AGENDA: CSO PHASE III STAKEHOLDERS GROUP

NARRAGANSETT BAY COMMISSION

DATE: March 12, 2014
TIME: 1:00 P.M.
PLACE: Narragansett Bay Commission
Corporate Office Building
One Service Road
Providence, RI 02905

PRESENTERS:

MIKE DOMENICA
RAY MARSHALL
TOM BRUECKNER
RICHARD RAICHE
GREG BARD

PANEL:

AMES COLT
LANCE HILL
STEVE COUTU
JOE HABEREK
DORIS ASCHMAN
GREG GERRITT
AL MANCINI
STEVE SCIALOBBA
HAROLD GARRITT
JAN REITSME
PATTI LUCCARELLI
DAVID CARR
JARED RHODES
CAROLINE KARP
LOU LANNI
CHRISTIAN CAPIZZO

ANGELO LIBERTI

OTHER ATTENDEES:

MIKE WALKER
SHEILA DORMODY
DAVID TURIN
PHIL HOLMES
LESLIE QUISH
MICHAEL GAGNON
BEN NASCENZI
TIM THIES
JOE MASINO
MEG GOULEF
KEITH GARDNER
KATHRYN KELLY
GREG GERRITT
STEVE SCIALABBA
GEORGE PALMSCIANO
LOU LANNI
BEN SALVATORE
LANCE HILL
DAVID BEDOYA
HAROLD GADON
JAMES TOOMEY
ALICIA GOOD
WILLIAM SEQUINO
JAMIE SAMONS
MELISSA CARTER
JAMIE SAMONS

(The hearing commenced at 1:03 p.m.)

MR. DOMENICA: I would like to be the first to welcome you to the first stakeholder, CSO stakeholder meeting for Phase III. Looking ahead to Phase III, on behalf of the Narragansett Bay Commission, welcome. If you're in this room for a different reason, you may want to leave quickly, sewers and waste water can be catchy, as we all know.

My name is Mike Domenica. I am pleased and honored to be asked to be a moderator/facilitator for these workshops. This is the first of six different workshops we'll have. I was also pleased to be part of the first stakeholder workshop, which is 18 years ago. And I look around the table and see a number of faces of people that went through that process there, which was a two-year process, that actually was very successful as we went through it, stakeholders starting off from different perspectives, not really understanding the missions and agendas and interests of different groups.

By the end of the process, it came

25 together. And it's a remarkable success story

1 over the last 18 years through the first two
2 phases of the CSO program, to be able to put in
3 place the tunnel system and the Woonasquatucket
4 interceptor and other facilities has been a
5 remarkable achievement in this day and age. Ray
6 was just remarking to me how he is tired of
7 construction.
8 MR. MARSHALL: I've had it.
9 MR. DOMENICA: But it has been a very
10 successful process, and in a large part due to the
11 stakeholder process that preceded it.
12 So why are we here now? We're here
13 because as the Commission comes to the end of the
14 Phase II program. The question is, what will
15 Phase III look like?
16 Of course, there is a plan on the
17 books, but the world has changed. The regulatory
18 framework has changed, technology has changed, the
19 physical infrastructure around us has changed.
20 There has been a lot of change.
21 In addition, you have the issues of
22 debt, debt service, infrastructure priorities; in
23 addition to water infrastructure, in addition to
24 wastewater and CSO, all types of infrastructure

25 problems. So the economic environment we're

1 facing is different than it was 18 years ago.

2 The federal programs for support of

3 these types of projects has changed dramatically.

4 And the priorities, as we will talk primarily

5 about priorities as we go through the next nine

6 months next year. So we'll see how the priorities

7 have changed as well.

8 The purpose of the workshops is to

9 basically understand what's happened in the last

10 20 years. For those of you who are new to the

11 process, it will be -- hello, Angelo. He's one of

12 our alumnae from many, many of these types of

13 programs. Angelo was at one of the first

14 workshops years and years ago.

15 But to understand what happened over

16 the last 20 years, understand the current

17 situation, and look at the options going forward.

18 And one of the big objectives is to get on the

19 same page with regard to terminology, with regard

20 to understanding.

21 There's a lot of acronyms, a lot of

22 terms we talk about in the business, but to get

23 everybody talking about the same thing, so when

24 someone says something, green infrastructure or

25 storm water management, or whatever it is, there's

1 a common understanding of it. So that's a big
2 purpose of these, to understand of course the
3 costs, the benefits, the implications, and I think
4 most critically, the uncertainties related to the
5 future.
6 This business of wet weather management
7 is very complex. If you haven't been through this
8 before, you'll be astounded. You'll be
9 frustrated. You'll be tearing your hair out,
10 because the terminology and the process of going
11 through wet weather planning, wet weather
12 management, wet weather projects is very complex.
13 Whereas we used to be able to look at a
14 wastewater plant inside a fence, and the abutters
15 were the people around the plant, when you're
16 talking about wet weather, you're talking about
17 the whole sewer system all over the town, all the
18 neighborhoods, all the abutters, everywhere, all
19 the streams, all the issues coming together. It's
20 a complex process, and it will take real attention
21 and commitment on behalf of you folks who are here
22 today.
23 I want to thank you on behalf of the
24 Commission, as well as Ray will, for being here

25 and committing the time. The goal here is to

1 assist and advise the Commission as they go
2 forward to defining what Phase III will look like.
3 And your participation is critical and very much
4 appreciated.
5 Some preliminaries. Before we go
6 around and have introductions, bathrooms are out
7 the door in the hallway, right out there. Who
8 doesn't have a cell phone? Great. Don't turn it
9 off. Everyone else, if you could be courteous,
10 turn off your cell phones, or at least put it on
11 vibrate. That would be nice.
12 The session is being recorded. We have
13 a court reporter, Margaret Golden, who we welcome.
14 She is recording our commentary and questions as
15 we go through. And the emergency exits are out
16 this door and to the right at the end of the hall,
17 I believe.
18 Having said that, what I would like to
19 do is go around the table now for the stakeholders
20 and have each of you introduce yourself with your
21 name, your affiliation, and then, just so
22 everybody is on the same page, some affiliations
23 aren't necessarily immediately recognizable with
24 regard to their mission by the name, so what's

your affiliation's mission here in Rhode Island.

So start there.

MR. COLT: Good afternoon. My name is Ames Colt. I chair the Rhode Island Bays, Rivers, and Watershed Coordination Team. The coordination team is a seven-state agency commission dedicated to interagency strategic planning and investment for our fresh and marine water and watersheds. I am based administratively at DEM, but I serve all the agencies on the Commission or the team on behalf of the governor. I'm actually based in the office of the governor. Great to be here.

MR. HILL: My name is Lance Hill. I'm the Public Works Director for the City of Pawtucket.

MR. COUTU: Good afternoon, Steve Coutu, Director of the City of East Providence.

MR. HABEREK: Joe Haberek, engineer in DEM, Office of Water Resources.

MS. ASCHMAN: Doris Aschman, Rhode Island Department of Health, engineer in drinking water quality.

MR. GERRITT: Greg Gerritt. I originally represented the green party at the stakeholder process. I don't know if I'm

representing them these days, but I work with

Friends of the Moshassuck and the Environment Council of Rhode Island, and I'm also part of the new group looking at green infrastructure, generally in Providence and Newport.

MR. MANCINI: Al Mancini from the Rhode Island Department of Utilities and Carriers. I'm the Division's engineer in water and wastewater.

MR. SCIALABBA: Hi, Steve Scialabba with the Division of Public Utilities and Carriers. I'm an accountant. We oversee -- the Commission actually regulates NBC's rates and how this program affects rates.

MR. GADON: Harold James Gadon of the CAC system advisory committee to the NBC committee, without any authoritative powers. We have been following Phase I and Phase II quite a long way.

MR. REITSMA: I'm Jan Reitsma representing Governor Chafee.

MS. LUCCARELLI: Patti Luccarelli. I'm an attorney with the Public Utilities Commission, and we approve all NBC's rates.

MR. CARR: David Carr of Cumberland Sewer Department.

MR. RHODES: Good afternoon. Jared

Rhodes, Chief Rhode Island Statewide Planning Program. My primary mission is to staff the Rhode Island -- and integrate the physical, economic, and social development of the state to various agencies and municipal governments.

MS. KARP: I'm Caroline Karp, Brown University Environmental Studies. When I was on this advisory committee 18 years ago, I was the director of the Narragansett Bay Estuary Program, and I also served on the Bay Commission's Citizen's Advisory Committee. I continue to have many students work on bay water quality, logical public policy and law problems. So I follow all this.

MR. LANNI (phonetic): (Inudible)

MR. BENDER (phonetic): Deputy director, department of public works.

MR. CAPIZZO: Christian Capizzo, Special Assistant to the Attorney General, Rhode Island Attorney General's Office Environmental Unit.

MR. LIBERTI: Angelo Liberti, Chief of Water Protection at DEM.

MR. DOMENICA: And I notice Dave Turin and others at the table that I think are key to

25 this process. If you could introduce yourself as

1 well.

2 MR. HOLMES: Phil Holmes. I represent

3 the Rhode Island Shellfishermen's Association and

4 the Citizens' Advisory Council. And I was an

5 original stakeholder.

6 MR. TURIN: David Turin with the US

7 Environmental Protection Agency and Water

8 Enforcement Program.

9 MS. DORMODY: Sheila Dormody, the City

10 of Providence.

11 MR. WALKER: Mike Walker with Commerce

12 RI, the state's economic development agency.

13 MR. TOOMEY: James Toomey, the

14 sustainable lab coordinator at Blackstone Valley.

15 MR. DOMENICA: I see a number of folks

16 in the back there that --including the consultants

17 who you'll be getting to know quite well. Tom

18 Brueckner and Kathyrn, who have been leading the

19 program. Jamie, the public affairs director at

20 NBC. He'll be speaking, and you'll be getting to

21 know them quite well.

22 With that, what I'd like to do now is

23 turn it over to Ray Marshall, Executive Director.

24 Ray will say a few words.

25 MR. MARSHALL: First of all, I want to

1 welcome and thank you for taking the time out of
2 your busy schedules to take part in this effort.
3 There will be a series of six meetings, as you
4 know, and we really need your input. And while
5 there might be some times when you just want to
6 sit there and listen passively to what we've
7 already done and what we're planning to do, there
8 are going to be other times when you will want to
9 speak out. And we want to encourage you to do
10 that.
11 The first time we went through this
12 process, the first meeting or two, it was very
13 interesting, a little on the chaotic side,
14 actually. I mean, the views and opinions were
15 just incredible. But over the course of time, we
16 actually agreed as a group to a particular plan,
17 which we have followed.
18 You can see the pictures up on the wall
19 there of the main spine tunnel that was built
20 several years ago. And our commissioners and
21 chairman want you to have input. Don't think that
22 anything you say is unimportant to us, because it
23 isn't. The biggest concern our Commission has
24 right now is the affordability of the program.

25 Phase I and II plus upgrading the

1 treatment plants have cost just over $700 million.
2 And right now we estimate, the way Phase III is
3 envisioned, it will cost another $500 million. So
4 the rates have gone from 165 to 5 and a quarter or
5 530, somewhere around there, for the average
6 single-family home owner. Very concerned about
7 that.
8 We're trying to find ways to control
9 that rise in rates. And it's almost primarily or
10 exclusively because of debt service. There are
11 some O&M expenses. Obviously, when you build new
12 facilities, you have to run them. But it's
13 primarily the debt service that drives the rates,
14 or has been driving the rates.
15 So we're trying to find new and
16 innovative ways to address the problem, such as
17 green infrastructure. And we're trying to
18 identify ways of mitigating the impacts of other
19 work that we know we're going to need to do in
20 Phase III. And so we welcome your input. If you
21 have ideas that have worked other places or things
22 that you want us to consider, please let us know.
23 And there are some people that were not
24 able to be here today or as yet that will --that

25 are part of the stakeholder's group. So we'll

1 have a few other voices that will be joining in
2 along the way.
3 And with that, I'll turn it back to
4 Mike. Again, thank you for your time and your
5 interest.
6 MR. DOMENICA: Before the meeting
7 started, Rich Raiche with Montgomery Watson made a
8 comment that I look like a news anchor up here
9 with my coat on and everything. And it reminded
10 me of the little cartoon, you may have seen it
11 years ago, where the news anchor on a TV news show
12 in the evening says, "Now we're going to turn our
13 attention to the upcoming rate hike. And through
14 the sewers, about the sewers." And he said,
15 "Anybody interested in hiking through the sewers,
16 show up at such and such a place tomorrow
17 morning." You all are interested in sewers. And
18 it binds us all together.
19 A little ground rules regarding these
20 meetings, just so that we're on the same page.
21 With regard to attendance, obviously you all are
22 committed. These meetings are critical, as Ray
23 emphasized. Missing a meeting, given the relative
24 infrequency of them and the amount of work that's

25 done, is critical. So it's so important to attend

1 every meeting. If you can't make one and have an
2 alternate, that would be imperative as well.
3 We need to begin and end on time. I
4 tried my best today. We did a great job. That
5 will be my responsibility as we go forward. If we
6 start late, we don't want to finish late. Both
7 are bad, so that's my job.
8 Stay on subject and follow the agenda.
9 We'll have an agenda for every meeting. There's
10 presentations set up and time for questions and
11 answers. There's a lot of possibility and
12 opportunity for dialogue. So we will stay on
13 schedule.
14 One person at a time speaking.
15 Generally that's not a problem, never was the
16 first time. The problem was little side meetings
17 going on everywhere. We had one or two multiple
18 side meetings at times.
19 Listen to understand, not to
20 contradict. Try to understand. As I said, these
21 issues will be complex. Understanding doesn't
22 just come right away all the time. It takes kind
23 of tossing it around and digesting it once or
24 twice before the light bulb comes on. So listen

25 to understand.

1 There's no right or wrong answer at
2 this point. We're looking at existing situations,
3 future situations, and what the options are going
4 forward. So nothing is right or wrong to start
5 with.
6 Engage. As Ray indicated, engagement
7 is critical. Silence infers consent. Doesn't
8 mean consent, but it infers it. Infers
9 understanding. So if you don't understand
10 something, or if you have a different perspective,
11 please try forth with it.
12 Respect the views of others. Check
13 your understanding by asking questions. Going
14 back to that same point. If you're not quite
15 sure, don't be shy. Ask a question. Clarify it.
16 I suspect there will be a high percentage of
17 people in the room asking the same question that
18 don't want to step up and ask it. So feel free to
19 ask the question.
20 Constructive, respectable debate is
21 desirable. Debate is desirable. We want it to be
22 constructive and looking toward the issues, not
23 toward positions or people, but toward issues.
24 That's the key.

25 We have a parking lot at the back that

1 issues come up, questions that come up, that are
2 related to the subject but not particularly
3 necessarily to the agenda of the day. It will be
4 put in the parking lot. And after the meeting,
5 we'll put them in the right place in the future or
6 pick them up at the end of the meeting, if we have
7 time.
8 We will have breaks. There's coffee,
9 water, and other things at the back, but they are
10 breaks, not sabbaticals. So try to make them
11 short. Try to reconvene everybody.
12 We mentioned cell phones, laptops,
13 communications. I'll shut mine. And lastly,
14 follow the ground rules.
15 So with that, any comments or
16 suggestions on the process and goals?
17 FROM THE FLOOR: Are you going to
18 publish a calendar of all the meetings?
19 MR. DOMENICA: Yes. It will be
20 published. There will be a website. There is a
21 website right now.
22 Tom, do you want to --
23 MS. SAMONS: At the end of the meeting
24 all the presentations will be available on the NBC

website, as we have the transcripts. Also agendas

are coming.

FROM THE FLOOR: The website is on the bottom of the agenda?

