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# ONTARIO

# ENERGY

# BOARD

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| FILE NO.: | EB-2013-0109 |  |
| **VOLUME:****DATE:****BEFORE:** | **3****October 24, 2013****Ken Quesnelle****Marika Hare****Ellen Fry** | **Presiding Member****Member****Member** |

**EB-2013-0109**

#### THE ONTARIO ENERGY BOARD

**IN THE MATTER OF** the Ontario Energy Board Act 1998, S.O.1998, c.15, (Schedule B);

**AND IN THE MATTER OF** an Application by Union Gas Limited for an order or orders clearing certain non-commodity related deferral accounts and sharing utility earnings pursuant to a Board approved earnings sharing mechanism;

**AND IN THE MATTER OF** an Application by Union Gas Limited for an order approving a deferral account to capture variances between earnings sharing, deferral account and other balances approved for disposition and amounts actually refunded/recovered.

Hearing held at 2300 Yonge Street,

25th Floor, Toronto, Ontario,

on Thursday, October 24th, 2013,

commencing at 9:32 a.m.

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VOLUME 3

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BEFORE:

 KEN QUESNELLE Presiding Member

 MARIKA HARE Member

 ELLEN FRY Member

KRISTI SEBALJ Board Counsel

LAWRIE GLUCK Board Staff

MUNIR MADHAVJI

CRAWFORD SMITH Union Gas Ltd.

TOM BRETT Building Owners and Managers Association (BOMA)

PETER THOMPSON Canadian Manufacturers & Exporters

 (CME)

JULIE GIRVAN Consumers Council of Canada (CCC)

ROGER HIGGIN Energy Probe Research Foundation

DWAYNE QUINN Federation of Rental-housing Providers of Ontario (FRPO)

RANDY AIKEN London Property Management Association (LPMA)

MICHAEL BUONAGURO Ontario Greenhouse Vegetable Growers

JAY SHEPHERD School Energy Coalition (SEC)

MICHAEL JANIGAN Vulnerable Energy Consumers'

 Coalition (VECC)

ALSO PRESENT:

MARK KITCHEN Union Gas

VANESSA INNIS

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**R. Kroll, C. Phillips, J. Clarke, T. Lynch, L. Kulperger, Sworn**

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 Thursday, October 24, 2013

 --- On commencing at 9:32 a.m.

 MR. QUESNELLE: Good morning. Please be seated.

 Good morning, Mr. Smith. Do you have any preliminary matters to deal with this morning?

 MR. SMITH: No preliminary matters, sir.

 MR. QUESNELLE: Okay. We have a new panel sitting here. This is the fourth panel on DSM, I take it, and I'll leave it to you to introduce them, Mr. Smith.

 MR. SMITH: Thank you very much, members of the Board. Indeed, this is the DSM panel, panel 4, here to speak to the evidence in Exhibit A, tab 1 relating to the various DSM-related accounts and certain of the interrogatories relating to the 2011 audit, as I understand it.

 We have with us this morning, from the left, Leslie Kulperger from Union Gas, Tracy Lynch from Union Gas, John Clarke from Diamond Engineering, Ryan Kroll -- sorry, my apologies, Craig Phillips from Cascade, and Ryan Kroll from Michaels Engineering. And if I could ask them to come forward to be sworn or affirmed.

 MR. QUESNELLE: Would you like to swear the witnesses in, please, or affirm?

UNION GAS LTD. - PANEL 4

 **Ryan Kroll, Sworn**

 **Craig Phillips, Sworn**

 **John Clarke, Sworn**

 **Tracy Lynch, Sworn**

 **Leslie Kulperger, Sworn**

Examination-In-Chief by Mr. Smith:

 MR. SMITH: I have some examination in-chief, with your leave, members of the Board.

 Ms. Kulperger, if I could start with you, I understand that you are the manager, environmental health and safety management systems for Union Gas?

 MS. KULPERGER: That's correct.

 MR. SMITH: And that prior to that you were the manager of DSM or demand side management, research and evaluation?

 MS. KULPERGER: That is correct.

 MR. SMITH: And you began your career with Union Gas in 2009 as a program evaluator?

 MS. KULPERGER: Correct.

 MR. SMITH: And as I understand it, you have been involved in the energy conservation industry in Ontario since approximately 2000.

 MS. KULPERGER: That is correct.

 MR. SMITH: And you began your career then with the Canadian Energy Efficiency Alliance and thereafter the Clean Air Foundation.

 MS. KULPERGER: Correct.

 MR. SMITH: I understand that you are a certified measurement and verification professional?

 MS. KULPERGER: True.

 MR. SMITH: And what does that certification recognize?

 MS. KULPERGER: That certification recognizes there are different approaches to evaluating and measuring and verifying specific custom projects, and it sort of enables the certified incumbent to establish the correct parameters through which to verify the energy savings of a specific custom project.

 MR. SMITH: And we'll come to what custom projects are in a few moments.

 I understand that you have an environmental science degree from the University of Toronto?

 MS. KULPERGER: That's correct.

 MR. SMITH: With a minor in Chinese and Spanish.

 MS. KULPERGER: Right.

 MR. SMITH: Ms. Lynch, I understand that you are the director of energy conversation strategy at Union Gas?

 MS. LYNCH: Yes.

 MR. SMITH: And that is a position that you have held since 2012?

 MS. LYNCH: Correct.

 MR. SMITH: And you are the -- prior to that you were the manager of residential program delivery?

 MS. LYNCH: Yes.

 MR. SMITH: And before that you worked as the manager of demand side management?

 MS. LYNCH: Correct.

 MR. SMITH: And you have held positions generally with Union Gas of increasing responsibility since approximately 2000.

 MS. LYNCH: Yes.

 MR. SMITH: Before that you worked for Canadian Enerdata?

 MS. LYNCH: Yes.

 MR. SMITH: I understand that you have a Master of Arts in Economics from the University of Guelph?

 MS. LYNCH: Yes.

 MR. SMITH: And you have a B.A. in Economics and a business degree both from Brock University.

 MS. LYNCH: Yes.

 MR. SMITH: And you have testified before this Board on a handful of occasions?

 MS. LYNCH: Yes.

 MR. SMITH: And just specifically, you testified in EB-2006-0021?

 MS. LYNCH: Yes.

 MR. SMITH: And my understanding, or my recollection of that case, is that was the first generic proceeding on demand side management?

 MS. LYNCH: Correct.

 MR. SMITH: And then more recently, 2012-0337, was that the next generation of generic proceeding on demand side management?

 MS. LYNCH: The large-volume DSM plan from earlier this year.

 MR. SMITH: Right. And there was a settlement in respect of other aspects --

 MS. LYNCH: Yes.

 MR. SMITH: Mr. Clarke, I understand that you are the president of Diamond Engineering Company.

 MR. CLARKE: Correct.

 MR. SMITH: And what is the business, sir, of Diamond Engineering?

 MR. CLARKE: We do energy efficiency evaluations, manage energy-efficiency projects for large industrial users of energy.

 MR. SMITH: And I see that you are a Department of Energy energy expert. What does that mean?

 MR. CLARKE: It means I am certified to perform training of other energy programs within the Department of Energy, specifically in the process heating area.

 MR. SMITH: Okay. And I understand that you are also the chairman, the U.S. Department of Energy Industrial Heating Equipment Association Process Heating Steering Committee. And what does that committee do?

 MR. CLARKE: That committee is an ad hoc committee made up members of the Department of Energy, large users of industrial energy, as well as equipment providers.

 MR. SMITH: And looking down your curriculum vitae, sir, I understand that you are the member of ISO-TC257, and just so I have that clear, that's ISO technical committee 257?

 MR. CLARKE: That's true.

 MR. SMITH: And what does that technical committee do?

 MR. CLARKE: It develops standards for the evaluation of energy. At least that's my role within the technical committee.

 MR. SMITH: And you're also a member of the technical committee 244 working group. And what does that working group do?

 MR. CLARKE: Working group 3 has a similar charge, to develop methodologies for evaluating energy consumption in large heat-processing equipment.

 MR. SMITH: And you are the past president of the Industrial Heating Equipment Association?

 MR. CLARKE: Yes.

 MR. SMITH: For how long, sir, have you been involved in the energy industry?

 MR. CLARKE: Twenty-nine years.

 MR. SMITH: And how much of that work has been in relation to energy efficiency?

 MR. CLARKE: All my activities have been in various areas related to improving energy efficiency.

 MR. SMITH: And in this case one of the -- what Diamond Engineering was retained to do, as I understand it, was to perform a verification report, and the work that you did, how would that compare to other projects that you've been involved in throughout your career?

 MR. CLARKE: It is the same as all work we do in -- for our various clients, to quantify energy savings opportunities.

 MR. SMITH: Just going to do this in terms of the chronology of how the work would have unfolded, so I'm going to skip over to you, Mr. Kroll. I understand that you are a professional engineer?

 MR. KROLL: Correct, in the states of Minnesota and Michigan.

 MR. SMITH: And you are employed by Michaels Energy?

 MR. KROLL: Correct.

 MR. SMITH: And what is the business of Michaels Energy?

 MR. KROLL: We are an energy efficiency consultancy company. We provide energy efficiency services in a variety of areas, primarily to utility companies. Specifically I work in the evaluation or verification side of the company, or the -- in that side of the company we review and provide independent documentation or verification of energy savings estimates.

 The other side of the company works on technical support for rebate programs for the utilities directly, calculating savings for customer rebate projects to determine incentive levels or do energy audits for customers or end users to identify energy savings opportunities.

 MR. SMITH: For how long have you been employed by Michaels as a project manager, sir?

 MR. KROLL: Seven years.

 MR. SMITH: I see in your curriculum vitae you've listed a number of selected projects across various jurisdictions in the United States and here in Canada. Can you describe, just generally, the nature of the work that you've been retained to do?

 MR. KROLL: The bulk of my experience in the selected projects is on the evaluation or verification work.

 MR. SMITH: How would that experience compare to what you undertook in this case?

 MR. KROLL: It would be the same.

 MR. SMITH: Mr. Phillips, if I could just turn back to you, I understand that you are employed by Cascade Energy?

 MR. PHILLIPS: Correct.

 MR. SMITH: As a project engineer?

 MR. PHILLIPS: That is correct.

 MR. SMITH: What is the business of Cascade Energy?

 MR. PHILLIPS: We help commercial and industrial clients save energy. So we identify project that might save energy; we help them implement those projects; we help verify savings afterwards.

 We usually help with the utility companies that provide incentives, to help them through those steps to receive their incentives.

 MR. SMITH: I understand, sir, that you are a qualified steam system expert certified by the US Department of Energy?

 MR. PHILLIPS: Correct.

 MR. SMITH: And what does that certification reflect?

 MR. PHILLIPS: An ability to understand steam systems and to identify savings opportunities within those kinds of steam systems.

 MR. SMITH: This is entirely the product of my own lack of information, but can you just describe for me generally what is a steam system and how common, prevalent are these things?

 MR. PHILLIPS: Steam systems are used in all kinds of industries. A significant portion of their total utility efforts are often involved in steam systems involved in heating, process changes, and it involves boilers, it involves the piping, it involves steam traps. I mean, conveying --- generating the steam and conveying it from one point to another, and then converting that steam to useful energy in whatever process that they need.

 MR. SMITH: I understand, sir, that you have a master's of business administration from the University of Washington?

 MR. PHILLIPS: Correct.

 MR. SMITH: And you have a master's of science and mechanical engineering from Brigham Young University?

 MR. PHILLIPS: Yes.

 MR. SMITH: And you similarly have a bachelor of science in mechanical engineering from Brigham Young University?

 MR. PHILLIPS: Correct.

 MR. SMITH: Now, Ms. Lynch, if you could turn to –- sorry, I should just say, members of the Board, I do not -- I've discussed this with my friend. I don't intend to ask for the Board's qualification, notwithstanding the expertise of the witnesses, given that they prepared underlying reports, the who, what, where, when, why.

 So if you are wondering why I'm not qualifying them despite their qualifications, that's the explanation.

 Ms. Lynch, if I could just turn to you, can you describe -- as I understand it, one of the issues we're going to be discussing this morning is custom projects and custom projects undertaken by Union in 2011.

 Speaking from Union's perspective, what are custom projects? What's Union's role in the development of custom projects and the claimed savings reflected in Union's evidence?

 MS. LYNCH: Custom projects are opportunities where the savings are unique to the application in -- whether it be the building or the design process, so the savings associated need to be assessed on an individual basis.

 Custom projects form a portion of our portfolio and we review each of those projects through our account and project managers.

 MR. SMITH: Can you just give me an example or two of what a custom project might be?

 MS. LYNCH: Custom projects would involve steam systems, they would involve grain dryers, process improvements, or the building envelope.

 MR. SMITH: Okay. And the custom projects that you undertook in 2011, how did those compare to the custom projects you've undertaken prior to that or subsequent to that?

 MS. LYNCH: They would be the same.

 MR. SMITH: Now, Union's work, we have here representatives of the verification company's -- what's the role of the verification company, from Union's perspective?

 MS. LYNCH: Each year Union contracts with verification companies, so for 2011 we contracted with Michaels Energy to complete the verification of our commercial industrial custom projects. We contracted with Diamond Engineering to complete this review of our distribution contract custom projects.

 Those projects are reviewed using a sampling methodology that was prepared for us by Summit Blue in 2008, and was reviewed by our evaluation and audit committee for use in the review of custom projects.

 MR. SMITH: Can I just pause there? What's your audit and evaluation committee?

 MS. LYNCH: Our evaluation and audit committee is a subset of intervenors that have been elected by our broader consultative to represent their interests through the verification and audit work that we do during the year.

 MR. SMITH: Two questions that follow out of that. What's the consultative?

 MS. LYNCH: The consultative is the group of intervenors that were party to previous DSM proceedings or rate proceedings, that are representatives that work with us directly with respect to our DSM programs.

 MR. SMITH: And the members of your audit and evaluation committee in 2011, who were they?

 MS. LYNCH: In 2011 our audit evaluation audit committee members were Julie Girvan, Kai Millyard, and Vince DeRose.

 MR. SMITH: We'll come back to Union. Mr. Clarke, what was the verification work that Diamond Engineering undertook?

 MR. CLARKE: Diamond Engineering quantified the expected savings for 13 projects provided to us by Union Gas.

 MR. SMITH: Can I ask, please, that Exhibit D4.2, attachment 6 be pulled up? Is this the verification report prepared by Diamond Engineering Company?

 MR. CLARKE: Yes, it is.

 MR. SMITH: Members of the Board, what I've asked to pull up -- and I hope that what's been pulled up is the confidential –- sorry, the non-confidential version of this, which has been heavily redacted. The reason for that is it contains a lot of very detailed customer-specific information. So I just want everybody to be aware we're not -- don't propose to go into any confidential information. And I would ask the witnesses to be alive to that.

 So let's talk just, Mr. Clarke, briefly. How does Diamond go about doing the verification work it's been contracted to do?

 MR. CLARKE: First of all, we receive project files for each project that will be verified from Union Gas. We review these files. We re-create the initial calculations used by the person who prepared the application to arrive at the savings estimates. We create an alternative method of calculating, if possible, these savings. We analyze the quality of the input data in the file, and we critique whether or not it provides sufficient support for the conclusions.

 We then develop a list of site-specific questions to be asked during our site visit. Every single one of our evaluations is conducted with a site visit.

 We then schedule an on-site appointment. When on-site, we request that the customer describe the project in his own words. We review dates of execution. We review the costs associated with executing the project and ask the customer to affirm all information related to cost present in the file.

 We review the input data. We look at the source of the data. We look at the location and calibration procedures of all transducers. We discuss problems with the implementation of the project. We request a fresh data set associated with the savings calculation.

 We will try to use an alternate data set, using a different method to calculate the savings as part of the verification if that is possible. If it is not possible, we simply request a fresh or a more recent set of data dealing with the project.

 After the on-site meeting we then recreate the calculations, once again using the fresh data, we recreate the calculations or perform new calculations using an alternate approach, then we create a report. A report is now then forwarded to an independent professional engineer in Ontario who is part of our team --

 MR. SMITH: Sorry, just before we come to that, you've described the process in relation to a particular custom project that you are reviewing. Do I take it then that you follow the same process in relation to all of the projects?

 MR. CLARKE: Yes, we follow the same process in relation to all the projects.

 MR. SMITH: Okay. And so once you're done your work in relation to those projects, sir, what happens with it at Diamond Engineering?

 MR. CLARKE: Well it is then submitted for an internal review, in that the person reviewing is an independent individual, that he is under our employ. We compensate him for a review. He is reviewing accuracy of the calculations. He reviews again the quality of the input data, and he reviews the report for readability, whether or not it teaches as we want, it conveys our analysis properly to any reviewer.

 MR. SMITH: What then happens?

 MR. CLARKE: At that point it is relieved, in that it's released from Diamond Engineering in the draft stage. It is then sent to Union Gas for their review.

 MR. SMITH: Okay. And you mentioned a professional engineer in Ontario. What is that process that you are describing?

 MR. CLARKE: The report is complete in an internal draft. It's not been released from Diamond Engineering, but we have a completed report that is submitted for detailed review by a third party.

 MR. SMITH: And is that before it goes to Union?

 MR. CLARKE: Absolutely, yes.

 MR. SMITH: And then after that, is that when it goes to Union? Is that when it goes to Union, after that further --

 MR. CLARKE: After that it's assigned draft status and then it goes to Union Gas.

 MR. SMITH: Mr. Kroll, can you describe the nature of your firm's retainer?

