20 work-saving devices, yet the price we pay in
21 public health is far too high. When we have
22 harnessed the power of the wind, sun, waves,
23 tides and other natural energy sources, then we
24 can consider the unbridled use of
25 electrically-powered machines.

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1 Our citizens are, by and large,
2 responsible people. When they understand a
3 problem, they respond and try to help. After
4 9/11, people wanted to pitch in and do something.
5 If the health consequences of unregulated use of
6 pollution machines is explained to them, the
7 people of New Jersey will do the right thing and
8 respect limits when the ozone is too high. We
9 would urge the Council to advise the Department
10 of Environmental Protection to set such limits.

11 We believe that government leads
12 best by setting a positive example. Already
13 state government is employing vehicles powered by
14 compressed natural gas and electricity. This is
15 very, very good; in fact, we would like to see
16 more publicity about those vehicles and their
17 programs. Let our citizens know government is
18 doing the right thing. We do commend their
19 efforts, but it should go even further,
20 government grounds and parks should be maintained
21 with non-polluting machines. I know that, for
22 instance, the grounds around the State Museum
23 across the street from my office, they use rakes
24 and push mowers and the like to take care of the
25 grounds over there and we really commend them for

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1 it. Getting behind Transit Check is another
2 means for government to encourage its employees
3 to use mass transit. This has already begun,
4 and it is another step on for a cleaner air.

5 With government setting an example,
6 we can then provide incentives for citizens to
7 follow that lead. Rebates on the purchase of
8 alternate fuel vehicles and assistance in
9 establishing an infrastructure that allows the
10 refueling of compressed natural gas or electric
11 recharging stations is another way to promote
12 cleaner cars. And I was very happy also to hear
13 Jeff mention the employer reduction program, that
14 is something that we worked long and hard on.
15 We worked with DOT, and I thought we had some
16 innovative ideas and programs and then the
17 program become voluntarily and not mandatory and
18 it was no more. Increasing the limit as well on
19 net metering, as you heard, for those who produce
20 renewable energy is another means of providing
21 help for cleaner air. Working with firms, you
22 heard about Millennium Cell in Eatontown, I would
23 suggest that H-Power in Belleville is another
24 one, working with those firms to perfect and use
25 fuel cell technology is the direction we should

1 be working.

2 The technology is here today and
3 maybe more perfecting and streamlining. Fuel
4 cells, however, already power homes and
5 businesses in northern Canada where power lines
6 cannot reach. Those fuel cells to power homes
7 and businesses come from New Jersey, H-Power in
8 Belleville. The power of the waves was tested
9 and harnessed right here off the coast of New
10 Jersey about three years ago. It was an
11 experiment monitored by the U.S. Navy who called
12 it a huge successes. There was enough power
13 generated in an uninterrupted fashion for 12
14 straight months to provide power for 240 homes
15 and after saying it was a huge success, the U.S.
16 Navy set off and we have never heard again.

17 These are things that we should be
18 looking into. In Canada, very recently, we read
19 of a blue energy underwater rotor that was
20 successfully used to harness power in the tides,
21 and this rotor is safe enough and moves slowly
22 enough that fish can swim around it and there is
23 at least, to date, there's been no discernible
24 environmental impact and all of this was done at
25 a minimal cost, either on a par with or cheaper

1 than we are producing energy today with fossil
2 fuels.

3 We can't continue to rely on
4 energy-based on fossil fuels. That road has led
5 to foreign policy dictated by oil dependency and
6 pollutes our air and it threatens our health.
7 Now is the time to move ahead with an increased
8 renewable standard in our state energy policy.
9 Now is the time to encourage new businesses and
10 renewable approaches to business. Our economy
11 will thrive, jobs will be created and the air
12 will be clean enough to breathe freely once
13 again.

14 Thank you. Any questions?

15 MR. EGENTON: Marie, you hit on some
16 pretty interesting topics. There is a program at
17 New Jersey Transit when there is a high ozone
18 day, I think that is well served, it can
19 obviously be publicized a little better, but I
20 know through the chamber we sent it out when we
21 get the alert from people and the incentive there
22 is a couple of our employees on staff will
23 actually opt to take the train that day and get a
24 discount.