MR. DOMENICA: The agendas for the next meetings will be there as well.

THE COURT REPORTER: May I make a comment? Because I don't know all your names, and I couldn't possibly remember everybody who introduced yourself, if you could kindly just state for the record, if you want to make a question or a comment, just say your name, and that would be great. That way I can have your name properly included in the transcript. Thank you.

MR. GADON: Harold Gadon. This is a mandated issue. It's not a matter of whether or not we will do it. It has to be done, so we'll decide the best way to get it done.

MR. DOMENICA: Anything else? Don't be shy.

MS. KARP: I want to cover --

MR. DOMENICA: Caroline Karp.

MS. KARP: Caroline Karp. I have often a lot to say. And I follow this issue closely,

because my group authored the NBC element of the

state guide plan.

One way of managing a meeting is to let everybody speak before the same person speaks again. That will keep a person like me in better control. Let me just say, we both are capable of talking quite a bit.

But I also -- I guess I want to just say from the start, it seems to me we ought to explore everything with the state of the water or state of the bay, and not assume that Phase III is preordained. And I say that based on my position on Phase I.

MR. DOMENICA: Good. Thank you. Regarding precluding people from speaking twice in a row, or until everyone else is speaking, we would probably -- won't lay down that strictly as a guideline. I'll take some responsibility for making sure it's spread around.

There will be times we may go around and ask each stakeholder their opinion. If you have no opinion, that's fine. Or if you want to withhold it, that's fine. But that gives everyone an opportunity to speak. We will do that at times.

Anything else? Thank you.

The first order of the business on the agenda is Tom Brueckner, who will give a presentation on CSO program overview.

MR. BRUECKNER: Okay. Welcome all to the second stakeholders' group. One thing I want to just talk about is the parking lot. I don't think Mike was returned to the parking lot. It's hard to find a space to park. It's that board over there we'll be writing on.

One other thing. As you know, next week is -- on Monday is Saint Patrick's Day. So I just had a question.

First question of the group is, what is Irish and comes out in the spring? Anyone?

MS. KARP: Clover.

MR. BRUECKNER: No, it's patio furniture. So it's good to get them laughing before we start.

So I'll talk about the reevaluation of the Stage III NBC program. I've been involved in the CSO program actually since the beginning, in 1990. So I'm pretty old. And I know a lot about CSO's, and I think not everyone here does.

So I just want to do a little bit of

25 background. The first question is, what is a

1 combined sewer overflow? Most of you know, but
2 for those of you who don't, what happened when the
3 city was developing in the late 1800's, the city
4 built sewers. This is the city of Providence.
5 The sewer was built and discharged
6 directly to the river. They didn't have any
7 treatment plants back then. When they built the
8 sewer system, they built a combined system;
9 meaning, it took flow from both houses,
10 businesses, sanitary flow from toilets, and the
11 storm run-off from streets all went into the same
12 pipe and discharged to the river. Dry weather,
13 wet weather, whenever.
14 By the way, the city of Pawtucket and
15 the city of Central Falls also have combined
16 sewers, and those sewers were built about -- early
17 on, about the same time as the sewers from
18 Providence. In the early 1900s, when the city of
19 Providence realized they were having real
20 pollution problems, they built a treatment plant
21 over here at in Fields Point across the street.
22 And they also made changes to the sewer system by
23 putting in a slot at the bottom of this pipe that
24 goes out to the river to direct the flow in dry

25 weather into an interceptor sewer that they built

1 close to the plant.

2 In Providence that was done in the

3 early 1900's. In Blackstone Valley, Bucklin

4 Point, in Pawtucket and Central Falls area, it

5 wasn't done until the 1950's. Quite a lot of time

6 passed between those two communities.

7 Now when it rains, though, the combined

8 sewer takes the flow into the storm water and the

9 sanitary flow into the outfall pipe. It can't all

10 fit into the interceptor and go into the treatment

11 plant. So what happens is in wet weather we have

12 discharges of storm water mixed with sanitary

13 sewage.

14 And because of the sanitary sewage

15 that's in the outfall or the overflow, we have

16 severe pollution problems, primarily bacterial

17 problems. And it's basically a public health

18 problem. So by federal law, CSO's must be

19 addressed to meet the water quality standards.

20 As I just mentioned, the primary

21 pollutant of concern is bacteria. It affects both

22 shellfishing and the use of water for bathing.

23 Another pollutant of concern is

24 floatables, probably not as much as bacteria, but

25 it's basically just the material that comes up

1 from storm sewers and from sanitary discharges.
2 In 1992 we signed a consent agreement. NBC signed
3 a consent agreement with DEM to establish a
4 schedule for planning, designing, and construction
5 of the CSO facilities in order to comply with the
6 federal law.
7 In 1994, two years after the consent
8 agreement was signed, we came up with a conceptual
9 design report. It was approved by DEM to comply
10 with the Clean Water Act. The estimated cost for
11 that program was $478 million.
12 The rate increase was from -- estimated
13 from at that time $125 per year for a single
14 family dwelling, and it was projected it would go
15 up to $425 a year at the end of the program
16 construction. And construction was going to take
17 place over nine years.
18 Now, the program that was developed or
19 recommended and approved by DEM really was a
20 program to collect the flows that were going into
21 the rivers from the overflows and divert them to
22 storage facilities. And in this particular
23 alternative, we had a number of tunnels that were
24 being built, one along the Providence River and

25 Moshassuck River and one being built that would go

1 along the Seekonk River and tie into the Bucklin
2 Point plant.
3 This tunnel was tying into the Fields
4 Point plant. And then there was another tunnel
5 that was going to be built that would pick up the
6 overflows along the Blackstone River and Pawtucket
7 and Central Falls.
8 Along the Woonasquatucket River, there
9 were five storage facilities that were to be
10 built. These were near surface facilities. The
11 tunnel was going to be a deep rock tunnel that
12 would be about two to three hundred feet
13 underground. There was another near surface
14 storage facility to pick up an outlying overflow
15 in Central Falls. This was the program that was
16 going to be $478 million.
17 In 1994 we began design, preliminary
18 design of the approved CDR facilities in
19 accordance with the consent agreement. Also in
20 1994 the EPA revised the CSO policy to provide
21 more flexibility, particularly with regard to the
22 size of storm that needed to be addressed.
23 The cost implications of the program
24 and the impacts on water quality and trying to

25 relate the program to water quality standards,

1 possibly making revisions to the standards to
2 accommodate the program.
3 In 1996 we decided that we were going
4 to reevaluate the program that was approved by
5 RYDEM in the CDR for a couple reasons. One was
6 the new CSO policy. There was flexibility in the
7 policy. We wanted to see if that would be
8 beneficial to us in developing a different program
9 that might be more cost-effective, because cost
10 was a very big concern, as you saw, $478 million,
11 and increase the user rates substantially.
12 Another was technical concerns. We
13 found that when we were doing the geotechnical
14 program for the tunnels, there was some areas
15 where the rock was a little iffy, and we weren't
16 sure we wanted to put tunnels in those areas.
17 So in order to address and reevaluate
18 the program, as Mike had alluded to earlier, and a
19 number of other people around the table have
20 attended, we set up a stakeholders group to do the
21 evaluation.
22 After two years of meetings, about 18
23 months of meetings and six months to prepare the
24 recommended plan by the stakeholders and a

25 conceptual design report, it was approved by DEM

1 in 1998. The cost was reduced for this program
2 from the $478 million to $390 million.
3 The rate increase was at that time just
4 in those years that it passed, it had gone up to
5 $165 a year, because of other programs we were
6 doing. And it was estimated that after the 17
7 years for construction, so the construction period
8 was longer, which was part of the CSO policy gave
9 you more time to do the program, we estimated that
10 the rates would be $300 per year at the end of the
11 construction phase.
12 So the goals for the alternative 17 and
13 the new recommended program were that we would
14 have a 98 percent reduction in annual CSO volume.
15 Right now, the estimate is an average year we
16 discharge about 2.2 billion gallons from the
17 CSO's.
18 To put that in perspective, the
19 treatment plants we own, the two plants do about
20 20 billion gallons a year. So about ten percent
21 of the flow going through the plants goes through
22 the CSO system. We estimated that with the
23 reduction in bacterial discharges to the receiving
24 waters, we would see an 80 percent reduction in

25 shellfish bed closures, which I think most of you

1 are familiar with, that there's a policy that DEM
2 enforces that regulates when the shellfishing beds
3 will be open. This program, because of the --
4 addressing the bacteria, would see a reduction in
5 the time those beds would be closed. And it was
6 designed to capture a three-month storm, which was
7 defined to be 1.6 inches of rain in six hours,
8 which is a fairly good-sized storm.
9 What it means to be a three-month
10 storm, we expect to see a recurrence four times a
11 year. So we were addressing basically to get down
12 to less than or equal to four overflows per year
13 from the system.
14 The program was also going to be built
15 in three phases instead of just one phase, as was
16 previously proposed. The first phase was going to
17 be completed, or actually was completed in 2008.
18 The second phase is ongoing now and will be
19 completed at the end of this year. And the third
20 phase is scheduled for completion in 2021. But it
21 remains to be seen if that's the schedule we can
22 adhere to. This is the current program for the
23 CSO's.
24 As I mentioned, there are three phases.

25 The kind of pinkish phase, first phase, is a

1 tunnel that's going to be -- that was constructed.
2 It goes from the Fields Point treatment plant
3 across the street, basically up to the foundry
4 on -- 16,000 feet long, 26 feet finished diameter,
5 holds about 62 million gallons and primarily
6 addresses the overflows that are along the
7 Providence River.
8 There was also part of Phase I -- what
9 we were doing, working more at the Bucklin Point
10 treatment plant, we put in what are called wet
11 weather facilities. There's a very large overflow
12 right before the plant that was discharging
13 untreated storm water and sanitary flow to the
14 Seekonk River.
15 That flow is now diverted to the
16 treatment plant almost all the time, where it gets
17 primary treatment and disinfection. Again, it's
18 critical, because the primary pollutant is
19 bacteria. And with the disinfection, we really do
20 a good job at reducing the bacterial pollution
21 from there, that CSO.
22 The second phase consists of two
23 interceptors, one along the Woonasquatucket River
24 to pick up the overflows there, and one along the

25 Seekonk to pick up the overflows there. Both are

1 near surface interceptors, meaning they are about
2 25 feet below ground. They are done by micro
3 tunneling.
4 And they will be done by the end of
5 this year. Most of the work is complete, in fact.
6 There are also some sewer operation projects on
7 the east side. Those are nearly complete. That
8 picks up two overflows, one to the Seekonk River
9 and one to the Moshassuck River.
10 And there was a wetlands facility, that
11 outlier that I told you about that was going to be
12 done by the -- near the storage facility, is now a
13 wetlands facility. It goes into a small holding
14 tank. Small storms are captured and discharged to
15 the interceptor. After the storm, anything the
16 small tank can't capture goes to a wetland
17 facility for further treatment.
18 In Phase III what's going to be a
19 another tunnel from the Bucklin Point treatment
20 plant all the way up to the Central Falls line,
21 there's two interceptors up at Central Falls to
22 pick up the overflows there. This would address
23 the overflows to the Blackstone River and to the
24 Seekonk River.

25 And then there's a fairly large

1 overflow on the Moshassuck River that was going to
2 be picked up by a small tunnel that will be
3 connected to the other tunnel that was going to be
4 built, part of Phase III.
5 This is another graphic which basically
6 shows the three phases but done differently. This
7 shows the outfalls. And they are color-coded the
8 same as the previous graphic.
9 The Phase I overflows are shown in pink
10 or red or purple, whatever that color is. The
11 second phase overflows are shown in green along
12 the Woonasquatucket, the Seekonk and the one up
13 here, an overflow 106. And Phase III overflow is
14 shown in the yellow-gold color. Also shown on
15 this is the relative magnitude of the overflow so
16 you get a sense of what we're looking at in terms
17 of impact from various locations.
18 And the biggest overflow that we had
19 was down here right at the treatment plant, picked
20 up of most of South Providence. As you see, that
21 has been addressed by Phase I. That was greater
22 than 20 million gallons in the three-month storm.
23 We also picked up the overflow, as I
24 mentioned, at Bucklin Point, which was another

25 good size and very concentrated, because it was

1 really a discharge from the interceptor coming
2 into the plant.
3 We have another very large overflow
4 that is part of Phase III right here on the
5 Seekonk River, another big one up on the
6 Blackstone. This one I mentioned where the adit
7 was going to be provided. There's a fairly big
8 sized one out of the Moshassuck, and that's a much
9 smaller river than the Blackstone, so it has a
10 much bigger impact.
11 Then you can see almost all the other
12 overflows are relatively small. Keep in mind as I
13 go through, I present it so you get a feel for the
14 fact we dealt with some of the big overflows along
15 the Providence River, but many of the other large
16 overflows are still of interest.
17 How does the tunnel work? I give you
18 this because we talk about tunnels in Phase III
19 and we already built one. This is flow that
20 currently goes out. This is the pipe that
21 currently goes out to the river. We put in a
22 diversion structure to divert that flow into a
23 gate and screening structure that then conveys the
24 flow to a drop shaft. That's 250 feet deep and

25 goes into an adit that connects the drop shaft to

1 the tunnel that takes the flow to the plant.

2 And that tunnel, as I mentioned, is 26

3 feet finished diameter, 16,000 feet long, 62

4 million gallon capacity. This tunnel will

5 terminate just actually across the street at a

6 tunnel pump station where the flow is then pumped

7 from the pump station after the storm and given

8 secondary treatment at the treatment plant, if we

9 have capacity to do so.

10 A very large storm will provide

11 secondary treatment for some of the flow and

12 primary treatment with disinfection for the

13 remainder. But the majority of the 1.1 billion

14 gallons that we captured since 2008 when this was

15 was done was 1.1 billion gallons per year we've

16 been capturing. Or over the five years, 5.5

17 billion gallons have gone through the tunnel and

18 received secondary treatment.

19 The majority of the flow has received

20 secondary treatment. And as I mentioned, the

21 annual CSO volume is 2.2 billion gallons. So

22 we're capturing about 50 percent of the overflow

23 volume of the current tunnel.

24 We have projected when we did Phase

25 I -- when we did the CDR we collected about 40

1 percent in Phase I, 20 percent with Phase II, and
2 the other 40 percent with Phase III. So Phase I
3 is capturing a little bit more than we had
4 estimated.
5 This is the completed tunnel, just to
6 give you an idea. There's no people standing
7 there so you can get a sense of how big it is, but
8 that is 26 feet in diameter, finished diameter.
9 And it was just walked about two weeks ago by the
10 construction crew, and the tunnel was found to be
11 in very good condition, almost the way it was when
12 it was built.
13 This is the way we are doing the
14 interceptors, as I mentioned in Phase II. It's
15 called -- done through micro tunneling. Basically
16 you build two pits; one an exacting pit, and one a
17 receiving pit. The machine goes in here, and it
18 basically pulls the pipe behind it and burrows
19 through the ground to get from one pit to the
20 other.
21 That is what was done along the
22 Seekonk. That Seekonk interceptor and the
23 Woonasquatucket interceptor. That's what the
24 little tunnel boring machine looks like. The way

25 the main tunnel was built was with a much bigger

1 machine. Same idea, but with a 28-foot face.

2 So just to give you a summary of the

3 CSO project cost by phase, the -- I can't read too

4 well. I don't have my glasses on. But $375

5 million actual cost to finish, Phase I.

6 The projected costs for Phase II, and

7 these are pretty close. I think that says 213.

8 The estimated cost for Phase III for the current

9 program we're proposing, which is the tunnel and

10 the interceptors, is 605 million. And the total

11 cost of all three phases estimated right now is

12 1.2 billion.

