STATE OF VERMONT
PUBLIC SERVICE BOARD

DOCKET NUMBER EEU-2013-01

IN RE: DEMAND RESOURCES PLAN
PROCEEDING DEBRIEFING WORKSHOP

December 9, 2015
1:00 p.m.
---
112 State Street
Montpelier, Vermont

Workshop held before the Vermont Public Service Board, at the Fourth Floor Conference Room, People's United Bank Building, 112 State Street, Montpelier, Vermont, on December 9, 2015, beginning at 1:00 p.m.

P R E S E N T

Staff: Tom Knauer, Utilities Analyst
Lars Bang-Jensen, Staff Attorney

CAPITOL COURT REPORTERS, INC.
P.O. BOX 329
BURLINGTON, VERMONT 05402-0329
(802)863-6067
E-mail: info@capitolcourtreporters.com

P A R T I C I P A N T S

Michael Wickenden, VEIC
Jim Massie, VEIC
Mick Hilbert, VEIC
Dave Westman, VEIC
Robert Stephenson, VEIC
Brian Cotterill, DPS
Kelly Launder, DPS
Jeanne Elias, DPS
Chris Burns, BED
Tom Lyle, BED
Karen Horne, Vermont Gas Systems, Inc.
Jay Pilliod, VEIC

* * * * *

MR. KNAUER: All right. Good afternoon. This is a workshop in EEU proceeding EEU-2013-01, which is the Demand Resources Plan Proceeding. My name is Tom Knauer. I'm a Utilities Analyst with the Board. With me is Lars Bang-Jensen, Staff Attorney. The purpose of today's workshop is to debrief the DRP proceeding. We sent out an agenda a few days ago -- I hope everyone received that -- and we got a joint filing from the Department of Public Service, BED, and VEIC on Monday. So my plan is to basically go through that joint filing.

Before we dive right in, I recommend that we just go around the room and introduce ourselves, and then, then we'll dive into the agenda.

MR. COTTERILL: Brian Cotterill with the Department of Public Service.

MS. ELIAS: Jeanne Elias with the Department.

MS. LAUNDER: Kelly Launder with the Department of Public Service.

MR. LYLE: Tom Lyle, Burlington Electric.

MR. BURNS: Chris Burns, Burlington Electric.

MR. PILLIOD: Jay Pilliod with VEIC.

MR. STEPHENSON: Robert Stephenson with VEIC.

MR. HILBERT: Mick Hilbert with VEIC.

MR. MASSIE: Jim Massie, VEIC.

MR. WICKENDEN: Michael Wickenden, VEIC.

MR. WESTMAN: Dave Westman, VEIC.

MR. KNAUER: All right. Welcome, everyone. So does everyone have a copy of the agenda that was filed on Monday? All right. So the first item was previous DRP successes. I'll let someone else take that one on, because I'm not sure what that means.

MR. HILBERT: Well, we can pick that up. I'll see if Chris wants to offer anything on this.

MR. BURNS: Oh, you can take the lead.

MR. MASSIE: It's a short story, right?

MR. BURNS: Dark and stormy night.

MR. HILBERT: So, just in context for those who may not have participated, in 2013 we spent a few days in workshops to take a look at the inaugural DRP and see if there were opportunities for improvement there, and we did identify several things, and before I talk about those, I just want to say briefly that, while we did make some changes and we did see some improvements, we did that with the benefit of the folks who participated in the first DRP, and any improvements were gained with their knowledge and insight in addition to the group that worked on the second DRP. I don't want anything to be construed differently.

So, after the Board Budget Order last year, which essentially called for this workshop to take place, we have had several discussions with the Department and internally to reflect on the experience of the proceeding, and one thing that we acknowledged was absent was the voice of the Board, and so we're grateful to have this opportunity, as we did last time, to hear any perspectives that you folks might have to offer.

So, in terms of what we changed, I'm just going to go through a couple of things and try to talk about what those benefits were from what we think is the perspective of the ratepayer. The first thing that happened was that we distributed a stakeholder survey to quite a number of significant stakeholders to the process, and we got a lot of feedback from those folks, and it was included in workshop discussions, and I think the process benefited from that.

In the workshops itself, we made significant structural changes to the process itself. We re-engineered it from a five-track process to a single-track process. I think that was a significant change. We spun off GT to a separate and more timely process, and, significantly, we agreed to participate jointly in an assumptions phase prior to the modeling. The purpose of that effort was to coordinate and reconcile across the parties involved in modeling the, the basis of the modeling, the inputs, the assumptions, policy, and technical considerations and so forth.

We also, in the modeling phase, changed to what we call the one-tool approach. In the previous DRP, separate models had been used to develop the scenarios, and there was a considerable level of effort spent on just reconciling the models as opposed to optimizing the analysis within the portfolio. So there were a significant amount of changes that were made, and we think that the process benefited from those changes.

I think the most significant indicator of that is that the first DRP took about 24 months to complete, and the last DRP took about 14-and-a-half months. We acknowledge that it would, we would have gained from our experience from the first one and improved the timing on it, but we think that another benefit was that the assumptions were ordered by the Board so that other stakeholders besides the EEU's and the Department who would have liked to participate in the modeling could understand how we were basing the models.

So any time, at least from the EEU's perspective, that we can move resources off of NRA activities into resource-acquisition activities, we think that's a win for the ratepayers, and that certainly was the case in this work, and we look forward to trying to accomplish the same thing again. We're not sure that the second time around we can provide the same incremental gains, but we're here to do our best.

MR. KNAUER: I had one question. I don't recall the inaugural DRP as well as perhaps some other people do, but you mentioned using one modeling approach in the second DRP. What, can you explain a bit about in the first DRP the different modeling approaches and how the second DRP was different just in a little bit more detail?

MR. HILBERT: Yeah. I was not involved in that proceeding either, but my, what I was told is that there were, there was more than one model used to develop scenarios between the EEU's and the Department.

MR. KNAUER: So, for instance, internally at VEIC there were different modeling approaches used, or the different organizations were using different modeling approaches?

MR. HILBERT: Different organizations.

MR. KNAUER: Okay, great. Thanks. For some reason, I recall someone may have been modeling, you know, a top-down approach and the other a bottom-up. I don't know if that was the difference or if that was a difference of, say, residential versus commercial services. I don't remember.

MR. MASSIE: That's true. It was commercial and residential. Commercial was top-down. Residential was bottom-up.

MR. KNAUER: Okay.

MR. WICKENDEN: But it also applied, I think, to the difference between the consultants that the Department hired to do their scenario analysis, and the process that we completed had different approaches to the modeling overall that, as I recall, they had a much more of a, say, wholistic approach rather than a piece-by-piece approach. So it was -- you know, we had trouble reconciling some of the assumptions and some of the inputs, and that's one of the reasons why we moved that, the assumptions phase up front, so that we could all agree on the assumptions rather than find out, Oh, that model used a different assumption about low-income spending than we did. So I hope that is it. I think the other --

MR. MASSIE: I'd just add on that, the Department didn't do modeling this last one, right? You did it in the first round, but you didn't model -- actually, the VEIC model and BED model in the first round and the Department did, and we tried. That's where the reconciliation issues came up. This round, I don't believe the Department did that, right? We did the modeling, and you guys reviewed it along the way?

MR. COTTERILL: That's correct. And I think, maybe just to clarify, at that time, I was brand new to the Department. This is going back a few years, but I think the concrete naming of the differences between the models is, is that the models were the potential studies, and, at that time, each entity did their own potential study, and I think that's where the differences came out, because the assumptions were different. If that resonates with others in the room, then that's how I would understand the characterizing the modeling as the potential study in the first DRP.

In the second DRP there was a difference between the modeling that happened to achieve the objective of the scenarios, difference between that and the potential study the Department did. The potential study that the Department did was just a, basically, a revision of the first one that we did, so --

MR. MASSIE: I think we did more than a potential study. I think we also modeled some scenarios.

MR. COTTERILL: Yeah, that's right. That's what I meant to say.

MR. HILBERT: So the significant change, I think, was that, in this past DRP, VEIC ran the model, and we arranged with the Department and BED regular check-in points so that we were able to understand the progression of the modeling, and it's a three-month, three-and-a-half-month process, and so it was a collaborative approach, and the effort was put into the analysis of the portfolio and getting the portfolio right as opposed to spending resources on reconciling how each black box worked.