 MR. KROLL: Yes. The nature of our work, the work that we completed, was very similar to the work that Mr. Clarke did. We reviewed -- or verified a total of 25 projects in the commercial and industrial sector.

 MR. SMITH: Can I ask, please, that Exhibit D4.2, attachment 5 be brought up?

 And is this the verification work in relation to 2011 commercial and industrial markets that Michaels Engineering...

 MR. KROLL: Yes, it is.

 MR. SMITH: Okay. So just my apologies for interrupting you. You were describing the verification work you did.

 MR. KROLL: I was just saying that the process that we follow is identical to the process that Diamond Engineering takes with over 20 of our projects. The information was collected through customer interviews, with five projects having on-site inspections, per the scope of our work.

 MR. SMITH: And that Mr. Clarke described a review internally and a review by an Ontario engineer. Was any of that work undertaken at Michaels Energy as well?

 MR. KROLL: We had an internal review of all calculations, and then we had the external review of the calculations by the Ontario professional engineer.

 MR. SMITH: And then the report was submitted to Union.

 MR. KROLL: Correct.

 MR. SMITH: Okay. And now, turning to you, Mr. Phillips, you did -- can I ask that the audit report on Union Gas 2011 DSM annual report come up, attachment 1.

 Can I ask you, please, sir, to describe the work that Cascade Engineering undertook?

 MR. PHILLIPS: We were subcontracted by ECONorthwest to provide the engineering review of both the Diamond and Michael Energy reports. That consisted of reviewing their calculations, the assumptions which were included in those reports, and doing an independent review and verification of the savings that they calculated for each of those projects.

 We also were involved in what's referred to as the quasi-prescriptive measures, things like -- that are in the Union Gas draft report of infrared heaters, makeup air units, small boilers, those types of things.

 MR. SMITH: This is marked "draft", but was the 2011 DSM audit ever finalized, Ms. Lynch?

 MS. LYNCH: Yes, it was finalized, and the final report was provided on June 15th, 2012.

 MR. SMITH: We'll just stick with this report for now. But I understand, sir, that your work was an input to ECONorthwest's work. Did you have an opportunity to review the audit report that ECONorthwest prepared?

 MR. PHILLIPS: Yes, I did.

 MR. SMITH: And was your work accurately reflected in that report?

 MR. PHILLIPS: Yes, it was.

 MR. SMITH: Okay. Ms. Lynch, if I could just return back to you. We've talked about the verification work and the development of the audit. From Union's perspective what's happening while this is happening, and what does it ultimately culminate in?

 MS. LYNCH: We complete a draft of our annual report. The verification work that we received from Michaels and Diamond is incorporated into that draft report. That report is then circulated to our DSM consultative for review and comment, as well as to the auditor, and the auditor receives the draft annual report, as well as all of the verification work for review by the audit.

 MR. SMITH: If I could ask you to turn to page 131 of Exhibit D4.2, attachment 1. Should be appendix A. Ms. Kulperger, there is set out there a number of meetings, and what were these meetings in relation to?

 MS. KULPERGER: In relation to the 2011 DSM audit of the annual report.

 MR. SMITH: And there are eight meetings reflected there. To the best of your recollection, is that an accurate reflection of the meetings you had in relation to the preparation and finalization of the 2011 audit?

 MS. KULPERGER: Yes.

 MR. SMITH: Okay. Were these the only meetings you had in relation to your 2011 DSM program?

 MS. KULPERGER: No.

 MR. SMITH: What other meetings would you have?

 MS. KULPERGER: We would have meetings to review the bidders list, to evaluate the proposals, to determine who the auditor would be for the year.

 MR. SMITH: And who would those meetings be with?

 MS. KULPERGER: With our evaluation and audit committee, which included Ms. Girvan, Mr. Millyard, and Mr. DeRose for 2011.

 MR. SMITH: Okay. Now, the audit was finalized, just getting to the bottom line. How did Union's 2011 pre-audit results, Ms. Lynch, compare to the final audit results?

 MS. LYNCH: The pre-audit results were very similar to the post-audit results. There was an adjustment to the LRAM, the lost revenue adjustment mechanism, as a result of the audit.

 MR. SMITH: What was the size of the adjustment you are referring to?

 MS. LYNCH: So a 63,000 M3 adjustment.

 MR. SMITH: 63,000 cubic metres?

 MS. LYNCH: Cubic metres, sorry. Cubic metre adjustment.

 And as reflected in Exhibit A, tab 1, appendix A, schedule 4, the adjustment was $1,600.

 MR. SMITH: And that's the difference between what Union had claimed and the ultimate audited results?

 MS. LYNCH: Correct.

 MR. SMITH: Now, we're coming at this a little bit later in 2012 than perhaps in other years. Can you just give us an update on where you at in relation to your 2012 DSM audit process?

 MS. LYNCH: We are very close to finishing the 2012 audit process.

 MR. SMITH: Can you put a bit of meat on those bones? What does "very close" mean?

 MS. LYNCH: We received the final report from our auditor for 2012 in September. We have completed the audit summary report with our audit committee, to address how we will approach the recommendations from the auditor, and that has -- is in the final stages with consensus agreement, and we are just waiting for the completion of the final annual report to reflect those results.

 MR. SMITH: Perhaps you can advise the Board where you are at in relation to your -- or what you anticipate being the position, the final audited position relative to the prefiled position in this case.

 MS. LYNCH: We expect to see a decrease in our incentive earnings in the range of $388,000. We expect to see a decrease in the LRAM in the range of $55,000.

 MR. SMITH: Given that you're further along in the process than you have historically, would Union be prepared to clear, in this process -- I'm not sure how you would appropriately describe it, but it's very close to finalized results, rather than its April prefiled position?

 MS. LYNCH: Yes, we would.

 MR. SMITH: One question I meant to ask you and didn't, but how is the selection of the auditor arrived at, and in particular how was it arrived at in 2011?

 MS. KULPERGER: Well, we develop an evaluation rubric to go along with the request for proposal. And each evaluation and audit committee member completed an evaluation rubric.

 And essentially, we're looking for key components that our auditor would present in their proposal and that we would -- give us confidence that they would be able to perform the work that we're requesting through that process.

 MR. SHEPHERD: Excuse me, Mr. Chairman. I'm going to interrupt here.

 My understanding is that the discussions at the EAC with respect to the selection of an auditor are not supposed to be put on the record, because they are considered to be confidential. And I'm very surprised that this comes out here, with no warning of it.

 MR. SMITH: Sorry, I was unaware of that. But if my friend has a concern, I'm perfectly happy to have it redacted from the transcript.

 MR. QUESNELLE: Let's do that.

 MR. SMITH: Okay. We have the ultimate selection of ECONorthwest. Those are my questions.

 MR. QUESNELLE: Just before we start, Mr. DeRose, are you on the line?

 MS. SEBALJ: Sorry, I had an e-mail exchange with Mr. DeRose last night. I believe he is listening in and he's going to let me know if he has questions.

 MR. QUESNELLE: So he's not online, but he's monitoring?

 MS. SEBALJ: Yes.

 MR. QUESNELLE: Thank you. Do we have a volunteer to go first, Mr. Shepherd?

 [Laughter]

Cross-Examination by Mr. Shepherd:

 MR. SHEPHERD: Thank you, Mr. Chairman.

 My name is Jay Shepherd. I'm counsel for the School Energy Coalition. I want to say we have demonstrated the proof of the maxim the best way to clear a room is to say you are going to talk about DSM all day.

 I wonder if I could just ask two things. First of all, are the CVs of the witnesses here, are they an exhibit now already?

 MR. SMITH: Yes, they are. They're Exhibit K1.1.

 MR. SHEPHERD: Thank you. They are included in the whole package?

 MR. SMITH: They are.

 MR. SHEPHERD: Sorry, I thought they were a separate package.

 The second thing is, Mr. Chairman, I have a package of cross-examination materials which I've provided to the Board and I provided to my friends, and I wonder if we can get an exhibit number for that.

 MR. QUESNELLE: Thank you, Mr. Shepherd.

 MS. SEBALJ: The Exhibit will be K3.1.

EXHIBIT NO. K3.1: SEC CROSS-EXAMINATION MATERIALS.

 MS. SEBALJ: Can the Panel members find them on the dais? I think we've additional copies here. It's clearly marked at the front: "School Energy Coalition cross-examination materials," but we've had a lot of those so we can --

 MR. QUESNELLE: I don't think we have any up here.

 MS. SEBALJ: We can get some for you.

 MR. SHEPHERD: For the benefit of the panel, I will also be referring to Exhibit D4.2, attachments 5 and 6. Those are the Diamond and the Michaels reports, but they are too thick to include in the compendium. But I'll be looking at them extensively. I've tried to include the materials from Exhibit D4.2, attachment 1 in the compendium, but I suspect that at some point we'll end up referring to it, so it might be useful if that's available to you.

 I wonder if I could start by -- then as a matter of a time check, Mr. Chairman, I expect to go at least til lunch and hopefully not much of the afternoon. Some of my questions have already been asked in the thorough direct of this morning.

 MR. QUESNELLE: Thanks, Mr. Shepherd.

 MR. SHEPHERD: So let me start by just making sure I understand who's who on the witness panel.

 Ms. Lynch, you are in charge of DSM for Union Gas; right?

 MS. LYNCH: Correct.

 MR. SHEPHERD: And were you in charge at the time of the 2011 audit or is that subsequent?

 MS. LYNCH: I came into this role in April of 2012 at the beginning of the audit process.

 MR. SHEPHERD: So the verification process was already done, but the audit itself, you were in charge?

 MS. LYNCH: Correct.

 MR. SHEPHERD: Okay. And Ms. Kulperger, until you managed to escape recently, you were in charge of the 2011 audit and the 2012 audit, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: Mr. Clarke, you're president of Diamond Engineering. That's an Indiana firm, right?

 MR. CLARKE: Yes.

 MR. SHEPHERD: You're not a professional engineer?

 MR. CLARKE: No.

 MR SHEPHERD: But your early career was designing and, I'm told, inventing new systems, including new control systems and things like that?

 MR. CLARKE: I have three US patents in process heating equipment.

 MR. SHEPHERD: And I'm told from people in the United States that you're considered to be one of the pre-eminent experts in the US in efficient heating technologies; is that fair?

 MR. CLARKE: Yes.

 [Laughter]

 MR. SHEPHERD: Admirably humble.

 Mr. Kroll, you're a program evaluation manager at Michaels. Michaels is a Wisconsin consulting firm?

 MR. KROLL: Correct.

 MR. SHEPHERD: And as we heard, you're a professional engineer, and you're also LEED-certified; correct?

 MR. KROLL: Correct.

 MR. SHEPHERD: You're not an Ontario-certified professional engineer?

 MR. KROLL: LEED-accredited professional certification applies only to buildings.

 MR. SHEPHERD: The report that is attachment 5 of Exhibit D4.2, you are not the principal author of that report, right? That was Michael Fishman?

 MR. KROLL: Correct.

 MR. SHEPHERD: What was your role in that study?

 MR. KROLL: I was the reviewer. I also participated in all of the on-site visits.

 MR. SHEPHERD: I see that, but the actual author of the report is Mr. Fishman?

 MR. KROLL: Correct.

 MR. SHEPHERD: So the professional opinions in the report, are they his or are they yours?

 MR. KROLL: I would say they are consistent with both of our opinions.

 MR. SHEPHERD: So they are shared?

 MR. KROLL: Yes.

 MR. SHEPHERD: Now, Mr. Phillips, you're a project engineer with a Washington firm. You are also a professional engineer qualified in Washington, but not in Ontario?

 MR. PHILLIPS: Correct.

 MR. SHEPHERD: And you're not the author of any evidence in this proceeding, are you?

 MR. PHILLIPS: No.

 MR. SHEPHERD: And you didn't provide any opinions on -- at least not that are on the record on any of the matters that are under discussion in this proceeding, did you?

 MR. PHILLIPS: So my name is not on the reports, but I contributed a significant portion of the Cascade portion of what's in the ECONorthwest report.

 MR. SHEPHERD: Well, when we looked at the audit report, it says on page 103 of 153... Right there. You see it says:

"This report was prepared by Alec Josephson, Steven Carter, Tom Souhlas, and Tessa Krebs of ECONorthwest, which is solely responsible for its content."

 So you are not one of the authors of this. You have no evidence before the Board right now, do you?

 MR. PHILLIPS: Correct. As that second paragraph says:

"Staff at Cascade Energy supported the audits by providing technical expertise and reviewing."

 That's what I did.

 MR. SHEPHERD: Okay. And just, I wonder if I can ask perhaps you, Ms. Lynch, we were told that we couldn't get a representative of ECONorthwest here. Which of the four authors of this report left ECONorthwest?

 MS. LYNCH: Steven Carter left ECONorthwest, and he was our primary lead for the completion of the audit report.

 MR. SHEPHERD: And what's the reason for the unavailability of the other three? Including the lead on the project?

 MS. LYNCH: Mr. Carter was the primary involved in the reporting, and in the request of who would be able to best speak to the results of the custom project verification process, Cascade was determined to be the best representative.

 MR. SHEPHERD: I see. And then let me just -- a couple of things arising out of your direct evidence that I want to clean up before going to my general questions.

 Ms. Lynch, you said that you were close to finishing the 2012 audit. The numbers are known now, right? They are all agreed.

 MS. LYNCH: Correct.

 MR. SHEPHERD: So all it is is processing now and filing?

 MS. LYNCH: Correct. We were just completing the finalization of the annual report so that that can then be reviewed by the audit committee and included in the package that we would file with the Board.

 MR. SHEPHERD: It's actually already been provided to the audit committee, hasn't it?

 MS. LYNCH: Sorry, I couldn't --

 MR. SHEPHERD: It's already been provided to the audit committee?

 MS. LYNCH: Yes.

 MR. SHEPHERD: Okay. And you're proposing now to -- this is the first we've heard that you are proposing to clear the lower amounts of those accounts; that is, the audited amounts?

 MS. LYNCH: We are prepared to clear the audited amounts.

 MR. SHEPHERD: So you are proposing to file the audit in this proceeding?

 MR. SMITH: No, we weren't proposing to file it, sir, because it's not complete, but given where we are, and the numbers are known, it just struck us as crazy to clear $400,000 to Union and then re-clear it back to ratepayers a year from now if we have a consensus view on the numbers. That's the only point.

 MR. SHEPHERD: Oh, no, I understand that. I have questions about that later in my cross. But I guess I'm wondering, what's the evidentiary basis that Union is going to use for clearing different numbers? I'm not just thinking about the overall numbers, because, of course, you have to break it down between rate classes, right, which you have evidence on? And currently we don't on the new numbers, right?

 MR. SMITH: Well, we can file it as soon as it's done, if that's of assistance. It just occurred to us, given that there appears to be a consensus and this proceeding is later than these proceedings normally take place, or have historically, that we're in a better position than historically, as Mr. Shepherd will be aware. The usual practice has been for Union to clear its pre-filed numbers, and then a year later to true it up, and I just thought we could maybe skip a step, given how late we are.

 MS. FRY: Just to be clear, when do you expect it to be absolutely complete?

 MR. SMITH: Ask Ms. Lynch. I --

 MS. FRY: Ms. Lynch? When do you expect it to be absolutely complete?

 MS. LYNCH: We would hope to be able to file it within a week.

 MS. FRY: And it will be absolutely done by that point?

 MS. LYNCH: Yes, it will.

 MR. SMITH: We'll file it. I'm perfectly happy to do it.

 MR. SHEPHERD: Here's my concern, Mr. Chairman. The practice that Union has followed, which we have objected to vociferously, is they clear the unaudited numbers one year, and then the next year is audit is presented and is subject to review. You can cross-examine on it. And so now we're hearing a sort of something different, where it will be filed, and then what are we clearing? Is it going to be audited now? Or are we still going to review it next year?

 MR. SMITH: I must say, I had not intended to create any problem. I thought my friend would think this was a good idea. We can stick with our earlier position if my friend would -- the pre-filed position of April and just not clear what everybody appears to agree is the right number. But that doesn't strike me --

 MR. QUESNELLE: I'm not sure that that would be the most practical solution. I think there probably is a way to do both. I think your intent is probably the correct one, that we have numbers that are known to us now. The allocation and to what rate classes, I'm not sure; is that available to us at this juncture as well?

 MR. SMITH: No, it's not.

 MR. QUESNELLE: No. So how would we put it in place? How do we give effect to the lower number and put it in place?

 MR. SMITH: It will be reflected in the final rate order that would come out of this proceeding, and people do tend to comment on the final rate order, and the rate order will, I suspect, not be coming out for some time.

 MR. QUESNELLE: So if we run that scenario where the audited statement becomes available and then it is able to be used in the consideration of the final rate order, would it be then subject to cross-examination at a later date?

 MR. SMITH: Well, I don't -- I don't have a principled objection to that. I would have thought in the normal rate-order process it's usually, to the extent parties have comments, they provide them in writing. If this is problematic because my friend is concerned that he's going to lose an opportunity to cross-examine in respect of a final audit which is – being prepared on a consensus basis --

 MR. QUESNELLE: Well, typically -- typically the comments that we would expect to receive on a draft rate order is the implementation of the Board's decision. So to the extent that we can put this in a context and where the numbers are known, we recognize what they are in advance of those comments, I think that would follow, that we would be looking at the application of those numbers and the cost allocation ramifications that go with it. That's the type of comments we'd be looking at the draft rate order, but hearing Mr. Shepherd's concern, and I tend to agree with that, why would the -- this improvement remove the opportunity to cross-examine on the final audited report?

 MR. SMITH: Well, I don't think it should. I --

 MR. QUESNELLE: And so that would happen next year?