25 What I complain to the New Jersey

1 Transit folks is that I ran into a problem last
2 year and the year before that some of the train
3 conductors were unaware of the discount, and I
4 said you have to get the message out there if you
5 are trying to promote that. But you are right,
6 incentives like that work, and I am glad it was
7 brought up at the Council last year and the year
8 before about we need to do more on the public
9 side of things in educating the public, you know,
10 John, go about the lawn motors, the gas grills,
11 the fireplaces and things like that.

12 Obviously, over the years, industry
13 has tried to do their part with installing
14 state-of-art technology. We are looking at
15 pollution now, whether through I&M or through the
16 use of alternative fuel vehicles, what have you,
17 you are right, the focus needs to be -- that is
18 the hardest part, to convince the actual citizen
19 what you can do. And I think there's got to be
20 some type of outreach and education made through
21 all of us collectively, whether through state
22 government, business and the like to get the word
23 out to the public what we will do. If there is
24 a way to do that rather than mandating it and
25 getting them to see the side of it and the

1 benefits of it, I think that is what we should
2 pursue.

3 I am glad you mentioned that, it is
4 a big hurdle but I think down the road, I would
5 rather see us voluntarily doing it than making it
6 a strict mandate, getting people to realize you,
7 as an individual, can contribute to help the
8 problem.

9 MS. CURTIS: I agree with you, I do
10 think that letting people know, using that
11 machinery when we are on an ozone alert date, I
12 think that getting that word out will help to do
13 that public education and says, oh, my gosh, I
14 shouldn't do it on a high ozone date, maybe I
15 should be thinking twice about using it, you
16 know. And as I said, it is not going to come
17 immediately but perhaps when you have to buy that
18 replacement mower or something, I know it is very
19 difficult. I work long and hard.

20 MR. EGENTON: When I looked into
21 it, it was expensive back then, the price has
22 changed now and starting to come down, but I
23 think, as I said, it's the key to the education
24 element of it, and I commend you for bringing
25 that up.

1 MS. CURTIS: Thank you very much.

2 CHAIRMAN MAXWELL: Thank you. Jane
3 Tousman is next.

4 MS. JANE TOUSMAN: I am Jane
5 Tousman. I am here today on behalf of Sierra,
6 but I also was a member of the New Jersey Clean
7 Air Council, somebody that sat in one of these
8 chairs that you gentlemen are all sitting in
9 today.

10 CHAIRMAN MAXWELL: When was that?

11 MS. JANE TOUSMAN: I think in the
12 '80s.

13 I am here today about land use. I
14 know you have heard a lot about it today, but I
15 do specialize in land use, and I do a lot of
16 workshops on land use and to me, something that I
17 found that I was not happy with is when I looked
18 at the municipal land use law for the State of
19 New Jersey, I discovered that one ingredient was
20 really lacking, it just wasn't there and that
21 ingredient which was lacking was the circulation
22 plan. In other words, at the beginning of the
23 municipal land use law there are goals that the
24 law is supposed to achieve, and you have about
25 two things like housing plans, which you do have

1 to have in your master plan, but lacking was a
2 circulation plan, and I don't know how we can
3 afford the luxury of not having a circulation
4 plan mandated in every single master plan of 566
5 municipalities that we spoke about. I think it
6 is important that a circulation plan should be
7 there.

8 Also, there should be a utility
9 plan. We talked about roads and growth and
10 sprawl, and I think that a utility plan should
11 also be there, we want to know where our future
12 growth is and how we are going to accommodate it.
13 I think with the roads and the infrastructure
14 that is also an important thing that happens.

15 The other things that I was curious
16 about, something that I had an involvement with
17 when I was on the New Jersey Clean Air Council is
18 the County Health Act. I understand that we
19 still fund the County Health Act but one of my
20 assignments when I was on the Council was to
21 determine exactly how the different counties were
22 using this money and exactly what they were doing
23 with it and was it really working? We are
24 talking about doing more with less.

25 Well, here is some money that goes

1 out to the counties and it seems to me that they
2 are not doing as much as they used to do. I
3 used to be able to get out of Middlesex County a
4 traffic plan on anything that had a significant
5 impact, and that basically what I am finding now
6 it doesn't exist. It may exist for a lot of
7 other things, but it doesn't exist for a traffic
8 study and I think here again, if we are spending
9 this money on monitoring hazardous waste and
10 other things, I think we should really do an
11 inventory and try to see exactly how it is
12 working and what the money is being used for
13 because the big thing with air quality is
14 enforcements, and up can't have enforcement
15 unless you have counties that will really go
16 after it. So that is what I am looking at.