13 Now, you remember the CDRA that we had

14 done back in 1998 estimated the cost for the three

15 phases at 390 million. So our estimates were

16 obviously low.

17 This shows the impact on user fees. So

18 the base, the first, the blue is the base, which

19 is cost for service in 2002, and that's carried

20 through. The green showed the increase due to

21 operational costs.

22 Obviously, we put the tunnel online.

23 We made upgrades to the two treatment plants at a

24 cost of over $100 million. So there's additional

25 costs running the plants for electricity and

1 chemicals.

2 The orange is the debt service for the

3 money we borrowed to build the facilities, the CSO

4 facilities and the treatment plants. As you can

5 see, that has been the biggest contributor to the

6 increase in user fees.

7 As I mentioned, the CDRA said that when

8 we were done with the three phases, we should be

9 at $300 for user fees. We are currently

10 approaching $585 per household user fees. So you

11 can see that we have substantially exceeded what

12 was estimated.

13 The other thing I wanted to mention is

14 that in 1994 and since, the EPA has put out

15 guidelines for affordability. And the rule of

16 thumb is it's two percent of the median household

17 income. If we use Central Falls as the median

18 household income of 29,000, we are right now at

19 $585, or pretty close to the two percent mark for

20 determining affordability.

21 So you can see that we really do not

22 have much -- in fact, there's really no capacity

23 to go beyond the two percent for some of the

24 communities in the district. And we're almost --

25 by 2017 we'll be exceeding the two percent median

1 household income for Central Falls and possibly
2 other communities.
3 So we are currently looking at doing
4 further reevaluation of the Phase III program.
5 And the reason for doing that, there are a couple.
6 One is obviously the cost factor, again, which was
7 the first reason for doing the original
8 stakeholders. And we're back because we're very
9 concerned about the impact on rates.
10 The second reason is that EPA has
11 further -- done further guidance for CSO programs,
12 wet weather issues, and has come up with some new
13 approaches to dealing with wet weather issues, as
14 Mike mentioned. And we wanted to look at those
15 factors and see if it might result in some change
16 to our Phase III program.
17 The other reason is, when we did the
18 stakeholders the last time, there was a
19 recommendation that we reconvene the stakeholders
20 after Phase I was completed and after Phase II was
21 completed. We didn't do it after Phase I,
22 primarily because we just didn't have enough
23 information at that point to present, to see if
24 there was -- what the impact was on water quality.

25 But we do have that information now. Phase II is

1 coming online, and we thought it would be a good
2 time to reconvene, to see where we are, where
3 we've gotten to with the first two phases, and
4 then evaluate where we want to go.
5 So the reevaluation task. The first is
6 to develop a sewer hydraulic model for the Bucklin
7 Point service area. We need to do that in order
8 to do the evaluation for the alternative for Phase
9 III. You need to know what's going into the
10 facilities in order to design their size and
11 figure out how you're going to do the program.
12 The second is evaluate changes of water
13 quality since completion of Phase I and expected
14 water quality upon completion of Phases II and
15 III. So we want to project what we think there
16 will be after Phase II. And then whatever the
17 proposed program is for Phase III, what will water
18 quality look like after that. Again, this will be
19 primarily focused on bacteria.
20 And we do have quite a bit of data that
21 was collected since 2004 by our environmental
22 monitoring and data acquisition section. They
23 have been collecting samples weekly on rivers.
24 And I just bring this to light again so you can

25 see with regard to the rivers and water quality,

1 if you're looking at the Providence River, you are
2 really looking at the overflows that were
3 addressed in Phase I.
4 If you're looking at the water quality
5 improvements that we would expect to see in the
6 the Woonasquatucket and Seekonk River, you're
7 looking at the Phase II overflows. They should
8 have some impact.
9 We also, on the Seekonk River, this
10 Phase I facility, the wet weather facilities that
11 Bucklin point has had a significant impact on
12 water quality here, which you'll see in a minute.
13 If you're looking at the Blackstone River and the
14 Moshassuck River, you're looking at the Phase III
15 facilities to address those contaminants in those
16 rivers.
17 So this is the -- very quick summary or
18 a real overview of the wet weather bacteria levels
19 before pre Phase I and post Phase I for the
20 rivers. That would be the Blackstone, Moshassuck,
21 Woonasquatucket and West River.
22 Now, I don't know if you can read that,
23 I can't read it too well because I can't see that
24 far, but the standard for fresh water rivers for

25 bacteria is the green color, the green dot, 200

1 MPN, fecal bacteria per hundred milliliters. The
2 others are gradually increasing where red I think
3 is 2,000 to 4,000 MPN per hundred milliliter.
4 Again, this is wet weather only. These are the
5 numbers we're seeing after a rain event.
6 As you can see in Phase I, pre Phase I,
7 we did -- we only met the standard at one
8 location, which was above the CSO's here on the
9 Moshassuck River. Even in those locations that
10 were above CSO's on the Woonasquatucket, the West
11 River and the Blackstone River and on the
12 Pawtucket River, we did not meet standards for
13 wet weather for bacteria. This is not even any
14 impact from CSO's. This is strictly from storm
15 water.
16 You can see that along the Moshassuck
17 River it was very bad. Again, we had that big
18 overflow up here. And along the Blackstone not so
19 bad. The water quality is pretty good on
20 Blackstone, but it's a much bigger river than the
21 others.
22 Post Phase I, you can see there was
23 some improvement in some of the locations, but not
24 very many because of the fact that we really

25 didn't address any of the overflows here. And I

1 think that had to do more with the sampling. The
2 way the sampling was done, the amount of rain we
3 were getting and storm events, you would see some
4 improvement.
5 For example, on the Pawtuxet, we went
6 down to the standard. And up on Blackstone, we
7 met the standard. But I think that had to do with
8 the rainfall that occurred during that period of
9 time, probably more than anything.
10 MS. KARP: Before you leave these
11 slides, my recollection is that it was water
12 quality in the upper bay, so below Fields Point as
13 well as what you're showing on the rivers it was
14 driving Phase I.
15 My recollection is that in fact the
16 state was meeting fecal standards in that part of
17 the bay quite often. There are green dots, lots
18 of green dots below that. And you can see a
19 little bit above as well.
20 MR. BRUECKNER: The next slide will
21 show that in the upper bay. But I want to point
22 out that -- two things. One, we're not meeting
23 water quality standards, so we're not done in
24 these rivers, obviously, and that there has been

25 some improvement, but not much. And we still need

1 to address both combined sewers. And it looks
2 like issues with storm water as well are affecting
3 rivers upstream of the combined sewer.
4 MR. LIBERTI: Can you go back to that
5 slide? I think I just realized I was looking
6 at -- I was looking at the Seekonk River and all
7 the small green dots. And I have a hard time
8 thinking that the entire Seekonk was meeting its
9 bacteria levels, but those are actually the CSO
10 locations?
11 MR. BRUECKNER: That's correct, on the
12 Seekonk.
13 MR. LIBERTI: There really is no
14 sampling data as shown.
15 MR. BRUECKNER: On that slide.
16 MR. LIBERTI: I thought, wow, there's
17 something the matter with that data.
18 MR. BRUECKNER: That's the next slide.
19 Those are CSO locations. Again, those are the --
20 yeah. Now we have the upper bay wet weather
21 bacteria levels. So there's before and after,
22 again, one pre Phase I, post Phase I. And as
23 before, the dark green is the standard. In this
24 case it's 50 MPN. Not 200. 50, because it's more

25 stringent when you're in salt water, which these

1 water bodies are.

2 As you go down, red is the worst. You

3 can see pre Phase I. There's this red area here,

4 which was the worst case, then orange, and yellow,

5 and light green. And Seekonk was pretty bad. It

6 was in this category.

7 As we go to post Phase I, you can see

8 that there is some improvement. We dropped a

9 color from red to orange here. Still not meeting

10 standards here. The orange area went to yellow,

11 so basically we increased water quality by one

12 shade, if you will.

13 And you can see in the Seekonk River we

14 went to yellow. So we went from orange to yellow.

15 And a lot of that has to do with, I think, the

16 improvements we made to that overflow at the

17 Bucklin Point plant. And you can see down at the

18 very mouth of the river we are actually meeting

19 the standards for 50 MPN.

20 Now, there's a standard also for

21 shellfishing, which is 14 MPN. We are not meeting

22 that down here.

23 The other thing I want to show is that,

24 you can see right here where the Pawtuxet River

25 comes in, it appears there's some impact on the

1 Pawtuxet River with wet weather. That's also
2 affecting whether the standards are met. Again,
3 there's no overflows of CSO's on the Pawtuxet
4 River. If that is impacting it, it would be from
5 storm water as well.
6 So there has been some improvement in
7 water quality in the Providence River as well and
8 the Seekonk, but as I mentioned earlier, there are
9 some big overflows on the Seekonk that are in
10 Phase III that would need to be addressed.
11 We probably see substantial improvement
12 particularly from this one here, overflow 218.
13 And the Moshassuck River and Woonasquetucket come
14 in here, and they affect this area. When we see
15 the Phase II going online from the Woonasquetucket
16 and for the Seekonk, we can expect to see some
17 improvement for the Seekonk in Phase II and
18 Woonasquetucket for Phase II and the Providence as
19 well.
20 But the Moshassuck, even after Phase
21 II, probably won't meet standards, because we're
22 not addressing anything on the Moshassuck.
23 So what's the current EPA approach on
24 meeting water standards? I mentioned it has kind

25 of been developing over the years. And right now

1 what EPA -- what -- we have Dave Turin here, by
2 the way, from the EPA. And I will give you my
3 understanding of what the current approach is, and
4 if Dave wants to speak a little bit about it, his
5 understanding, that would be good. But I think
6 the purpose here is really for people to
7 understand where we are.
8 But my understanding is that the main
9 thing that the EPA really wants to look at now is
10 take a holistic approach to water quality
11 standards through an integrated planning
12 framework, realizing that there are many factors
13 that may affect water quality and that also we
14 need to spend money on to make water quality
15 improvements.
16 So I listed four of the main ones.
17 Obviously, in order to meet water quality
18 standards, the treatment plants need to be
19 functioning correctly. As I mentioned, we spent
20 over $100 million on the two plants, mostly for
21 nitrogen removal, which is another issue affecting
22 water quality.
23 That really doesn't have anything to do
24 about the CSO's. CSO's really are a bacterial

25 issue. We spent a lot of money on CSO's, as we

1 mentioned, 500 million dollars. Sewer
2 infrastructure, meaning maintaining the sewers.
3 Now, we only own the main interceptors.
4 And just the main interceptors, we spent a lot of
5 money rehabilitating our interceptors to get them
6 up to standards where we know they are going to be
7 functioning. We cleaned them. We repaired them.
8 We've lined them, so that they are all in pretty
9 good shape now. That's been tens of millions of
10 dollars as well.
11 In addition, the local communities have
12 miles and miles of lateral sewers that I think
13 it's safe to say some of the communities probably
14 have not maintained to the level they should have,
15 because they really can't afford the costs
16 associated with it.
17 And one of the factors is that there's
18 legislation proposed in the past that NBC take
19 over local laterals. And should we do that, it
20 would either be a cost that NBC is going to incur,
21 or if we don't take over the sewers, the local
22 communities will have a cost associated with
23 maintaining those sewers going forward.
24 And given how long there has been

25 deferred maintenance on the local infrastructure,

1 there's obviously going to be some impact on local
2 communities. Somehow we're going to have to
3 collect money and upgrade their sewers.
4 Then the last factor that is another
5 wet weather issue is storm water. As I mentioned,
6 upstream of our CSO's are not meeting water
7 quality standards, probably because of storm
8 water. And many of the local communities which do
9 have separate storm sewers now have to look into
10 how they are going to address storm water.
11 There are all sorts of federal
12 requirements for storm water, which down the road
13 may even include some form of treatment similar to
14 what we are doing with CSO's. That could run into
15 the hundreds of millions of dollars as well.
16 When you take all those factors that
17 all affect water quality or public health for
18 sewer infrastructure and then you add that on top
19 of what the current rates are, it gets to be a
20 question of, well, we can't go forward with
21 everything, so what should we spend our money on
22 first, what priorities should there be, and what
23 should those programs be.
24 So EPA has -- understands that you

25 can't afford to do everything right away. So

1 their approach is you do what you can afford now.
2 And what you can afford now is based on the
3 limited affordability, based on median household
4 income, and other factors which our consultant
5 will talk about in a little bit.
6 And the other factor is, even if we
7 were to address the combined sewer overflows,
8 finish Phase III, and we still didn't meet water
9 quality standards, it's not that EPA is going to
10 say, well, you know, you're done. And then we'll
11 just change the standards. The next thing they
12 will say is, okay, what needs to be done now,
13 what's the next thing we need to do to meet water
14 quality standards, and what is that going to cost.
15 So you're really never done until you
16 meet the standards. And in my opinion, that's
17 going to be many, many, many, many years from now
18 when you consider all of the sources of pollution
19 that we have to deal with.
20 The third task is to evaluate the
21 recommended abatement method for each overflow and
22 answer the following: Is it still the most
23 cost-effective method? Again, that would be
24 tunnels, interceptors and some sewer separation.

25 As I mentioned, I think I did mention,

1 but we did some -- we did some sewer separation in
2 Phase II, very disruptive to the community,
3 something we do not really want to do again.
4 There is some proposed for Phase III. We want to
5 not do sewer separation. We would rather do
6 something else.
7 One of the alternatives we're looking
8 at is green infrastructure instead to control the
9 storm water at the source instead of having to go
10 into the sewer system. And we'll talk about that
11 more in a few minutes.
12 And then reevaluation of -- develop a
13 cost estimate for Phase III and determine its
14 impacts on sewer rates and affordability, based on
15 EPA criteria. And if it's not affordable now, if
16 we can't afford to do Phase III at this time,
17 maybe the relief is that it gets pushed out
18 further. And when we retire some of the debt from
19 Phase II and Phase I, and we have debt capacity,
20 then we embark on Phase III.
21 And then the last task really has to do
22 with the nuts and bolts of doing the work, which
23 is perform a map of the project area, basically
24 for doing design, conduct a limited soil rock

25 boring program, as needed. This is during Phase

1 III only and reevaluation only, not during design
2 of III. This is one year.
3 By the way, the reevaluation is
4 scheduled to be done by the end of this year.
5 It's a one-year project. And one more thing, and
6 stakeholders --
7 FROM THE PANEL: Could you perhaps
8 explain the very first task? I didn't quite
9 understand what that is all about.
10 MR. BRUECKNER: The first step is to
11 develop a hydraulic model for the sewer system.
12 We have a hydraulic model for the city of
13 Providence. That was used to develop the design
14 for the Phase I and Phase II facilities. That
15 will tell what you can simulate in a given storm.
16 It will tell you what the overflow volumes are for
17 that storm, for each overflow, and then you can
18 design your facilities to accommodate that storm
19 in order to meet the three-month storm standard,
20 or whatever your design standard is.
21 It's really just a tool to help you
22 evaluate your alternatives as you go forward. So
23 really you have to do that first step in order to
24 do your evaluation properly.

25 I want to mention also that on task

1 two, which is the water quality evaluation, there
2 will be a receiving water model that will be used
3 to predict water quality improvements for Phase II
4 and Phase III. So we have the results after Phase
5 I. Those are real numbers.
6 The receiving water model to be
7 developed under task two will predict the
8 improvements associated with the other two phases.
9 FROM THE PANEL: When you do the
10 hydraulic model, that only focuses on sort of the
11 hard solution, not on --
12 MR. BRUECKNER: No, you can deal with
13 green infrastructure. It's based on impervious
14 area. That's how you develop your flow through
15 the system. If you say, okay, we're going to
16 eliminate ten percent of the flow because of green
17 infrastructure, the model will be able to simulate
18 that.
19 That's actually the end of my slides.
20 Do I have time for questions?
21 MR. DOMENICA: You have plenty of time.
22 Great job.
23 MR. BRUECKNER: We need to get better
24 name tags. But we're saving money.