 MR. SMITH: If my friend wants to cross-examine next year on the audit in the way in which it's been done in the past and the way in which it's unfolding now, I don't have an objection to that. I just think we should be looking to clear the right numbers, that's all.

 MR. SHEPHERD: Mr. Chairman, I just want to make clear, I'm on the 2012 audit committee. I have agreed to the numbers. I am disqualified from cross-examining on the report next year, in my view. But there are a number of other intervenors, just as we have for 2011, there are a number of other intervenors who I think should have that right if they wish to use it.

 MR. QUESNELLE: Okay. Thank you. Ms. Girvan?

 MS. GIRVAN: Yes, I would just like to express my views on this. I think it does potentially make sense, if we're close to landing on the final numbers, to clear it this year, subject to the availability next year if parties want to cross-examine on the audit, so it would be on a -- potentially true-up if there is any further adjustments next year. I think that they'd probably be small relative to the adjustment this year, so --

 MR. QUESNELLE: Okay. Thank you.

 MS. GIRVAN: -- that would be my suggestion.

 MR. QUESNELLE: Just a moment.

 MS. SEBALJ: Can I -- sorry.

 [Board Panel confers]

 MR. QUESNELLE: So I take it that the cross-examination that you've got prepared, Mr. Shepherd, and perhaps others, will be on the pre-filed numbers, recognizing that there will be an adjustment to them, like, general? Does this hamper your ability to cross-examine on the issues?

 MR. SHEPHERD: Mr. Chairman, until I heard this -- this is the first I've heard of it -- I was going to focus on 2011, which we're trueing up. And our position was going to be that they shouldn't be allowed to clear 2012 until you have an audit that has been tested in front of you, which is the position we've taken in the past, and lost.

 But in this case it sounds like what Union is saying is that they will ask the Board to allow them to voluntarily clear less than they would normally clear, so that they don't have to true up next year, they hope. And in that way, they are saying: Let's use the normal process but with a lower true-up -- a lower claim this year than we would be entitled to on our evidence.

 MR. QUESNELLE: Does that sound satisfactory to you?

 MR. SHEPHERD: I guess I don't object to that. I just find it extremely unusual.

 MR. SMITH: I thought it was being helpful in the -- Mr. Shepherd is right. The incentive level that Union would be seeking if it strictly followed what the Board had done in the past would be $388,000 higher than what everybody has agreed to is the right number. So we are one week away from $388,000.

 And so I have no concerns whatsoever, and if my friend -- it won't be Mr. Shepherd, but if others want to have the same process that we followed, we're happy to clear the lower number and to go through this again next year. I'm not looking to foreclose anybody's right to examine the 2012 audit. I'm perfectly happy to go through this process next year. I just think we should get the right number at this stage, because we're close, but --

 MR. QUESNELLE: Just for the edification of the panel here, the typical process would be -- as you've framed it, Mr. Shepherd, is an examination that focuses on what is being disposed of in a final format, which would be the 2011 numbers. Subsequently -- and there would be also then an examination when the final audit report is complete of those numbers, which would be 2012's, and that would happen next year.

 MR. SMITH: That's right. There's two things that happen.

 Union, in this proceeding, 2012, trues up it's 2011 numbers arising from the 2011 audit.

 It also clears its pre-audit 2012 numbers, which, when we filed the evidence back in April, reflected a particular anticipated SSM amount. Next year, we would be trueing up 2012 and looking at 2013.

 Historically, what the Board has said is that's fine, that practice is okay. We can clear -- take 2010. We would have cleared 2010 audited and included 2011 prefiled, and then we would come to this proceeding, we would examine 2011 audit and look at 2012.

 What Union's suggestion is at this stage is let's examine 2011 audit. My friend has questions. At his request, we have made a number of witnesses available. That cross-examination should take place.

 2012, we're saying rather than take our prefiled position, which we now know is $400,000 too high, we'll drop our request by that amount, but we're not looking to foreclose anybody's right to examine next year, to say: Well, it shouldn't have been 388,000. It should have been 500,000, or it should have been a little bit more.

 MR. QUESNELLE: If I could suggest a re-characterization of it, it's an amendment to your prefiled evidence. This could be looked at as a modification of what the anticipated 2012 results will be, and we characterize it as such. Then we would not stray from the past practice, but basically have a modification of the anticipated final numbers.

 MR. SMITH: Yes. That's perfectly fine, members of the Board. We're just in a slightly different position this year because of the timing relative to when the audit is being done. Often, there's -- you're six months apart, but here we're not.

 MR. QUESNELLE: Give us a moment.

 MS. HARE: Just so that I understand, where would I see the prefiled 2012 numbers, and when would I see the modified 2012 numbers?

 MR. SMITH: You would see the 2012 pre-audit numbers in Union's Exhibit A. And then next year, you would see when Union clears its DSM-related deferral accounts, including, for example, its shared saving mechanism results, the result of the audit, and the financial impact on LRAM demand-side management variance account and the shared savings mechanism. I can't remember if I mentioned the lost revenue adjustment mechanism, LRAM. The results of the audit would all be picked up in the true-up of those deferral accounts.

 MS. HARE: So I misunderstood. So the 2012 number, pre-audited, that you're asking to clear at this time is the same number that's already in the evidence; is that correct?

 MR. SMITH: No. The number in the evidence is $388,000 higher in terms of the incentive. Union's prefiled or pre-audit result claimed an incentive; I can't remember what the number was, but it was X plus 388,000.

 What I'm now saying and what the evidence reflects is we're one week away, but there is consensus amongst all of the parties. And I'm just saying let's not clear the higher number; let's clear a lower number.

 MR. SHEPHERD: Can I just interrupt for one second? There's not consensus among all the parties. There's consensus among your audit committee.

 MR. QUESNELLE: With that modification, what I think may actually throw kind of a fly in the ointment here is spending any time looking at the filed report in advance of putting out the draft or -- and considering the draft rate order.

 I think that that would be a what we would call a cross-examination lite, you know. So I think that we should not distract the process from -- considering this anything but a modification of the prefiled evidence anticipated 2012 amounts. Would that work? And I'd like to discuss that with --

 MR. SMITH: That's fine. That's fine. I have no interest in foreclosing anybody's right to do anything. I just thought we have the information. It's better information; it's favourable to ratepayers.

 MS. FRY: I believe you said you could file that within a week?

 MR. SMITH: The audit will be filed with the Board within a week.

 MR. SHEPHERD: Mr. Chairman, can I just be clear that we intend to argue that until an audit has been tested before this Board, they should not be able to clear the 2012 amounts? We intend to argue that.

 MR. QUESNELLE: Understood. Okay. Thank you. Ms. Girvan?

 MS. GIRVAN: I would just suggest that we can probably all make arguments on how we think this should be dealt with, because there's other people in the room -- that aren't in the room today, that might have a view on this. So...

 MR. QUESNELLE: That's fine, Ms. Girvan, but I'd like to -- I agree, but what is it hampering is we are going to be talking about the schedule of argument, and I don't want -- I would like to know what we're doing with this before we start introducing that notion, as to making allowance for something that may or may not be necessary. That was my only point.

 Let's leave it as is for now. The Panel will also have a conversation about this at the break, and we'll -- before we finish the day we'll put this into context.

 MR. SMITH: Given the amount at issue, I'm indifferent as to the result.

 MR. QUESNELLE: Understood.

 MR. SMITH: I did not intend to create any problem. I thought this was going to be helpful, but I'm entirely indifferent.

 MR. QUESNELLE: Understood, but I think discussion will always get us to a better place. Thank you.

 Mr. Shepherd?

 MR. SHEPHERD: Thank you, Mr. Chair. I hope that all my preliminary questions aren't as long.

 Mr. Clarke, you said in your direct evidence that part of your job was to identify an alternative method of calculating the savings for a particular project. I looked in your report, because this is the first I've heard of it, and I've seen, now, two of your reports. And I didn't see that anywhere.

 So where is it in your report that you say that that's part of your process?

 MR. CLARKE: It might not be identified specifically in the report.

 MR. SHEPHERD: Similarly, you say that after an internal review, you also send this to an independent P.Eng. in Ontario. I didn't find that in your report either. When did you start doing that?

 MR. CLARKE: Since the beginning, since the first year we conducted this and provided this service.

 MR. SHEPHERD: And who is that independent engineer?

 MR. CLARKE: Peter McKenzie.

 MR. SHEPHERD: And who is that?

 MR. CLARKE: Peter McKenzie is an engineer in practice. He lives in Niagara Falls, Ontario.

 MR. SHEPHERD: What's his association with your firm?

 MR. CLARKE: He's under contract to us to provide these services.

 MR. SHEPHERD: And he was selected by Union, right?

 MR. CLARKE: He was selected by Diamond Engineering, approved by Union.

 MR. SHEPHERD: All right. Mr. Kroll, you use the same person, right?

 MR. KROLL: No, we use somebody different.

 MR. SHEPHERD: Who do you use?

 MR. KROLL: We use Lan Chi Nguyen Weekes.

 MR. SHEPHERD: You're just trying to see if I can spell it. Can you give me that more slowly, and with spelling?

 MR. KROLL: I would have to check on the spelling myself.

 MS. KULPERGER: I believe it's N-g-u-a-n, is her last name, Nguan (sic).

 MR. SHEPHERD: Thank you. And is that a person in a firm or an individual?

 MR. KROLL: It is a firm, or she is a person in a firm.

 MR. SHEPHERD: Okay. And from where?

 MR. KROLL: I would have to verify her address.

 MR. SHEPHERD: Ms. Kulperger, you know this person, right?

 MS. KULPERGER: I do not know this person, and I do not know where she lives. I know she's an Ontario P.Eng.

 MR. SHEPHERD: Okay. And Mr. Clarke, you had a meeting with the technical evaluation committee last summer to talk about the process of verification, right?

 MR. CLARKE: A teleconference.

 MR. SHEPHERD: Yes. And the subject of you using an independent P.Eng. in Ontario never came up, did it? You never said anything like that?

 MR. CLARKE: I don't recall.

 MR. SHEPHERD: And it's not in your report.

 MR. CLARKE: It's not in my report.

 MR. SHEPHERD: And it's not in any of your reports anywhere.

 MR. CLARKE: No.

 MR. SHEPHERD: Okay. Why would you not put that in there?

 MR. CLARKE: It is an internal procedure. It's meant to ensure that we provide conclusions based on the best available information --

 MR. SHEPHERD: You're not surprised that it's so secretive, Mr. Clarke. I've sat on audit committees and nobody's ever told me this --

 MR. SMITH: It's not secretive at all, but it isn't recorded in the report, I agree.

 MR. SHEPHERD: And so -- okay. Now, what I want to do is I want to start from what you are asking for. And we've got a little bit of a discussion of that, but if you want to -- if you could -- and I think this is probably you, Ms. Kulperger -- if you could turn to page 1 of our materials, which is Exhibit A, tab 1, appendix A, schedule 1. Do you have that?

 MS. KULPERGER: Yes.

 MR. SHEPHERD: I just want to make sure that we're clear on what we're talking about. There's four items that you want to clear in this proceeding. The first is line 5 of this, which is 2 million-629, which is the lost revenue adjustment mechanism, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: The second one is line 7, which is the demand side management variance account.

 MS. KULPERGER: Correct.

 MR. SHEPHERD: The third is line 10, which is the 2011 shared savings mechanism, which is zero, but it's more complicated than that, right? It's zero, but it's a true-up.

 MS. LYNCH: Correct. The balance has not changed, but the allocation between the rate classes has changed.

 MR. SHEPHERD: Yeah, we're going to talk about that in more detail in a minute.

 And then the last one is line 16, which we were just talking about, which is the 2012 demand side management incentive, which is listed here as 8 million-598, but is in fact closer to 8.2 million, right?

 MS. LYNCH: Correct.

 MR. SHEPHERD: Okay. And each of these amounts is -- has within it a combination of audited and unaudited results except for the last one, which is unaudited, right? So the LRAM, the DSMVA, and the SSM are a combination of audited and unaudited.

 MS. LYNCH: The LRAM and the DSMVA are a combination. The SSM would be an audited 2011 result. The DSM incentive amount listed here would be an unaudited 2012.

 MR. SHEPHERD: Well, the SSM is a true-up between audited and unaudited, right?

 MS. LYNCH: Correct, but it's an audited result.

 MR. SHEPHERD: All right. And so let's just start with the LRAM, because -- and if you turn to the next page of our materials, this is your current evidence on the LRAM, because it appears to us that that number of 2,628,688, which is the total, is actually made up of four components. Tell me whether this is right. You have an amount of a million-and-seventeen-oh-sixty, which is the unaudited LRAM for 2012 relating to the lost volumes caused by 2012 DSM programs, right?

 MS. LYNCH: Correct.

 MR. SHEPHERD: And that -- the actual number we've heard is actually -- I think it's 948,326, now that you've done the audit?

 MS. LYNCH: I would to confirm the exact number.

 MR. SHEPHERD: Will you accept that subject to check?

 MS. LYNCH: Yes.

 MR. SHEPHERD: Thank you.

 The second number is, if you see here on page 3 of our materials, the column marked "2012", is a million-six-twenty-three -- six-thirteen-two-fifty-four, which is the audited LRAM for 2012 relating to lost volumes caused by 2011 programs, right?

 MS. LYNCH: Column A?

 MR. SHEPHERD: Column -- it doesn't have a-- oh, F, sorry, F, on page 3 of our materials?

 MS. LYNCH: Column F is the audited result of 2011 results in 2012.

 MR. SHEPHERD: Okay. And so what that is is -- oh, sorry, let me just go to the next one. In 2011 you also cleared the 2011 LRAM relating to 2011 DSM programs, right? And you see that on page 9 of our materials. This is from your evidence last year? You see you cleared 822,251, which was the 2011 impact of 2011 programs unaudited, right?

 MS. LYNCH: Correct.

 MR. SHEPHERD: And then if you go back to page 3 you'll see the $1,626 that you talked about earlier, which is the true-up of that LRAM amount, because it was actually a little bit too high, right?

 MS. LYNCH: Correct.

 MR. SHEPHERD: And so that figure that you're asking to clear, $2.6 million, is made up of those four numbers, right, of which the one that's unaudited is the million-and-seventeen-oh-sixty or whatever it was, which is the 2012 for 2012 number.

 MS. LYNCH: Correct.

 MR. SHEPHERD: Everything else is based on audit.

 MS. LYNCH: Yes.

 MR. SHEPHERD: And those audits are in front of the Board right now.

 MS. LYNCH: Correct.

 MR. SHEPHERD: Okay. Then the second figure -- the second account, which is line 7 on page 1 of our materials, is the DSMVA. This is where you spend more than your DSM budget, but you're allowed to in order to pursue additional savings, right?

 MS. LYNCH: Could you please give me the page reference?

 MR. SHEPHERD: Well, it's on line -- it's line 5 of page 1 of our materials. Sorry, line 7 of page 1 of our materials, $368,000?

 MS. LYNCH: Yes, that's correct.

 MR. SHEPHERD: And that's an unaudited amount, right?

 MS. LYNCH: Correct.

 MR. SHEPHERD: And there's actually no true-up of your 2011 DSMVA, because after the audit the number was the same.

 MS. LYNCH: Correct.

 MR. SHEPHERD: Okay. So the audit is here, and it shows that number, but -- so the true-up is zero to zero, right?

 MS. LYNCH: Correct.

 MR. SHEPHERD: All right. Then the third account, the SSMVA, which is line 10 on page 1 of our materials, the shared savings mechanism, this is zero, and it's -- tell me whether this is right. There's two unusual aspects to this. 2011 is the last year for the SSM, because starting in 2012 you had a different DSM incentive, right?

 MS. LYNCH: Correct.

 MR. SHEPHERD: And so this account -- this is the last year we'll be using account 179-115.

 MS. LYNCH: Correct.

 MR. SHEPHERD: Okay. And so there's no unaudited amount for 2012, as we saw with the LRAM, because this

is -- the SSM is just being trued up to the last year it's being used.

 MS. LYNCH: It's being trued up to represent the appropriate rate classes.

 MR. SHEPHERD: Well, no, it's also being trued up to make sure the number is right, right?

 MS. LYNCH: Correct. So the overall amount on a pre-audit and post-audit basis did not change. The allocation of how we recover the incentive amount has changed.

 MR. SHEPHERD: If you take a look at page 6 of our materials, you'll see that this is the breakdown between -- of the 2011 amount, between what you claimed originally and collected, 9,243,367, and how it's broken down between classes, and what your audit now says you should claim. And there are small changes in all the rate classes, right?

 MS. LYNCH: Correct.

 MR. SHEPHERD: That all work out to zero?

 MS. LYNCH: The balance overall works out to zero.

 MR. SHEPHERD: The reason for that is the audit did make some changes to what you were allowed to claim on your SSM, but you were already at the maximum you were allowed to claim, and so even though there were changes it didn't change what you were allowed to claim?

 MS. LYNCH: Correct.

 MR. SHEPHERD: But because there were changes to the gross total before the cap was applied, it changed what rate classes you collected from?

 MS. LYNCH: Yes. Under the decision in the generic proceeding related to the shared savings mechanism account, we attribute the savings to where the TRC benefits were achieved.

 MR. SHEPHERD: Okay. And am I right that in the system that you use to clear these accounts, what you are seeking today is Board approval for clearance of 9,243,367 audited SSM for 2011? An amount you've already collected, but this is the time the Board is deciding whether the number is correct; Is that right?

 MS. LYNCH: Yes, the audited result supports our unaudited claim, and we're seeking to recover it in the appropriate rate classes.