17 The last thing that I would like to
18 emphasize here is that I really feel that air
19 quality is one of those hidden entities that lots
20 of people know very little about, and that's
21 because there's very little public education
22 about all these things. We hear about acid
23 rain, we hear about global warming, but basically
24 we don't know too much about all of these things.
25 At one point in your history you put out a

1 publication which I am sure Dr. Manganelli would
2 remember which is this publication which made A,
3 B, C out of what is important in air quality. I
4 think that if we are not going to have defeats
5 like we had on the air quality, more mileage out
6 of cars that we suffered in the Congress, we need
7 to have more of an audience that is interested in
8 air quality and that just doesn't happen with the
9 snap of a finger. I think that possibly there
10 needs to be more outreach into the educational
11 community.

12 And also with some of the tools that
13 I have heard the EPA talk about as a way of
14 making very, very clear what the problems are
15 with air quality so that not only the people that
16 are affected by asthma, not only the people who
17 are having lung cancer but actually the
18 individual will know how important air quality
19 is, and maybe even in terms of putting things
20 like trees as buffers between residential areas
21 and commercial areas or just having more plants
22 in your house. Maybe there are other things
23 that are important to air quality, but we do need
24 to educate the public on how important it is and
25 maybe this group could be the one to have the

1 seminar or get some word out to some of the
2 school systems, and really start pushing it
3 because we really do need it. Air is a
4 tremendous quality, clear air is something that
5 we all need and I would hope that you would take
6 me up in my suggestions.

7 Thank you very much.

8 CHAIRMAN MAXWELL: Thank you. We
9 agree with you, and as a matter of fact, we
10 almost knew what you were going to say. About
11 two weeks ago we held an educational summit for
12 high school kids, Middlesex County Community
13 College. There were many people involved in it,
14 we bused kids from three different counties and
15 Dr. Bielory put on an educational seminar on
16 asthma and we went into breakout sessions, we
17 spent the day and it was great.

18 MR. PAPENBERG: For clarification
19 on the county environmental impact monies that
20 are spent, specifically for the air program,
21 there are two programs that the counties conduct;
22 one is the inspection of gas stations, the Stage
23 II vehicle recovery systems and the other is the
24 permits permitting for the different HVAC systems
25 that service large buildings over a million BTUs.

GUY J. RENZI & ASSOCIATES

1 Those are the programs that the e county gets
2 paid for on the air programs and other programs
3 in water and waste. But I have never been aware
4 of any funding to health departments to look at
5 any type of traffic planning.

6 MRS. TOUSMAN: I think that came out
7 of the county budget, but it could be an
8 incentive. Maybe you could provide some
9 incentive for it. There really should be. Seems
10 to me the county has regional interest and we
11 really need to coordinate traffic and so maybe --
12 at one time I know Middlesex County did have such
13 a program, I imagine it came out of the taxpayer
14 dollars that go to the county, but I would still
15 like to see more of it and maybe there is some
16 way you could encourage, without having to offer
17 money or anything, counties to do that again on
18 large projects and you would have to define what
19 a large project is and have the experts do that
20 for you, but it would be very important.

21 Thank you.

22 CHAIRMAN MAXWELL: We have Alice
23 Gitchell from Richard Stockton College.

24 MS. ALICE GITCHELL: My name is
25 Alice Gitchell, and I am the project

1 administrator for the Stockton College Geothermal
2 Project, and I also work as a researcher.

3 The things that I am going to cover
4 are the nature of geothermal technology and a
5 little information about what has happened at
6 Stockton. And then I want to talk about how what
7 we have learned at Stockton can be applied to the
8 New Jersey School Facilities Construction Program
9 which you may know is the largest public works
10 program that the state has undertaken in many
11 years. I am also going to talk a little bit
12 about the comparative economics and energy
13 savings associated with geothermal technology.

14 To begin by discussing geothermal
15 technology, what I am talking about is a
16 technology which allows us to take heat from the
17 ground in order to warm buildings. It also
18 allows us to put unwanted heat into the ground
19 during the air-conditioning season when we need
20 to cool buildings. I am talking about a
21 technology used for HVAC in order to save energy.

22 In nature, when you get a few feet
23 below the ground surface, the temperature is 55
24 degrees Fahrenheit all year round. What this
25 means is a great deal of heat is available.