25 MR. DOMENICA: A question way at the

1 back.

2 MR. NASCENZI: My name is Ben Nascenzi,

3 Deputy Director of Public Works in the town of

4 Johnston. There's a concern to the outlining

5 community staff. You said there was legislation

6 pending in regards to NBC taking over private

7 sewer lines, miles and miles of private lines.

8 MR. BRUECKNER: No, not private,

9 municipal lines.

10 MR. NASCENZI: Correct. What about the

11 private lines? There's still some hanging out

12 there. People own them through easements.

13 MR. BRUECKNER: No, they are not going

14 to be addressed in the legislation.

15 MR. NASCENZI: But all right. So the

16 municipal lines that legislation requires, is that

17 going to require another test or what, assessment

18 on the lines? Will that require that type of data

19 that's going to give you an exact assessment of

20 what is out there and what the conditions are

21 and -- it's really complicated and hard -- it's

22 hard enough anyway.

23 MR. BRUECKNER: Ray, do you want to

24 address the issue of the legislation? And if

25 you're from Johnston, you should be up here

1 instead of back there.

2 MR. NASCENZI: I don't like to sit up

3 front.

4 MR. BRUECKNER: Are you the only person

5 here from Johnston?

6 MR. NASCENZI: Yes, for today.

7 MR. BRUECKNER: If you want, you can

8 have a seat at the --

9 MR. NASCENZI: I'm fine where I am.

10 MR. MARSHALL: The legislation that's

11 being referred to, this year there has been a bill

12 introduced by the city of Pawtucket. And they

13 have asked that we take over their lateral sewers.

14 They are working with Pawtucket to get a more

15 comprehensive bill similar to the one that was

16 passed in the house in 2012, which said that we

17 would evaluate, the Narragansett Bay Commission,

18 at our cost, the concept of taking over all the

19 publicly owned sewers within our member

20 communities.

21 And it would be one of -- we have a

22 year to study it. And we would go to each of the

23 communities, for example, are you interested in

24 Providence, are you interested in Johnston,

Pawtucket.

And if you were not interested, that's fine. We could just leave you out of the rest of the study. If you were interested, then we would evaluate what it would take for us to acquire ownership of those sewers. We're not intending to pay anyone any money, by the way. Community representatives, we would just acquire your assets.

And then we would determine how many additional people and how much additional equipment we would need to meet the standards that have been set by DEM and EPA for CMOM, which is Capacity Management Operation and Maintenance, requirements. And then we would report back to the general assembly that would say either we can do it or we can't.

And if we can do it, this is how much it would cost. Do we want to move forward. That's what the plan is for all the publicly owned sewers. So not the sewer line going to your house.

MR. NASCENZI: Or the storm lines?

MR. MARSHALL: No storm lines.

MR. NASCENZI: Correct me if I'm wrong,

25 but that would have a significant impact on the

1 rates themselves.

2 MR. MARSHALL: Absolutely.

3 MR. NASCENZI: Is that something that's

4 going to be forced out?

5 MR. MARSHALL: No. That's one of

6 those -- as I mentioned, if legislation passes, if

7 it it did pass the house and made it to the

8 senate, and -- it made it there for the very last

9 stage of the session 2012. If we are going to

10 study it, as Pawtucket would like us to do, we

11 don't have a problem with that, we want to study

12 the entire system at one time. We don't want to

13 do it piecemeal.

14 So we would go to Johnston and say, are

15 you in or are you out? And the mayor might say,

16 well, tell me more. And he says, no forget it,

17 we're good on our own. So you wouldn't have to be

18 part of it.

19 Whereas Providence might want to be

20 part of it. We think Pawtucket does want to be

21 part of it, so we do it all at one time. So we

22 wouldn't do Pawtucket this year, Providence two

23 years from now, Johnston three years from now. We

24 want to do it with a good long-term plan three in

25 place.

1 MR. NASCENZI: In order to answer that,
2 okay, so there would be again a significant rate
3 increase, but now that rate increase could be
4 equalized amongst all communities, that would be
5 the same? Or you have a lesser amount in the town
6 of Johnston than you do in the city of Pawtucket,
7 but a higher cost factor for the resident in
8 Pawtucket rather than the resident in the town of
9 Johnston, or is it a unified rate amongst the
10 stakeholders?
11 MR. MARSHALL: That's a great question.
12 That's part of what we would evaluate in that
13 one-year study period.
14 MR. DOMENICA: Any other questions back
15 there?
16 MR. GAGNON: Michael Gagnon, town of
17 Lincoln. Would your acquisition include the sewer
18 pump stations?
19 MR. MARSHALL: Yes. Town-owned pump
20 stations.
21 MR. DOMENICA: One thing I think might
22 help, Ray or Tom, the term CMOM. Ray used it. He
23 defined it. But it might be worth just another 30
24 seconds on what CMOM is and what the implications

25 of it are with regard not only to NBC systems but

1 also to community systems, just very briefly.

2 MR. BRUECKNER: CMOM is capacity

3 maintenance operation management of the sewer

4 system. And we had actually done a plan for NBC

5 basically looking at our programs to see if they

6 met the minimum standards for maintaining our

7 systems. And actually we -- our program is very

8 good. It met most of the criteria for EPA they

9 had established.

10 I don't believe that the CMOM's are

11 mandatory at this point, but they are recommended.

12 Did you look at them, Dave? Are they mandatory?

13 MR. TURIN: They are mandatory in cases

14 where EPA issued orders with wiring -- which we

15 have in about two-thirds of the communities in

16 Rhode Island.

17 MR. BRUECKNER: We did ours

18 voluntarily. We were not under a mandate to do

19 so, and I'm not aware of which communities do have

20 a CMOM mandate. But the intent of it is to look

21 at the sewer system, make sure you have mapping of

22 the sewer system, make sure that you televised it,

23 you know its condition, and that you have a plan

24 to maintain those sewers, at a minimum, and to

25 demonstrate that you don't have any sanitary sewer

1 overflows in wet weather and that you're complying
2 with all the requirements for a properly
3 functioning sewer system.
4 So obviously, there are some
5 communities in Rhode Island, maybe within our
6 district, that have CMOM requirements that are now
7 trying to address that. But I mean, our
8 assumption is that some of the communities have
9 not been able to keep up with all the requirements
10 they would need to do to maintain a properly
11 functioning sewer system.
12 MS. KARP: I have a question for Tom,
13 and it's on a different subject. It goes back to
14 this. And that is back in Phase I there was a
15 conversation about how many overflows would be
16 allowed from the tunnel per year. That's one.
17 And two, we were doing this in part to
18 try to restore a number of days of -- that the
19 shellfishing areas would be opened.
20 Can you talk to both of those? What
21 are the data of number of overflows per year from
22 the tunnel and has there been improvement and
23 what's the dollar value --
24 MR. BRUECKNER: I don't have the actual

25 number of days for overflows, but that was for the

1 average year. But we obviously don't hardly ever
2 get less the average year. So some years we have
3 more. I'm not sure about less, but it's for Phase
4 I only. Obviously -- so I don't have that data.
5 With regard to the shellfishing, I do
6 know, and I don't have that information probably
7 as readily as maybe Tom might with regard to the
8 improvements, but I do know the closure policy for
9 shellfish areas being opened has changed by the
10 DEM. And I don't know if Angelo or Tom would want
11 to speak to that.
12 MR. UVA: The upper--
13 MR. BRUECKNER: That's Tom Uva from the
14 Narragansett Bay Commission.
15 MR. UVA: The upper bay, conditional
16 area A and B is closed with half inch rain or an
17 inch of rain. And now it's .8 inches of rain and
18 an inch and a half of rain. So the regulations
19 have been relaxed. And it's resulted in
20 approximately 40 extra days of shellfishing a year
21 at this point.
22 And based upon the data that we've seen
23 since 2008 when the tunnel went online, that's
24 about seven times a year where our wet weather

25 facilities at the treatment plan go online, which

1 means the tunnel is full. But we have been -- the
2 weather is much wetter than it used to be. We
3 have more frequent and more intense storms. So
4 that also has an affect on the performance of the
5 tunnel.
6 MS. KARP: I actually -- I want to make
7 sure I understand. So after the end of Phase I,
8 we have about one additional month per year of
9 shellfishing in the upper bay.
10 MR. UVA: I believe so. Yes.
11 MR. HOLMES: Phil Holmes with the Rhode
12 Island Shell Fisherman's Association. I can
13 answer that anecdotally. I had a member this
14 summer who worked in Area B who told me that he
15 had not lost a day's work so far this year in Area
16 B.
17 Now, there's two different standards
18 for area A and Area B. But this one guy came up
19 to me shaking my hand, pat me on the back and
20 thanking me for all the work I've done, which is
21 come to meetings, which some people don't like to
22 do. But he was ecstatic that he had gotten every
23 day of the year in the area that he chose to work.
24 He chooses to work in Area B because that's his

25 area of choice.

1 There's different reasons for different
2 areas. Guys from Bristol and Lawrence stay on
3 that side. Guys from East Greenwich stay on this
4 area of the bay and so on and so forth, whether
5 they are pole breaking or diving whatever they are
6 doing. They have different places they like to
7 work.
8 And his area of choice is in Area B,
9 and he had not lost a day fishing. And this was
10 like in August when I was talking to him. So
11 we're two-thirds of the way through the year in
12 Area B, and he hasn't lost a single day. And he
13 was out of his mind happy.
14 MR. BRUECKNER: I want to mention one
15 thing. I referred to the improvements in the
16 water quality. That information was taken from
17 reports that we've prepared basically summarizing
18 the water quality data before and after Phase I.
19 And Tom, I think that that report will be
20 available soon. And --
21 MR. UVA: All the data is on our
22 website, Snapshot, narrabay.com, under the
23 Snapshot heading. Click on that link, and all of
24 our monitoring data is there. And the entire

evaluation of Phase I will be there within a week

or so.

MR. DOMENICA: A question over here.

MR. MANCINI: As far as the completion --

MR. DOMENICA: Your name, please.

MR. MANCINI: Al Mancini from the Division of Public Utilities. As far as the completion for Phase II, I thought I heard you say that it will be substantially completed by the end of this year.

MR. BRUECKNER: It should be. We have completed -- it's 14 contracts under Phase II, and I think probably ten of them have been completed. The two big ones, the Seekonk interceptor and the Woonasquatucket interceptor is still ongoing, as is overflow 106 and some of the sewer separation work on the east side, particularly North Main Street. But that's probably going to wrap up this summer.

The WCSOI probably will be finished by the end of the year, going into next year, some work to repair the road and so on will continue beyond, but I would expect the tunnel should be -- these two facilities should be tied into the

tunnel pretty much by the end of the year, maybe

early next year, December, January we should be online with those facilities.

MR. MANCINI: I was just comparing it with the capital project list. And actually it still shows, although it says fiscal year 2015, which begins this July, it actually shows still a $60 million remaining for expenditures.

And I was just curious, I was assuming most of that will be spent by the end of the year with something moving into the following year.

MR. BRUECKNER: Right. Just one thing. Angelo, do you want to talk about the tunnel shut down?

MR. LIBERTI: Yeah. I guess two things. I wanted to first--

MR. BRUECKNER: Just state your name.

MR. LIBERTI: Sure. Angelo Liberti with DEM. I think I should get used to that by now. You've reminded everyone else. Sorry.

I want to talk about the improvements on the bay. It's very difficult. There was a water quality model used to project what we thought the improvements might be. And we knew at the time that it wasn't going to exactly match

25 reality.

1 What's really difficult is to get out
2 there at the right time to collect the samples.
3 You need the next bigger storm. If you want to
4 change the criteria, it has to be bigger than the
5 storm you already received. We worked with NBC to
6 get that data as best we could.
7 One of the things we've been trying to
8 track is moving the line B, the southern boundary
9 of where the conditional area goes into effect.
10 Can we move that up so there's more of the bay
11 than -- that's even more difficult, because now
12 we're looking for a 1.5 inch, bigger than 1.5
13 inch, with no additional storms messing up sort of
14 the data set. But we're still working on that,
15 trying to also see if we can move that line north.
16 And I did want to mention last time,
17 sometimes there's a bit too much focus on
18 shellfishing. As Tom showed, shellfishing is very
19 important to the economy. But the Seekonk River
20 has some large discharges. And we don't get to
21 leave them there just because we're not going to
22 add enough additional days of shellfishing.
23 As we go through this process, just
24 keep in mind we do need to protect the urban

25 rivers as best we're able to under the flexibility

1 available for the fact that they are
2 recreationally used, not only for their impact on
3 shellfishing. I'm sure that will come out going
4 forward.
5 MR. BRUECKNER: Do you want to mention
6 about the tunnel shut down?
7 MR. LIBERTI: Yes. We just issued a
8 joint press release with the Bay Commission,
9 because they are coming to the final stages of
10 Phase II, and they need to basically break through
11 the wall of the tunnel and connect the Phase II
12 into it.
13 So obviously we have to protect the
14 workers who are going to be down in the tunnel
15 making that cut. So they are going to stop using
16 the tunnel for about three weeks. That's the
17 estimate.
18 During that time there won't be any
19 flow directed into the tunnel. So because of
20 that, we're going to have to switch our closure
21 criteria back to what they were before the tunnel
22 was built. That will put Area A back to --
23 MR. HOLMES: So I can let my town know,
24 when is that going to be?

MR. LIBERTI: They are going to start

Wednesday. Next Wednesday is the estimate. And then it will depend on whether or not rain events occur, whether there truly is any impact. But that will be a three-week period where A is back to a half inch closure and B goes back to about a one inch.

Then after that, they will be able to resume the use of the tunnel, but not at its full capacity, again, to protect the workers and do work. They will use the tunnels a little bit less.

So we'll be able to go to the new criteria, the .8 and 1.5, as long as the tunnel capacity doesn't get exceeded. So all and all, after the first three weeks, I think the Bay Commission's estimate is after that there might be three to five times in a typical year that the reduced capacity gets exceeded. So we'll do our best.

One of the things we did with NBC before was, until we had enough data to set the new criteria, we went out after a rain event to track how fast it recovered. And we got permits from the FDA.

25 So once we saw a recovery and nothing

1 else coming down the Providence or Seekonk to
2 affect them, we could reopen it early. So if that
3 opportunity presents itself and we have to close
4 it during this reduced capacity, we'll try get out
5 there and see if we can reopen it earlier than the
6 seven days.
7 So we did actually -- we asked that it
8 be posted on the shellfish management plan. The
9 state is working on a shellfish management plan.
10 They have a LISTSERV. So right before I came
11 here, but I was late, I asked them to post that to
12 everyone who is part of that LISTSERV, as well as
13 Rhode Island Marine Fisheries. We have a LISTSERV
14 as well. So I asked that it be sent out through
15 that. And we sent it through the press outlets as
16 a joint release.
17 MR. COLT: Ames Colt, coordination team.
18 To build on Angelo's statement, in terms of water
19 quality benefits, assessing feasibility of a
20 project depends a lot on that. Shellfish are very
21 important. There are other benefits that -- other
22 uses of the bay that we are going to be investing
23 in over time.
24 We are going to be working on marine

25 debris removal in the Providence harbor area. We

1 are now seeing water quality at former beaches
2 start to become good enough that we can consider
3 reopening them, if we can get municipalities to
4 agree to work with various stakeholders on that.
5 So the ability to expand the suite of uses in the
6 upper bay and the level of benefits hence that are
7 generated is going to be an important
8 consideration.
9 Three basic points. We already had a
10 good introduction from Tom on how there are a lot
11 of moving parts to this. And it is important to
12 keep in mind that with Sheila's leadership we are
13 pursuing a very ambitious assessment of an
14 inter-municipal storm water utility district for
15 the upper bay that at this point comprises six
16 municipalities. Phase II of that work starts
17 hopefully later this summer. We'll have a Phase I
18 report coming out.
19 That is looking at what are the needs
20 for better to remember water management among six
21 to seven municipalities and what would it take
22 financially to fulfill those needs and how that
23 would impact the individual municipalities and
24 individual homeowners, property owners.