MR. WICKENDEN: Yeah. Also, the other thing in terms of just the process improvements, and maybe you're going to talk about this, was the difference between having different activities. We had, in the first DRP we had what we called tracks, and then in the second DRP we had, we organized it differently so the decisions about activities were time-based rather than tracked. Because we found that, when you did the tracks, sometimes you had to wait for the decision of one track because that informed another track, and, consequently, you needed them to conceptualize it more in a time sequence rather than as separate activities that just ran parallel to each other.

MR. HILBERT: Yeah. One of the primary goals of the workshops was to reduce the amount of rework, and the experience reported from the inaugural DRP was that, for example, when agreement or resolution was reached on each track, there was a need to go back and reconcile the impact of those decisions on the tracks which had previously been reconciled with respect to, What are we going to put into the portfolio for the next three years? And so the change to a single track resulted in not quite concurrent, but nearly concurrent progress on the components of the previous five tracks, but, at the same time and as opposed to, oh, probably a dozen milestones in the inaugural DRP, we were able to break the second one down into just five phases. Does that help clarify?

MR. KNAUER: Yes, it does. And, I guess, a follow-on is, Any of the lessons learned regarding modeling, is there any way that we can pass any of that knowledge on to the integration of Vermont Gas into this proceeding? Because, you know, that's going to be a new, new can of worms for us to deal with.

MR. HILBERT: Well, we're glad to see that's a topic for consideration because we think that, certainly, it can be accommodated, but we think that we, probably all of us, need to get some better understanding of what exactly the scope of that integration would be. For example, Docket 7676, I believe, the Board spoke about benefits to be gained from basing the Vermont Gas modeling on the same assumptions as the EEU modeling, and we think that there should be some follow-on work to this discussion with Vermont Gas and the Department, perhaps, to talk about, Exactly what does that look like in terms of integrating the assumptions, and is it the intent of the Board to integrate the modeling of the scenarios in some way?

You see, in many ways we, we consider this discussion to be almost a scoping session with respect particularly to VGS and possibly Act 56. We, one of the advantages from the previous DRP is that, at least from VEIC's perspective, is that we now have nearly completed the development of a modeling tool that we have in-house, and we're no longer in a position where we're dependent on a sub-consultant to run the model. So we have been able to tailor that model architecture to support things like high-level analysis of the portfolio based on program-level parameters, and we believe we have the capability to accommodate additional programs within it, but we are not certain of what level of integration is contemplated, and we suggest that that's a topic for further discussion beyond this workshop to get some clarity on what that would take.

And it does also, we think, raise the question of certainly scope and, What's the impact on the level of effort over the assumptions phase and the scenario modeling phase? So it's, it's information that will be helpful to respond to the Board's primary question with respect to the lessons learned which is, Is there a case to be made for modifying the timing of the DRP procedure, proceeding? So it's a long linkage.

MR. KNAUER: Right. Okay. BED, do you have anything that you want to add in terms of less than -- in terms of, you know, the process we went through last, you know, three years ago in terms of looking at the inaugural DRP and improving the process?

MR. BURNS: No. I think Mick reviewed it well. I mean, we, with the Department and with EVT, said it made the most sense cost-effectively for BED to be part of the process from day one and walk through it. I think we all learned a lot. You know, a lot has changed from our perspective since the first one to getting ready for the third one, and, you know, federal energy standards, state energy standards, what we know about our markets.

And that kind of leads us to an item further down the agenda, and that is, you know, scaling one territory to a larger territory can work to a degree, but we're thinking that's not going to work very well for BED going forward, and, when I say that, it's just, you know, Is BED's territory similar enough to the rest of Vermont to make that be a very cost-effective way to go?

I think we can make a pretty good argument that there's enough uniqueness within Burlington residential/commercial split, the amount of rental in both residential and commercial, the heavy saturation of natural gas in both markets, that we need to take a specific look at Burlington to get a more accurate view, but, I think, in our conversations with the Department, we can stay very close to the statewide effort and then strategically take off-ramps where we need to so that we don't get in the way of the process, we maximize, you know, efficiencies in terms of getting it done but -- I went further down on the agenda than I probably wanted to but --

MR. KNAUER: That's all right. We'll come back to that as well.

MR. BURNS: Yeah.

MR. KNAUER: All right. Anything else on the first agenda item? Have we wrapped that up?

MR. HILBERT: Well, a question, perhaps.

MR. KNAUER: Yeah, sure.

MR. HILBERT: From the Board's perspective, was there any benefit in the proceeding, the modifications to it?

MR. KNAUER: I would say, from the Board's perspective, many of the things that you and Michael and Jim highlighted in terms of going from the multi-track approach to the single-track approach, it worked well. You know, again, the, the tracks proceeding at different timeframes and then feeding back into each other just was not efficient from a Board staff perspective. So I think that worked well. That's the biggest thing that I would highlight. I don't think we have anything to add. I was imagining that we'd spend most of today talking about the last DRP and, you know, what we can do to make sure that the next one is a success and gain any efficiencies we can.

MR. HILBERT: I'd just -- I'm sorry. I don't mean to put you on the spot, but I recall --

MR. KNAUER: You can.

MR. HILBERT: Okay. Probably used to it. I just recall from the previous effort that the, when we talked about the current state, the Board's observations were really helpful to us in terms of getting a sense of what was a realistic scope for modifications to the proceeding, at least in terms of considering. So that's the basis for the question is just to see if, if it made a difference to the Board and also to inform going forward to proposing perhaps different changes to the process, you know.

MR. MASSIE: I can offer an example. From my recollection, the Board was really interested in the parties drafting the language that the Board could use in its final budget order or its final orders along the way, and I think the Department, I found the Department really helpful in moving that along so that -- and we have plenty of support there, too, I'm assuming, but I felt like we did that this time. Like, you talked about the differences in the tracks and how it was very challenging to write orders and navigate that process, and I felt like the way we lined it up this time and the fact that we could help with the language, I thought it turned out fairly well, but I don't know how the Board felt about that.

MR. KNAUER: Yeah, you're taxing my memory a little bit. But, I mean, as a general matter, it, the Board's decisions are made, you know, in response to statutory requirements. So, whenever we are writing something, whenever we're considering parties' comments, to the extent that those comments relate in some way to the statutory criteria, our goals, our whatever, you know, it's very helpful for the Board.

MR. MASSIE: Yeah.

MR. KNAUER: I do think -- at times, I do recall that, I think, in the first DRP we had to kind of take someone's comment and say, We think this applies to 209(f)(3), but we're not sure. So that's helpful in terms of layout of comments, Here are all the 209(d) (3), here are all the 209(f) criteria that we're looking at, to make sure that your comments are aligned with those, very helpful.

MR. WICKENDEN: You know, one of the things that I noticed was we spent a lot of time on getting, you know, the process right, what had to come first, what had to come second, and I think we did a much better job at that. We had a lot of process improvement that way. I think the one thing that I would say that we didn't fully, at least I didn't fully value in the beginning was, is when a decision occurs in that timeframe, the closer you get to the end because you have a, a more of a firm ending, there's more and more pressure to get decisions made. Whereas, if you start early in the process, you, one is able to have a little more luxury in terms of discussions and exploring the implications of a decision.

So, in my mind, I think we did a great job of sequencing a lot of things. That, to me, was an important, is an important attribute that, when we start thinking about the sequencing or resequencing of events for this, that we would want to look at decisions that have a lot of impact and try to make them earlier in the process so that we don't get into this situation where a major decision has to be made way at the end of the process and, consequently, it really raises the pressure and shortens the discussion about the implications of that. So that's the, the one of the sort of new findings I take away from having gone through that, the two processes, is that this, this dynamic about where the decisions sit in that general process.

MR. KNAUER: I think that's a good point. I think parallel to that is when certain information is filed within the process, which is some of the other agenda items that we'll be getting to today. So, anyway, moving along to the second agenda item, this stems really from the Board's budget order. I won't reread the language, but, basically, there was a concern that the timing of the DRP may put some limitations on the actual budgets that are sent -- set, sorry, not sent --

And so, as I recall, in one of the workshops there was an exchange between -- I don't know if it was the Board members or staff and Mike and Jim from VEIC talking about -- I think it was Scenario 3, and there were -- someone said, Yeah, it would be a challenge to get there. I think VEIC said they were up for the challenge but it would be a real challenge, and so, you know, if a DRP were to conclude earlier -- I know that the P&A Document says the goal is to have the budgets set and the DRP concluded six months before it's to be implemented. If we were to modify that to nine months, would that make it less of a challenge? If it was twelve months? You know, if we go too early, how realistic is it because things are changing so much?