1 However, heat and temperature are not the same
2 thing; therefore, in order to get the temperature
3 that we want within a building, we use a heat
4 pump and that is the same device that is used in
5 your household refrigerator or a window air
6 conditioner that allows you basically to separate
7 hot from cold and put what you want where you
8 want it. So you can have heat in the building,
9 in the winter and cold goes out into the ground,
10 you can have cool air in a building in the
11 summer and the excess heat goes out into the
12 ground.

13 The exchange of heat between
14 building and ground is accomplished through the
15 use of a bore hole heat exchange field, and I
16 gave you a little graphic on this hand-out,
17 looks to me like that is a school building and
18 what you see is piping that goes into the ground.
19 In that piping you can have water or perhaps
20 water interface that circulates with heat in the
21 ground. This is simple technology, basically
22 you are not making heat, instead of heating a
23 building by using fuel, you are heating a
24 building by taking the heat and putting it where
25 you want it. So you are moving heat around and

1 this is accomplished through the use of
2 electricity because you need to pump the water
3 through the loop and move the air around in the
4 building as you would with any heating and
5 cooling system.

6 Most of the college classrooms and
7 office space at Stockton State is heated and
8 cooled geothermally. This project was not
9 installed when the college was built in 1970, but
10 rather planning again around 1990 when it was
11 obvious that the 20-year old heating and cooling
12 system of the college would require an upgrade.

13 So Stockton's retrofit is very
14 large. It is 1,600 tons of cooling capacity
15 which is how we measure the size of these
16 systems, and to give you something to picture
17 that is about the size of three large high
18 schools. A high school might have a cooling
19 capacity, cooling need of about 500 tons.

20 Our geothermal bore hole field is
21 under one of the parking lots. It is a bit over
22 three acres. I don't think very many people
23 around Stockton know what is under the parking
24 lot. The installation was accomplished
25 basically in one summer after the students left.

GUY J. RENZI & ASSOCIATES

1 What we have there are 400 bore holes, and we are
2 careful to call them bore holes, not wells,
3 because in fact they are closed loop and so the
4 water that circulates through the system does not
5 touch the groundwater.

6 The 400 bore holes are each 425 feet
7 deep which means that we have miles of pipe going
8 down into the earth under our parking lot for
9 heat exchange purposes. When all of this piping
10 comes together, it is in a 16-inch pipe, so you
11 can picture the size of the place where the
12 maximum amount of water passes. And that water
13 moves at the rate of 4,000 gallons per minute.
14 Our system does not include antifreeze, it's
15 never been close to a freezing temperature, so
16 that if we have a leak, we are not posing any
17 kind of an environmental hazard.

18 Inside the building, heat pumps take
19 water from this and either extract heat to heat
20 the building or release heat to cool the
21 building, and this is done at a great many
22 different locations, and the advantage of
23 geothermal technology is that it is extremely
24 decentralized.

25 Now, our heat pumps range in size

1 from three tons, which is small, that is enough
2 to cool a small house, up to about 25 tons, which
3 would not have been our choice but with the
4 retrofit, some of the large units had to be used.

5 It is difficult to cover, to
6 estimate costs but Stockton system has certainly
7 paid for itself. We believe that we are saving
8 about \$300,000 per year on fuel costs. Now, if
9 you look on the back of the paper that I gave
10 you, I can tell you how energy use change and
11 this is taken straight from utility bills between
12 1990 and the year 2000, that is before and after
13 our geothermal installation.

14 Despite the size of the pumps that
15 are used for the geothermal system, our electric
16 use dropped. This will not be the case with
17 every geothermal system, but it is the case with
18 ours, and our use of natural gas dropped
19 drastically. We retained a small use of natural
20 gas for perimeter heating. I took all of those
21 numbers and converted them and found that we had
22 a 13 percent drop in our carbon dioxide
23 emissions, that decreased.

24 However, Stockton did not stay the
25 same, no college does. We had a significant

1 increase in activity. If you look at the
2 right-hand column, the number of students in
3 residence were up 14 percent, full-time students
4 19 percent and the amount of floor space 25
5 percent, so if you adjust for those increases,
6 what you really see is a drop in carbon dioxide
7 emissions, that is somewhere in the 23 to 30
8 percent range. So I feel confident in saying
9 that Stockton dropped its carbon dioxide
10 emissions by 25 percent.