25 That work, over time, could generate

1 information such as hydraulic analyses that may be
2 of value in looking at CSO abatement Phase III.
3 We have just begun a nutrient management
4 assessment for the upper bay. Now that Fields
5 Point and to a certain degree Bucklin Point have
6 been upgraded to enhance nutrient removal, as well
7 as other major wastewater treatment facilities on
8 the bay, that will give us more information on the
9 feasibility of alternative nutrient control
10 strategies that might help.
11 That's not -- you know, CSO abatement,
12 as Tom emphasized, is about pathogens, but there
13 will be considerations in terms of cost landing on
14 the rate payer base for NBC that will factor into
15 this consideration.
16 In 2004 the general assembly gave the
17 Rhode Island executive branch a very explicit
18 coordination mission, to be able to look at a
19 variety of these large complex projects together
20 in a more integrated ecosystem based management
21 way. That's the coordination team. We very much
22 want to see this project proceed in relationship
23 to these other critical water quality based
24 efforts that are underway for the upper bay.

25 And then there's two specific comments.

1 Obviously we're going to have to recalculate the
2 three-month storm versus what was used for Phase
3 I. And that seems obviously to be a critical
4 issue. It would be interesting to see how we can
5 do that with support from federal agencies who
6 look at that very closely.
7 Finally, I believe EPA nationally is
8 looking at reviving or expanding guidance on
9 calculating affordability. And that information
10 in new guidance, expanded guidance, more flexible
11 ways of looking at that will be critical to
12 understand.
13 I don't know if Dave could give us a
14 little bit of a primer of what's going on.
15 MR. DOMENICA: Tom, how are we doing
16 for the time?
17 MR. BRUECKNER: Fine. We've got five
18 minutes before break. Dave, if you want to do
19 that now.
20 MR. TURIN: Actually it's not -- I
21 don't think that there's really large changes in
22 how we currently do all that. I think that the
23 guidance coming out is going to be a little bit
24 more overt about the flexibility in how you do it

25 and the various costs, you know, that rate payers

1 absorb that can be considered and should be
2 considered.
3 What I've seen in draft form isn't so
4 much talking a lot about whole new categories of
5 cause; it's just being more explicit that yes, of
6 course these are among the costs that can be
7 considered.
8 You know, and I think Tom's summary
9 before, with regard to the -- it's really kind of
10 a lot of what's absorbed in the integrated
11 planning notion of recognizing that there are a
12 lot of different overlapping, both Clean Water Act
13 obligations but other financial obligations.
14 So there's kind of two theories. One,
15 the integrated planning that says we know you're
16 dealing with storm water. We know that you're
17 dealing with perhaps CSO, perhaps overflows,
18 normal infrastructuring and CMOM's and all that we
19 understand can be integrated in a plan which
20 prioritizes what is more important to do first in
21 determining when to proceed.
22 In terms of affordability analysis for
23 projects like combined sewer overflow, long-term
24 planning, I'm not real versed in that. I'm not an

25 economist, but the sense I have of all that is in

1 the mix. Plus there's other, you know, household
2 median income is there but also debt payment and
3 other forms of financial obligations that the
4 communities have absorbed are going to be more
5 explicitly factored in.
6 MR. DOMENICA: Thanks, Dave.
7 MR. SCHLIABBA: Steve Schliabba from the
8 Division of Public Utilities. Tom mentioned the
9 rate impacts. That's very important here. NBC's
10 current revenue requirement is about $100 million,
11 much of which is driven by the debt service for
12 the CSO Phase I and CSO Phase II.
13 And it's very hard to -- the PUC tries
14 to design rates in a fair and rational manner so
15 those responsible for the cost pay for the
16 service.
17 MR. DOMENICA: Could you speak up a
18 little for the folks in the back?
19 MR. SCHLIABBA: With storm water
20 capture.
21 MR. BRUECKNER: There's a microphone
22 there that the -- could you talk with that?
23 MR. SCHLIABBA: Storm water capture and
24 clean up, there's really no fair way to assess a

25 sewer customer, the cost of the debt service. I

1 know several years ago that PUC looked at
2 development of a storm water rate. NBC did a lot
3 of work looking at how they -- storm water rate
4 could be built.
5 Has there been any further look by NBC
6 or anyone else in the room on the idea of
7 expanding the base of responsible people who
8 helped pay for these costs? I mean, you're
9 imposing these high sewer rates on Providence,
10 Pawtucket, Central Falls, some of the poorest
11 communities. And, you know, if these costs are
12 driven by impervious surface, parking lot owners,
13 what's that have to do with the little old lady
14 who has one bedroom in the house and having to pay
15 for that through sewer charges?
16 MR. BRUECKNER: Steve, when we did that
17 evaluation of storm water fee, the problem that we
18 had as an agency, we don't own the storm lines.
19 We do own the combined sewers, and it put us in
20 the position we would be able to charge those who
21 discharged storm water to a CSO but not to a storm
22 sewer.
23 So within Providence you have on one
24 street they may have a combined sewer and the next

there might be a separate storm sewer. The guy

over there is paying for the storm water and this guy next door might not be.

We didn't have the ability to bill everyone uniformly, and it would probably be done per unit of impervious area. The current program that is being spearheaded by the city of Providence, Sheila and others, Ames spoke about, to look at storm water would rectify that by making a storm water utility district where everyone would generate storm water would have to pay the cost for the storm water and spread it uniformly, which we were not able to do.

MR. SCHLIABBA: I wasn't sure I understood that we were actually looking at developing a fee structure in the district. That's one of the things they are looking at?

MR. BRUECKNER: I believe so.

MR. MARSHALL: Sheila, would you like --

MS. DORMODY: The six municipalities finished the Phase I feasibility study and agreed to move forward with Phase II, which would answer all the logical questions with what's the government structure, what would the rate be. But

25 what the state law allows us to do with storm

1 water district of 2002, assess a fee based on what
2 somebody is contributing to the storm water
3 problem.
4 MR. DOMENICA: One more question.
5 Caroline.
6 MS. DORMODY: We're really grateful to
7 have Ray Marshall and Tom Uva being part of those
8 conversations. Obviously they have a big stake in
9 these municipalities, figuring out the answer to
10 our problems.
11 MS. KARP: I'm guessing affordability
12 will preoccupy us, which is a good thing. But I
13 want to go back to the data showing median income.
14 And I believe it was median household income for
15 Central Falls for 23,000?
16 MR. BRUECKNER: 29, I think.
17 MS. KARP: Does the bill -- household
18 as opposed to -- what is it for the property --
19 what's the median income for the tax paying
20 property owner in Central Falls? Because renters
21 often don't pay water and sewer. So the bill
22 doesn't go to them. The bill goes to the property
23 owner.
24 FROM THE FLOOR: That's who the EPA

25 bases their economic analysis on, and that's why

1 you were shown that.

2 MS. KARP: I want to flag that as an

3 issue, because the people owning that might be far

4 more wealthy, so that this is not a burdensome

5 bill. I can understand it's a burdensome bill to

6 a renter, but I suspect they don't see those

7 bills.

8 MR. DOMENICA: Carol, what I think Tom

9 is saying is this isn't the way the rates are

10 allocated. It's the metric they used for

11 determining.

12 MS. KARP: I wanted to clarify the

13 metric, because I think that goes to the question

14 of affordability.

15 MR. DOMENICA: You're right.

16 Affordability will be a key issue going forward.

17 It is time to take a break. Take 15 minutes.

18 (Recess taken from 2:30 p.m. to 2:44 p.m.).

19 MR. DOMENICA: Next on the agenda, Rich

20 Raiche, the project manager for Montgomery Watson,

21 the commission's consultant for Phase III, is

22 going to go through more detail what Tom went

23 through on the reevaluation approach.

24 Tom, did you--

25 MR. UVA: Yes, I want to make one

1 clarification about shellfishing, the number of
2 days of closure. Originally I guess the project
3 was supposed to open additional Area B for 45 more
4 days and A, 65 more days. The Department of
5 Health did a study. They compared 2010 to 2006
6 and found closures decreased by 44 percent, the
7 number of closures, and closure days by 82
8 percent. It was much more than 40 days. I wanted
9 to get that on the record.
10 MR. RAICHE: Great. Well, it looks
11 like everyone stuck around, so thanks for your
12 stamina, at least.
13 Just to give you an idea of what we
14 have in store for the rest of the afternoon, we
15 will start with an introduction of the consultant
16 team and an overview of the current Phase III
17 components, get into a little bit of how we'll
18 evaluate alternatives to those baseline
19 conditions, including the source pathway receptor
20 approach to alternative analysis, some of the
21 green storm water infrastructure that Tom alluded
22 to that's new since the last time. That
23 stakeholder group convened into the grey
24 infrastructure alternatives, talk a little bit

25 about the water quality model we'll be reviving

1 for this reevaluation, spend a little more time on
2 the integrating training framework, since that is
3 a new approach to this sort of planning effort,
4 and new to everybody, frankly, in the room. And
5 that dovetails right into the affordability,
6 lingering on affordability and wrap up with an
7 overview of the remaining five meetings and
8 definition of what those look like.
9 Before we get into that, it's important
10 again, you know, I think you have a sense that
11 this stakeholder group is extremely important to
12 the success. We've got one year really here that
13 we're targeting to reevaluate and redefine what
14 Phase III is.
15 And while ultimately -- aside from the
16 fact that the consulting term is absolutely
17 wonderful, you guys are the ones with the
18 information, the data, the knowledge, and regional
19 understanding that will really help redefine what
20 Phase III looks like. And this group therefore is
21 probably one of the most important components of
22 our overall effort in the next year.
23 So the consultant team is comprised of
24 MWH, Pare, and ASA. MWH, where I am employed, is

the project team leader. We are roughly 8,000

employees in 35 countries. Our sole focus is on wet infrastructure. We do drinking water, wastewater treatment plants. We don't do bridges or roads or anything else. Our sole focus is on wet infrastructure. And our mission is to build a better world.

So the idea of sustainable infrastructure is incorporated into our DNA. Pare is our partner on the project. They are planners, engineers, geotech engineers. They are based in Lincoln, Rhode Island and Foxborough, Massachusetts. They have worked with municipalities within the district and elsewhere in Rhode Island and Massachusetts.

We also have on the team ASA, the same group that did the water quality model for the previous planning effort. We have them right back on board to revive that model. Again, MWH focuses exclusively on wet infrastructure. Therefore the wet weather CSO types of projects are a large component of what it is we do.

We have expertise in this area throughout the United States and elsewhere, frankly. Who cares. Sorry. Because of that, we

25 are at the forefront of the integrated framework

1 process. This is a relatively new way of looking
2 at these projects, and we've done some of the very
3 first ones of it, and we're working at several
4 levels on advancing the IPF philosophy.
5 Our team, many of whom you will be
6 seeing at these stakeholders meetings, and very
7 likely outside these stakeholders meetings as
8 well, is organized-- Matt Travers is our principal
9 in charge. Unfortunately, he couldn't be here.
10 So we did one better. And his right hand, Melissa
11 Carter is here, if you want to stand up and wave.
12 That's Melissa, and I'm Rich Raiche, the project
13 manager for the reevaluation.
14 My right hand is Nick Anderson, our
15 technical lead and chief modeler. I guess my left
16 hand is Keith Gardner, civil engineer. I'm
17 running out of body parts. David Bedoya, water
18 quality expert. We also have with us today George
19 Palmisciano, senior vice president at Pare and Tim
20 Thies, project manager at Pare.
21 We also have, and this is going to be
22 very important, we'll try to save as much time at
23 the end for questions and answers, Greg Bard is
24 here. He's our financial capacity analysis guru.

25 Am I missing anybody? Thanks. We're also drawing

1 on expertise from across the country to help us
2 develop the plan. We have additional local staff
3 that we just didn't bring down, but I thought it
4 was important that we introduce some of the key
5 players in each one of the different disciplines.
6 So the Phase III baseline, and this is
7 what was in the current CDRA, the current plan,
8 the main focus is the tunnel and the interceptors
9 to capture the flows from about a dozen CSO's,
10 sewer separation for four additional areas and
11 then the remaining dozen CSO's are regulated
12 through adjustments to the regulators so that we
13 distribute the flows to these other central
14 abatement facilities.
15 The probably marquis part of Phase I
16 was the main spine tunnel. And again, the marquis
17 component of Phase III is the Pawtucket tunnel,
18 planned to extend from the Bucklin Point treatment
19 facility in East Providence all the way up to sort
20 of the corner of Central Falls and Pawtucket,
21 right there on the Blackstone River.
22 13,000 linear feet, 26 feet in
23 diameter, about 51 million gallons' worth of CSO
24 storage. Again, like the main spine tunnel, deep,

25 big, does a lot of good. In addition to that, a

1 couple of large interceptors similar to the ones
2 that Tom was showing you that would be deep
3 interceptors that pick up a few of the additional
4 CSO's north of that point, one reaching up on to
5 Central Falls, I guess it would be the west side
6 of the Blackstone River, and another on the east
7 side of the Blackstone River to pick up outfalls
8 in Pawtucket.
9 And then if you think back to one of
10 the larger dots, outfall 219, 220, on the
11 Moshassuck River, there's a large one that we will
12 need to address and spend a lot of care on,
13 because the relative flow in the Moshassuck versus
14 the Blackstone is much lower. So that CSO is
15 responsible for larger water quality problems in
16 that river.
17 Unfortunately, it's sort of on the
18 opposite side of town from the tunnel. So a
19 couple of alternatives that even the CDRA had was
20 a spur tunnel, deep spur tunnel, or an interceptor
21 essentially cutting across Pawtucket.
22 Sewer separation for four areas, one a
23 very small area in Pawtucket to the Blackstone
24 River, and then three areas in northern Providence

25 to the west of Moshassuck rivers.

1 As Tom alluded to, sewer separation in
2 these areas, and you know, there's an adjacent
3 area that's currently under construction, they're
4 finishing construction. And these areas, we're
5 talking very narrow streets, very densely
6 developed. The buildings are essentially right up
7 to the right of way. We already have water and
8 gas in the streets, a lot of topography. A lot of
9 rock. So sewer separation in these areas is
10 extremely difficult and costly.
11 So we'll be spending a lot of time
12 focusing on how to reduce the extent of sewer
13 separation, finding more cost-effective
14 alternatives to that. How do we evaluate this?
15 This is another change from the way things were
16 done 15, 20 years ago. The process by which MWH
17 evaluates these alternatives is the source pathway
18 receptor approach.
19 The easiest way to think about the way
20 that we look at this is to imagine that you're a
21 drop of rain water. And follow your course as you
22 go from the sky to the river and the bay. When
23 you fall on the land your -- you will first
24 encounter a source control. These are typically

25 like the green storm water infrastructure pieces

1 that we were talking about a little bit earlier.
2 They tend to be smaller scale, but they are spread
3 over a wider area.
4 The pathway, once the raindrop gets off
5 of the private land into the road and into the
6 closed pipe system, that's where the pathways are.
7 This has been historically the focus of sewer
8 separation, interceptor relief, near surface
9 storage, things like that.
10 Finally, once you get through the pipe
11 networks and down towards the end of the pipe,
12 either the outfall of the treatment plant, those
13 are receptor types of controls.
14 MR. DOMENICA: I have a quick comment on
15 clarification at this point here, an explanation
16 and more detail later.
17 MS. KARP: So this is a good model, and
18 I know its origin here, but one possibility here
19 is that the source is the source of people
20 contamination as opposed to rain. So you're
21 treating rain as a source that's going to be
22 controlled as opposed to bacteria, fecal bacteria.
23 I want to clarify. There's a different way to
24 look at this model. If you look at it as bacteria

as a source of controlling you might go all the

way back up to Worcester. So I just want to be clear that there are different ways to use this model.