 MR. SHEPHERD: And you're asking the Board to approve that number, 9,243,367?

 MS. LYNCH: Yes.

 MR. SHEPHERD: If the Board finds that a lesser amount should be recovered, then you have to give back whatever that number is, right? To the ratepayers?

 MS. LYNCH: As with any account, we would have to true up the amounts.

 MR. SHEPHERD: Okay. And then the last one, the 8,598,000, which you'll see at page 7 of our materials, this is the -- under the new framework, this is the new DSM incentive?

 MS. LYNCH: Correct.

 MR. SHEPHERD: And it's different because instead of being based on TRC, it's based on a scorecard which is largely driven by cubic metres of gas?

 MS. LYNCH: Yes. We have four scorecards that we are measured on in 2012.

 MR. SHEPHERD: And this is the number that is actually about eight-million-two or so?

 MS. LYNCH: On an audited basis, the result is eight-million-two.

 MR. SHEPHERD: Okay. Mr. Chairman, for the benefit of the Board, we're not going to ask any more questions on the DSMVA or the LRAM, you'll be happy to know. Our focus is going to be on the 2011 amounts and I guess indirectly on the 2012 amounts.

 The LRAM numbers would change if you make decisions about the SSM that change what you -- that is allowed there, then that will have impacts on the LRAM. But we're not going to ask any direct questions about that. That's just a calculation.

 Is that fair? If there is change in what's allowed and what the TRC is, then that may affect the LRAM, but that's just a mechanical calculation?

 MS. LYNCH: Yes. If there's changes to the natural gas savings portion of the TRC result, it would affect LRAM.

 MR. SHEPHERD: So let's just be clear now on how the review of your DSM results works each year. You've given us a bit little of a summary, but I want to -- I don't a hundred percent agree with how you presented it, so I'm going to ask the questions and see if I can get to the way I understand it.

 And we're working on 2011. There were some changes in 2012 as to the process, right?

 MS. LYNCH: Correct.

 MS. KULPERGER: Correct.

 MR. SHEPHERD: I'll get to those at the appropriate times, but let's just focus on 2011 right now because that's the audited amount we're looking at.

 In most years, and including in this -- in 2011, between 85 and 90 percent of your resource acquisition results -- that is, your biggest area of work -- come from custom projects, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: And so you have two types of programs. And I'm oversimplifying, but I'm trying to get to the meat of it as quickly as I can. You have prescriptive programs and you have custom programs.

 The prescriptive programs are ones in which you have a particular measure or an activity that you want customers to adopt, and if you do, you'll give them a predetermined incentive of some sort. So it's like low-flow shower heads. So you have a predetermined savings amount associated with that, and all you need to do is count up the number of people who took one to get what the savings are for that particular measure. That's a prescriptive program, right? Have I described that fairly?

 MS. KULPERGER: With the exclusion of the verification work associated to those programs, yes.

 MR. SHEPHERD: No, I understand that after you count up the number of participants, you have to verify that you counted it correctly.

 But the numbers are relatively mechanical once you count up the number of participants; correct?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: Okay. But for custom projects like a large industrial facility, you'd have to calculate the savings based on the actual activity that the customer undertook and engineering estimates of the lifetime impacts of those activities, right?

 There's no predetermined number?

 MS. KULPERGER: It's on a case-by-case basis. Correct.

 MR. SHEPHERD: And am I right that more than $7 million of your 2011 claim of $9.2 million was the result of custom projects?

 You can give me an undertaking if you want or just tell me I'm in the ballpark, because it doesn't matter whether it's six or eight or seven.

 MS. KULPERGER: With the stipulation that the incentives are not linear and they are tied to four separate scorecards, you're in the right ballpark.

 MR. SHEPHERD: Well, I'm talking 2011, so the --

 MS. KULPERGER: For 2011? I apologize. I would have to confirm that, but I believe you are in the right ballpark.

 MR. SHEPHERD: Similarly for 2012, where you are claiming 8.2 million, about six of that or so on the various scorecards would be custom projects; right?

 It's not going to be off by more than a million?

 MS. KULPERGER: I would have to look at the incentive amounts for each of the scorecards to determine that -- it's not a linear relationship.

 MR. SHEPHERD: All right. So you are saying that 6 million is wrong? Or is 6 million in the ballpark?

 I don't want to ask for an undertaking if I don't need to, because the specific number doesn't matter.

 MS. KULPERGER: You would be in the ballpark.

 MR. SHEPHERD: Thank you.

 You have about 700 custom projects each year, right? Give or take?

 MS. KULPERGER: Depending on the year. We've seen the number increase. So I think I --

 MR. SHEPHERD: The 700 I actually got from 2012, but I think 2011 is pretty similar, right?

 MS. KULPERGER: There are -- it's in the right ballpark.

 MR. SHEPHERD: And the first step in the review of your results is that you take a stratified sample of your custom projects to -- and the selection protocol for that has actually been agreed between stakeholders, Union and Enbridge, right?

 It was developed Summit Blue originally, it's been modified, and it's been agreed as to how it should be done?

 MS. KULPERGER: The first question is: Do we take a sample of the custom projects? And the answer to that is we have a consulting firm, a statistician specifically hired to pull that sample.

 MR. BRETT: That's Summit Blue, or Navigant now?

 MS. KULPERGER: Now Navigant, following the sampling methodology that was designed in collaboration with Union and Enbridge's EACs at the time. And yes, that is -- it is a stratified sampling methodology.

 MR. SHEPHERD: It's carried out in two batches. In October or so, Navigant selects projects for review from those that were already completed and included in your results up to September 30th, right?

 MS. KULPERGER: That is correct.

 MR. SHEPHERD: And then in January they do a second set of –- a second selection for the whole year that brings the overall sample to the correct statistical precision and confidence; is that right?

 MS. KULPERGER: Without getting too detailed, they are sampling with an estimated variance for precision, but they are designing the sample to achieve a 90/15 confidence interval for 2011.

 MR. SHEPHERD: And the reason for the two waves is that reviewing these projects is a lot of work. Mr. Clarke and Mr. Kroll and his colleagues, it takes a long time, so you want the verification contractors to be able to start early rather than start in January, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: Okay. And that process has also been agreed between Union, Enbridge, and the stakeholders, right?

 MS. KULPERGER: Yes, it has.

 MR. SHEPHERD: Okay. And so for 2011 the total of sampled projects was 13 large industrial projects, which Mr. Clarke reviewed, and 25 medium and small industrial commercial projects which Michaels reviewed. Is that right?

 MS. KULPERGER: That is correct.

 MR. SHEPHERD: So then in October, roughly, maybe September, but I thought it was October, Union selects two third-party engineering firms to review the sampled projects and advise you on the appropriate savings for those projects, right?

 MS. KULPERGER: Union consults with its EAC to review the terms of reference, and in the case of 2011 we proposed sole-sourcing the verification work due to tighter timelines for other DSM matters who we are dealing with, to hire Michaels Energy and Diamond Engineering for the purpose of verifying the commercial industrial custom projects and the larger distribution contract custom projects.

 MR. SHEPHERD: Okay. And Diamond and Michaels are also the two contractors for 2012, right?

 MS. KULPERGER: We shared a bidders list with our audit committee for 2012. And with their input on the review of the proposals, we agreed to move forward with Diamond Engineering and Michaels Energy for 2012 as well.

 MR. SHEPHERD: And how many years, Mr. Clarke, has Diamond been a verification firm for Union doing the industrial work, do you know?

 MR. CLARKE: I believe six years.

 MR. SHEPHERD: Six years? Does that sound about right to you, Ms. Kulperger?

 MS. KULPERGER: I believe so.

 MR. SHEPHERD: And how many years, do you know, Mr. Kroll, has Michaels been the firm that did the rest of it?

 MR. KROLL: I believe four.

 MR. SHEPHERD: Four? Okay. The two firms are referred in the jargon as CPSV firms, right, Ms. Kulperger?

 MS. KULPERGER: As of 2012, that's correct.

 MR. SHEPHERD: Oh, is that a new term?

 MS. KULPERGER: That's a new terminology we came up with at the technical evaluation committee.

 MR. SHEPHERD: Okay. And that refers to custom projects savings verification firms, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: Okay. So in 2011 the selection of the engineering firms was done by Union, right?

 MS. KULPERGER: Correct, with agreement from our EAC.

 MR. SHEPHERD: And for 2012 you asked the AC for input, but it was still Union's call as to who you retained, right?

 MS. KULPERGER: We did not hear any advice to the contrary, and we did select Michaels and Diamond in collaboration with our audit committee.

 MR. SHEPHERD: Sorry, my question was poorly worded. I apologize. The decision who to retain was Union's at all time (sic)? It was never an AC decision, an audit committee decision. The audit committee could tell you anything they'd like, but in the end it was your call, yes?

 MS. KULPERGER: As you know, Mr. Shepherd, being on our audit committee for 2012, and with the new stakeholder engagement terms of reference, we strive to seek consensus on every decision, so in that vein, yes, the decision does lie with Union, but we do consult with our audit committee on these matters. Is that a --

 MR. SHEPHERD: Yeah, that's still non-responsive. The decision was Union's in the end.

 MS. KULPERGER: Yes.

 MR. SHEPHERD: Thank you. So the 2011 reports for Diamond and Michaels, which are in the evidence here were, provided to Union and to the audit -- the auditor in March 2012, right? That's the dates on the reports.

 MS. KULPERGER: Correct.

 MR. SHEPHERD: And so while Diamond and Michaels are doing their work from October to the end of February, let's say, Union is preparing the annual report for 2011, and that includes things like going out and getting verification of your prescriptive program, so you hire firms like Beslin and SeeLine to do studies to make sure that you've counted correctly for your prescriptive measures, right?

 MS. KULPERGER: That's correct.

 MR. SHEPHERD: And then once you have the results from Diamond and Michaels, what happens is they create something called a realization rate, right?

 MS. KULPERGER: They do not create the realization rate.

 MR. SHEPHERD: Sorry, their reports generate a realization rate.

 MS. KULPERGER: Their reports present adjustment factors per project for the sample from which the realization rate is calculated.

 MR. SHEPHERD: And basically the realization rate, if I can simplify it, is, let's say that Diamond reviews 13 projects and they conclude that the actual savings from those projects were 90 percent of what the customers claimed. And subject to a bunch of calculation things, that means that the realization rate for large industrial projects would be 90 percent, right? It's more complicated than that, but that's the concept.

 MS. KULPERGER: Yes.

 MR. SHEPHERD: Okay. And so then you take that percentage and you apply it to all of your large industrial projects on the assumption that if the sampled ones had that ratio to what was claimed the whole population will, right?

 MS. KULPERGER: True. And I would add that was a recommendation by our auditor in 2008. ECONorthwest recommended that we apply the realization rates to our portfolio prior to submitting the draft annual report for review to the third-party auditor in our consultative.

 MR. SHEPHERD: Right. And so you do the same with Michaels, right? That is, you calculate a realization rate from their work, and then you apply it to the entire population of projects that are medium and small industrial commercial, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: Okay. And the assumption is that your results will then be statistically significant at a 90/15 level, right?

 MS. KULPERGER: True.

 MR. SHEPHERD: And then you incorporate those results in your annual report, and you circulate a draft annual report to the auditor and to your stakeholders at the beginning of April.

 MS. KULPERGER: That's correct.

 MR. SHEPHERD: So am I right then that the role of the verification consultants is to satisfy Union as to what the appropriate numbers are for the custom projects? And I'm not trying to put words in your mouth. If you want to describe it a different way that's fine. But that's what I understand.

 MS. KULPERGER: Well, I would say in light of the sampling methodology being generated in collaboration with our evaluation and audit committee at the time and that we had followed recommendations from the auditor, and the process is designed to give everyone confidence in the results, that I would -- that the intention of inclusion of those numbers is to provide confidence that what we have written in our draft annual report is accurate at the 90 percent level for these custom projects, plus or minus 15 percent error bound.

 MR. SHEPHERD: All right. So then the auditor gets your annual report, which includes the input from Diamond and Michaels, and under the supervision and with the input of the audit committee, or in 2011 it was called the evaluation and audit committee. The auditor reviews the annual report and the results, and produces an opinion on those results, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: And so your auditor's report for 2011

-- which was done by ECONorthwest, right?

 MS. KULPERGER: That's correct.

 MR. SHEPHERD: With the assistance of Cascade?

 MS. KULPERGER: That is correct.

 MR. SHEPHERD: Is filed in this proceeding as part of D4.2, attachment 1, and is pages 101 to 133 of the attachment? Will you accept that, subject to check?

 MS. KULPERGER: Yes.

 MR. SHEPHERD: Thank you.

 Then subsequent to –- the auditor then does a report, and then the audit committee reviews the recommendations in the report and tries to form a consensus around those recommendations, right?

 MS. KULPERGER: That's correct.

 MR. SHEPHERD: Then you file a further report -- or you create a further report, which is filed with the Board, the evaluation and audit committee summary results, which is filed in this proceeding as pages 134 to 153 of Exhibit 4.2, attachment 1, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: Once that's done, Union revises its annual report to -- I lost my spot -- revises its annual report to incorporate the final numbers from the audit, as agreed by the audit committee, and that's what's claimed with the Board?

 MS. KULPERGER: That's true.

 MR. SHEPHERD: Mr. Chairman, I'm going to start talking about another area, so this may be an appropriate time to break.

 MR. QUESNELLE: Great, Mr. Shepherd, we'll do that. We'll return at 25 after eleven.

 --- Recess taken at 11:04 a.m.

 --- On resuming at 11:29 a.m.

 MR. QUESNELLE: Thank you. Please be seated. Anything else, Mr. Shepherd?

 MR. SHEPHERD: Thank you, Mr. Chairman.

 MR. QUESNELLE: Oh, I'm sorry. Mr. Shepherd, I'm very sorry. Board Member Fry would like to ask a couple questions on your last subject matter, so we thought maybe while we're still in that frame of mind she would go ahead and ask them now, so...

 MS. FRY: Yeah, I just have a couple of general questions about your audit processes, so could -- and this is for whoever is in the best position to answer. Can you just talk a bit about what -- if I'm a customer and my project is selected for audit, what's my role in the audit process?

 MS. KULPERGER: We have a process initially whereby the project that is selected has, depending on the size of the customer and the relationship with the sales manager and the project manager, so, for example, larger industrial facilities will have a one-on-one contact relationship, customer management relationship.

 So that project manager -- or account manager would be connected -- would connect with the customer to let them know they were going to have an on-site verification and make the introduction to John Clarke, and for smaller commercial industrial projects the -- there would be maybe an e-mail going from the account manager or one of the project managers to the customer to let them know that they are making arrangements for Michaels Energy to come on-site or to do a telephone interview, and then from there I'll defer to Diamond Engineering and Michaels Energy to clarify the customer...

 MS. FRY: Please.

 MR. CLARKE: Typically we'll arrive. We'll take a tour of the facility. Part of our system is we look at the equipment to make sure the project was executed. And also it helps it put it in context for us as we run our calculations.

 The customer is -- by that point has typically supplied financial information, so we simply ask him to affirm that the information we have is indeed his product, his work product. Then in the assessments we request in every case additional data, if additional data is available.

 They are then encouraged to provide this additional data, and normally that means an additional query of their data system -- SCADA system.

 In rare instances we ask the customer to actually do some further investigation, and that has happened on a couple of times when we had determined that we do not have adequate information to complete our task, and the customer does not at their fingertips have adequate information, in our opinion, to finish the verification, so we will ask them to actually collect additional information and provide it to us --

 MS. FRY: And when you are doing your review of the calculations of the savings projected to be due to the project and so on, is the customer involved in that process?

 MR. CLARKE: No.

 MS. FRY: No. Would they have been involved upfront in calculating savings or -- who makes that -- the initial calculation?

 MR. CLARKE: It varies. At times it is the customer who puts forth the initial calculations. At times it is the Union Gas project manager or engineer assigned to that account that does the initial calculation.

 MS. FRY: So the customer might have done its own internal calculations, but they wouldn't necessarily be privy to how Union was calculating it? Is that right?

 MS. KULPERGER: Normally the -- sorry if I interject here. It's my understanding that the project manager, the engineer from Union Gas, would be connecting with the customer to work through the calculation. In some occasions, to John's point, the engineers at the customer site are very collaboratively involved in that process, and for smaller customers it may be our project engineer, Union Gas's project engineer, with a channel partner or another service provider to the customer, in addition to the customer, to get all the right information to come up with the savings calculation.

 MS. FRY: So are you saying they would generally know upfront what kind of savings they could reasonably expect?

 MR. CLARKE: Yes.

 MS. FRY: Yes. Okay. So if we go into the audit and the subsequent review process in the audit, and what if it's one of those projects where it looks like a downward adjustment is appropriate or an upward adjustment, some kind of an adjustment is appropriate? The customer would not be involved in those discussions, or would they?

 MR. CLARKE: No.

 MS. FRY: Okay. And what about the conclusions? Say there was a conclusion from the audit process that the original calculations had to be revised. Would the customers be told about that?

 MR. CLARKE: No, typically not.

 MS. FRY: Yes.

 MS. KULPERGER: I would just add that in the case where there was a commissioning issue or the customer had not been operating the technology correctly and that came to light through verification, the Union Gas account manager or project manager would go back to the customer and help them understand where they had missed a step so that they could achieve the savings that they originally expected to achieve.

 MS. FRY: So if there was something operational/ engineering -- that's probably not an accurate term -- that there would be communication, but if it was a question of changing the calculation, they wouldn't be involved in that.