11 And I must point out that we always
12 had an increase in electrical use during that
13 time period because of computerization. I
14 didn't do calculations for nitrates and sulfates,
15 but they are also reduced.

16 Now, knowing what we do about our
17 own system and how it worked, I took a look at
18 the Newark city school construction program
19 because we are engaged in a massive public works
20 endeavor in the Abbott Districts, and I did some
21 calculations to judge what we might gain if we
22 applied geothermal technology in the school
23 program. There are 420 buildings in the Abbott
24 Districts that are scheduled to be replaced,
25 renovated or added to. And I point out that the

1 Abbott Districts are roughly 25 percent of the
2 state's school students so there are still 75
3 percent of students that need buildings that are
4 not covered in that school program. But if your
5 experience is like mine, you know that many
6 school districts are building right now.

7 I looked at Newark and found that
8 in their program, which I think is 40 new schools
9 and 30 major renovations, they needed 204,000
10 tons of cooling capacity, and that if it is done
11 geothermally could be a savings of 15,000 to
12 30,000 tons of carbon dioxide per year.
13 Extrapolating by population, I came to the
14 conclusion that we could save as much as 450,000
15 tons of carbon dioxide per year. That number,
16 if measured against the state's goal for carbon
17 dioxide reduction, were in the range of a couple
18 percent of the state's overall goal for carbon
19 dioxide, and I feel very strongly that any
20 technology that can contribute a couple percent
21 toward meeting New Jersey goals is one that
22 deserves support.

23 I did want to point out that when I
24 talk about saving carbon dioxide, I am talking
25 about comparing geothermal technology to what I

1 would call conventional systems, which from my
2 research purpose is I have said that is gas-fired
3 boilers and electric chillers, that is not the
4 system that shows up everywhere because gas
5 supply is not available everywhere. Geothermal
6 technology, geothermal installations and capital
7 costs can be a little more expensive than
8 conventional technology in some parts of the
9 state and substantially more in other parts of
10 the state. Therefore, when decisions are being
11 made about heating and cooling public buildings
12 like schools, it is essential that we be thinking
13 in terms of life-cycle costs, not capital costs.

14 I am very concerned with respect to
15 the state school facilities program that if we
16 get too involved with the idea that everything
17 has to be done on time and under budget, and we
18 don't stop and look at life-cycle costs, we are
19 going to miss an opportunity to save money, to
20 save energy and to reduce air pollutants.

21 Finally, I want to say just a little
22 bit about solar photovoltaic and I bring you this
23 information because we just completed some
24 calculations that suggests to us that in current
25 market conditions and the rebates that are now

1 available, the investment per dollar saved for a
2 foot for photovoltaic, basically you have to
3 invest about six times as much money to get the
4 same savings as you would get from a geothermal
5 and heating cooling system. So I felt that the
6 Clean Air Council would be well advised to look
7 closely at decisions that are being made in the
8 educational, the school facilities construction
9 program in order to be sure that the decisions
10 made there give us the best possible outcome for
11 clean air.

12 CHAIRMAN MAXWELL: Thank you very
13 much. That is very, very interesting. You
14 start to hear more of that geothermal coming more
15 on line and we heard about that earlier today, it
16 is really pretty fascinating and so eloquently
17 simple.

18 Does anyone have any questions?

19 DR. PAUL: You said that the cost
20 of installation varied quite a bit from slightly
21 more than conventional systems in some parts of
22 the states to considerably more than others.
23 What features around the state, considering this
24 is a closed system, make it more expensive in one
25 area than the other, is it the ability to make

1 bore holes.

2 MS. ALICE GITCHELL: The geology
3 which is the only thing you can't adjust.

4 DR. PAUL: Which types of geology
5 are the most attractive in which parts of the
6 state?

7 MS. ALICE GITCHELL: South Jersey
8 is the best area because with the sand and clay
9 which is easy to drill through, then you have a
10 wide range of configurations. In northern New
11 Jersey, you have to look at each site
12 individually because things can change, geology
13 can change within a mile or two. So you have to
14 be more cautious in your planning. And there are
15 certain areas in northern New Jersey --

16 DR. PAUL: What are you looking for
17 in generals , are you looking for bore soil,
18 lower water table.

19 MS. ALICE GITCHELL: No, water
20 table is okay, high water table is fine, water is
21 good because then you get good
22 thermoconductivity. What is on -- rock is okay
23 too, provided that your driller is experienced
24 and has the correct equipment. Probably the
25 most challenging thing is cobalt and boulders, so

1 if you have, for example, an overburden, if you
2 have one that is 100 feet deep with cobalt and
3 boulders, that's okay, you have to know the depth
4 to bedrock. Bedrock is okay. It is the
5 combination of situations that is difficult.