MR. RAICHE: Yes. When we are going through and evaluating all the alternatives, we use a matrix like this to help us think through what the ramifications are. Traditionally, CSO plans were really focused on only rainfall that triggers the CSO's. And typically looking at pathway and receptor solutions, sewer separations, interceptor modifications, and tunnels is the big type of receptor control strategy.

By using the source pathway receptor philosophy and looking at the watershed more holistically, we not only enter into the mix the source types of controls that can help us reduce the CSO's, but we also are able to expand the scope of how we look at these things beyond just the CSO events but how these things operate under different rainfall events and how the system tracks, for example, for levels of service. Now, when you might have a more intense type of storm, that would impact sewer back-ups or localized flooding.

25 And then even beyond that, two extreme

1 events, when you start getting into deluges that
2 cause property damage, so we are able to look at
3 the broader range of situations. Because frankly,
4 improvement in one category, if it detrimentally
5 affects another category, this probably isn't
6 something that we want to explore further, or we
7 need to modify that alternative so that we're not
8 having deleterious effects on other users or
9 goals.
10 Now, how do we do it? Well, Tom
11 already alluded to the fact that we are building a
12 hydraulic model. There is already one for the
13 Fields Point treatment plant, and we're building
14 one for the Bucklin Point treatment plant. And
15 that's sort of the tool that we use to do this.
16 It looks at both land use and how storm
17 water runs off and gets into the system and
18 overloads the system and then the hydraulic
19 capacity of the pipes and how the system operates
20 under storm conditions.
21 So probably the area that has advanced
22 most since the last time this went through the
23 planning process is in the area of green storm
24 water infrastructure. And in highly urbanized

25 areas like NBC's service areas, we tend to think

1 of sewer separation as a way to eliminate CSO
2 events.
3 But what we need to understand is that
4 anything that keeps storm water out of the closed
5 system amounts to sewer separation. You're
6 separating storm water from the waste water. So
7 green storm water infrastructure is an effective
8 tool to do just that.
9 Now, you might have heard of low impact
10 site development. Those same philosophies apply
11 here. The goal here is to eliminate water
12 pollution by reducing impervious cover,
13 increasing on site infiltration, eliminating
14 sources of contamination and removing pollutants
15 from storm water run-off. Typically these are
16 on-site endeavors.
17 So if you have a low impact
18 development, you incorporate these tools, be it
19 rain gardens or special types of soils, open
20 drainage, rain barrels, pervious pavement, those
21 types of things into your development.
22 Now, most of the Narragansett Bay
23 contributing area is already developed. So what
24 we would be looking at is ways to retrofit this

25 onto existing development, either during

1 redevelopment or as an alternative to a grey
2 project. You know, again, the sort of tools that
3 we're looking at, rain barrels, rain gardens, or
4 vegetated swales, sort of surface gardens that
5 capture and reuse storm water, recognizing that
6 not all of your area can be impervious or reuse
7 the storm water that in some instances you need to
8 infiltrate or create infiltration galleries for
9 any water that hits impervious surfaces like roofs
10 or impervious pavement.
11 MR. NACENZI: Can I say something? You
12 know what, I wanted to say this before. Education
13 is the tool and prevention. What's lacking is the
14 public education. The actual person that lives in
15 the house is already developed. In other words,
16 something that should be mandated to communities,
17 educate the general public. Because once they
18 know what they need to do or what has to be done
19 to stop contributing to this storm water
20 infiltration into the sewer system and its
21 combined effects and what's the result of it,
22 people are going to prevent it a little bit and do
23 a little more. Are you following?
24 If a guy washes his car on a Saturday

25 with the hose, and people let the dogs go all over

1 the place, fertilizers, whatever. But the point
2 I'm trying to make is all this depends upon public
3 education. There are -- people have to be
4 educated on their level.
5 MR. DOMENICA: Thank you. Question.
6 FROM THE PANEL: If I could, if there
7 were some incentive for an existing homeowner to
8 engage in a system like that, I think that would
9 be beneficial towards that per customer rate, give
10 them some sort of beneficial amount, percentage
11 off their utility billing, so to speak. That
12 would be beneficial.
13 MR. MARSHALL: One thing that I want to
14 note, since 2003 we've run under Tom's guidance, a
15 storm water reduction program so that when various
16 users come in, especially large institutional
17 users, they have been pointed in this direction
18 and encouraged and have embraced the concept.
19 And right now in a three-month storm we
20 avoid six and a half million gallons of flow going
21 into the existing system. That's about ten
22 percent of the effective capacity of the tunnel.
23 So just we are doing some of these things.
24 Now the concept is to expand it out to

25 other areas. Jamie has run rain barrel

1 distribution programs on a voluntarily basis for
2 people. So some of these are already in place,
3 but they can certainly be expanded.
4 MR. RAICHE: I guess it also makes
5 sense to mention that we have a sequence of
6 stakeholder meetings plotted out and goals for
7 each one of them. And GSI is the agenda in goal
8 for the third meeting that's -- this being the
9 first.
10 So I think my last slide -- okay. But
11 we will get into precisely these -- there's an
12 entire workshop dedicated to these sort of things,
13 although I appreciate the comments up front to
14 maybe seed those conversations.
15 Now, green storm water infrastructure
16 doesn't have to be solely on site or on private
17 properties. You can also incorporate it into the
18 right of way, you know, this same sort of
19 philosophies. Typically you think of medians for
20 sidewalk separation or anything in a parking lot,
21 the primary goal of that frankly has always been
22 traffic calming or traffic direction. These are
23 typically open areas that you can use to your
24 advantage to store and infiltrate storm water.

25 So as we already started to jump in

1 here, adoption of GSI area wide would clearly have
2 a large benefit, because if these small steps are
3 done over the entire area, it relieves stress on
4 the interceptors in the NBC system, but clearly a
5 lot of that is outside the reach of the NBC to
6 effect.
7 And this is precisely why Sheila is
8 working on this sort of thing with the Providence
9 neighboring municipalities, to do this on a
10 regional level. That's the sort of thing we'll
11 talk about and hopefully get some data leading up
12 to and really focus on it with the third meeting.
13 Also, as I said, you can retrofit these
14 things into public ways, and we can use them as
15 alternatives to some of the hard pipe solutions.
16 So particularly in those sewer separation areas
17 that we pointed out where sewer separation is
18 extremely difficult, not that GSI is easy in those
19 areas, but the idea being that perhaps those are
20 discrete projects that NBC can take on in lieu of
21 hard pipe projects that would be under NBC's
22 control. Again, those are the ways we can look at
23 this.
24 That leads us into what are the grey

25 alternatives. If the GSI's are the source

1 controls, the grey alternatives are -- really
2 focus on the pathway receptor controls. As I
3 said, if we're able to find discrete GSI projects
4 that can be done in lieu of hard pipe projects,
5 then the grey alternative is a smaller hard pipe
6 contract. And that's sort of our first area of
7 focus.
8 The second area of focus is additional
9 hydraulic areas of control in the system, talking
10 about hydro slides and bending weirs, that gives
11 us a higher degree of control of how flows are
12 controlled and distributed throughout the system.
13 Then reintroducing the idea of decentralized
14 storage, near surface storage, which is part of
15 the original plan before it was reengineered in
16 the 90's.
17 The idea here being obviously that CSO
18 events are a matter of timing. When the amount of
19 storm water getting into the system exceeds the
20 capacity of the pipes, that's when you have a CSO.
21 If you're able to provide temporary storage of
22 that volume and then release it back in, much like
23 the tunnel philosophy but on a more diffuse
24 manner, then you alleviate the CSO's.

25 Again, things like that, the hydraulic

1 controls, the bending weirs, are critical in
2 using these things. A bending weir would
3 essentially keep flow in the main lines under
4 normal conditions. And when the level rises in
5 the pipe, the way the water flops over the bending
6 weir and diverts the flow into the off line
7 storage tank for pump out later.
8 As we said, we want to keep the eye on
9 what the goals are. The goals are water quality
10 in the bay. And we will be recalibrating the
11 original model, which again, gave us an idea of
12 what would happen. And obviously, that doesn't
13 exactly match with what has happened.
14 So we're taking the data in the
15 intervening years now that Phase I is online,
16 recalibrating the model, and using that to predict
17 or evaluate how Phase II has improved the system.
18 And we'll be using that then to evaluate various
19 Phase III alternatives, using the same pollutant
20 water quality goals that were set out in the
21 previous report, and running it against the new
22 alternatives.
23 Again, we've got into this a little
24 bit, but the primary measures that we're looking

25 at are shellfish and beach closures. You don't

1 have to worry about jotting all this down. The
2 presentation will be available on the website
3 after, in case you want the numbers. And also,
4 you know, as Caroline pointed out, the focus is on
5 the bay is saltwater, but we also have the fresh
6 water rivers to evaluate as well.
7 So we use the water quality model along
8 with the hydraulic model and the engineering
9 alternative sort of in a cycle. So we developed
10 some engineering alternatives. What would they
11 look like?
12 We use the hydraulic model to predict
13 what the overflows look like. We use the water
14 quality model to apply the pollutant loadings to
15 those alternatives, run the receiving water body
16 model to determine what our water quality
17 resultant looks like. Is it attained, if yes,
18 then we have a successful alternative that we can
19 put in the mix to evaluate against each other.
20 If not, we have to go back to the
21 drawing board and reengineer the alternative and
22 rerun the hydraulic model and rerun the water
23 quality model to see if we have a technically
24 feasible alternative that we'll want to evaluate

25 against everything else.

1 All this is planned to be done in the
2 context of an integrated planning framework. As
3 you might have gleaned, the idea behind this is
4 that it coordinates different programs that
5 previously weren't. CSO programs, storm water
6 programs and sanitary improvements. I convinced
7 Tom -- into one the treatment plant and the
8 collection system.
9 We've successfully done this in
10 Baltimore. While the situation in Baltimore is
11 different from this one, it does have sort of an
12 overarching theme that demonstrates the success of
13 the IPF. The IPF process was able to make the
14 argument for stretching out the compliance
15 deadline.
16 With the consent order that Baltimore
17 originally had, they were going above their
18 financial capacity, above their affordability
19 criteria. We were able to make the argument that
20 we need to extend the compliance deadline to stay
21 under the affordability criteria. By blending in
22 the CSO storm water and sanitary needs, they also
23 used drinking water.
24 They came up with a much more balanced

25 CIP plan. Whereas the consent order was driving

1 everything on the wastewater side, and the storm
2 water and water were lagging behind, they were
3 able to make the argument that they needed a more
4 balanced approach.
5 And part of the IPF process also
6 evaluates what the costs and benefits of the
7 various different projects are. The idea is to
8 sequence the projects so that you're front loading
9 the benefits.
10 Now, a basic tenet or a basic
11 assumption is that any program is made up of
12 discrete projects. And the discrete project sort
13 of follows this cost curve that anytime you're
14 addressing a problem, there are sort of low
15 hanging fruit. There are high priority projects
16 that will get you a lot of benefit for relatively
17 low cost.
18 The further you go along in a program,
19 you're spending more money and getting diminishing
20 returns. Previously without IPF you would have
21 external drivers, consent orders, permits, and
22 then other stuff that you just need to do. That
23 would force the sequencing. That would drive what
24 projects get priority.

25 And unfortunately, what would end up

1 happening is you're running out that sort of cost
2 curve to the diminishing returns on each one of
3 those different programs before starting the next.
4 The concept is that by taking the integrated
5 approach and putting all of those programs into
6 the mix and evaluating their benefits, you pick
7 the low hanging fruit off of the different
8 programs first before running out your cost curve
9 and spending a lot of money on the smaller
10 incremental improvements.
11 The other tenet being that there is
12 significant overlap between the programs. CSO and
13 storm water improvements both do a lot to improve
14 water quality in water bodies. So the process
15 starts out with a group like you guys helping us
16 to identify a whole bunch of different projects,
17 projects that are beyond the scope necessarily of
18 NBC is going to execute but will have water
19 quality benefits.
20 Moreover, they will be relying on the
21 same rate payers, citizens, to fund them. That is
22 a large part of what we'll be doing in -- well, in
23 our off line meetings, some of which we've already
24 started having with local BW's. And then as we

25 advance through the process, we want to fill up

1 the top of the funnel with a whole bunch of other
2 projects that the same rate payers will pay for
3 and will have similar benefits. So we will then
4 come up with comprehensive project lists and rate
5 them.
6 So in the past, programs like this,
7 planning efforts like this, really focused on
8 costs and benefits, cost being how much would the
9 capital investment be to construct it and what are
10 the long-term O&M costs, and the benefits, in this
11 case, what are the water quality improvements.
12 The proponents of -- expanding that to
13 include social criteria. The idea being that if
14 you, as we had done previously, if you're only
15 looking at environmental benefits and economic
16 benefits, sure, you come up with a bunch of things
17 that are viable. But if you add a social
18 criteria, for example, things that add importance
19 to you, open space or quality of life, add a
20 social dimension, you are able to identify
21 projects that are bearable to the rate payers and
22 residents, are equitable, and in ideal cases,
23 sustainable.
24 In the case of Baltimore, they had

25 something like 21 criteria by which they evaluated

1 the projects. I'm not suggesting in any way that
2 we should come up with 21 criteria, but it's a
3 possibility. The experience in Baltimore, Lima,
4 Springfield water sewage, has helped us develop a
5 process for this.
6 This is going to be a large part of
7 meetings four and five to step through this
8 process, both with the NBC Phase III pieces and
9 also any other storm water improvements or
10 sanitary improvements that we throw into the
11 hopper.
12 And again, a large part of it is the
13 affordability piece. In Baltimore, there were --
14 already affordability issues, and if they
15 continued under the sort of business as usual sort
16 of model, without doing the financial analysis, it
17 would become unaffordable for the entire city.
18 As Tom indicated, there's -- the two
19 percent thing is something that we talk about.
20 It's slightly more complicated than that, and
21 luckily Greg is here, and once I wrap up, we'll
22 open it to questions. And I would encourage
23 everyone to pepper Greg with questions at this
24 one.

25 But the focus of the next two meetings

1 is sort of the nuts and bolts engineering. And
2 Greg won't be here. So we'll beat up on Greg
3 today since he is here.
4 But the concept is that there's two
5 indicators that the EPA uses in their guidance, a
6 residential indicator that's intended to represent
7 the burden on the rate payers and a financial
8 capacity indicator that looks more at who is
9 executing the project, you know, the municipality,
10 or in this case, the Commission that represents
11 the capacity of the municipality to take on that
12 financial burden.
13 Just taking a simplistic view of it, if
14 you look only at Providence and no other cities,
15 for example, if we did a simple calculation, it
16 looks as though the program is affordable for the
17 residents of Providence. However, that simplistic
18 approach fails to view or take into consideration
19 a lot of the complexity that goes into these
20 projects.
21 And currently the U.S. Council of
22 Mayors and APWA and others are working with EPA to
23 redefine what the affordability criteria is. And
24 our approach sort of anticipates a lot of those

25 changes and what works in a lot more level of

1 detail.