 MR. CLARKE: No. And that would typically occur, what Leslie -- absolutely occurs, but it occurs post-audit. It occurs after Diamond has disengaged operation.

 MS. FRY: Sure. Yeah. Okay. Thank you. Those are my questions.

 MR. QUESNELLE: Thank you. Mr. Shepherd?

 MR. SHEPHERD: I would like to just follow up on those things. Two questions. Mr. Clarke, you don't do an audit, do you? You don't do an audit of anybody. In fact, you are not an auditor; you're a verifier, right?

 MR. CLARKE: I do verifications, yes.

 MR. SHEPHERD: Okay. And that's not an audit, so I wanted to make clear there's an auditor who does an independent audit. You are not that person, right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: All right. And the second thing is, what you're verifying is the numbers that the customers have claimed, right? So whether the Union Gas representative calculated them or the customer's representative or a channel partner, these are the numbers that are on the customer's application which they have signed, right?

 MR. CLARKE: We are -- may I -- I would like to restate. We are estimating or calculating the resultant impact of the project. We refer to the customer's initial calculations, in that it is educational, it provides information and helps us understand the project. But we're not guided in any way by those initial numbers. We independently arrive at a calculation of savings estimates.

 So maybe we're, you know, mincing words here needlessly, but to say that we verified their numbers is a misstatement. Rather, we are verifying the impact of the project.

 MR. SHEPHERD: Okay. So when you talk about reviewing projects, you don't actually review what they provide. You actually start from scratch and do your own calculations? Because I don't see that anywhere in your report.

 MR. CLARKE: We review what they provide completely, because that is our first look at the project and is extremely enlightening. It helps us a great deal in understanding the project.

 MR. SHEPHERD: I want to explore for a second the relationship between the independent auditor -- that is, ECONorthwest -- and the two CPSV contractors, Diamond and Michaels. I'm right, am I not, that the auditor, ECONorthwest, played no part in hiring the CPSV contractors, which happened well before the auditor was retained, right?

 MS. KULPERGER: That is correct.

 MR. SHEPHERD: And the CPSV contractors reported to Union. They didn't report to the auditor, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: And for 2011 at least -- 2012 is slightly different -- the auditor did not supervise or instruct the work of the CPSV contractors in any way, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: And the auditor's role relative to the CPSV contractors is very limited. The auditor is not allowed to redo their work, are they?

 MS. KULPERGER: The scope of work of the auditor requires them to come to an opinion about the savings – the veracity of the claimed savings. They will come to that opinion through whatever means they deem appropriate. In some instances, that includes reviewing original project files from the company and recalculating the savings on their own, independently.

 And I would defer to Cascade Energy to give you specifics about the 2011 audit, if you wanted additional information.

 MR. SHEPHERD: I'm just going to ask first if you can turn to page 14 of our materials. And can you confirm that this is an excerpt from the RFP for the auditor?

 MS. KULPERGER: It appears to be.

 MR. SHEPHERD: And item 8, this is their scope of work. Item 8 says:

"Review third-party verification of commercial and distribution contract custom projects for reasonableness. This review will not duplicate the detailed third-party analysis of savings estimates and evaluation findings."

 Isn't that right?

 MS. KULPERGER: Correct. They are not intended to duplicate work. However, if they are required to conduct analysis to come to their opinion, they will do that. And they do that.

 MR. SHEPHERD: Okay. Where does it say that? Because this says take a look at their methods and parameters of the verification consultants, and ask them questions as necessary. It doesn't say recalculate. In fact, it says you can't recalculate, doesn't it?

 MS. KULPERGER: Can you show me where it says they can't recalculate?

 MR. SHEPHERD:

"This review will not duplicate the detailed third-party analysis savings estimates and evaluation findings."

 MS. KULPERGER: To the extent that they will not go on-site with the customer and duplicate the actual work, that's correct. I encourage -- my understanding has been and is that the auditor performs their own calculations to ensure that they are comfortable with their opinion on the savings, and that is how adjustments might come about through the audit process.

 MR. SHEPHERD: So that's the second time you've referred to an opinion, and we're very familiar with the concept of the opinion because the opinion is something that was extensively discussed.

 So we looked in the final audit report for an opinion of ECONorthwest. Can you show us where the opinion is?

 Because in other audit reports, there is a formal opinion: In our opinion, these facts are true. These are the numbers; we've looked at them. There's qualifications just like a financial audit.

 And I don't see that anywhere here, and maybe I missed it.

 MS. KULPERGER: So on page 2 of the ECONorthwest report, Exhibit D4.2, attachment 1, page 109, under B, "Summary of findings," we have a statement that says:

"After reviewing the data contained in the audit tool, the verification reports and other documentation, it is the opinion of the audit team that the data and information provided by Union conforms to the audit team's understanding of the guidelines established in the Decision with Reasons documents, EB-2006-0021. Table 3 summarizes the overall impacts to TRC, SSM with cap and without cap, LRAM and natural gas savings from all of the recommendations identified and discussed in this report."

 MR. SHEPHERD: So the auditor's opinion was that Union gave them the information that they were required to give the auditor under the Board's guidelines?

 I'm asking this for a specific reason. There was actually an agreed wording of an opinion and it's not in here.

 MS. KULPERGER: The agreed wording was not in the scope of work for the 2011 audit RFP. That was subsequently included in 2012 through the technical evaluation process. The 2011 audit committee did review the 2011 audit RFP and provided their input into finalizing the audit RFP before it was released.

 MR. SHEPHERD: Okay. Now, back to the CPSV contractors and the auditor, you did, Mr. Clarke and Mr. Kroll, you did have contact with the auditor, right?

 MR. PHILLIPS: Correct.

 MR. SHEPHERD: And what happened -- and tell me whether this is correct –- is the auditor was given the final reports, your final reports, and then was able to contact you and ask you questions if anything was unclear, right?

 MR. CLARKE: Yes.

 MR. PHILLIPS: Correct.

 MR. SHEPHERD: So were there meetings between you, for example, Mr. Clarke, and the auditor?

 MR. CLARKE: Teleconferences, yes.

 MR. SHEPHERD: And there was one, right?

 MR. CLARKE: No, I believe there was at least two phone calls and a number of e-mail exchanges.

 MR. SHEPHERD: So the reason I ask that is because if you look at page 16 and 17 of our materials, you see your invoices, and I don't see anything here that relates to contact with the auditors.

 MR. CLARKE: We don't track and bill in that manner.

 MR. SHEPHERD: Okay. And Mr. Kroll, I don't actually have yours here, your invoice here, but my understanding is that you do have on your invoice contact of about 10 or 12 hours with the auditor, right?

 MR. KROLL: Correct.

 MR. SHEPHERD: That was, in fact, a team of your people in meeting with the auditor to discuss some changes that the auditor wanted to your report?

 MR. KROLL: It was meetings with the auditor to discuss specific projects, as to what changes were result

-- they weren't changes on our end, so I can't comment to what changes were made.

 MR. SHEPHERD: They told you what they didn't agree with, right?

 MR. KROLL: They asked for clarification on specific projects. I do not recall any discussions as to specific disagreements.

 MR. SHEPHERD: Okay. The reason I'm interested in that is -- if you could look at page 15 of our materials, this is Exhibit D4.2, attachment 1, page 131. This has the various meetings of the audit committee, most of which you attended, right?

 MR. KROLL: Me?

 MR. SHEPHERD: Oh, no, you didn't attend?

 MR. KROLL: I didn't attend the --

 MR. SHEPHERD: You didn't attend any of them?

 MR. KROLL: No.

 MR. SHEPHERD: So you weren't aware of any of these discussions that were going on about changing your results, right?

 MR. KROLL: No. That's correct.

 MR. SHEPHERD: So let me turn to these meetings, and Ms. Kulperger.

 These meetings start March 21st. There were meetings between the auditor and Union Gas and the verification consultants, the CPSV contractors, prior to this time?

 MS. KULPERGER: No.

 MR. SHEPHERD: There were just meetings between Union Gas and the verification consultants, right?

 MS. KULPERGER: There was a review of the verification consultants' reports. I don't recall specific meetings but we would have reviewed their report.

 MR. SHEPHERD: So you didn't know what they were doing until they gave you a final report?

 That doesn't sound like your normal practice.

 MS. KULPERGER: No, I think we -- there was a project management element, where we would ensure they are tracking on time, that things are happening appropriately, that they are meeting their deadlines. We get a draft report from them and then we would have -- there may have been questions about the report, and then we would adjust our draft annual report to reflect the results included in the verification studies, and sent it to the consultative and the audit committee and the auditor.

 MR. SHEPHERD: Sorry, the verification studies were sent to who?

 MS. KULPERGER: No. The draft annual report, I was saying, was re –- the adjustments from the verification studies were reflected in our draft annual report, which was shared with the auditor, the audit committee, and the rest of the consultative.

 MR. SHEPHERD: And the -- during the process of the work of the verification consultants, the verification consultants had contact with Union Gas and Union Gas personnel, but no contact with the auditor or the audit committee members, right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: And in fact, when the reports of the -- of Mr. Clarke and Michaels were prepared they went to Union and the auditor but they didn't go to the audit committee, did they?

 MS. KULPERGER: The verification reports went to Union and the auditor; that's correct.

 MR. SHEPHERD: Okay. And why didn't they go to the audit committee?

 MS. KULPERGER: They were not requested in the 2011 audit. We did provide executive summaries from all of the verification studies to the evaluation and audit committee in 2011.

 MR. SHEPHERD: And those executive summaries are on the record here somewhere? Because there's no executive summary in Mr. Clarke's report.

 MS. KULPERGER: Is it not the first pages summarizing the tables, summarizing the results?

 MR. SHEPHERD: You mean the one page? Pages 1, 2, and the tables? That's it? That's the executive summary?

 MS. KULPERGER: It would have included up to page 6.

 MR. SHEPHERD: Okay. So this doesn't talk about any of the adjustments that were made, right?

 MS. KULPERGER: It shows all of the adjustments. It shows all the projects that were reviewed, the natural gas original in the project file and the adjustments made by the verification consultant for natural gas, electricity, water, and measure life in the tables. That shows all the --

 MR. SHEPHERD: But it shows the numbers. It doesn't say what the adjustments were for. There's no information provided to the audit committee on why adjustments were made, right?

 MS. KULPERGER: Not in this summary, no.

 MR. SHEPHERD: Well, not at all, right?

 MS. KULPERGER: The evaluation and audit committee are -- we welcome them to ask questions about specific projects during the audit process as they play an advisory role with the auditor. If they wanted the auditor to look at a specific project, that would be well within --

 MR. SHEPHERD: How would they know which ones they would ask the auditor to look at if they don't have any information about the projects?

 MS. KULPERGER: Well, we have seen projects -- information requested based on the size of the project.

 MR. SHEPHERD: Okay. Sorry, I'm a bit at a loss here. The -- you have a bunch of numbers and a bunch of project numbers that end -- that all the stakeholders who are supposed to be supervising the auditor saw, right?

 MS. KULPERGER: That is what they saw, correct.

 MR. SHEPHERD: Okay. So in fairness then with respect to 85 percent of Union's results -- that is, those arising from custom projects -- the audit committee was not in a position to supervise the work of the auditor. The auditor was on their own, right?

 MS. KULPERGER: I'm not sure I understand the question. The auditor -- the audit committee was not in a position to direct the auditor or to supervise the auditor? I'm not sure --

 MR. SHEPHERD: What happens normally is the -- tell me whether this is right, that the audit committee members have a series of meetings, in this case eight meetings, with the auditor, and they ask questions about the auditor's work. Are you looking at this? Have you dealt with this issue? We're concerned about this, et cetera. Right? They are not able to do that for the custom projects in 2011 because they didn't have the information on those projects, right?

 MS. KULPERGER: I think the guidance from the audit committee would be instructional in nature to review the work and provide their opinion.

 MR. SHEPHERD: Sorry, the audit committee should say to the auditor, Please review the work of the verification consultants and provide your opinion, sort of much like the RFP says?

 MS. KULPERGER: The RFP does scope out the work of the auditor, and that is, as you know, prepared in consultation with our evaluation and audit committee, and it does outline in their -- the scope of work, which includes reviewing the verification reports.

 MR. SHEPHERD: Now, in 2012 you changed that process a little bit, didn't you, so the auditor in 2012 got the draft reports of the CPSV contractors and could have input on those reports before they were finalized, right?

 MS. KULPERGER: That is correct.

 MR. SHEPHERD: And at the same time as the auditor got those draft reports, the members of the audit committee got the reports so that they could ask the auditor's questions and say to the auditor, Please look at this area. That's a concern for us, right? And they did in fact do that, right?

 MS. KULPERGER: The draft verification reports went to the auditor and the utility and to Union Gas, and this was a scope change through the technical evaluation committee. Then during their release of the information through the audit process the audit committee would now receive the final verification reports.

 MR. SHEPHERD: Which is the first time. This year was the first time they actually received those reports.

 MS. KULPERGER: That's my understanding.

 MR. SHEPHERD: Okay. But even in the current system the AC still has no direct contact with the CPSV contractors. That's only Union and now this year the auditor.

 MS. KULPERGER: That's correct.

 MR. SHEPHERD: Okay. Enbridge did it slightly differently, right? They actually had the CPSV contractors have some contact with the AC and the auditor early in the process before the CPSV contractors' reports were finalized; isn't that right?

 MS. KULPERGER: That's not my understanding. It's my understanding that Enbridge had meetings with their audit committee and their auditor to discuss any concerns they had with the CPSV verification studies with their audit committee, but it is my understanding that their verification firms were not present at those meetings.

 MR. SHEPHERD: All right. I wonder if I can turn to you, Mr. Clarke, and ask you to take a look at your report, which is Exhibit D4.2, attachment 6. Do you have that?

 MR. CLARKE: Yes, I do.

 MR. SHEPHERD: And I want to -- basically, you were paid $3,600 per project to do a review of the projects, right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: And you also billed some extra time for an evaluation of a non-selected project. Can you tell us what that was about?

 MR. CLARKE: I'm struggling to recall all the details on that project. It had to do with a concern on the part of Union Gas that the measurement and verification procedures that they were intending to use were valid. It's difficult to describe much further without dancing on the edge of disclosure of confidential information. You understand my concern here.

 MR. SHEPHERD: This is a project that the sampling contractor had selected, that --

 MR. CLARKE: No.

 MR. SHEPHERD: It's one that Union thought should be selected.

 MR. CLARKE: No. It's one that they were concerned with, and the fact is we were in the process of doing the verifications. It's something we could do, because we were in the general vicinity and in that process.

 MR. SHEPHERD: Well, you spent 24 hours on this review, so it wasn't minor, right?

 MR. CLARKE: It was quite a bit of data, yes.

 MR. SHEPHERD: And you were just helping them to understand whether the numbers were right. You weren't verifying per se, you were just helping out.

 MR. CLARKE: We were not verifying. We were looking at the method required to verify, and in the process -- we were going through the process. The process is virtually the same, but it wasn't a formal verification.

 MR. SHEPHERD: Okay. And you also billed 40 hours for an in-depth steam-trap life analysis. Can you tell us about that?

 MR. CLARKE: There was a question as to the appropriateness of the stated life on steam traps. When we do a steam trap replacement, we assume for the most part that the trap will have a useful life of seven years. There has been quite a bit of data uncovered in various projects indicating that the life approaches 10 years, and this is simply clients who have regularly executed trap inspection. Over time -- over time, the average replacement of traps runs in the range of 10 percent.

 So the undertaking -– and I apologize, that's a term of art, but the task was to survey trap manufacturers to ascertain their opinions of trap life and the various factors that influence trap life. We surveyed trap distributors, large purveyors of traps who provide the service in the field. We reviewed trap survey data, data that we had internally to try to ascertain patterns of failures. We checked our opinions and our work with other steam system experts, and we arrived at a conclusion that the primary driver on these variations has to do with water quality, the quality of the treatment of the boiler water. And that's what we were facing, and that's the explanation of why we're getting significant deviations.

 And these are large trap populations; they should line up statistically one against the other. But the one variable that we were unable to control was steam quality or water quality that enters the boiler.

 MR. SHEPHERD: So better quality water means the steam trap lasts longer, basically?

 MR. CLARKE: Yes. So it was an effort to confirm that there might be an opportunity to argue for a longer trap life.

 Unfortunately, the key variable is a variable we don't measure and can't really make an authoritative statement across the board.

 MR. SHEPHERD: So you ended up deciding to use seven years?

 MR. CLARKE: Seven years, yes.

 MR. SHEPHERD: Because it's the stat that most people use?

 MR. CLLARKE: Yes.

 MR. SHEPHERD: Yes. And the reason why this was important is because there's a whole lot of steam trap stuff in these results, right?

 MR. CLARKE: Yes, sir.

 MR. SHEPHERD: And leakage from steam traps is, in fact -- and faulty steam traps, steam traps that need to be repaired is a big area for conservation?

 MR. CLARKE: Yes, sir.

 MR. SHEPHERD: Can you go to page 18 of our materials? And this is an excerpt from the final audit report of ECONorthwest.

 And if you look at the bottom of page 18, it talks about what the auditor did to review the results of the Diamond verification study. And it says basically they looked at what you did and your calculations. If they weren't sure about what you did or why you did it, they communicated with you to ask you. And if your data was insufficient or they discovered errors, then they made a recommendation for changes; is that fair?

 MR. PHILLIPS: That's correct.

 MR. SHEPHERD: Was that Cascade that did that?

 MR. PHILLIPS: Yes.

 MR. SHEPHERD: Was that you, Mr. Phillips, or somebody else?