And it could also go the other way. If potential studies show, you know, there's really not that much out there so let's halve the budget -- I'm being extreme here -- if there was going to be some significant modification up or down to either of the EEU budgets, you know, how, how does the timing of the DRP play with those?

MR. MASSIE: So great question. We love it. We have been looking at -- I mean, it really goes to what Mike was just talking about, I think, about the timing of different aspects of the proceeding and how some decisions can be, we think, should be made earlier that enable the end of the DRP process to be much easier to accomplish, and I think, specifically, I think we've talked about, internally, about compensation in the QPI setting and how we build that into the assumption phase, which is something we asked last time, but we weren't all in agreement about it, so it didn't get included there, and we ended up doing the QPI's at the end and the compensation about halfway through.

But we believe that moving those critical pieces to the front end, that first sort of first phase of the process, would enable us to allow the Board to establish the scenarios and then, and make decisions about what's, you know, what models, you know, what areas we would go. So we're proposing, basically -- I mean, at some point -- I don't know when you want to get that out. I don't know if now is the right time, but Mick has got a side-by-side comparison. You want to talk about it?

MR. HILBERT: Yeah. I think we took the Board order to be a question primarily about scheduling. I mean, there are aspects to the work that are important, but the schedule is key, and so we looked at -- I think it might be helpful just to start with the preview. So, if you could pass these around, I'll take one. This is just a high-level look at the phase level schedule for the previous DRP. Those time blocks are in green, and the actual dates for the previous DRP which are in that orange color. And so, just to sum it up, we were able to stay on track until we got somewhere into the middle of Phase 3. Around January, February is where things started to slip, and the end result was that, while we were trying to get the QPI order by June 30th, it actually came out on October 10th.

There's another aspect to that sequencing that we'd like to address in a subsequent conversation further into the agenda, but, in terms of the schedule, so we, despite everybody's best efforts, went into October as opposed to July, so --

MR. MASSIE: So, before we switch over to the next one, so one of the key pieces of this is that not only the timing, but, when we talk about the critical decisions that were made in the process and the timing of those decision, that QPI piece happened in the middle of the summer that year in that second year of the DRP, and I think, you know, when we started sitting down and trying to find times on the calendar with the Department, it was, number one, just challenging finding time in the summer when we could all be available, and it really, I think we all had to be available for those discussions.

So that was a little bit of a challenge, but it really, because of the timing of everything and all the other stuff, whatever else was going on at the time, it put a lot of pressure on us to make decisions about QPI's in a very short amount of time, and I think in one meeting we scheduled two or three hours to talk about this, and it was five minutes of 3:00 or something like that, and we were like, Oh, man, we could sit here for another hour discussing this, and we sort of just settled, and it was, I think we found that fairly challenging in terms of a reasonable way to have that discussion, because it was such an important piece of the whole process, and, you know, it, I don't know that we really had the full amount of time that we could have valued by having some more discussion about some of those pieces.

The other piece to that was in the processes, because you build the QPI discussions in at the end, you've completed your modeling, and then you talk about what the final number is for the QPI's, so your targets, basically, right? And the model doesn't represent that, and I know we've had that discussion before off-line, I think, on a couple of occasions.

And so we end up at the end of this two-year process with a set of modeling results that don't get us to our goals, and we don't think that's a reasonable way to operate.

We'd rather see something happen closer to the front end that incorporates where we think the targets are going to be and then actually build a model that are going to get us there, and then we can share with you what those results are, These are exactly how we plan to get there, and we would find a lot more value in that, and it turns into our triennial plan, and that's -- you know, so we ended up coming out of this process without that, and that, to me, that's very disappointing, to put all this effort into that process and not have that at the end, so --

MR. HILBERT: Well, I think you summed it up well. I mean, the end result was that the modeling didn't support the triennial plan, and so it's, it raises a question about, What is it we want to achieve with the modeling? Do we want to come out of the modeling process with a representation of what the portfolio will look like for the next three years? And, if that's the case, then we do need to consider the timing of the key events that lead to and happen during the modeling and what we want to come out of it with.

I mean, we, it leaves us in a position where, in order to get the same comprehensive look at what the programs would be as we get when we model for the scenarios, we would have to reproduce that effort to generate the same level of detail for the plan for the coming performance period, particularly the first year. So it's, we think that some change in the sequencing would result in scenario modeling that is more representative of what the EEU actually needs to do to achieve the best benefits possible from the portfolio. And I think that -- well, we, we also wanted to talk about scenario definitions, but that's further down in the agenda. So we were on schedule, and what I'd like to do is --

MR. WICKENDEN: Before we leave that, just one more comment about the -- you know, I think we've talked extensively about how, you know, changing the order here would make or changing certain things would make the model more useful at the end point if we knew what the, the actual output, the required output was, and that's why we're thinking of or we are suggesting that those QPI's and the compensation case move up in the structure.

The other component of that is, is that, from a perspective of that you really, you know, want to align the incentives in terms of you want to have -- we're going to spend a lot of time and resources investigating and proving those models, and you want to have us and those that are engaged in the review of that really focused on those, and by, by saying that those are the ones, actually, you're going to use when the process is over, one of those is actually going to guide the implementation once this is done, you'd want, you'd want the outcome to have, to be that value, to be the actual result that you're looking for in contrast to what we're doing now is we have those expected savings that we produce, and then we apply, on top of that, a, a stretch goal, and, therefore, the whole modeling of the expected savings doesn't get you to the what we need to do. So the model is useless. You know, we don't go back to that model, and there's no requirement, or there's no incentive for us to redo those, that model.

So it's, it's sort of like we've wasted time in creating that because what we finally end up agreeing on is something different, and what we want to do is, if we all think that that modeling is actually instructive, you know, finding out what the pieces are, agreeing on the, on the pieces of it, then we ought to actually use it at the end.

We could do this a whole different way. You know, we could say -- we could just look at cost per megawatt hour and, instead of going through all the things about building, you know, How many units of this particular measure are we going to be able to get each year over the three years? I mean, it's very detailed. You know, we could come up with a lot less, spend a lot less time and money by just looking at our historical performance and say, Okay, you know you've got $200 a kilowatt hour for this program. So let's see. We'll do that again for, you know, for your target for the next three years, and then you guys go home and figure it out. That, that's another way to do it, but that doesn't then have any collaboration about, What are we really going to be doing? You know, what are the things that are going to be, we're going to be working with our customers to deliver?

So if, indeed, we think that that's an important exercise, and we are asking the EEU's to go through and model a bunch of different scenarios, so, unless we change that, to me, it makes much better sense to have the outcome of those actual models be what they're going to need to follow, be very descriptive of what the things that they have to do to meet their goals, and that's not what's happening now. Is that clear in terms of the difference between what we're doing now and what a change like that might produce?

MR. KNAUER: Yeah, I do follow that, yeah. I think there's going to be a follow-on saying, So this is our proposal.

MR. MASSIE: Yeah, it's coming. The other point I just wanted to raise, too, though is in a previous DRP, and correct me if I'm, either one of you, any of you, if I'm not on track on this, but my understanding was the Board ordered scenarios. We built those models, and then there was a rate and bill analysis of those models. Then we went through the rest of the process, and then we established the goals. So, in the rate and bill analysis, you don't actually have the benefits in there. All you have is the cost, and so, you know, in essence, you know, a more effective way to do it would be actually have a model that has the goals in it and the rate and bill analysis, then it actually work and consider what the impacts are, and I'm not sure that the Board actually had all the information in this past DRP in considering the rate and bill impact, because the savings numbers weren't what we ended up at.

MR. KNAUER: My recollection is that the

modeling, the initial modeling, was filed sometime in December. There was a subsequent -- there was a second round of modeling that VEIC did in the February time period, and then I think the Department filed a rate and bill impact analysis in the April time period.

MR. MASSIE: Right, and then the goals were negotiated after that, which increased the benefits.

MR. KNAUER: Correct.

MR. MASSIE: But we never went back and revised the rate and bill. So, in fact, the Board --

MR. KNAUER: Yeah, I would agree. From the Board's perspective, to the extent that the Board can make a decision based on a whole set of both costs and benefits, I think that would be a more meaningful exercise.

MR. MASSIE: Yeah, I think so.

MR. HILBERT: The other thing I wanted to discuss is under the benefits of the improvement work, but I was eager to get into the meat of the meeting, but I think that -- I know that VEIC learned a lot from the collaborative process that we went through with the Department. The modeling phase was three-and-a-half months, and, during that process we scheduled, I think, four check-in, formal check-in meetings with the Department and the Department's consultants who are out there --

MR. MASSIE: Who now work for BED.