2 The problem with that simple indicator

3 is that it ignores and doesn't take into

4 consideration the distribution of income between

5 neighborhoods. And the difference in income

6 distribution is a huge factor that impacts in

7 neighborhoods different. So a two percent

8 utility burden for a utility district as a whole

9 doesn't take into account the distribution of

10 income.

11 And we're not even just talking from a

12 city and city or town to town, but neighborhood to

13 neighborhood. Because the details do matter.

14 The -- how the wealth is spread around across the

15 different districts within the city and

16 Providence, has sort of a steeper curve than even

17 the national average.

18 So what Greg's group does is build a

19 set of financial models. You know, we have the

20 hydraulic model and water quality model and

21 financial model so that as we're cranking through

22 the alternatives, we can see how affordable the

23 sweeter scenarios are.

24 So again, if you just look at a

25 simplistic level, it tends to indicate that the

1 program is affordable. But once you break it down
2 to a more finite level, you find that it isn't
3 affordable for the vast majority of districts.
4 Again, the --
5 MS. KARP: That's based on median
6 household income, correct?
7 MR. RAICHE: Yes.
8 MS. KARP: It's not based on
9 homeowners, is the value of a property --
10 MR. RAICHE: That is still and will
11 continue to be the EPA.
12 MS. KARP: We have the ability -- we
13 actually have a Providence plan available. We
14 have the ability to look at the difference between
15 median household income, average household income,
16 and income for property owners in these poor
17 districts.
18 MR. RAICHE: Let me step through this,
19 and then we can get into some of the details of
20 our experts, including Greg. And you can beat up
21 on Greg for an hour and a half, if you want.
22 Again, we went through a broad brush of
23 all the things we'll be discussing. Hey, that's
24 today. So we can cross that off the list.

25 Meeting number two on Thursday, April 10th, there

1 was a mistake in the agenda. It's Thursday, April
2 10th. The focus of that will be to look at the
3 grey alternatives.
4 Meeting number three, May 22nd, and
5 again this will be posted on the website if you
6 want to download it later. And there's more
7 description in the handout notes that will focus
8 on the green alternatives. And I expect everyone
9 to be very excited about that.
10 In June we'll really start the IPF
11 process. The idea being that focusing early on on
12 the engineering side, we'll be able to start
13 filling the top of the hopper.
14 And in June and September we'll really
15 crank through the IPF process. By October, we
16 hope to have a good portion of the plan locked
17 down. And then I use the October meeting to
18 refine the recommendation of the plan.
19 MR. DOMENICA: Thank you, Rich.
20 Questions? Not just on affordability but really
21 anything that Rich covered.
22 MS. DORMODY: Let's start with
23 affordability.
24 MR. DOMENICA: If you could stand.

25 MS. DORMODY: Sheila Dormody with the

1 city of Providence. And you were the first person
2 asking. So I think affordability is obviously a
3 big concern for us, especially as we're talking
4 about doing this work, and perhaps the storm water
5 utility and combined impact. So any other number
6 of things that are happening are significant,
7 Providence water rates going up at the same time.
8 Do you have any good models from other
9 places of how you've been able to adjust for the
10 most impacted communities or neighborhoods or
11 households? Because we have a real diversity of
12 income in the service area for NBC.
13 MR. BARD: Let me answer that in a
14 couple different ways. First of all, the NWA's
15 approach -- we talked about the EPA's 1997
16 approach, where we looked at the residential
17 indicator. And they look at some other financial
18 capabilities of that municipality or that
19 district.
20 The approach that we're working with,
21 the U.S. Mayors Water Council and Conference of
22 Mayors is essentially going into greater
23 granularity. And what we are actually doing,
24 besides building a financial model to understand

25 revenues and rates and debt coverage and all of

1 the different costs in that model that we then
2 import in different CNP scenarios to see what the
3 impact is over the next 20, 30 years, we also
4 developed another affordability model that ports
5 in all of the billing data. So we know exactly
6 what the historical bills are for -- for all those
7 individual homes.
8 For the cost data we're using the
9 census track data. And we're pulling all of that
10 in. That census track data has the distribution
11 of income spread out for each census track. So
12 what we're doing is using an average cost to marry
13 up the individual bills contained within that
14 census track cast against the income distribution
15 of that census track.
16 And that starts helping us understand
17 by census track and at that income distribution
18 level what those different impacts are over the
19 course of time as rates increase.
20 And so what we're seeing here is not
21 just necessarily, hey, two percent for NBC as a
22 whole. We can now go in, because we know that
23 almost any census track there's some lower income
24 levels that are tremendously impacted, and we're

25 seeing that's not even two percent, but that's at

1 five or even ten percent.

2 And as rates are kind of increased over

3 five, ten, 15, 20 year period, that actually

4 spreads, and nothing usually ever gets better. So

5 just up here, you can kind of see where there's

6 yellow and green and different things like that.

7 Those green areas on average that would say that

8 that census track is above two percent, but you

9 could actually drill down further. And you would

10 say, in those first few income brackets, there's

11 an affordability issue there.

12 So first of all, I wanted to let

13 everybody know here's the level of granularity

14 we're looking at beyond what the EPA 1997 document

15 is actually offering. And I would like -- I like

16 some of the other comments given the data that you

17 have, yeah, there's census track data that offers

18 property values, and you can pull that off of the

19 county records and different things.

20 On that, I haven't seen where -- it's

21 not wildly accepted at this point to be able to

22 take billing data and cost data and do the ratio

23 against actual property values. So that's where

24 we have been focusing on the income level.

25 Now, to go back and answer kind of the

1 second part of your question on affordability,
2 you're right. It's the biggest concern. And
3 there's different ways -- and you have to realize
4 that one part of this is we need to really analyze
5 and look at the affordability. It's not just the
6 city of Providence. This is going to include all
7 of the 15 communities also as part of that effort.
8 Now, we then have to -- sometimes we get a
9 question, and it's actually on a rate
10 implementation issue. So that's kind of a
11 separate issue than this analysis.
12 And I think maybe the second part of
13 the question is, depending on how you're actually
14 going to develop or implement your rates, then
15 there's different types of models or types of
16 things to offer.
17 So if you need -- if you're doing a
18 storm drain rate for a storm drain utility,
19 whatever the mix is, that's where you're
20 developing again the impervious data but also
21 educational credits for the schools and other
22 types of on site mitigation. And you're
23 developing a credit program to try to help people
24 give them some ability to offset some of those

25 affordability impacts.

1 So that's where there's this process
2 and then kind of the rate implementation piece.
3 Did that answer your question?
4 MS. DORMODY: I'm wondering if there
5 are other models out there, a utility that created
6 a life line rate for these types of services or
7 some --
8 MR. BARD: Right. Every utility given
9 these different types of constraints, the AWWA,
10 they basically say, hey, any place there's always
11 going to be those demographics that are going to
12 need help. Internal to your policies as well as
13 state law, then that's where you can actually
14 implement low income and life line and other types
15 of programs.
16 But kind of as a financial guy, I also
17 say you want to basically be able to know what
18 those different impacts are and -- because you
19 could be -- subsidize issues could essentially
20 occur. But as long as those are adopted policies
21 within the utility, then they can do it. There's
22 a number of different programs like that that can
23 be implemented to watch out for. Are you looking
24 at senior citizens on fixed income, disabled or

25 low income, and there's different programs

1 appropriate to target those.

2 MR. DOMENICA: A question right there.

3 MS. DORMODY: My point is, obviously,

4 but it's plausible that our rate base as a whole

5 could withstand the cost of the program like this,

6 but many property owners within that rate base

7 would not be able to withstand those costs. And I

8 think knowing that granular data, it's very cool,

9 will help to inform what we think is okay this is

10 okay.

11 MR. BARD: You're right. This data

12 gives the policy makers the ability to say what

13 are the abilities to say what are those impacts

14 and the fact we are looking at all the customer

15 bills --

16 MR. DOMENICA: To the right.

17 MR. WALKER: Mike Walker, commerce RI.

18 It's nice that you do this by the census track,

19 but what are you doing as it relates to the

20 business community and industrial and commercial

21 users and what the rate impact is and has been in

22 the past and what the profile looks like for the

23 cost.

24 Right now, as I look at the tariff,

25 every homeowner, $500, by the time you do the

1 meter charge and you haven't pumped a gallon
2 through, unless you have the smallest pump, you
3 already exceeded it. So are you going to be doing
4 a sensitivity as you look at different scenarios
5 that look at where the rate would land on a
6 commercial and industrial sector and benchmark it
7 against our other neighbors and look at
8 competitiveness before coming forward with some
9 recommendations.
10 MR. BARD: Very good question. This is
11 actually one of the issues at the heart of what
12 U.S. Mayors is basically taking to the EPA. And
13 on March 27th, we're presenting to the Mayors
14 Council and talking about these issues.
15 The current EPA 1997 guidance only
16 focuses on the residential indicator. They do not
17 have any discussion as it relates to where the
18 different financial impacts or metrics on
19 businesses, on commercial customers and on the
20 industrial base. We see that that's one of the
21 weaknesses of the 1997 guidance methodology, as
22 you can see, where it's kind of a residential
23 indicator.
24 We can discuss potentially different

25 issues, for these other financial capabilities,

1 for bond rating and net debt property value and
2 some of these capture a portion of the impacts to
3 the commercial side, but really not in its
4 entirety. So this is one of the -- those ongoing
5 discussions on that.
6 Now, because we're dealing with
7 individual customer bills, and given the scope of
8 this, and putting it in line with the EPA's
9 methodology and then enhancing it, the current
10 scope and budget that's been discussed with me
11 only really focuses on kind of the residential
12 factor and kind of rolling these things up against
13 the median household income.
14 So that saying, the commercial impact
15 would probably need to be a separate analysis or
16 body of work, but I would still say is very, you
17 know, could be very critical or could be an
18 important community value for this. That's
19 something that this policy group would need to
20 make that determination.
21 MR. DOMENICA: Jan, do you have a
22 question?
23 MR. REITSMA: Jan Reitsma with the
24 governor's office. My question was going to focus

25 on the rate implementation aspect of it. I think

1 it's really great that we're going to have more
2 granularity on the problem statement, but I think
3 it would be very helpful for this group to get as
4 much information as possible on whether there are
5 examples out there where solutions are being tried
6 out to come up with answers with.
7 So how do you come up with a system
8 that can be administered without collapsing under
9 its own weight of complexity and yet be fair? Do
10 we have to look beyond the borders of this
11 country? I don't know.
12 I'm very interested in how things went
13 in Baltimore, for example, because I think there's
14 some similarities there. But how do you do that?
15 And that's just as important as the more
16 sophisticated analysis of the impact.
17 MR. BARD: And that's where I would
18 like to draw on the experiences that I have had.
19 I've been a municipal financial officer in charge
20 of the charge -- I've been a chief financial for
21 Colorado's third largest facility. I'm on the
22 rates and fees and affordability and asset
23 management committees for AWWA as well as in the
24 government financial officers association over at

25 Capital Planning for the U.S. and Canada.

1 And over the last few years, because of
2 those exact issues that you have just raised,
3 there has been a number of different studies in
4 publications, some of which I've been involved
5 with, that talk about what the best practices that
6 are out there for rate implementation to
7 accommodate some of the affordability issues.
8 We all understand that just because it
9 doesn't look like we can forward with it that
10 doesn't usually get us off the hook. Therefore,
11 as we go forward and we prioritize and optimize,
12 how we can afford how we mitigate some of those
13 affordability issues.
14 That's where there's a number of
15 different programs that are itemized. And I'm
16 more than capable of bringing some of those
17 different items for policy consideration and
18 providing that to this group.
19 MR. MARSHALL: I think it sounds to me
20 like a question for subsequent affordability
21 workshops. And it seems to me it's boiling down
22 to, are there real life applications in specific
23 cities where they have done this and how have they
24 done it. So that seems like a question that will

25 keep coming up.

1 MR. BARD: And you're right, you
2 start -- you do this analysis, you analyze the
3 different CI pump stations, and you kind of cast
4 out and say, what's the cost, what's the impact.
5 You know, you have to maintain the viability for
6 the financials for NBC.
7 And then you end up moving to another
8 stage saying, okay, if this is what we're saying,
9 we're going to move forward with -- to meet all of
10 the different water quality control issues now,
11 then that usually kicks into, well, now what do we
12 need to do? There's the education, the analysis,
13 all these different program options that you can
14 use.
15 That evidence is there. It is in the
16 U.S., so that's good.
17 MR. DOMENICA: Carol, your turn.
18 MS. KARP: I actually have a kind of
19 major comment, but I want to clarify one thing.
20 I'll ask, are the wastewater treatment rates or
21 the Bay Commission rates pegged against water
22 rates or is there a separate meter, and I think I
23 want the answer, I'm asking a question, I know
24 the -- I'm guessing wastewater is pegged against

25 water, and our consumption basically determines

1 the sewer rate. So in fact, water is a really
2 important resource, but that we really ought to be
3 protecting it.
4 So in fact, all those presentations
5 focus on the wastewater, but instead, we really
6 probably ought to be looking at water which is --
7 it's based on a particular address, address uses
8 water and then -- why is this analysis about
9 affordability, it has to be based on the address,
10 has to be based on the value of the property
11 that's using the water.
12 And then I wanted to go back to the
13 source pathway receptor model. It's the same
14 issue. If you think of water as being part of a
15 pollutant, then we're going to think of all the
16 soft solutions to soft engineering approaches to
17 deal with this pollutant source. We'll deal with
18 expensive hard solutions like tunnels. If you
19 don't think of water that way, if you think of it
20 as a valuable resource in fact should never enter
21 into wastewater system if at all possible until we
22 capture rain water which is not yet contaminated,
23 and we figure out how to bank it and infiltrate
24 back into the system so we use it as a valuable --

25 instead of the tunnels. This should be a last

1 resort.

2 So to the extent we catch and keep it

3 out of the -- and you start billing people for

4 what they use for water, and that brings in

5 commercial and industrial users, there should be

6 an incentive to use less water. That's me.

7 MR. DOMENICA: I think that's the core

8 of the source pathways receptor approach is to do

9 what you can at the front end, at the source end,

10 and go forward.

11 MS. KARP: That way you are -- don't

12 have to charge users very much money, because it's

13 the sort of the New York City water filtration

14 argument. The water never gets thought of as a

15 waste, wasted resource; it gets thought of as a

16 beneficial resource, and it's going to go back

17 into the drinking waters. And then you get

18 your -- everybody in the water supply district

19 contributes to that.

20 Right now we're delivering water to

21 east bay. Maybe it goes in the reverse direction.

22 So water gets backed in reservoirs over there.

23 But I don't think we should be talking about

24 costing out expensive systems before you get the

25 basic program thought about or the goals thought

1 about.

2 If I may say one last thing.

3 There's -- this occurs in a watershed, so you have

4 to have the boundaries of the whole project. You

5 can't look at any commission -- just as a box

6 here. There's everything that comes into the

7 Blackstone River above BVDC. That's going to

8 affect water, water quality downstream.

9 So I think it's kind of dangerous to

10 cost out what the Bay Commission has to spend to

11 address these sources, these overflows, without

12 looking at what Worcester is putting in,

13 Woonsocket is putting in and so on. It's

14 dangerous for us to do that, Bay Commission.

15 MR. DOMENICA: Very good. Other

16 comments or questions?

17 FROM THE PANEL: I assume you're

18 contractors with NBC?