 MR. PHILLIPS: It was mostly me. There was one other who did some of the projects, but I did the majority of both Diamond and Michaels.

 MR. SHEPHERD: And on the top of the next page, you said Diamond and audit team resolved all questions. I take it that means that you had some questions about why they did certain things, you talked to Mr. Clarke, he satisfied you that he was right, and you decided to accept their results without any changes?

 MR. PHILLIPS: Not that he was right. There were questions about how things had been done, assumptions, that I just wanted to know what the assumptions were. Then I went back and verified on my own that the numbers were close enough to not require changes.

 MR. SHEPHERD: Okay. You didn't have your own separate method of doing these calculations, right? Your job was to look at what Mr. Clarke did -- or Michaels, I guess, in their case, but in this case Mr. Clarke, and determine whether the way he did it was reasonable?

 MR. PHILLIPS: I did that, but I also did my own calculations. That's just the best way that I know of to verify that the savings that they claimed were reasonable and accurate.

 MR. SHEPHERD: A lot of engineers have a proprietary tool that they use or an internal tool that they use to do this sort of modelling. Do you have one?

 MR. PHILLIPS: We do.

 MR. SHEPHERD: Did you use that for these projects?

 MR. PHILLIPS: Some of them. I also used the tool that -- the Department of Energy steam system assessment. It's a well-known tool. It's not proprietary, but it's well known. I used that on a number of projects.

 MR. SHEPHERD: Again, because steam traps or indeed steam leaks are a big deal in these numbers, right?

 MR. PHILLIPS: Correct.

 MR. SHEPHERD: And can you tell us how much time, roughly how many hours, did you spend reviewing the Diamond report? Including all your discussions with them and everything?

 MR. PHILLIPS: It varied from project to project. I would guess one to three hours, possibly, per project, including some follow-up.

 That's a rough estimate. I don't remember.

 MR. SHEPHERD: So it is reasonable to assume that your entire work was maybe 20, 25 hours total?

 MR. PHILLIPS: No, it was more than that. There was also a lot of time on conference calls, following up, communicating with ECONorthwest, action items, that kind of thing. We don't track by analysis and how much time we spent on analysis, how much time we spent –- it was just overall project time.

 MR. SHEPHERD: You participated in seven of the eight meetings with the audit committee, so I assume that that actually took you more time, probably, than the review of the projects?

 MR. PHILLIPS: No, it wasn't more time. I mean, it was a significant portion of time, obviously, but no, we spent more time in analyzing.

 MR. SHEPHERD: Mr. Clarke, I wonder if you could turn to your report. I'm going to ask you a about few of these projects and why you came to the numbers you came to.

 MR. CLARKE: What are we referencing?

 MR. SHEPHERD: Your report, and I'm going to start on page 7.

 Now, this is a project -– tell me whether this is right -- where a steam leak was repaired, right?

 MR. CLARKE: Page 7?

 MR. SHEPHERD: Yes.

 MR. CLARKE: Page 7 is redacted.

 MR. SHEPHERD: Mr. Chairman --

 MR. QUESNELLE: Five minutes?

 MR. SHEPHERD: I'm sorry. I wonder if it's possible to take an early lunch.

 MR. QUESNELLE: Yes. Yes, we can do that, and we'll return at 1:00 o'clock.

 --- Luncheon recess taken at 12:07 p.m.

 --- On resuming at 1:13 p.m.

 MR. QUESNELLE: Good afternoon. Please be seated.

 Mr. Smith, Mr. Shepherd, I've been informed we have something that has developed as far as a need procedurally that we have to adjust for. Comments or suggestions?

 MR. SHEPHERD: Should I start?

 MR. SMITH: Why don't I let Mr. Shepherd comment, and then --

 MR. QUESNELLE: Okay. Thank you.

 MR. SHEPHERD: Mr. Chairman, the copy of the Diamond report that I was using, it turns out it's a confidential copy. I want to tell you the background because, A, we don't want to be fined; and B, I'm embarrassed.

 When I got these originally I saw in the Michaels report, not the Diamond report, names of customers and called Union and brought it to their attention. They said they would file a new redacted version, which they did, but they filed it in a new set of interrogatories.

 So I looked in the new set of interrogatories. I saw the redacted version of that, attachment 5. The index of that set of interrogatories does not have attachment 6 included. It is actually in the document, the 1,500 pages, but it's not in the index, so I didn't look for it. And I did not know that it had been redacted.

 It turns out it's literally entirely redacted, with the result that I didn't realize that there was a new version of attachment 6. I went back to their cover letter, and their cover letter does not refer to the attachments by number, so I didn't know this.

 So I've been using this all along. I've now signed a declaration, an undertaking, and I apologies for the oversight on my part. I should have gone through the whole list of interrogatories and see what else was redacted. But my cross does deal with a lot of the details in the Diamond report, and they're essentially all redacted. The whole report is basically redacted.

 And if this came up earlier in the process we would have probably objected to the redactions, because they are so extensive. That's probably not useful now. This is 2011 work.

 What I've proposed to my friend, and he'll comment on whether this is okay -- I think it is -- is that we should deal with this by going in camera for this cross-examination, and then we can look at the transcript and determine what should actually be redacted, as opposed to just redacting everything, which I think we can probably agree on. I think it will be fairly straightforward. So that's what I propose, if that's okay with the Board.

 MR. QUESNELLE: Thank you, Mr. Shepherd. Mr. Smith?

 MR. SMITH: That all sounds sensible to me. My friend provided me with the explanation, which I accept. I don't have any concerns at all about that. These things happen, and it's not a concern to Union.

 With respect to the Diamond report and the redactions, it's actually a matter that Mr. Clarke had raised with Union because of the very detailed nature of the information and his ability and the verifier's ability to get good information, is really dependent on the customers having the confidence that the information will be keep confidential, so it is extremely important to us that it be kept confidential to protect the integrity of it going forward.

 I would have made that submission if this had been an issue on Tuesday, but I agree with my friend at this stage I think we just proceed. My experience in these things is very often the amount of actual confidential information that finds its way into the transcript is much reduced, and I'm sure we'll be able to sort out the few redactions that need to be made, and we'll report back to Board Staff and have as much released to the public as possible, because I know that is what the Board would prefer.

 MR. QUESNELLE: Thank you, Mr. Smith.

 MR. CLARKE: Mr. Smith, I'm having difficulty hearing you.

 MR. SMITH: I will speak louder from this point forward.

 MR. CLARKE: Thank you.

 MR. QUESNELLE: Okay. Ms. Sebalj, any comment?

 MS. SEBALJ: No, that all seems reasonable to Staff, and we have had discussions with the applicant and Mr. Shepherd. Obviously if we're going in camera we'll have to go off-air. We do have a sign for the door, and Ms. Girvan, who hasn't signed the declaration and undertaking, opted to leave rather than become privy to the information.

 The only other issue is Mr. DeRose, and I haven't been able to reach him, but if he e-mails we may have to dial him in at some point. But at this point he hasn't indicated that. He has signed the declaration and undertaking, so he could participate, but through a direct line.

 MR. QUESNELLE: Through a direct line. Okay.

 Ms. Fry has just raised something with me, that given the composition of the panel, we have obviously employees and we have authors of some of the information. But in the scenario where we have other companies, would they be privy to this information?

 MR. SMITH: Well, they wouldn't normally, but they've cross-signed declarations and have undertaken that they will destroy the materials and keep it and use it only for this purpose. We had addressed that at the lunch break.

 MR. QUESNELLE: Okay. Thank you.

 With that, we will go in camera.

 --- On commencing in camera at 1:20 p.m.

 MR. QUESNELLE: Okay. We've got mics on, but we're not on air.

 MR. SHEPHERD: Thank you, Mr. Chairman.

 So now I wonder, Mr. Clarke, if you can turn to page 7 of your unredacted report.

 MR. CLARKE: Yes.

 MR. SHEPHERD: And the unredacted version of your report still has redactions of customer names and things like that, most of the information in it. At least the version I have.

 MR. CLARKE: For the record, I am using a fully unredacted report, because I need the reference of customers to fully jog my mind, so if there is a slight -- it's a different version number. There may be a slight -- but I don't think there were any changes.

 MR. SHEPHERD: Okay. So the first -- I'm going to ask you about several of the projects you reviewed and try to understand why you came to the conclusions you came to, and the first is -- this is project 335 on page 7 of your material. And if I understand correctly, there was a steam leak repaired in December 2010, but that caused another leak, which was then repaired in May 2011; is that right?

 MR. CLARKE: Yes, that's my understanding.

 MR. SHEPHERD: And was the incentive paid from Union for the repair of the first leak or the second?

 MR. CLARKE: I believe the second, but I can't speak with great authority on exactly which one was paid.

 MR. QUESNELLE: Mr. Shepherd, we're just going to have to catch up a little bit. We're... Okay. We are looking --

 MR. SHEPHERD: It's page 7 of 66, attachment 6.

 MR. CLARKE: Originally there were two leaks claimed in the original application. It was --

 MR. SMITH: It's at the very back, members of the Board.

 MR. QUESNELLE: Got it, thank you. Thank you very much. Are you there? Okay. Thank you.

 MR. CLARKE: The pause gave me time to think. The original application included the repair of two separate leaks. It was my determination that the repair of one leak precipitated the second leak. I believe the fees -- the project cost was for the repair of both leaks. However, we would not score for the purposes of calculating the quantity of energy saved. We would not score both leaks. We considered one to be the proximate cause of the second.

 MR. SHEPHERD: But you actually quadrupled the savings, right?

 MR. CLARKE: Yes, and we -- not only did we take the leaks serially, we reduced the instantaneous leakage rate over what the original application had stated. However, the original application only had the leaks scored for roughly 800 to 1,000 hours. When we do verification work every one of our savings are consistently stated as a leakage rate in terms of cubic metres per year. And it's very important that you understand that all our statements here are statements of leakage rates.

 MR. SHEPHERD: So the leakage that was claimed was for the year 2011, but you said, no, that the correct thing to do is to get a leakage rate for a full year because we're counting this over a number of years, ten years in this case.

 MR. CLARKE: That is the way we score all the projects.

 MR. SHEPHERD: All right. And so the cost of project was $22,000, and Union paid an incentive of $3,300, right?

 MR. CLARKE: 3,329.

 MR. SHEPHERD: And the TRC for this project, the total resource cost benefit is about $2.4 million?

 MR. CLARKE: I do not calculate total resource. That is not part of my foray.

 MR. SHEPHERD: Perhaps you could turn –- or maybe Ms. Kulperger can turn to page 21 of our materials. This is attachment 10 to Exhibit D4.2. And this is -- if you look at the last set of boxes there, that's the calculations of the claim, verified amount for the TRC for this project, right?

 MS. KULPERGER: Yes.

 MR. SHEPHERD: Now, here's what I don't understand. These leaks are category 5 leaks, severity 5, right? That's what you said?

 MR. CLARKE: That was the estimation of the company that did the repair, yes.

 MR. SHEPHERD: All right. So when we talk to the auditor in the 2012 audit -- and I'm not trying to put this in evidence; I'm just telling you where I'm getting the information because I'm a lawyer, not an engineer. They stated that a category 6 leak would have to be repaired immediately.

 And so, first of all, would you generally agree that that's true? That if you have a leak that severe, you have to repair it immediately?

 MR. CLARKE: You cannot say that positively. It's a function of your steam raising capacity versus your steam consumption capacity. And to that, you have to consider the ability of the environment to absorb the heat and water emanating from the leak.

 So only when you consider all those factors can you make a judgment as to whether or not you're compelled to repair the leak. If you have sufficient steam raising capacity, it may be -- they can go some time without making this repair.

 So can you cannot make that statement positively.

 MR. SHEPHERD: This is steam at 250 pounds per square inch and 550 degrees Fahrenheit, right?

 MR. CLARKE: Exactly.

 MR. SHEPHERD: Would you agree that a category 5 leak in that context is pretty serious?

 MR. CLARKE: Certainly it's serious.

 MR. SHEPHERD: Now, when you identify a base case for calculating the savings, the base case is what you assume would have happened but for the utility's intervention to cause the higher-efficient option to be implemented, right?

 MR. CLARKE: I would like to state it differently.

 The base case is what the energy consumption would have been if the project had not been executed.

 MR. SHEPHERD: And so here, your assumption, you assumed that you would have savings for 10 years, and then so your assumption is that this category 5, severity 5 leak not be repaired for 10 years; isn't that right?

 MR. CLARKE: Mathematically that's what the report indicates, yes.

 MR. SHEPHERD: Okay. Is it your experience that companies generally with severity 5 leaks don't repair them for 10 years?

 MR. CLARKE: No.

 MR. SHEPHERD: So then why would you assume that that's the period over which the savings took place?

 MR. CLARKE: The base case -- we're not -- in the process of the verification, we're looking at the effect of the project. We're doing a quantitative analysis to score the energy savings.

 We are not intending to ascribe motive or intent to the actions taken by the customer. That's not within the scope.

 We do the analysis, state the base case as clearly as we can, state the benefit from the project, and then the expected life over which that project will last, where that -- in this case, that leak will, we assume, not leak.

 As to whether or not the client would make that repair, we don't attempt to make that judgment call in the process of this verification.

 MR. SHEPHERD: If the customer said to you during the course of your interview: We have a policy, a company policy that if we have a severity 5 leak, we repair it within 30 days, would you then say that, nonetheless, a repair incented by Union had a 10-year life?

 MR. CLARKE: It depends on the nature of the leak repair. The life of a leak repair is a function of a number of different things.

 In this particular instance if that statement has been made, we would have. We would have noted the comment in the "Variability" section of our report to bring it to the attention of others.

 But the methodology we apply, we apply consistently across the entire population of projects we verify.

 MR. SHEPHERD: So you're not verifying what Union's actions actually saved; you're verifying only what the customer's project saved relative to doing nothing?

 MR. CLARKE: Relative to the base case, yes. Sometimes the base case is doing nothing. Sometimes the base case, if you replace a boiler, for instance -- I'm going too fast. I apologize.

 If you replace a boiler, for instance, the base case would be a boiler with commonly provided controls, the efficiency one would expect from a baseline boiler. The higher-efficient option would only be the -- the higher-efficient option would be the enhanced boiler with state-of-the-art mass flow control and oxygen trim.

 In that case, we would use the base case being a common practice. In the case of a leak, however, you are correct. In the case of a leak repair, the base case is to not repair the leak.

 MR. SHEPHERD: So in this case, for example, where you have a category 5 leak, and you say that there was gas savings annually for 10 years of almost 2.5 million cubic metres, that's not what you actually think would have happened, right? Because you didn't investigate whether this would have happened anyway?

 MR. CLARKE: Given the conditions set forth in our report, that's what would have happened. You have to read the report verbatim without any editorial input.

 And in that case, yes, that's what would have happened.

 MR. SHEPHERD: But that assumes that repairs will not be done even if they are needed? Unless Union --

 MR. CLARKE: "Needed" is a vague term, but that assumes that the base case is as stated in the report and the project is as stated in the report.

 MR. SHEPHERD: Here's what I don't understand about this first project. And this is going to be a theme throughout this, so I might as well get it on the table.

 Your conclusion appears to be that Union gave the customer $3,300 and convinced them with that money to spend $22,000 to repair a leak that was already severe and obvious. And as a result, the customer saved a couple of hundred thousand dollars a year, and so Union should get credit for that, for having made that happen?

 MR. CLARKE: I stand by my previous statements about what the report specifically states. We went ahead and evaluated the base case, which is not to repair the leak, versus the case to repair the leak.

 MR. SHEPHERD: Sorry, you didn't determine whether the base case was reasonable, did you? You made no investigation?

 MR. CLARKE: Yes. The base case is plausible because the capacity in this facility to raise steam far exceeds the consumption. So this leakage allowed the operation of the facility at peak production, even with this leak.

 So it is a conceivable operating condition that they operate for this period of time with this leakage occurring.

 MR. SHEPHERD: I just don't understand why Union's $3,300 cheque would be assumed to have caused a customer to do something that had a one-month payback. Customers do things with one-month payback already, don't they?

 MS. KULPERGER: Can I interject, if I may, Mr. Shepherd?

 MR. SHEPHERD: Sure.

 MS. KULPERGER: Because it sounds to me like what you are asking questions about at this particular time relates to free ridership.

 And for the benefit of the Board, we had done a 2008 study on our custom project participants to establish a free ridership rate, and that was done by surveying participants to determine whether or not they would have conducted or implemented a project in the absence of the program.

 And through that study, there was -- there were segmented free ridership rates that came out, and then there was a weighted average at 54 percent for all of the different segments that are in our customer grouping participants, and that weighted average was 54 per cent.

 So that means that for every custom project that we put in or claim, we only claim 46 per cent of the savings associated with it. The remaining savings are discounted for free ridership.

 So it appears to me the question that you are asking is whether or not the customer would have done this in absence of the program.

 MR. SHEPHERD: Not at all.

 MS. KULPERGER: Not at all?

 MR. SHEPHERD: Not at all. I'm asking --

 MS. KULPERGER: I'm sorry that's how I was understanding your question. It sounded to me that you were suggesting that the customer would have done this anyways. And from my definition that is a free-ridership question.

 MR. SHEPHERD: No, I'm asking about the expected useful life of the project. The project was to repair a leak. How long would that repair last relative to a base case? So if the base case was, in the next three months or six months or a year that leak would have been repaired anyway, then surely the effective useful life is three months or six months or a year, right? Isn't that the correct answer?

 MR. CLARKE: No.

 MR. SHEPHERD: Okay. Well, then why isn't it?