MR. HILBERT: Right, yeah.

MR. LYLE: I'll hide here. I'm not going to say anything.

MR. HILBERT: -- and with BED to review the current state of the model, very much like a design phase where you go so far and you sit down with the involved people and say, Well, this will work, but maybe that won't, and so that's kind of an intangible benefit that comes out of a collaborative modeling process, but I think it's really valuable in terms of optimizing a portfolio. Because, if, I mean, if you send one party off to come back with a model, they're going to give you the best they have, but it's not going to be as good as what comes out of a group effort. So I think it's important to preserve that collaborative benefit in the modeling so that the portfolio is actually optimized.

MS. LAUNDER: Can I ask a question?

MR. KNAUER: Yes.

MS. LAUNDER: In the scenario described, where does the budget-setting part come into that, before you're determining the QPI's or after you do the modeling?

MR. MASSIE: In the last round it was before the QPI's were set.

MS. LAUNDER: No, I know, but I'm talking about in what you're proposing as a potential switch.

MR. MASSIE: So do we have that on this sheet? This is the one with blue on it.

MR. HILBERT: Jim, just a moment.

MR. MASSIE: Yeah.

MR. HILBERT: We wanted to have something to point at in this discussion so that people would have a reference. It's sometimes difficult to gather all the pieces of a complex proceeding in your mind and actually make sense out of it. So we pulled together this conceptual schedule, but I want to be careful to characterize it as a concept for discussion, and it's, it's not a formal proposal. It's an idea, and it's meant to illustrate a concept that we're discussing about changing the sequencing. We recognize that it's not thought out to a level of a proposal, but we wanted to float it and get a sense of people's response to it, and we'd be happy to develop it more. I'm not saying we can't discuss it now, but I just wanted to properly characterize it for this discussion. Sorry, Kelly.

MS. LAUNDER: That's okay. You haven't answered when would the budgets be set.

MR. WESTMAN: I think it's in -- I mean, I just got handed --

MS. LAUNDER: Is it after the QPI's are set or before?

MR. WESTMAN: Yeah, it's all part of the QPI process there, so --

MS. ELIAS: This looks simultaneous.

MS. LAUNDER: Yeah, that's why I don't --

MS. ELIAS: It looks like you do it all at once.

MR. MASSIE: It's all part of the assumption phase.

MS. LAUNDER: So the reason I ask is, I mean, you know, I'm very practical, and I can, in a practical sense, say, Okay, let's say we decide that the QPI's, like, the metric for savings should be double and that's what, that's the metric, and you go off and say, Okay, great, and it's going to double the budget. That would not be, that would not be something that we would be able to go forward with. So I'm just trying to understand, in this world of setting an actual number, not the framework, an actual number of goal to achieve, how does that get framed in a way that it's not a doubling of the budget or something? It's not just plug it into the model, and we'll tell you what we can, how we will achieve that and how much it will cost. I don't --

MR. HILBERT: Well, that's a good point. How is the budget determined now?

MS. LAUNDER: Well, I think that's where the modeling, the scenarios give an idea of what the savings could be at different levels, and then you kind of say, Okay, and there's a rate and bill and there's other information that goes into where do we end up proposing at the, you know, at the later stage.

MR. HILBERT: Right. That's, I'll offer that that's the theory, and it's valid. It appears that the reality is that the true sensitivity of the scenario, the impact of the scenarios on the budget determination is somewhat a function of sensitivity of the rate and bill impact. I mean, we're getting into the scenario discussion, and I'm not trying to take your place in this, Brian, but one of the observations that many people have had of the process is that the concept of bracketing the scenarios certainly makes sense in terms of initially defining the range of possible cost-effective energy efficiency savings.

The, the reality to us, it appears, is that we have been operating at a cost-effective level achieving energy efficiency for many years, and it's fairly stable, although the yield rates, as one would expect, are going up. We, we know from the potential studies that we're not bumping up against the ceiling.

I think this statute requires, essentially, the Board to direct, and I don't mean to be speaking for the Board, to achieve all cost-effective energy savings while thinking about rate and bill impact. So, since the EEU's are efficient and cost-effective and there's not a ceiling at this point within the range of impact, potential impact, that's acceptable on the rate and bill, it, it might be worthwhile to think about narrowing the range of the scenarios to the likely range of acceptable rate and bill impact and then optimizing that realistic scenario range based on what would be most advantageous to the ratepayers in terms of benefits, whether it's, you know, depending on how the climate changes, whether it's TRB's, it's peak reduction, but whatever the parameter is, maybe we should think about narrowing that range and allowing the Department and the EEU's to apply their expertise within the range of possibility and optimize for the best value for the ratepayer.

So we've kind of -- your question got us further down on the agenda, and that's great, but I just wanted to note that.

MR. WICKENDEN: Yeah, and I think the other maybe point of misunderstanding is, when we were talking about having the decisions made around the compensation structure and the methodology to determine the QPI's, we weren't, we weren't suggesting that the QPI's get set in terms of a numeric value but that the, but that the percentages of stretch and super-stretch get set so that they're flexible, they apply to any scenario.

So, if you, for instance, agreed that there would be a 10 percent and a 10 percent, a 10 percent over your expected savings to make the stretch and then a 10 percent for your super-stretch, you could apply that to any, you know, budget analysis, any scenario analysis you did to have the outcomes then match what you would need to, to achieve those QPI's.

Same thing with the compensation. If you had a, you know, agreed upon a -- what do have now -- like, say, three-and-a-half, one-and-a-half and three-and-a-half percent, you know, operations fee. You could take those percentages if you agreed upon them ahead of time and apply them to any of those budget streams and come up then with a total package that they would need for the rate and bill analysis. So you would still -- you'd send all that, you'd get through this process, and what the Board would be provided with is, you know, theoretically, for instance, three scenarios that would show, you know, what the total cost was including the compensation and performance fees, what the goals would be in terms of the QPI goals, and then what the rate and bill analysis would actually be based upon a full consideration of the benefits and a full cost.

MR. MASSIE: And then the budget order would come out.

MR. WICKENDEN: And then the budget order would come out.

MR. MASSIE: And, ideally, the way Mick described it, we would have narrowed the options in in the scenarios so closely that the Board would just choose one of those as opposed to picking somewhere either above or below or somewhere in between one of the scenarios. It would be ideal if they just chose one of the ones we modeled, right, and then we could just move forward.

I just want to be clear about something that Mike said, though. I think, you know, the concept of developing up front only the stretch rates doesn't actually get us quite to what we need, I don't think. I think we need -- I think we can use that concept to apply to whatever we do to build something that we can model to. Like, I don't want to end up with a model that then we have to stretch again. So it's really about, Are we establishing stretch on historical yields, or do we actually just establish those goals? We do what Mike said at the beginning which is, Here's what we think the scenario budgets would be and here's how we're going to get to those goals and here's the number, you know, for energy, maybe not the market transformation, maybe not the comprehensiveness or some of those other ones, but we're really talking about the energy and demand and TRB numbers, and if we knew what those were up front, we can actually build the model to get to those targets.

MS. LAUNDER: Well, that's what I heard you saying.

MR. MASSIE: But I think you can do it the way he suggested it too. It just requires a different way to look at it which is --

MS. LAUNDER: But it still doesn't seem like it achieves what you --

MR. MASSIE: Well, it could. As long as you -- if the assumption is you're going in saying, Here's what the historical yields were and we're going to stretch those by a certain number and you just apply those going forward and you have complete agreement how you're going to do that, but I think that's more challenging. I would rather see us just get numbers and then build a model to get to the number.

MR. WESTMAN: And I think we can all agree that we are not going to come in with a position that the budget should be twice as much as it is now. I mean, the budget is relatively flat with the, with allowances for inflation, you know, and, I mean, I think we would, we would look at that in terms of what, What do the trend lines indicate, as a starting point.

MR. COTTERILL: So in the P&A Document when you look at the, the DRP proceeding section, were what we just discussed become a reality under what's currently expected as the P&A, Section 2(1)(d), there's a sentence at the last, the last sentence in that paragraph is related to the scenarios, and it says that scenarios shall be either budget- or savings-based, and one of my reflections is that on the DRP generally, big picture, but also trying to build off this conversation, is that, for what we've just talked about to become a reality, that that would need to change.

MR. MASSIE: I don't think so.