19 MR. BARD: Correct.

20 MR. GALEN: What is your responsibility

21 to use the data to evaluate and over a period of

22 time to come up with firm recommendations to this

23 committee to act upon? Since you're contractors

24 with NBC, what is your responsibility to evaluate

25 all this data within a certain period of time to

1 come out with firm recommendations to this
2 committee on which to act upon?
3 MR. RAICHE: The primary focus is to
4 redefine what NBC has to do for the bay. It's
5 interesting that that question brings up what
6 Worcester and woonsocket are doing for the bay.
7 In terms of our water quality test, we
8 are incorporating those sort of things. There are
9 various questions we need to answer along the way,
10 and those are in the mix.
11 Ultimately, what it is that we need to
12 recommend is what it is that NBC will do with its
13 systems and what Phase III will look like. We're
14 using the IPF to expand that analysis, again,
15 recognizing that there are various other projects
16 that the same rate payers are going to be paying
17 for similar water benefits.
18 But ultimately, a lot of those are out
19 of NBC's control. We're putting it into the
20 evaluation mix that we have a much broader
21 understanding of everything that's going to take
22 place in the region.
23 MR. BARD: To answer that again on the
24 financial component, we want to basically be able

25 to develop a model. So this group says, here's

1 the defined amount of CIP's as these estimated
2 costs for these different scenarios, what are the
3 different affordability impacts, how does that
4 align to the EPA's 1997 model, and how does it
5 actually play out into the next 20, 30 years of
6 the affordability model.
7 That gives us the ability to basically
8 come back and say, here are the impacts. So not
9 only can you see the financial model as far as the
10 projected rate increases, but also the
11 affordability impacts. And we could drill down
12 the granularity level. And then that information
13 is actually packaged up into a final report or
14 recommendation.
15 But the good thing is all of those
16 things are established. It really becomes maybe a
17 baseline component if you needed to look at larger
18 implementation issues such as regionalization or
19 other things. This could be a core piece.
20 FROM THE PANEL: They came up with
21 proposal A with so many millions, is that your
22 responsibility --
23 MR. RAICHE: Could you repeat the
24 question?

25 FROM THE PANEL: The previous

1 stakeholder, Phase I and II, came up with profile
2 A, B, and C and D. Is that your final
3 responsibility to come up with costs for
4 proposals?
5 MS. KARP: For all alternatives A, B, C
6 D?
7 MR. RAICHE: Yes.
8 FROM THE PANEL: It is?
9 MR. BARD: Yes. It's what's the
10 project, what's the cost, that CIP component gets
11 put into the financial model. Then the results of
12 that go into the affordability model.
13 FROM THE PANEL: Do you have a time
14 limit on what you're supposed to come up with
15 that?
16 MR. RAICHE: We have a goal to wrap up
17 our mission here with the stakeholder group and
18 develop the recommendations to get right for
19 approval for this year.
20 MR. LIBERTI: Angelo Liberti. Yeah, I
21 guess I would sort of, trying to clarify in my
22 mind, it was my understanding the affordability
23 guidance always has had two major components:
24 Calculating a percentage of median household

25 income as a rough guide, not a carved in stone

1 requirement, but a way to ensure some degree of
2 consistency across the nation. And then it talked
3 about other drivers or factors and high
4 unemployment, high property taxes.
5 MR. RAICHE: You're going along the
6 list.
7 MR. LIBERTI: It seemed like in the past
8 those things were to argue that maybe a 1.2
9 percent is the right target because these other
10 factors are high. Is it switching now so that
11 more of those factors go into the calculation of
12 the percentage in the first place, or are they
13 just getting sort of more examples?
14 And it's sort of six of one, half dozen
15 another, I realize, but I'm trying to figure out
16 how new this -- I think in the past NBC attempted
17 to look at things like unemployment. This issue
18 of property owner I believe came up last time.
19 And it can be considered, if you choose to
20 consider it, after you do this. I'm just trying
21 to I guess get my mind around what goes inside the
22 percentage calculation and what's an external
23 nebulous kind of --
24 MR. BARD: Right. Going back to the

25 EPA methodology from 1997 that's up here, a lot of

1 this was really kind of simple calculations. You
2 do the work. You go through the different
3 formulas. The hard part is more or less gathering
4 up all the data, interpreting that data, and
5 putting it into the model.
6 And this was used supposedly as the
7 EPA's general guidelines for consistencies across
8 the U.S. And it was typically used as, once
9 again, a guidance component. But a lot of times
10 in different EPA regions, it became something more
11 static saying, you know, we're only going to
12 consider, you know, going to 20 years if you're
13 above the two percent.
14 And so by having those guidelines in
15 place, over time it seemed to in different regions
16 become interpreted as being more rigid. And as
17 the EPA went and said, hey, of the 772 communities
18 across the U.S. that have severe issues on
19 combined sewer overflows, we're going to crack
20 down on you, and here's what we have. And that's
21 really, you know, created some of the push back
22 saying, wait a minute, this doesn't necessarily
23 capture all of the different elements that are
24 occurring in our municipality.

25 So there has been, you know, I think a

1 number of different discussions and some changes
2 in people's perception of affordability.
3 The downturn of the economy by itself
4 had a major impact. And that's where even against
5 household income against property values you saw
6 household income drop drastically and property
7 values also fluctuating. And even that, as a
8 standard metric, even with the downturn in the
9 economy, it wasn't necessarily something that
10 seemed to be a good forecast tool at a certain
11 certain point in time.
12 So we can look at not just the
13 residential indicator. We can draw on all of the
14 different strengths and weaknesses, but it's at a
15 high simple average type of calculation, and these
16 that's where a number of different groups are
17 trying to say it's more complex than that. How
18 can we really have our fair story be told. And
19 how can we use that to try to sit down and have
20 discussions to say what should our cost be and
21 what can we achieve over what type of time frame.
22 And those are the new discussions that are
23 changing.
24 But otherwise, all of these elements

25 are basically going to be analyzed, as well as the

1 affordability piece.

2 Now, NBC, we've been gathering up all

3 their financial data, their billing data. One of

4 the next steps we're going to need, because it's

5 just not about NBC on this analysis. We need to

6 have some of the other financial information for

7 each of the other communities so that we can try

8 to capture a snapshot for the baseline financial

9 plan of this, is kind of what all the different

10 costs are associated with these different

11 programs.

12 So that's one of the things as we

13 identified for you. And now you know who I am.

14 I'm going to be looking for those finance

15 directors, finance managers and the public work

16 people to find out how much are you really

17 spending on your side of the system so I can try

18 to calculate some of those costs going forward,

19 understanding that what isn't being done and what

20 asset management work and different things haven't

21 been done, that's usually a gap on some of those

22 different issues.

23 To address one other point, even if

24 this IP, integrated planning framework, had water,

25 sewer, and storm, you know, as a complete

1 component, the body of of work that you're looking
2 at specifically for NBC's functionality that we
3 just discussed here still would have to all be
4 taking place, including what the different CIP
5 scenarios are and grey infrastructure and green
6 infrastructure and all those different scenarios.
7 That would still be one component, if you look at
8 both water and sewer and storm.
9 And one of the elements that we always
10 have to remember doing, say, conservation is that
11 any impact on sewer actually does -- or impact on
12 water usage does have an impact onto the flow cost
13 component for sewer too.
14 So on that effect, those are
15 integrated. But this body of work still is
16 important as a stand-alone piece.
17 MR. DOMENICA: Thank you. What you're
18 saying, if you conserve water, the rates could go
19 down, the revenue goes down, but the costs on the
20 Clean Water Act side could stay the same.
21 MR. BARD: Exactly.
22 MR. DOMENICA: That's a challenge.
23 MS. KARP: That's a perverse incentive.
24 MS. DORMODY: So we are A decision

25 making group or advisory group to help inform NBC

1 if it gets referred to DEM for a final approval?
2 Tell me more about exactly what that --
3 MR. DOMENICA: I will let Tom.
4 MR. BRUECKNER: The last time we had
5 stakeholders we had a unanimous decision with what
6 we should go forward with. The only objectives
7 where were the.
8 FROM THE FLOOR: I can't hear.
9 MR. BRUECKNER: The last time we had
10 the stakeholders, we basically, when we finished,
11 after educating people as to what the requirements
12 were and what we were proposing, I would say there
13 was unanimous -- near unanimous agreement as to
14 what we should do, that the alternative we
15 selected made sense.
16 As I mentioned, I think it was only the
17 industrial users from one group who represented at
18 the stakeholders meeting who objected saying they
19 thought the rate increases were too great. We're
20 now at the point where we recognize that rates are
21 a very, very important factor going forward.
22 And what we would like to do, because
23 we have we feel there is a diversity of people of
24 the stakeholders representing different groups,

25 the municipalities representing industrial users,

1 chambers of commerce, what we'll call
2 environmental groups, governmental agencies,
3 regulators, to try and come up with a plan that we
4 think we can go forward with that is affordable.
5 We're not going to take a vote at the
6 end and say, this is the plan, but we do want to
7 get feedback from you during the meetings as to
8 what are your concerns about the plan going
9 forward.
10 Certainly one of our concerns which we
11 already expressed, and we're the stakeholders, is
12 the cost of the program. There are other issues
13 such as water quality. You still want to attain
14 water quality.
15 There's the issue of what the
16 regulators will require us to do. In the end, we
17 may not have a lot of choice, because we are
18 mandated to do certain things. So I would say you
19 certainly are an advisory group to tell us what
20 your concerns are. I think you also bring to the
21 table some information that may be helpful to us
22 in understanding what we need to do and what your
23 concerns are.
24 So my goal would be that when we're

25 done, we can all pretty much agree that the plan

1 that we came up with really is the best, given all
2 the constraints that we have to deal with.
3 So I guess it would be the same as we
4 did the first stakeholder. And Brian Bishop isn't
5 here, but I remember Brian, the first set of
6 stakeholders was very vocal. He had some strong
7 opinions, one of which was he thought the program
8 was a terrible idea. But when we went through,
9 and I don't want to speak for Brian, but the sense
10 I got at the end is Brian understood what we were
11 trying to and what we had to do. And what we came
12 up with was probably a good compromise to achieve
13 what we had to.
14 One of the big problems with the first
15 evaluation obviously was the cost estimates. They
16 were way below what it really cost us to do this
17 work, which has driven the rates much higher and
18 has put us in this position of what is affordable.
19 And as I mentioned in one of my slides, that's one
20 of the things the EPA says, keep spending money
21 until you can't afford to spend anymore.
22 What is that? And when you're done
23 spending that money that you could afford later
24 on, when you can afford more, then spend more

25 money.

1 So right now today, what is it we're
2 supposed to be spending and what can we get for
3 that money that we're required to do.
4 MR. DOMENICA: I think it does in many
5 respects, the S curve that Rich put up captures
6 it. There's a certain amount of money you have to
7 spend to get any improvement. Then you get a
8 pretty good return on your investment as you go up
9 that curve, but at someplace it levels off.
10 And you can spend vast amounts of money
11 for very small incremental benefits. We need to
12 figure out from NBC's point of view, in terms of
13 Phase III, where we are on that curve. Find that
14 optimal place.
15 FROM THE FLOOR: I think the thing I
16 want to point out, and that is when we look at the
17 affordability, although it is an affordability for
18 NBC, it really is the affordability for the people
19 who live within the district. It's not just us
20 they have to pay. They have to pay taxes, because
21 they have these other program requirements related
22 to water quality that are going to be heaped on
23 top of our rates.
24 So when we look at affordability, we

25 want to include that as well. That's why we did

1 sewage infrastructure. And we want to look at
2 storm water as an issue that Providence would you
3 say can forward.
4 MS. DORMODY: We care about you getting
5 the right answers.
6 MR. MARSHALL: If I can just add on to
7 what Mike just said. It's not where on the curve
8 we should be and how much. Let's say it's $400
9 million, to pick a number. It's when do we spend
10 that money. It's not different than when we look
11 at the homes and say, I need to redo the bedroom,
12 the kitchen needs a new roof, new furnace, and you
13 come up with a list. And clearly there's probably
14 very few of us who can do all those things at one
15 time or within four or five years.
16 So you start thinking, okay, how do I
17 spread it out. And that's what we want this
18 process to be about. We're not saying we won't
19 spend the money. It's a matter of maybe, when we
20 spend the money. It's about whether the rate
21 payers can pay the bills.
22 MR. HOLMES: I need a new roof. I want
23 a new bedroom. There's a difference between needs
24 and wants. And that's part of what we need to

25 figure out. What do we need to do and what do we

1 want to make happen. There's a lot of benefits to
2 this other than, yeah, the water is clean. You
3 know, that's yeah, the water is clean. Yeah, the
4 water is clean enough to gain more shellfishing
5 grounds. The water is clean enough that fisheries
6 come back.
7 If Rhode Island had the Atlantic salmon
8 fishery it had 300 years ago, there would be zero
9 unemployment in Rhode Island. Because that
10 fishery was big enough that -- I mean, it was an
11 unbelievably wealthy industry.
12 We don't have it anymore because we
13 dammed up the rivers and made a mess out of
14 everything. So they are all gone. There aren't
15 any. You can't find salmon in Rhode Island. But
16 if we tore the dams and cleaned up the water and
17 cleaned up and the fishery came back, you watch
18 the state go up and its welfare and its
19 affordability and its, you know, jobs and all the
20 rest of that stuff.
21 It could be an enormous economic
22 engine. But it's totally overlooked. And that's
23 a shame, because we're looking at this, and I get
24 it. The affordability. And I got a house. I got

25 to pay the sewer rates. I got to do all that

1 other stuff.

2 But if I had my choice to go back

3 fishing as opposed to working at a yacht club, I

4 would go back fishing tomorrow. But because the

5 fisheries have declined, a lot of fishermen who

6 want to be fishing are doing other things.

7 But the future, if we clean up the bay

8 is mind boggling. If we clean up the rivers and

9 streams and all the other stuff that we can take

10 care of, the future is mind boggling. And that's

11 what I'm here to speak on. Because I've lived

12 here all my life, and I love it.

13 MR. DOMENICA: Last comment.

14 MR. REITSMA: I'm glad Phil said what he

15 said, because it's a positive thing. I think it's

16 important for us to keep in mind it's what it's

17 about. It should be a positive thing.

18 I have a bit of a problem with only

19 focusing and characterizing things in a negative

20 way. I know for a fact that there are people at

21 EPA that are not about spend some more money and

22 then weigh them when you have money again, spend

23 more money.

24 That's not the way it is, Tom. The

25 people at EPA are all for innovation, come up with

1 new ways of doing what needs to be done. That's
2 what we should be focusing on. We have a lot of
3 people in this room who have a lot of capability
4 to come up with new ideas and new ways to work
5 together to come up with solutions, hopefully that
6 can save us money and achieve the outcomes like
7 the ones Phil is talking about.
8 And I think that's how we need to
9 approach this. Because I don't want to discount
10 the difficulty, both the financial difficulty, the
11 technical difficulty, all those things, but I
12 think there are new ways of doing things, and we
13 ought to empower the people proposing those.
14 Like what's being tried in Providence
15 and surrounding communities. If we focus on that
16 and we try to tap that talent that is either in
17 this room or we have access to, I have a feeling
18 we may come up with solutions. I think we have a
19 talented consulting team. If we focus on that and
20 the spirit in this room is really positive, we
21 might be surprised with what we come up with.
22 MR. DOMENICA: Thank you. Thank you to
23 everybody else. Great opening session.
24 MR. BRUECKNER: Just one comment. Next

25 meeting is Thursday, April 10, 1:00 p.m. You

1 notice the meetings after that are at 9:00 and the
2 other, there is a record that we have the
3 stenographer. When we get it, we'll put it on the
4 website. Thank you.
5 (The meeting concluded at 4:03 p.m.)
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CERTIFICATE OF REPORTER

I Hereby certify that the foregoing pages are a complete and accurate computer-aided transcription of my original stenotype notes taken in the Matter of NBC STAKEHOLDERS GROUP, which was held at Narragansett Bay Commission, One Service Road, Providence, Rhode Island, on March 12, 2014. Signed this 1st day of April, 2014.

_____

Margaret R. Golden, RPR

Notary Public

My commission expires: October 14, 2015