 MR. CLARKE: Because you've moved the base case. The base case is not to repair the leak. You're applying a subjective measure to the base case, a subjective measure for which there is no evidence to support. I have no data that says clearly the customer would have acted in any particular way. There's no numbers that I can add or subtract.

 I hear you. I understand what you are saying, but it is not something I can mathematically manipulate.

 MR. SHEPHERD: Well, you gave a number for the useful life. That's ten years.

 MR. CLARKE: Yes.

 MR. SHEPHERD: And I'm asking you the basis of that, and you're telling me, as I understand it, you're telling me you didn't look to see what the right number was.

 MR. CLARKE: No, of course I did. I said that the leak repaired would last ten years without leaking again. In other words, this particular fix will last ten years, which I would like to point out is half the time we normally would ascribe to a similar type leak. We de-rated it because we had questions as to the quality of the support to the pipe, and the fact that we could transfer a leak from one flange to another gave us pause.

 By the time we got there the leak had not reoccurred, and they had made efforts to further bolster the support of this particular pipe. We were comfortable, but not completely comfortable, that they had addressed this particular problem. Therefore, we de-rated the useful life from 20 years, which would be typical, to ten years.

 MR. SHEPHERD: I see. And I'm right, am I not, that for writing a cheque of $3,329 of ratepayer money, Union is claiming an SSM of $92,887? That's 3.95 percent of the TRC, which is the percentage for over 75 percent of the target? You can undertake to confirm that. I'm going to ask that again on a number of other projects too.

 MS. KULPERGER: I would like to address that. The first thing that I would clarify is that the relationship from TRC to SSM is on a curve, so it depends where you are on that curve to what the actual shared savings mechanism would equate to financially for the utility.

 And the second part of that would be that the customer, as we've seen in our understanding of the customer's appreciation for Union Gas's engineering expertise is that the influence is not necessarily a question of the incentive but, rather, the work that we do with the customer.

 So again, that appears to me to be a free-ridership question. But it's certainly -- the incentive would have been beneficial to the business case internally for the organization.

 MR. SHEPHERD: They repaired this leak in December 2010 when it was severity 5. Then again that caused another leak which, in May 2011 they repaired that one, which -- also severe, level 5 -- and in September 2011 they applied for their $3,300. They had already been paid back all of their money several times over by that time.

 So help me understand how this was any way Union's doing and why should you should get $92,000 for this.

 MS. LYNCH: Critical to our custom program is the ongoing relationship that we have with the customers. It doesn't relate to any one specific year even. This has been a longstanding program that we've had. We've worked with customers for many years, and all of that influences the decisions and the projects that they choose to undertake.

 As Ms. Kulperger pointed out, it's not specifically an incentive that is as influential as the overall expertise that we're able to provide and help customers with how they operate their facilities.

 MR. SHEPHERD: I wonder if you can go, Mr. Clarke, to page 12 of your report. This is project 186. Now, this is another steam-leak repair project, but in this one -- and these were steam leaks repaired in 2010, not 2011, but in this one the customer has a regular program to repair steam leaks, right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: And this isn't the first year for this company to claim an incentive from Union Gas, is it? Nor the last, by the way.

 MR. CLARKE: That's true.

 MR. SHEPHERD: And so they have this regular steam-leak program because they have a lot of steam. It's a big operation. They have a lot of steam -- big steam system, right? True?

 MR. CLARKE: Yes, it's big.

 MR. SHEPHERD: And in fact, in 2010 they repaired 707 steam leaks, right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: They actually have an internal methodology for determining what they should be repairing, and they have an internal policy and strategy for what they should do, right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: And so they then repaired these steam leaks in 2010, and they claimed them from Union as for an incentive of $40,000 in 2011; isn't that right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: And if you go to page 14, this looks to me -- and tell me whether this is right. If you look at the table of steam leaks -- that most of these steam leaks are category 5 and 6 steam leaks, right?

 MR. CLARKE: The two category numbers you are using don't foot. They are a different measured system. So you cannot compare the first project you mentioned to this project. This is an internal classification procedure. The other one is a procedure adopted by the folks who specialize in the fixing of large steam leaks while the steam is pressurized. So it's a different classification. I just want to caution you.

 MR. SHEPHERD: This is your report that says the most common categories, 5 and 6, have a plume length of over 6.6 feet. The average plume length for 433 of their leaks was 8.2. So isn't that what you are saying, that these are mostly 5 and 6 or higher steam leaks?

 MR. CLARKE: We said mostly 5 or 6.

 MR. SHEPHERD: Okay. And so you'll agree that even in a facility like this you wouldn't want to leave those two long before you fix them, generally speaking. And that's why they have a program, to --

 MR. CLARKE: One has to be very cautious in making those kind of conclusions. This project is entirely different than the first one. In some instances these steam leaks could be 30 or 40 feet above the ground, requiring isolation of production units and actually bringing production elements off-line for repair. So you cannot make any categorical statement as to whether or not they would repair them. It's a case-by-case basis times 707.

 MR. SHEPHERD: Did you look at this -- you went on-site, right?

 MR. CLARKE: Yes, sir.

 MR. SHEPHERD: Did you look at their internal protocols for repair?

 MR. CLARKE: Yes.

 MR. SHEPHERD: And did those protocols say at certain level of severity they get repaired?

 MR. CLARKE: Not categorical. You can't make those statements. In this particular production environment the cost of bringing a unit off-line can be very severe. So scheduling cannot simply be made with such blanket statements. It's just not --

 MR. SHEPHERD: Well, they had a protocol, right?

 MR. CLARKE: They had an understanding, yeah, they had a protocol.

 MR. SHEPHERD: And was it based on severity, in part, at least?

 MR. CLARKE: In part. But to say that the most severe leaks always got fixed first would be an improper statement.

 MR. SHEPHERD: All right. And what happened here -- tell me whether this is right -- and this is referred to on page 16 of your report, is Union Gas told you -- or I guess the application told you, but I think it was Union Gas representatives who did this, that the average plume length was 6.6 feet. And the customer said it was 9.9 feet.

 And so you looked at the situation and you split the difference; isn't that right?

 MR. CLARKE: Roughly correct, yes.

 MR. SHEPHERD: So what had been claimed was TRC of

 [page 99, line 9 redacted]

make this adjustment, that increases the TRC by

 [page 99, line 11 redacted]

 MR. CLARKE: No.

 MR. SHEPHERD: Your adjustment caused that result, right?

 MR. CLARKE: I'm not talking in terms of TRC. If you could talk in terms of cubic metres saved, I would feel more comfortable answering your questions.

 MR. SHEPHERD: Let me ask Ms. Kulperger.

 Is that correct, that Mr. Clarke's adjustment caused a

 [page 99, line 20 redacted]

 It's on page 21 of our materials, on the table, right at the top line.

 MS. KULPERGER: That's correct.

 MR. SHEPHERD: And if you increase the savings for this project, it also affects other projects, right? Because of the use of the realization rate methodology; is that right?

 MS. KULPERGER: Correct.

 MR. SHEPHERD: Now, this was actually Union's biggest single project in 2011, wasn't it? Actually completed in 2010, but in terms of what was counted in 2011, this was your biggest single project, right?

 MS. KULPERGER: That's my understanding.

 MR. SHEPHERD: Will you accept, subject to check, that this one project was more than 6 percent of your total TRC and about 10 percent of your overall gas savings?

 MS. KULPERGER: Yes.

 MR. SHEPHERD: Will you accept, subject to check, that the incentive that you are claiming for this one project is [page 100, line 12 redacted]

approximately 21 times what you gave the customer; isn't that right?

 You can give an undertaking if you want to calculate that.

 MS. KULPERGER: So I guess the point is the TRC [page 100, line 18 redacted]

which is 46 percent of the claimed savings. So that's the net TRC. So the customer would have realized benefits for this project. And yes, the incentive tied to that to the utility for the project, I believe you're accurately reflecting that.

 MR. SHEPHERD: I'm using 3.95 percent as the percentage over 75 percent of target. And I think you can verify that, but I think that's right.

 MS. KULPERGER: Yeah. Again, it just depends where you are on that line.

 MR. SHEPHERD: Now, Mr. Clarke, your change, then, almost doubled the incentive that the shareholder gets, right?

 MR. CLARKE: My conclusion was offered in a range from

 [page 101, line 5 redacted]

to use those numbers in calculating what the benefit would be.

 MR. SHEPHERD: Union Gas has used the midpoint of that range, right?

 MS. KULPERGER: That's correct.

 MR. SHEPHERD: And Mr. Clarke, the baseline you use for this project is that those 707 steam leaks, some of them very serious, none of them would have been repaired for 20 years? That's your base case, right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: So what I don't understand is it seems like a company that has a regular repair program and a protocol and a strategy for steam leaks, their baseline would be that they continue with their regular program, wouldn't it? Isn't that the logical answer? They did it the year before and they did it the year after?

 MR. CLARKE: You're correct. They did do it the year before and they did it the year after.

 To fully answer your question, one would have to delve into the influence that the program had on the previous years. And in fact, you would have to go back all the way back to the start of the program to see if the Union Gas relationship and incentives were, in fact, responsible for starting the program year 1.

 I don't have data that goes back to that point. I do know, I do know that the relationship between the Union Gas project managers and the energy managers on-site are very effective. The Union Gas personnel have increased energy-efficiency awareness on this site through their consistent and constant interaction with the customer.

 But you are asking me to offer an opinion about events that occurred before I ever was onside.

 MR. SHEPHERD: I'm actually asking about 2011, where a

 [page 102, line 11 redacted]

 [page 102, line 12 redacted]

 MR. CLARKE: I would restate that maybe there was previous actions. There might have been a time where the Union Gas program created the program that is being implemented by this particular customer to repair these leaks, in previous years.

 MR. SHEPHERD: Is it your experience Mr. Clarke–- you've seen a lot of big industrial operations -- is it your experience that big industrial facilities like this one don't repair their steam leaks unless a utility gives them a cheque? That's not, is it? Normally, they have a program?

 MR. CLARKE: Please. Yes and no. However, I have been in the last year in four sites of equivalent magnitude where leaks of this -– well, three of the four sites, leaks of this magnitude had gone unrepaired.

 So I can't make a categorical statement and affirm your statement. I can't. I'm --

 MR. SHEPHERD: The normal practice for large industrial users with a big steam system is that they have a leak repair program, right?

 MR. CLARKE: One would hope, but that's not always the case.

 MR. SHEPHERD: It's standard practice for most companies?

 MR. CLARKE: Pardon?

 MR. SHEPHERD: It's standard practice for most companies; true?

 MR. CLARKE: Yes.

 MR. SHEPHERD: Thanks.

 MS. KULPERGER: I would like to add for the benefit of everyone that the terms of reference for what the verifier will consider through the verification process is reviewed with our evaluation and audit committee, and it is really about the technical or the technology, the base case, the useful life, how long will that technology be in existence, and looking at the incremental cost just to verify that the costs associated with the project are appropriate.

 That is reviewed by our evaluation and audit committee, and that is what was adhered to through the verification by Diamond Engineering and Michaels Energy. And in that scope, there is not -- there aren't any questions about would they have done this anyway.

 Again, that is really a free ridership issue. That's a separate study.

 And whether or not the savings would have persisted for X number of years, that's another study, which is called a persistence study, they you would do after a number of years, and retrospectively try to ascertain whether or not the savings that were originally included in the claim were -- lasted the number of years that you would have expected them to last.

 So there are two different kinds of studies that could be taken here that would give the answers, I think, that Mr. Shepherd is looking for. But this verification is limited to the technological assessment of the projects.

 MR. SHEPHERD: Then I'm going to turn you to, Mr. Phillips. You reviewed the work of Mr. Clarke, and you were working for the auditor, right?

 MR. PHILLIPS: Correct.

 MR. SHEPHERD: So it was your job to determine whether the claims savings were appropriate, right?

 MR. PHILLIPS: Correct.

 MR. SHEPHERD: And so did you look at this 20-year life for steam repairs -- steam-leak repairs that were part of a normal protocol and would have been done anyway? Did you look at that and say, Hang on a second. These aren't 20-year savings?

 MR. PHILLIPS: Again, we did not look at whether or not things would have been done anyway. We looked at the size of the leak, the efficiency of the boiler, how much energy would have been required, how much was saved by fixing that leak, and whether or not it was reasonable to expect that that leak repair would last 20 years, and we believed that it would.

 MR. SHEPHERD: Okay. So I'll ask this question differently. Union is asking -- and I'm asking it of all the witnesses -- Union is asking for the ratepayers to pay

 [page 105, line 6 redacted]

believe, anybody on the panel believe, that this project

 [page 105, line 8 redacted]

20 years? Anybody? It's a causation question.

 MS. LYNCH: In order to look at the overall portfolio you need to assess it on an overall basis. So if you look at the savings that we did achieve in 2011, $379 million in TRC benefits that would have been -- that would be to customers, and the cost of the program, it's not just one piece of it, it's the portfolio overall that we need to consider and all the inputs that go into that, so the savings are a piece of that, the free-ridership studies are a piece of that. It all comes together to show what the outcomes of the portfolio are.

 MR. SHEPHERD: Ms. Lynch, you gave this customer a

 [page 105, line 21 redacted]

anyway. We all agree, I think, they were going to do it

 [page 105, line 23 redacted]

 [page 105, line 24 redacted]

those savings or not? Yes or no?

 MS. LYNCH: In the context of how this is calculated, yes, through participation in our program we are including the savings. We are also including the free-rider rate that is expected to be applied and all of the other inputs that are expected to be applied through the program.

 MR. SHEPHERD: Mr. Clarke, I wonder if you can turn to page 23 of your report. Thankfully, this is not about steam leaks.

 MR. CLARKE: Thank you.

 MR. SHEPHERD: And this is a university, and there were 271 air-handling control units reviewed, and 185 were reset to consider building occupation scheduling, right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: And it didn't cost very much. It cost, actually, less than the incentive. It cost $30,000, and an incentive was 40. And it's correct, isn't it, that the customer already had a building automation system in effect capable of doing this covering the buildings in question on their campus and fully staffed. Already had that.

 MR. CLARKE: Yes.

 MR. SHEPHERD: And the customer has also done on its own, not with anybody else's help, extensive air-flow studies of those buildings, precise buildings.

 MR. CLARKE: Partially, yes. I don't think it was completely done at the time of audit, but, yes, they had worked toward that end.

 MR. SHEPHERD: They had quite extensive information on their air flows, right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: And that's in fact how you were able to do an assessment of what the appropriate savings --

 MR. CLARKE: It would be the base line.

 MR. SHEPHERD: -- were, right? Because they had the data. So I don't understand why you think that with all of this in place, with all of this in place, and with the low cost and the big savings associated with this, that they wouldn't have done this for 20 years but for Union coming in and saying they should.

 MR. CLARKE: Again, it comes down to -- I think you had discounted the intellectual property side of this project to zero. Following that logic, of course, software is of no value. There was a great deal of interaction between Union Gas personnel, project manager in question has extensive building automation experience working closely with this particular group, was instrumental, and in the middle of this program to reschedule.

 Furthermore, some of their rescheduling was very thoughtful. I don't want to use the term -- well, I will use the term, quite innovative, in my opinion. So I have

-- the savings are unquestioned. The quantity of energy saved, there's no question about that. You're coming down again, I think, to that same --

 MR. SHEPHERD: The base line.

 MR. CLARKE: -- causation -- well, I would argue against using the term "base line", because in our parlance that's a term of art that means something quite different from what you are trying to say it does. The base line is clearly as stated. It's not subject to manipulation, I think, in the way.

 You know, I stand by my report. The savings, the investment, I do think that the cost in this particular is as claimed by the customer, that they -- or the client, they discounted their labour to zero, which -- so -- and they had no records of it, nor did we feel a need to try to pursue that.

 MR. SHEPHERD: You don't check costs anyway. You just accept whatever they tell you, right?

 MR. CLARKE: We check costs. We have -- the customer self-affirms the cost associated with the project. We consider whether or not the project was executed. We determine whether or not the costs in our opinion are reasonable, but we do not independently verify costs.

 MR. SHEPHERD: This was Union's second-largest project, right, with a TRC of over $420 million?

 MS. KULPERGER: That appears correct.

 MR. SHEPHERD: And it involves an incentive to the shareholder of $800,000 -- more than $800,000, right?

 MS. KULPERGER: Again, I'll take your word for it.

 MR. SHEPHERD: And so let me understand this. This isn't a new piece of equipment that was put in, is it, Mr. Clarke? It's a resetting of existing equipment to run in a different way.

 MR. CLARKE: There was new equipment associated with this to the tune of $30,000. The air handlers themselves for the most part were put in.

 MR. SHEPHERD: Sorry, the air handlers were put in?

 MR. CLARKE: Previously -- no, no, no, they were previously installed. You are correct about that. I misspoke.

 MR. SHEPHERD: So I'm looking at what the new equipment is. I don't see any. Can you help me with that? And it looks like some damper positions were adjusted and units were rescheduled.

 MR. CLARKE: Correct.

 MR. SHEPHERD: So that's not new equipment, right?

 MR. CLARKE: The controls necessary to accomplish those repositionings, there were a few controls added. That's where the cost --

 MR. SHEPHERD: Software. It's not hardware.

 MR. CLARKE: There's some hardware, a few pieces of hardware --

 MR. SHEPHERD: Oh, yeah? Such as? I'm looking for it in here. Tell me where the hardware is?

 MR. CLARKE: One moment.

 The delta control building automation system needed some expansion. There was some additional pieces and elements added to the delta control building automation system.

 MR. SHEPHERD: Okay. That's not in your report anywhere, is it? Or is it here, that I just missed it?