6 What I am concerned with is that
7 people are eliminated geothermally from
8 consideration based on the fact that they simply
9 don't know what's down under the ground, and so
10 they think in order to investigate, I will have
11 to spend a lot of money, and they give you a
12 price and then say, but at that price, it is not
13 worth doing it. What it reflects is not the
14 geothermal is a bad choice, it reflects that they
15 don't know and they are being cautious and it is
16 understandable.

17 DR. MANGANELLI: We were told this
18 morning on the decision about wet sands was ideal
19 for this, more importantly was in the buildings
20 we were told that, for instance, one side might
21 be the hot side of the building facing the sun
22 that you can cool and heat at the same time which
23 is a very flexible system.

24 MS. ALICE GITCHELL: Yes.

25 DR. MANGANELLI: What temperatures

1 do you maintain, what temperature do you maintain
2 in your buildings in the summer and winter?

3 MS. ALICE GITCHELL: I think in the
4 summer about 74 and in winter 71. There's no
5 difference between what to do with this that you
6 can do with a conventional system quirks that
7 happened at Stockton that people complain about
8 has to do with a retrofit.

9 DR. MANGANELLI: I was thinking in
10 the laboratories where we are using a number of
11 hoods, pumping the air and increasing it, so on,
12 in your laboratories, you still maintain the
13 temperature.

14 MS. ALICE GITCHELL: We still
15 maintain the temperature ranges. One of the
16 buildings was designed for 100 percent fresh air
17 and in that we have more small heat pumps spread
18 around the building because it was new
19 construction and we can do it exactly how we
20 wanted to. A building like that is always going
21 to be an expensive building. Now, Stockton's
22 geothermal project is available to offer
23 information to anybody who wants it. I brought a
24 pile of literature so anyone who likes it should
25 get some from me.

GUY J. RENZI & ASSOCIATES

1 DR. MANGANELLI: I was talking to an
2 engineer from Kane University who put in a
3 geothermal system and the photovoltaics they used
4 it in the windows so therefore they can generate
5 the electricity.

6 MS. ALICE GITCHELL: Building
7 integrated photovoltaic offer wonderful
8 possibilities. We have a small photovoltaic
9 unit on our newest building. We did a
10 calculation to see how much electricity we can
11 generate if we covered all our roofs to the same
12 extent that we cover the new building, and we
13 found out that that would generate \$30,000 of
14 electricity per year which frankly versus our
15 electricity need is not all that much.

16 But, as I said, the building intake
17 graded photovoltaics offer different
18 possibilities. We feel very strongly that
19 basically every kind of technology is going to
20 need to be used to make the changes that we want.

21 CHAIRMAN MAXWELL: Thank you very
22 much.

23 Rhesa Ramdeen.

24 RHESA RAMDEEN: Thank you. Good
25 morning. My name is Rhesa Ramdeen, I come from

GUY J. RENZI & ASSOCIATES

1 Stockton College of New Jersey. We all know
2 that in New Jersey the public density is the
3 highest in the country and one of the biggest
4 problems that we have is suburban sprawl. We see
5 housing development after housing development
6 going up everywhere and basically this won't be a
7 problem because high density housing isn't really
8 such a bad thing. But because of improper poor
9 planning, people end up having to drive
10 everywhere and basically we are not having too
11 many standards pass for high mileage vehicles.