MR. COTTERILL: You don't think so?

MR. MASSIE: No. I think they could still, if we knew what the budget scenarios were, right, you could establish the QPI targets based on some sort of stretch yield. So the budgets are still based on flat budget, 2 percent, you know, whatever the next level up which is historical DRP budgets, and then 3 percent savings or whatever. So you do have two budget scenarios.

What you'd be negotiating up front would be, in the assumptions, would be, Okay, take these budgets. What do we think that's going to get us to a goal? What's the stretch goal? And then we build the model that stays within that budget and gets us to the goal. So the Board could still order two budget scenarios, and we would then have to talk about what the savings would be, and then we'd build models to get to the budgets for those savings.

MR. WICKENDEN: I do get your point, though, in terms of it probably, it puts a lot less, there's a lot less likelihood that we'd, we'd recommend a scenario to be analyzed that was based upon a savings percent reduction. They'd be budget-based scenarios rather than savings-based.

MR. COTTERILL: Yeah, or they could be both, they could be budget- and savings-based, the scenario is "X" budget with these savings. It could be, you know, a very general or more as like a percent of sales, or it could be more specific, like, a whole set of QPI's over the top ones.

MR. HILBERT: Yeah, optimized for TRB's, for example.

MR. WESTMAN: We could optimize for a lot of things.

MR. HILBERT: Well --

MR. COTTERILL: But I think, I mean, that line, I think, as I think back on the DRP budget- or savings-based, I think it encourages sort of a really broad set of scenarios, you know, you know, level with inflation, you know, ramping and, you know, some extreme amount of savings as a percent of sales which, which budgetarily is a far reach, I think, as our experience is we've seen those budget numbers and those savings.

MR. MASSIE: Yeah. So I think, to try to go back to the question, I think, Tom, you started with is like, Could we achieve 3 percent or 5 percent savings given enough time? And I think the sheet with the blue boxes on it is really what we just talked about which is we do these assumptions up front, we know what the budgets are going to be, essentially, for modeling, we know what the yields and the goals would give us, then we do modeling to get to those numbers. So in this model the Board orders its budget somewhere, you know, April, May, June timeframe of 2017, and if the Board were to select one of those, we already have a plan. We've already built that plan. So now we've got time to figure out how we're going to start launching that in January.

So that's much different than where we've been, which is we've got an October order, we don't have a model that gets us to the number, and, okay, you're basically starting from scratch if it comes out that late, but if you're able to build the model so that you have got those assumptions up front, you've got the model that gets you to those goals, and, if the Board were to choose one of those, I think we're in good shape.

MR. KNAUER: I also think, from our perspective, one thing that happened last time was the potential study was filed later in the process, and I think the P&A calls for the potential studies to be filed in advance of modeling, and I think that's very useful, because a potential study will hopefully give some sense of rate and bill impacts, and so, just based on a study of that, you can say, Okay, these are outside of the realm of possibility, so don't even bother modeling this.

MR. MASSIE: And that's what we've done in this model. We've suggested that the build for the potential study happen in the first phase.

MR. HILBERT: That's essentially the logic behind the concept, that is, we spend three-and-a-half months on modeling scenarios. Let's model something that we can use and that will maximize the benefit for the ratepayers.

MR. MASSIE: So, just to think about how that would work, I mean, obviously, we've got all the blue boxes are all together for every row, so you really can't tell when this all this happens, but I think the potential study would be one of the first things the Department would do, and that would inform the scenarios that come out of the back end of Phase 1. You would say, Okay, let's go after the full potential, or let's go after something less than that, but that's, that's information you would need to be able to issue those scenario orders.

MR. WICKENDEN: Yeah, and I think he's modeled that in terms of the potential studies listed from June through finishing up in November, and then our scenario modeling starts in December.

MR. MASSIE: Right, but I think that the

concept that I'm trying to say is that the potential study has to happen in these first two or three months because you still have some work to do to get to a place where you can actually get the Board to issue an order on scenarios.

MR. HILBERT: How you want to break it down to that level here.

MR. KNAUER: From a practical perspective, assuming the Department is the one contracting for a potential study, how much lead time is required?

MR. COTTERILL: Well, that's a good question. Lead time, I mean, like total time to --

MR. KNAUER: From saying, Okay, we need to go out and find a contractor --

MR. COTTERILL: To the final product?

MR. KNAUER: -- to a final deliverable.

MR. COTTERILL: Right. Certainly, a matter of months, and, you know, easily -- I don't know -- four months, and that would be pretty aggressive, I would say, and I think it could have even more time when you think about all the collaboration and coordination that we would want to have. And we're, we're fine, we're fine with doing the potential study again and doing the coordination, and I think that's a good role.

Now we have, because we have EVT, BED, and Vermont Gas now and potentially a new effort to think about sort of coordination and to what degree programs overlap and how should that be modeled, if at all. So there's new complexities, I think, to consider. So it might make that timeframe even longer.

MR. MASSIE: So I would just ask. I mean, this model says we need this kick-off order, right, and last time it was in June. This time it's proposed for April or May, and I, I'm not sure why it needs to happen so late. If the Department needed four months or six months to be able to start that process and that was one of the first tasks that needed to happen, why couldn't the order come out in January kicking off the DRP, you know?

MR. KNAUER: From my perspective, no order is required for a potential study to be commenced. I think that's already called for in the P&A Document. I might be wrong, but I don't think I am.

MR. COTTERILL: No, I would agree. I mean, I think one of the natural outcomes of this meeting would be to think about the schedule and, be it the official schedule for the DRP that come from the Board order, but also some of the other things that could start happening sooner, including some of the things that are listed in the parking lot on the agenda that we provided, you know, and not to get into any of these right now, but these and, and maybe more, maybe not all of these, maybe these and more could be tackled and ready for action when the DRP is sort of in its official schedule, you know, Board-scheduled phase. So, to me, at least, that's a natural outcome of this workshop is more scheduling work.

MR. LYLE: So, if I can go back to the potential study and the timing, it almost, based on this schedule, it almost seems as if we've got to get that going, like, now, right, I mean, to scope it out, get the RFP?

MR. COTTERILL: Yeah, I don't think it would hurt. I mean, I assume -- I don't think it would hurt. I think -- I know one of the things is -- I believe one of the things that BED has mentioned is impacts from Act 56, generally, and in the frame of a potential study, so --

MR. LYLE: Yeah.

MR. COTTERILL: I agree. I think it could be started soon.

MR. HILBERT: Is there a possible opportunity for that procurement to eliminate some fixed overheads with multiple sub-consultants? I mean, if VGS is going to be part of the DRP and the Department will look for some expertise from another consultant for that and also to perhaps collaborate in the EEU modeling, maybe that could be a single solicitation that would actually reduce the cost.

MR. COTTERILL: Right, right. And, I mean, when I think back on lessons learned from just my perspective in, in my role in the DRP for the Department, we had, we had three sets of contractors that we were working with, one for the potential study update, one for the rate and bill impact analysis, and then one set of contractors for technical assistance on the modeling, and strictly from a project management standpoint, it was not ideal, and doing it again, I think, one efficiency could be to solicit, right, for a number of different sort of types of roles, you know, integrate all those efforts and maybe others for the Department and have one contractor who could -- it would just be less, less project management and trying to get everything to line up. Certainly an observation from my point of view. So it's good timing that we're talking about all this.

MR. HILBERT: Yeah. So the concept is just blocked out. If it's something that appears like it might be acceptable in concept, we would be very happy to work with the Department and BED and --

MR. MASSIE: VGS.

MR. HILBERT: -- and VGS and try to put some flesh on the bones and get a sense of, What would it really take to do this, and come back with a more informed look at it that would hopefully answer some more questions for us and for everyone else. But we, as I said initially, we viewed this as, in essence, a scoping session. Because there are so many pieces in play, Act 56, VGS. In the parking lot there's RUS, and we know in the stipulation that the Board has directed that to be rolled into the DRP. So we have all of these pieces moving around, and we think we need to get a handle on them and come up with a way to integrate these things into the DRP before we get into the actual DRP.

MR. KNAUER: I have a question. That stipulation you mentioned, can you specify which stipulation?

MR. HILBERT: I hope so.

MS. ELIAS: I can.

MR. BANG-JENSEN: The one with the Department?

MS. ELIAS: Yeah, the Department and VEIC entered into a stipulation and filed it in the RUS

Docket 8486.

MR. KNAUER: I'm familiar with that.

MS. ELIAS: I thought so.

MR. HILBERT: And it does state that the RUS work will be rolled into the DRP.

MS. ELIAS: Right. And, to be more specific, the notion of a fourth-year budget is probably the biggest piece of it that's going to have to work into the timing.

MR. HILBERT: That's right.

MS. ELIAS: And who knows where the Board is on that stipulation. We just, I mean, you issued the order.

MR. KNAUER: Yes, we did.

MS. ELIAS: The order speaks for itself is what I'm going to finish my sentence by saying.

MR. KNAUER: Yes. All right. Do we want to go through this blue chart any more, or do we want to go through the specific agenda items and see how they might play into the --

MR. HILBERT: Yeah, we wanted to respond to the Board's agenda items. Rate and bill timing, we had indicated it as a clarification with a question mark on our agenda end. I'm taking from the discussion here that we are confirming that the rate and bill impact should be filed with the modeling results.

MR. KNAUER: Correct. That's my read of the P&A Document is modeling results should include rate and bill impact rather than having that be a sequential process with several months in between.

MR. HILBERT: Okay.

MR. LYLE: But, if I could just quickly. So to what extent is -- I mean, the way I view this, though, is the way you have it kind of scoped out here now is all, everything kind of happens all at the same time, but would it be better to kind of portray this as somewhat sequential, so the potential study would begin and end somewhat before some of these other items?

MR. HILBERT: We were hoping --

MR. LYLE: You know, like, potential study, develop assumptions, those are probably pretty much in synch with each other. You know, one depends on the other. It's kind of an iterative process, but then the budget, you would have some idea of some budgets for spending but that you would firm them up sequentially after the potential study? Is that, is that what you're thinking or --

MR. HILBERT: Well, as I said, Tom, it's a block of time, and it's not a well-developed schedule. It's a concept.

MR. LYLE: Yeah.

MR. HILBERT: And so we're thinking that those events would occur in that rough timeframe.

MR. LYLE: Right.

MR. HILBERT: But, as I said, you know, we did not want to make the effort ourselves and also take time with the Department and you folks to hash out details for something unless we knew that it was conceptually acceptable, so --

MR. LYLE: Yeah.

MR. HILBERT: You know, I'm not -- I want to make sure to represent that we have not based that on a detailed analysis of how it would come together. That remains to be done.

MR. LYLE: Yeah.

MR. MASSIE: But, in concept, what you're saying is right, that we would probably stage these.

MR. LYLE: Concept, yeah, okay.

MR. KNAUER: Okay. I think, going to some of the specific things on the agenda, anything that we need to say with regard to Act 56, other than it's a whole big ball of wax?

MR. HILBERT: Well, I think it's the same question, and that is -- and it may not be answerable at this point in time, but is there a potential for that to be, for at least part of that effort to be represented in the DRP itself? And, you know --

MR. MASSIE: I mean, I think --

MR. HILBERT: BED had questions on it also.

MR. MASSIE: We had, we discussed 8311 internally, and, you know, in our proposal in the last DRP for strategic electrification, and now we've got Act 56 which is addressing some of the measures that we were proposing in that proposal, and I think we talked about not bringing that up here, but the reality is that, you know, the impacts of some of those proposals in that strategic electrification proposal were, could impact where we go in the next DRP, and so we've been kicking around, How do we resurrect that? You know, will we get answers through that 8550 proceeding?

And the way I'm seeing it going, I don't think that's going to happen, and so we may answer some of the questions that we raised, but we don't think we're going to answer all the questions that we raised. So we're trying to understand how we can move that forward, what the right time for that is so that it could actually benefit the DRP process.

MR. WESTMAN: So to, again, we don't know how or where it will play out, but, particularly, you know, what's forefront in our mind is, in terms of whether or not distribution utilities do intend on piggybacking on EVT incentives in order to encourage utilization of certain technologies. Heat pumps is the example that's used in everyone one of these workshops thus far, right? So, I mean, in terms of how that gets integrated into the customer implementation plan or the modeling results, however you want to term it, all of those things need to sort of be considered, and that, you know, I think Jim's made it really clear in the workshops that many of you have been in, or at least read the notes for, the, you know, our budget right now can't support a full heat pump, you know, utilization rate as an Act 53 compliance tool.

You know, we need to think about that, and some of those questions, I don't think, are going to be answered in time for the, for this. You know, we have this is, you know, I guess, January -- what is it -- January 2017 to start the modeling. I mean, there might be some things known by then, but, you know, you're still looking at a very early implementation schedule at that point. So I don't really know if we can do anything more here than just flag that as a potential issue.

MR. COTTERILL: One of the things I noticed about Act 56 is, if you look at the, the budget stream for Tier 3 investments over time, they increase, the requirement for those increase annually every year, and if you look at that total for the state over the course of four or five years, that total investment starts to really become much greater than what we've seen in traditional TPI funding that's come through. So, in my mind it becomes a bigger question as we get further down the road in terms of what, what the programs are, what the impacts are, what it means, I guess.

But I've thought about if there's any way to model that in a potential study. You know, think of, like, a fully integrated potential study, each EEU, electric and thermal, all the fuels. It's just a big, massive potential study that --

MR. WESTMAN: It's going to be a lot more than four months, Brian.

MR. COTTERILL: But, I mean, you know, that's the only thing that comes to mind when I think of just trying to get a handle on what, what the reality is going to look like, you know, down the road.

MR. WESTMAN: Is that for this DRP or maybe the next one?

MR. COTTERILL: It's just an idea.

MR. WESTMAN: No. I'm, actually, I'm right there with you, actually. I hear you.

MR. COTTERILL: But, I mean, you know, the impacts of --

MR. MASSIE: But there are other pieces of it too. You know, we were talking about heat pumps, and that's something that we're doing today, and as Dave articulated, there may be some limits as to how much we can support in that arena, and the individual utilities may want to do more than we can support. And so but there are other things that haven't been addressed like vehicles, transportation, that we see a tremendous opportunity, and we just feel like there's, you know, the benefits haven't been characterized, and we're not sure where to introduce that, and we had originally proposed that the Board open a proceeding. I'm not sure. Did the -- I guess that's what 8311 is, and then it --

MR. WICKENDEN: No, that came out of the statute.

MR. MASSIE: Act 89?

MR. WICKENDEN: Act 89, right.

MR. MASSIE: So the Board actually hasn't opened a proceeding on that recommendation, right? We pushed it off because of Act 56?

MR. WICKENDEN: Right.

MR. MASSIE: And so the question of, How do we value these other pieces in that proposal, hasn't surfaced.

MR. WICKENDEN: Yeah. In some ways, we talked about it in the avoided costs proceeding, and we said that, you know, we were going to focus on the, having the Board produce an order for the things that we are immediately valuing but that we also talked about having a continuation of that proceeding to investigate the -- you know, one of the things was the potential to investigate the T&D value in more depth, but there were others.

You know, we talked about the CEED study that was done to identify additional value for renewables and siting of renewables and that that was another area that had been suggested as that we needed to focus on in terms of identifying additional values for efficiency or renewables that hadn't been quantified. So I'm thinking that we haven't seen the order yet from the Board on the avoided costs but that that might, in that order, establish a process for further consideration of these items that we hadn't identified, and that's where I was hoping we could pick up this issue around transportation efficiency.

MR. MASSIE: But we don't know if the Board has picked up on that, and if that's not the case, then that's still an outstanding issue.

MR. LYLE: I'm not quite sure if I'm following. I mean, to the extent that the Board issues an order in the avoided costs docket, right, and whether it picks up the issues you're referring to, EV, cold-climate heat pumps, T&D, whether the Board order incorporates those or does not, how does that feed into the DRP process in light of 8550?

MR. WICKENDEN: Well --

MR. LYLE: I'm just, I'm not sure --

MR. WICKENDEN: From one perspective, yeah, if, indeed, we identified values that are associated with transportation --

MR. LYLE: Right.

MR. WICKENDEN: -- you know, they become cost-effective --

MR. LYLE: Or not, yeah.

MR. WICKENDEN: -- measures, and then that, at least, opens the door to, you know, who should be implementing those measures. Is there a role for the EEU's to implement those cost-effective measures also? So but it's a moot point if they're not cost-effective.

MR. LYLE: Right.

MR. MASSIE: But then, you know, how it impacts, obviously, that, the EEU question, right, but, I mean, in the DRP, if it turns out that the EEU's could implement transportation, then it's just like heat pumps, right? I mean, you're basically growing load, but, potentially, how we're treating heat pumps within EVT right now is reclaiming incremental efficiency on the most efficient models, right?