12 Recently in Congress the CAFE
13 standards was not passed. This would have
14 limited SUV's to the higher mileage but this
15 wasn't passed. While sprawl is a very important
16 issue and that needs to be addressed as well so
17 that that can be stopped, but I am going to talk
18 about what can be done to stop the pollution that
19 is being caused by the sprawl so this inefficient
20 pattern can be stopped, there is a way to deal
21 with the problems of automotive overuse that
22 results from the development that has already
23 taken place. I would like to have more effective
24 public transportation so that people won't have
25 to use vehicles quite as much as they do right

1 now. Currently, people always choose their
2 vehicles over public transportation because if
3 you have a car, you are not going to take the bus
4 because basically people complain that it is
5 unreliable, it is dirty, it is slow. And for me,
6 my biggest probably is that it is unavailable.
7 I don't have a car, so I live in South Jersey
8 right now and there's basically no buses to get
9 -- I live in Pomona, New Jersey, and to get to my
10 school from Atlantic City which is a 15-minute
11 drive would take two-and-a-half hours to get the
12 right bus. There is only one bus that goes there
13 and it stops every five minutes so someone who
14 has a car would not choose to take a bus,
15 obviously you are going to drive 15 minutes.
16 Even if that causes a lot of vehicular traffic
17 and pollution and contributes to global warming,
18 who cares about that stuff if it is going to take
19 two-and-a-half hours to get to something that
20 would take me 15 minutes.

21 So I think making public
22 transportation more available would be helpful
23 with these problems.

24 In other areas, urban areas where
25 public transportation is readily available, the

1 other issue that I have heard more about is
2 comfort, safety, cleanliness of waiting areas. A
3 big complaint is that the bus stops don't have
4 adequate shelter so you end up waiting in the
5 sun or rain or snow with nothing really to
6 protect you from the elements. So, of course, if
7 you have a car also that is another reason why
8 you wouldn't take public transportation,
9 sometimes buses don't show up and that is another
10 problem. So basically I think we must make
11 public transportation more accommodating to the
12 public so that it will be more desirable to using
13 private vehicles.

14 My proposal is that the State of New
15 Jersey should increase funding for public
16 transportation improvements. This would lead to
17 more buses that could serve more routes and run
18 more often. This will also create jobs for bus
19 drivers. Also improvements of bus stop shelters
20 which could provide basic shelter to
21 customers, cleaner and safer bus and train depots
22 and a publicity campaign to make people aware of
23 these changes and of the general benefits of
24 public transportation. And that would make
25 people aware of these improvements and also what

1 are the benefits of taking public transportation
2 over using your own car.

3 In addition to changing the number
4 of buses and routes, I also propose that any new
5 buses that are purchased should be of clean fuel
6 technology. Currently we have the hybrid
7 gas/electric engines in some cars. This would be
8 very useful in buses because hybrid electric
9 engines recharge every time you stop and buses
10 make a lot of stops so that would be perfect for
11 that use.

12 Fuel cells are also available in
13 cars although not widely available, so I think
14 this would also be a great choice for new buses,
15 both of these options will reduce air pollution,
16 carbon dioxide emissions and they are much more
17 fuel-efficient than combustion engines. And I
18 can only say these things have to be done now.
19 People don't like public transportation, it has a
20 very bad reputation, so if it started now, I
21 think in the very near future we can implement
22 these changes and change public opinion about
23 taking public transportation.

24 CHAIRMAN MAXWELL: Thank you very
25 much. That was thoughtful, that was well done.

1 MR. McCARTY: I have one comment;
2 having grown up right near your school in
3 Absecon, the only direct buses from that area to
4 Trenton are the casino runs.

5 MR. EGENTON: Before the Light Rail
6 line, there wasn't anything at all to and from
7 that point where I am, Camden County to Trenton.

8 (At which time there was a
9 discussion held off the record.)

10 DR. MANGANELLI: I would like to
11 commend Rhesa for a fine job.

12 MR. PAPENBERG: I would like to state
13 that I believe that the problem may not be solved
14 easily because N.J., the problem is looking at
15 the potential ridership in the area and through
16 the surveys in the rider potential is just not
17 there, they are not going to put the buses there.
18 A better idea was the one discussed earlier, that
19 type of potential hopefully in the short run
20 would be something itself that the college could
21 institute, the pool. If you do not have the
22 population concentration, it is not going to make
23 financial sense for the N.J. Transit to buy the
24 buses and have the buses run there.

25 RHESA RAMDEEN: I think perhaps if

1 they have smaller -- in Atlantic City, they have
2 the jitney buses that would work for small
3 populations.

4 MR. PAPENBERG: The computer ride,
5 Dial a Ride, is perfect because that way it can
6 be developed to meet your needs, whatever
7 population it is.