MR. LYLE: Yeah, right, right.

MR. MASSIE: So that would be the efficiency piece, but it would be useful to have all that information included in the 20-year plan, you know? So I think it moves it all forward. The question is, Could we start a proceeding and get through all the process in time for the DRP? I don't know that that's possible.

MR. LYLE: Yeah, right. I mean, does the Board have an indication? Do they want the next DRP to include cold-climate heat pumps and EV's assuming that they are cost-effective and they're found to be cost-effective during the process?

MR. KNAUER: Right, we've found that.

MR. WICKENDEN: And the issue is embedded in 8550 is, because it talks about cost-effectiveness screening of, of measures in that docket, so either it's going to be addressed in a separate proceeding or potentially as part of that proceeding.

MR. LYLE: Yeah, I know it's not a hypothetical. I guess it's a matter of who does it and who has the budget for it, you know?

MR. HILBERT: So on this agenda we, the last item was the scenarios, and we touched on that a little bit in terms of talking about the sequencing, and I, I just wanted to check back and see if there was any basis for more discussion or questions around that, because that's somewhat instrumental in part of the concept. It's an aspect of it. Certainly, timing is paramount.

MR. WICKENDEN: Just to be clear, on the rate and bill impact, is it the Department's expectation that that's one of their responsibilities or --

MR. COTTERILL: So --

MR. WICKENDEN: -- am I in the woods about that?

MR. COTTERILL: You know, I was thinking back about our experience with the rate and bill, and I, I believe our primary intention with the rate and bill is to meet the statutory requirement that the Board needs to consider rate and bill impacts when setting the budgets and less about -- and I think that's, in part, what influenced the timing on our later delivery of the rate and bill in this last DRP, but that's different than what's in the current P&A, which is rate and bill with the model results, right?

MR. WICKENDEN: Well, that was my question. I didn't look at it.

MR. COTTERILL: So, yeah, that's my impression is the rate and bill impacts.

MR. WICKENDEN: So those are, if I, if I am understanding your response, you're reading that to imply that the EEU, when they produce a scenario, that they'd also be responsible for producing a rate and bill impact?

MR. COTTERILL: Let me just read it here real quick.

MR. KNAUER: That's how it's explained in the current P&A as it exists today.

MR. MASSIE: That the Department is responsible?

MR. KNAUER: No, that whoever is presenting the modeling scenarios. The P&A says the EEU shall do it, and anyone else that wants to may present modeling scenarios, and then whoever presents modeling scenarios shall -- you know, there's a number of minimum things that need to be addressed, and rate and bill impacts is part of that minimum.

MR. WICKENDEN: And somehow we got to a

situation during the 2015-to-17 DRP process where the Department took that responsibility in terms of they hired Synapse and paid for them to do the rate and bill, and they did it on all three scenarios.

MR. COTTERILL: Right, right.

MR. WICKENDEN: So that was -- I was still sort of under the assumption that that's how we were moving forward, but I don't think we ever --

MR. COTTERILL: Right, right.

MR. WICKENDEN: -- clarified that.

MR. COTTERILL: Yeah, I think it's conceivable that -- well, my thought is that we're going to want to have a rate and bill impact analysis, and it comes down to a question of timing. I mean, we would most likely be hiring a contractor to, to do that analysis, and which is a little disjointed. If the EEU's are the ones doing the modeling, you know, we would have to be coordinating so that those modeling results --

MR. MASSIE: Do you read that that the EEU's are responsible for rate and bill? That's what it seems like to me.

MR. COTTERILL: Right, that's what I'm saying.

MR. MASSIE: It was in your budget last time, right? You paid for it.

MR. COTTERILL: I believe we did.

MR. MASSIE: It's not included in our budget. So, if we're responsible for it and we didn't do it, should we be doing it?

MR. COTTERILL: I think the intent was that we'd be working together, but it took longer than expected, and the DRP had nuances that we didn't foresee, and it became complex. I think the intent was to work more closely together on it, and I know at the end there was concern from VEIC that there just wasn't enough time to really understand even the final result or analyze it and have any substantive comments on it. I may not have that totally right, but it was late, and that wasn't ideal. So, yeah, I think there's some more coordination around just how the rate and bill impact comes together, who pays for it, how we coordinate. Do we want to do it separate? You know, we just need to have that conversation.

MR. PILLIOD: Can I ask a clarifying, Brian? Does the modeling have to be done before the rate and bill?

MR. COTTERILL: The modeling before the rate and bill in the current state, is that what you're saying?

MR. PILLIOD: I'm just wondering, is it dependent on the modeling being done?

MR. COTTERILL: Well, I mean, the way it reads is that any presentation of model budgets and savings by any party shall consider, at minimum -- there's a long list. At the end Items E and F are rate and bill impacts.

MR. MASSIE: I think the answer is yes. I mean, you have to know what the costs are, and you have to know what the benefits are, and the rate and bill is by rate class. So you'd have to know what you're modeling by rate class and what the benefits are. So I think you have to do the modeling and then you do the rate and bill.

MR. HILBERT: Yeah, it's a finish-to-start relationship.

MR. COTTERILL: I think so.

MR. WICKENDEN: I agree with that. So we'll need to potentially clarify that between ourselves and with the Board?

MR. COTTERILL: Um-hum.

MR. PILLIOD: And, I mean, if that's the case, it's another one of these issues where we have it all in one box of Number 3.

MR. MASSIE: Well, I think we were proposing it as the last thing that happens, though.

MR. PILLIOD: It's just another, another thing to consider. If you're talking about two processes, one is dependent on the other, and you have them in a six-month block, again, maybe it's a question of timing, you know? If they have to run sequentially, then you don't, you know, you can't do eight months' worth of work in six months. So that just --

MR. MASSIE: Affects the schedule.

MR. PILLIOD: -- affects --

MR. MASSIE: Yeah, we'd have to look at the schedule and see how it fits, yeah.

MR. KNAUER: All right. Do we want to get to the item of the BED-specific potential study? Is there anything to say about that?

MR. COTTERILL: I mean, we -- go ahead.

MR. BURNS: No, no, other than what I said originally, and, you know, I think I've said it in other workshops or proceedings. I mean, you know, it's just, it's multidimensional right now. I mean, we, as we tee up the next IRP, our planners are really trying to figure out the EV world. We're trying to figure out the PV world, the storage world, the cold-climate heat pump world and trying to forecast what that's going to do to us.

As I've said before, most of our resi new construction is multi-family, and 90 percent of it is now going to heat pump where before it was all natural gas, and the reason that's happening is, from the developer's perspective, it is the cheapest first-cost HVAC system. You get two functionalities out of one appliance, and their capital cost is lowest going in. They think they need air conditioning to get the rent. Whether that's true or not, that's what they're doing. They think that their clientele wants air conditioning.

MR. MASSIE: That's new construction?

MR. BURNS: New construction.

MR. MASSIE: Is that right?

MR. BURNS: 100 units in the last year-and-a-half, and that's about all we do. So that has changed the dynamic for us dramatically. Before it was, you know, we were concerned about a fairly small set of electric measures and working with Vermont Gas. Now Vermont Gas is pretty much out of the picture because it's not their customer, and we are now heavily involved in --

MR. MASSIE: Retrofit?

MR. BURNS: Well, no, savings from the envelope, and in commercial we're now seeing what used to be a standard boiler-chiller package, electric chiller package. Now we're seeing VRF and variable flow refrigerant all electrically driven. So we are back in the envelope business, and how we're going to model that is going to be very different from the last potential study. So, and so it's sloshing around in the tub, so to speak.

You know, we have a lot of PV driving us down. We have EV coming in, but then we have a lot of heat pumps coming in on both the commercial and the residential side. So, hence, though it's going to be extra work primarily for the Department, you know, we just really feel a need that we have got to go deep and figure this out as we try to put this world together.

MR. LYLE: So there's also a bit more of a, a little bit more of a complication in terms of the modeling with respect to cold-climate heat pumps and EV's and EV supply stations, measures that build load. So, currently, the screening model, when you model the potential study, there's really four energy periods, summer on, summer off, winter on and off for energy, and so there's a bit of a discussion going internally at BED between resource planners and energy efficiency guys about, Well, how do we actually model and capture both the benefits of, benefits and costs of load-building measures? And the debate that's going on internally is, Is the four-energy period process precise enough to actually capture all of those benefits?