8 DR. MANGANELLI: What percentage of
9 your students are residential and commuter versus
10 commuter.

11 RHESA RAMDEEN: I have no idea.

12 MS. ALICE GITCHELL: It might be
13 50-50, we have a fine commuter percentage.

14 DR. MANGANELLI: Then what he says
15 maybe we can work out something.

16 CHAIRMAN MAXWELL: Next speaker is
17 Michael Napoli.

18 MR. NAPOLI: My name is Mike
19 Napoli, I am from Stockton also. It says Water
20 Watch on the thing because I am a member of the
21 Water Watch. More importantly, I am talking for
22 the environmental students at Stockton College
23 right now, I am an environmental student.

24 In our classes, we have been talking
25 about really grim things and the pollution and

1 talking about in London, in London ,what was it,
2 50 years ago, 4,000 people died, doubling of
3 child mortality due to air pollution. In New
4 York in 1966, 1,000 people suffered respiratory
5 illness, 168 died from a thick layer of air
6 pollution that enveloped the city for two days,
7 and we have been doing these projects with
8 writing issue briefs and my last one was on
9 alternative fuels which was a big part of the
10 conversation here today with vehicles and stuff,
11 and basically what I thought was a good idea
12 because the alternative fuel vehicles -- now,
13 somebody brought up now an appeal to young people
14 and how this kind of technology is going to get
15 out there, so with that being an issue on
16 people's minds, to do a public works or New
17 Jersey Transit incorporating some of these
18 alternative fuels into their buses would be a
19 good idea.

20 In Chicago, five years ago, their
21 public transportation implemented, they bought
22 three hydrogen-fueled buses. Now, it cost \$1.4
23 million to build each bus and \$1 million to
24 install a fueling station, but the reason to use
25 hydrogen is better because it is zero emissions,

1 it is just water vapor. So right now that
2 technology is not accessible to the public
3 because it -- there are no hydrogen fueling
4 stations, so the reason why public work projects
5 like New Jersey Transit that use it is because
6 their buses always run on a schedule and come to
7 a localized main station which is a fueling
8 station, a hydrogen fueling station could be
9 built to distribute fuel to a large number of
10 buses. So Chicago did it on a small basis but
11 if you do this on a larger scale, it will not
12 only help to fuel cell technology to propel it,
13 but it also makes the public more aware of the
14 situations. I mean, you can even put a little
15 hydrogen bus sticker on them.

16 I was looking on the web at
17 Georgetown University, they have actually made
18 hydrogen fuel cell buses and they have -- the
19 technology is very, very patented and looking
20 pretty good, so right now, Arkansas, California,
21 Arizona, Maine, Maryland, Massachusetts, New
22 Mexico, Ohio, Oregon, and Rhode Island, they all
23 have instituted alternative fuel benefits, tax
24 exempt statuses or something like that. So New
25 Jersey also has some of these, but to do, New

1 Jersey Transit and use hydrogen buses would be
2 very right for the State because the high
3 population density. I read right off of the
4 pamphlet that was to come here, that New Jersey
5 is expecting a million more people this year.

6 CHAIRMAN MAXWELL: That's 10 years
7 out, 10 years from now, there will be 9.4 million
8 people as opposed to 8.4.

9 MR. NAPOLI: That would
10 necessitate that public transportation would be a
11 viable and practical thing to compensate for
12 these people coming in and hydrogen fuel cells
13 being pollution free could definitely propel the
14 industry and also make New Jersey a cleaner
15 place.

16 I think that's it. Thank you.

17 CHAIRMAN MAXWELL: Thank you. I
18 appreciate the time you put into this and also
19 the fact that you put footnotes in and that goes
20 back to history.

21 DR. MANGANELLI: Congratulate you on
22 your contributions.

23 CHAIRMAN MAXWELL: I think we are
24 going to end this Clean Air Council Public
25 Hearing on a positive note. I would like to

1 thank everyone.

2

3 (Whereupon the hearing was concluded at

4 5:10 p.m.)

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C E R T I F I C A T E

I, LINDA L. PSYLLOS, a Certified
Shorthand Reporter, License No. 1184, and Notary
Public of the State of New Jersey, do hereby
certify that the foregoing is a true and accurate
transcript of the testimony as taken
stenographically by and before me at the time,
place and on the date hereinbefore set forth.

I DO FURTHER CERTIFY that I am
neither a relative nor employee nor attorney nor
counsel of any of the parties to this action, and
that I am neither a relative nor employee of such
attorney or counsel, and that I am not
financially interested in the action.