So we haven't really figured out whether or not it's that big a difference to really make an issue of it right now, but I think, right, internally, I'm just kind of laying that out there, that we're trying to get our hands around this. So the idea would be to go to a six-period energy modeling process which would include both super peaks for summer and winter if you follow me.

MR. BURNS: And I think some of our early AMI analysis shows that there is -- you can see it. It's a very small set of places we're looking at, but it's clear, when you're looking at that 15-minute data, that these things are hitting peaks. So for us it's a matter of how quickly -- what's going to be the saturation rate over time?

MR. LYLE: So they're both, they're both, you know, things of concern. I mean, obviously, if we're putting more heat pumps in, more EV's in, they can drive our peaks, but to the extent we can control them, well, then the energy efficiency guys in the house are saying, Huh, these are benefits that we can potentially control and therefore claim if we spend money on those.

So it kind of goes both ways, but what we have right now -- I guess, the main point I'm making, I'm trying to make here, anyway, is that what we have for modeling process right now is somewhat of a blunt instrument. That's all I have to say.

MR. BURNS: But I think that Brian's point about that whole very comprehensive look, I think that's exactly right. You know, the lucky contractor who gets this bid, but it will be interesting. It's interesting, and it's necessary.

MR. COTTERILL: Right.

MR. STEPHENSON: So would you require, like, an updated different customized set of avoided costs to do that type of analysis? Is that data readily available? I'm just curious.

MR. LYLE: Yeah. I mean, we would try to think about that. I mean, how would you capture that? I mean, you have to model it. You have to model it based on past, past history, you know, what, what happens at those critical peak periods. So, I mean, you can look at ISO New England, you know, prices, you know, and use that data.

MR. STEPHENSON: Okay.

MR. KNAUER: All right. So was there an intent to get into the parking lot issues or just to note that they're out there? And, I guess, do folks feel like we've adequately covered the items that are on the first page of the agenda? I think we've touched on everything directly or indirectly.

MR. HILBERT: I think, at least from my perspective, we probably should be thinking about, So what are the next steps in terms of how we put the puzzle together? And I don't expect to do that today, but I think, clearly, there need to be some follow-on discussions in terms of how we can address the parking lot items, and in discussing those it also touches on the new influencers topic. So I know this is a DRP workshop, but it seems like there's a fair amount of things to sort out.

MR. COTTERILL: Yeah. I mean, just taking a step back, I think maybe the intent of this workshop was to take a look back and identify some lessons learned. We've done that. I feel like we've done that, and we've talked about some decent ideas. I think there's clearly a number of next steps, and I think some can happen outside of the Board process, and I guess I'm curious about, What is the next Board process? Does the Board need anything immediately? I mean, that's one question, I guess. When I think of kicking off the DRP, I think about basically what we did last time, propose a schedule and, you know, likely a joint proposal that we worked on and crafted together would be certainly one thing that we would be thinking the Board would want to see, right?

And then the other thing is, possibly, even before that, maybe if that, if in the development of that schedule proposal, there are things in the P&A that need to be reorganized or clarified or resequenced a proposal of that nature and additional process that the Board may want. So I see sort of that three-level, sort of three-level, three tiers of work.

MR. WESTMAN: What was of the third, Brian? I caught the two.

MR. COTTERILL: Well, the first would be just coordination and planning that the Department and the EEU's should do outside of the Board process, follow-up to this and that could potentially lead to a proposed schedule for the DRP and --

MR. WESTMAN: Right, okay.

MR. COTTERILL: And, probably -- I'm not sure if it's before or after, but if that schedule would require any changes to the P&A, those would need to be addressed as well. So that would be the third. I'm not sure if that's actually the second or the third.

MR. WESTMAN: Or if it's two, slash, three.

MR. COTTERILL: Or if they're the same thing, right.

MR. WESTMAN: Yeah, understood.

MR. HILBERT: It's similar to the path we followed in the last DRP where the Board ordered modifications to the P&A to support proposed changes to the DRP process as it related to the improvement work and other inputs.

MR. KNAUER: Yeah, my recollection is that the, the, it was a proceeding that Lars was in charge of, 2013-03 or 05.

MR. BANG-JENSEN: Yeah, I came in late, yeah, right.

MR. KNAUER: But, anyway, that was a proceeding that focused on making modifications to the P&A Document in part to reflect, I think I it was, Act 89 and in part to reflect modifications to the DRP proceeding, and those were contemporaneous proceedings, the DRP as well as the P&A Document revisions.

MR. BANG-JENSEN: Yeah.

MR. KNAUER: Which brings up an idea. I don't -- it seems like there is clearly value in laying out in the P&A Document the essential elements of the DRP proceeding, but if every three years we're going to reshuffle the process and say -- you know, should the

P&A Document be less proscriptive about sequencing? Just a thought to, for folks to mull. I mean, we love redoing the P&A Document.

So, anyway, to come back to something Brian mentioned, Does the Board need anything out of this process? I'm not sure that we expect any filings from stakeholders. I don't think that we intend to issue anything, unless any of the stakeholders would find it valuable, in a Board memo or a Board order, but I don't think any such issuance from the Board was contemplated. So anyone is free to request that from the Board either now or after today. So anything else that folks want to discuss, or have we exhausted the issue?

MR. WESTMAN: I don't know if "exhausted" is the right word, but teed it up.

MR. KNAUER: Would there be value in taking a ten-minute break so folks can go off and caucus amongst themselves, and then we can come back?

MR. MASSIE: Do we have other stuff? I don't know that we have.

MR. WESTMAN: I'm just thinking for the next meeting, not necessarily today, but next steps.

MR. MASSIE: I think we're good. I don't know about others but --

MR. BURNS: We're fine.

MR. KNAUER: One question that we didn't really hear from BED but, you know, we heard from VEIC, that the modeling was kind of -- I don't know -- I'll say frustrating. I don't know if that's an accurate characterization, but that you did all this modeling work, and then what you modeled was not what you eventually implemented, and I'm not sure if that was a shared experience for BED.

MR. BURNS: It was a slightly different path. You know, we provided -- it was GDS, I believe -- a lot of the information from BED's forecasting work, and it was the GDS model. BED didn't do a separate model to inform the DRP, so we didn't have any back-and-forth, other than the model itself was not able to, you know, get into the, the uniqueness of some of the rental markets. You know, it tried, but it just wasn't built to do that.

And, other than that, it was really just the back-and-forth between BED, the Department, and their contractor, and we used the same, the TRM assumptions and all of the things as we used the same TRM, the same screening tool, all of that was already baked into the GDS tool. So it really came to us. It was really the markets that was the issue, but the tool was the tool.

MR. KNAUER: Okay.

MR. COTTERILL: I've just got one thing that I just thought of as it relates to potential studies, and in the last potential study we used market assessment data that the Department commissioned a study for the residential-commercial markets, and that baseline data gets rolled into the potential study as the equipment saturation at the time, and we are in the process of doing new ones, so new residential and commercial market assessments, and this, this winter, this fall and winter they started doing on-sites, collecting, actually collecting the data for the sectors, but we won't have final reports, you know, for probably until the end of 2016.

So, if we're talking about doing a potential study sooner rather than later, it misses the benefit of the newer saturation data. It's just something that I thought of as you mentioned that GDS study, the update. Just thought it would be worth mentioning that potential there.

MR. MASSIE: But it still could inform modeling. So you could do the potential study, and you could collect that information, and you still probably would have it in time to perform the modeling. I mean, you would have scenarios ordered by the Board that would have to be modeled before that, maybe, but good to think about how we could use that information to update for modeling.

MR. COTTERILL: Yeah.

MR. KNAUER: All right. Anyone else? All right. Well, thank you, everyone. I think this was a useful meeting, and I look forward to what you guys come up with. We're adjourned.

(Whereupon at 2:55 p.m. the workshop was adjourned.)

* * * * *

C E R T I F I C A T E

I, Sunnie Donath, do hereby certify that I recorded by stenographic means the Workshop re: Docket Number EEU-2013-01 at the Public Service Board Hearing Room, Fourth Floor, 112 State Street, Montpelier, Vermont, on December 9, 2015, beginning at 1:00 p.m.

I further certify that the foregoing testimony was taken by me stenographically and thereafter reduced to typewriting and the foregoing 73 pages are a transcript of the stenographic notes taken by me of the evidence and the proceedings to the best of my ability.

I further certify that I am not related to any of the parties thereto or their counsel, and I am in no way interested in the outcome of said cause.

Dated at Westminster, Vermont, this 17th day of December, 2015.

____

//Sunnie Donath