 MR. CLARKE: I would have to go back to the base file.

 MR. SHEPHERD: It's not in the report here.

 MR. CLARKE: It's not specifically in the report, no.

 MR. SHEPHERD: No. Now -- and the reason I ask that question is because I understand your logic on the steam-leak repairs. You're doing something physical. Then you can make an engineering calculation of how long that physical thing will last, and there's an issue about whether that's the appropriate way to do the base case, but at least you can determine how long is that physical thing going to last. This is a behavioural change, right? Where do you get the 20 years? Why do you think their behaviour won't change for 20 years?

 MR. CLARKE: Perhaps we should have not put an upper limit. We had some discussions, and I'm trying to recall the discussions we had internally on how to determine useful life of software, and we've had this discussion internally before. 20 years is merely a compromise.

 I see your point. We could argue that the life should be extended to infinite.

 MR. SHEPHERD: Could be infinite or it could be two years?

 MR. CLARKE: No, infinite.

 MR. SHEPHERD: Why would it be infinite?

 MR. CLARKE: If your logic holds true, the behavioural patter is advantageous to the university. What reason would they have to change it?

 MR. SHEPHERD: Would reason would they have not to do it next year or the year after?

 MR. CLARKE: That's what I said. Why would they not continue to do that forever? If scheduling these buildings in this manner saved energy and did not cause discomfort to the students, why wouldn't they continue to operate that way indefinitely?

 MR. SHEPHERD: Yes, or until they had new equipment. Obviously, the building automation system isn't going to last for 20 years, is it?

 MR. CLARKE: No, but the intent, the operating procedures, will.

 MR. SHEPHERD: How long do you expect this old building automation system to last?

 Because you have to do it again if you have a new system, right?

 MR. CLARKE: Yes, and 20 years is not an unusual expectation for the life of a building automation system.

 MR. SHEPHERD: If it was brand new. This wasn't, was it?

 MR. CLARKE: Most of the equipment had been recently upgraded as part of this project. It's kind of a continuum. They had been upgrading this piecemeal.

 But I think at this point if we were to stop further investment and only engaged in maintenance activities, 20 years is a very reasonable expectation of life.

 MR. SHEPHERD: Okay. That's not the basis on which you chose the 20 years? That's just what you are saying now, based on your --

 MR. CLARKE: Twenty years is -- we could arguably have argued for more than 20 years.

 MR. SHEPHERD: Okay. Can you turn to page 35 of your report?

 I only have a couple more, Mr. Chairman, as fascinating as this may be.

 This is a refinery and this is steam leaks. This isn't the same refinery as the one on page 12, is it?

 MR. CLARKE: No, this is not the same refinery.

 MR. SHEPHERD: It's a different refinery? Okay.

 On this one, you have a life of 20 years and because you -- the reason for the life of 20 years is there was no particular underlying problem here like with the very first project we looked at, where you thought the problem might come up again.

 These are normal steam leaks. You fix them. They last for 20 years, right?

 MR. CLARKE: For the most part, there are always underlying problems that would create leaks in these kind of systems. The difference between this project is our confidence that the customer is doing an engineered repair. If there is a root cause that is causing these leaks to occur, they are addressing it. For instance, if there is an improperly supported pipe, as part of the repair process they go ahead, analyze the nature of the leak, and then they implement a remedy to prevent the leak from occurring again.

 MR. SHEPHERD: And like the previous project of 707 steam leaks, on this one they have a protocol for repairing steam leaks already, right?

 MR. CLARKE: Exactly.

 MR. SHEPHERD: Can you turn to page 46 of your report? Do you have that? This is a hospital, right?

 MR. CLARKE: Yes.

 MR. SHEPHERD: A number of things were done. I'm not going to talk about most of them. But 85 percent of the savings actually came from refurbishing the cooling loop, right?

 You'll find that on page 51, if you are looking for the percentage. It's 37,000 out of 42,000?

 MR. CLARKE: Correct.

 MR. SHEPHERD: About 85 percent?

 MR. CLARKE: This is the free cooling loop.

 MR. SHEPHERD: No, I understand. So the free cooling loop -- tell us what that is first.

 MR. CLARKE: Free cooling loop takes advantage of outside ambient air conditions to provide the cooling in months where the temperature outside is sufficiently cool to provide that cooling.

 MR. SHEPHERD: When you refurbish it, what do you do?

 MR. CLARKE: In this particular instance, to the best of my recollection, they cleaned up scale build-up and they replaced the pumping system. Again, I -- this is the best of my recollection.

 MR. SHEPHERD: This sort of cooling loop is -- basically it goes outside, outside the machinery, and uses the ambient air temperature to cool down water, right?

 MR. CLARKE: That's correct.

 MR. SHEPHERD: So it's a pipe, or it's a set of pipes, like a heat exchanger, except outside, right?

 MR. CLARKE: A submarine is a tube. I mean, yes, it's a pipe, but it's a highly engineered pipe.

 MR. SHEPHERD: And how old was this cooling loop?

 MR. CLARKE: I don't know. I don't know exactly.

 MR. SHEPHERD: How long do they normally last?

 MR. CLARKE: Depends on the operating condition and the conditioning of the water. As with all such equipment, there are many, many factors that affect the useful life of this type of equipment.

 MR. SHEPHERD: Normally, they get replaced, though, after a while, right?

 MR. CLARKE: Normally, yes. But in theory, they don't ever have to be replaced if the water provides no corrosion to the loop, if it's devoid of any oxygen. If it has no dissolved solids, there's nothing that will inherently cause the loop to fail.

 MR. SHEPHERD: That wasn't the case here, because it had to be descaled, so obviously there was --

 MR. CLARKE: That is not the case here. Correct.

 MR. SHEPHERD: And is this copper or PVC, or what is it?

 MR. CLARKE: This particular cooling loop, I believe, was copper-finned to copper.

 MR. SHEPHERD: Finned?

 MR. CLARKE: Finned, finned.

 MR. SHEPHERD: So I'm again looking at useful life, because I'm wondering why wouldn't the age of the existing cooling loop be relevant to the period that you'd get the savings. Surely if you had to replace it, let's say, 10 years from now, then your life of the project would be 10 years because it wouldn't be useful anymore, right?

 MR. CLARKE: Correct.

 MR. SHEPHERD: Did you investigate that?

 MR. CLARKE: We investigated the fact that the loop was still serviceable. All the componentry that was necessary to upgrade the loop was replaced. And we assume that the loop would last for 20 years.

 MR. SHEPHERD: But you didn't actually investigate how old it was, because it's not anywhere in your report, right?

 MR. CLARKE: No. We did not investigate exactly how old it is.

 We did have information on the commissioning dates on all these various components. As I remember, the loop was not excessively old, but I cannot remember without reference to my files the exact age of that loop.

 MR. SHEPHERD: All right. I just have one other question about this.

 You made some changes to the results, and these are on page 46 of your report. You increase the actually gas savings from 1,323.931 to 1,523.659, and that was largely because you recalculated the savings arising out of the cooling loop, right?

 MR. CLARKE: Exactly.

 MR. SHEPHERD: But you also increased the electricity saved, which also goes into TRC from 343.418 to the same number, 1,523.659.

 So my question is: Why is that the same number as the gas savings?

 MR. CLARKE: That's a very good point.

 MR. SHEPHERD: I try to only ask good questions. I fail sometimes, but I try.

 MR. CLARKE: If I may have a minute, I have to run a column of numbers to make sure there is no mathematical error.

 MR. SHEPHERD: Do you want to do this by undertaking?

 MR. CLARKE: Pardon?

 MR. SHEPHERD: Do you want to do this by undertaking? It's not a big issue –-

 MR. CLARKE: Certainly, yeah.

 MR. SMITH: Sure. We'll do that.

 MR. CLARKE: Very interesting question. Maybe purely coincidental.

 MS. SEBALJ: It's J3.1.

UNDERTAKING NO. JX3.1: TO EXPLAIN WHY TWO NUMBERS ARE THE SAME

 MR. SHEPHERD: And the last project I want to ask you about, I think --

 MR. SMITH: That should be a confidential undertaking, I think. Is there a separate numbering system for those?

 MR. SHEPHERD: Yeah, JX.

 MS. SEBALJ: X rings a bell, JX. It's JX3.1. Thank you for the reminder.

 MR. QUESNELLE: Thank you.

 MR. SHEPHERD: Would that actually be confidential? I would have thought that, without the customer information, the fact that you say this number shouldn't have been 1.5 but 1.3 is not confidential.

 MR. QUESNELLE: Can we leave it to the same exercise you'll go through with the....

 MR. SHEPHERD: okay. So my last question is on page 53, which is project 282, my last question for you, Mr. Clarke. This is another steam-leak project, but I'm not going to ask all the general stuff. It's all the same as the previous ones. But I just want to ask about one thing. There were three of the leaks -- there was 118 leaks, right? You'll see that on page 55.

 MR. CLARKE: Correct.

 MR. SHEPHERD: You see that?

 MR. CLARKE: There's 118 leaks? Yes.

 MR. SHEPHERD: Yes. And three of them had an average plume length -- a plume length is how far out the steam goes, right?

 MR. CLARKE: Right.

 MR. SHEPHERD: And an average plume length of 20 feet. That's a big plume, right?

 MR. CLARKE: That's a very big plume.

 MR. SHEPHERD: In fact, I went to the DOE and the Enercon literature and they don't even have information on how you deal with a 20-foot plume. That's big. So that's about a third of the savings, roughly, and I'm wondering, why would you include those, when clearly, if it's a 20-foot plume, you can't wait very long, this has got to be fixed, right? You'll agree with that.

 MR. CLARKE: If the facility has sufficient steam-raising capacity to meet the needs, and if there is critical work being done by the downstream process, it doesn't have to be fixed. In fact, it may be economically a disadvantage to the company to fix it in a prompt way. So you can't make the statement you just made with complete confidence. If it's high in the air, there's no personal hazard. The primary hazard with a leak this big, it's high in the air, would be sound.

 MR. SHEPHERD: Thank you. Just one question more for you, Mr. Clarke. How many of the questions I've asked you were asked of you by Mr. Phillips during your discussion? Any of them?

 MR. CLARKE: If you'd like I will check my interrogatories and see.

 MR. SHEPHERD: No, I'm asking whether during your discussion on the phone Mr. Phillips --

 MR. CLARKE: No, I believe I understand your question -- understand your question.

 None of the questions were asked previously.

 MR. SHEPHERD: Thank you.

 Now I want to turn to you, Mr. Kroll, and ask you about your report, and I have a lot less questions of you than Mr. Clarke. Thank you, Mr. Clarke, for your assistance.

 I'm looking at your report, and I'll start at page 7 of 159. I'm not looking at the numbers on the bottom, at the numbers of the exhibit itself. And I'm starting on page 7.

 MR. KROLL: Just to be clear, this is the page that says at the top "2), verification methodology"?

 MR. SHEPHERD: Indeed. And as I understand what you did, your review had three steps, two steps in some cases and three steps in other cases. First you called the customer or their supplier or their contractor sometimes, because some of them were ESCOs and things like that, right -- to ask them to confirm the information in Union's files and to describe the operating conditions of the project, right?

 MR. KROLL: Correct.

 MR. SHEPHERD: And then second -- and you did that for all of the projects.

 MR. KROLL: Correct.

 MR. SHEPHERD: And then the second thing you did is you checked the savings calculations and assumptions, including checking for reasonableness, right, for all projects, all 25.

 MR. KROLL: Correct.

 MR. SHEPHERD: Then for five of the projects there was a third step in which you went on-site, right?

 MR. KROLL: Yes.

 MR. SHEPHERD: And what you did is you verified installation, you verified operating conditions, and you may have asked further questions of the staff there, right?

 MR. KROLL: Correct.

 MR. SHEPHERD: And for each of those on-site visits a Union Gas representative was present, right?

 MR. KROLL: No.

 MR. SHEPHERD: No?

 MR. KROLL: For I believe three of the five projects a Union Gas representative was there. For two of the projects no representative from Union Gas was present.

 MR. SHEPHERD: Okay. Just one second. Mr. Clarke, for all of your site visits there was a Union Gas representative present, right? Your report has one listed --

 MR. CLARKE: For this particular cycle, yes.

 MR. SHEPHERD: Okay. And so on page 8 of your report, of 159 in attachment 5, Mr. Kroll, you say if the operating conditions that you see at the time of verifications are not what the customer says is typical, if they say something different is typical, you use what they say is typical, right?

 MR. KROLL: Correct.

 MR. SHEPHERD: Mr. Clarke, do you do the same thing?

 MR. CLARKE: I apologize, please repeat the question.

 MR. SHEPHERD: If you go and look at the operating conditions of a project, and they are different from what the application says, and the customer says, Well, this is not typical. Here's what's typical, do you accept what they say is typical?

 MR. CLARKE: If they have evidence to back up the fact that it isn't operating in a typical situation, we will need -- in our case we're able generally to extract data from a SCADA system, so if he says it's not typical, we then will produce data to substantiate his claim that it's not typical.

 MR. SHEPHERD: Because they are larger customers they have sub-metering around the facility often?

 MR. CLARKE: Yes.

 MR. SHEPHERD: So you can measure some things.

 MR. CLARKE: We have -- because of confidentiality we can ask for quite a bit of data, and it is provided.

 MR. SHEPHERD: Whereas Mr. Kroll in the smaller projects that you deal with, they generally only have one meter, right? Or maybe they have two or three, but they don't have an extensive metering system like in the larger projects.

 MR. KROLL: I want to be clear, are you talking Union Gas meters?

 MR. SHEPHERD: No, I'm talking measurement of usage.

 MR. KROLL: I guess we -- for the projects that we look at, it really varies from project to project. Some facilities have a much greater ability to trend or meter individual pieces of equipment or end uses. Some will have much less.

 MR. SHEPHERD: Okay. Do you get the same sort of evidence as Mr. Clarke is talking about? If the customer

-- if you look at a situation and it looks like a boiler is being used 20 percent of the time, let's say -- that's what appears to you -- and you are looking at logs and stuff like that, that's what it says, and the customer says No, no, no, normally in our normal operations we're in a down time right now. Normally we use this boiler 70 percent of the time. Do you then get some evidence to back that up?

 MR. KROLL: If we have logs to support the operation that it has historically been 20 percent without significant evidence from the customer to the contrary we would go with the 20 percent. If the customer has some reason why the boiler's only using 20 percent, for example, maintenance issues or some other atypical operating condition, you know, maybe process lines are down that would not require as much steam, then we would adjust back to the higher number.

 MR. SHEPHERD: But you just said in those cases you just accept what the customer has told you.

 MR. KROLL: Within reason. We would verify it against the billed usage for the facility and any additional information that's available, but if we have nothing else to go on then the description of the operation of the customer and the customer representatives is used to help define the project's operation.

 MR. SHEPHERD: Thank you. On that same page 8 in bullet 3 you'll see there's a reference to an on-site evaluator, which is not Michaels, right? It's somebody else. Who is that? Who are you referring to there?

 MR. KROLL: In that sentence I believe that that is -- that probably would be referring to us or if there was -- an on-site visit was conducted by somebody else that we received information from, we would use it.

 MR. SHEPHERD: Well, this says "on-site evaluator and/or Michaels Energy", so presumably the on-site evaluator can't be Michaels Energy, can it?

 MR. KROLL: Well, for these five projects we were -- and I guess it should be on-site verifier. I'm trying to recall. I believe at one point in time we received a document by somebody else, not as part of our five projects that we visited, but there had been an on-site visit completed by somebody else, and I do not recall if that was part of this project.

 MR. SHEPHERD: I don't really need to run this down, except for one thing. You are not referring to Union Gas representatives when you are saying that, right?

 MR. KROLL: No.

 MR. SHEPHERD: If you go to page 10 of your report, the pace will pick up in a second.

 You have water savings of 82 million litres. It's correct that 93 percent of the water savings come from one project, 062?

 MR. KROLL: What page are you referring to?

 MR. SHEPHERD: Page 10 of 159. It's page 5 of your report. You see table 4?

 MR. KROLL: Yes.

 MR. SHEPHERD: So you have 82 million, and 93 percent of that comes from one project, 062, right?

 MR. KROLL: I would have to verify that, but it's very...

 MR. SHEPHERD: 062 is on page 28 of 159.

 And you see the water savings there, ex ante, is 76 million out of 82, so that's about 93 percent, right?

 MR. KROLL: You said that was page 28?

 MR. SHEPHERD: 28.

 MR. KROLL: Okay.

 MR. SHEPHERD: My only question about this is: How does that influence your sampling? Because isn't that going to give you an imbalance if one project is so much of your savings in that category? Isn't that going to affect your sampling precision?

 MR. KROLL: I guess what seam sampling are you referring to?

 MR. SHEPHERD: You have a sample of 25 projects, out of 500, let's say, but if all of your water is in one project, then your statistical correctness, your precision is going to be wrong, isn't it?

 MR. KROLL: I haven't seen the population. I don't know what the distribution of water savings looks like for the program.

 MR. SHEPHERD: And you made quite a lot of adjustments; 22 adjustments in 25 projects, right?

 MR. KROLL: That sounds about right, yes.

 MR. SHEPHERD: It's on the next page, if you want to look on page 11 of 159.

 More than half of them are because of measure or the equipment was operated or installed differently from the application, from what the application said was expected.

 Can you expand on that? What does that mean?

 MR. KROLL: I mean, that can cover many different areas. I mean, depending on individual pieces of equipment. I mean, that can be -- that can be hours of operation of air handling units, discharge air temperatures, efficiencies of boilers, throughput of production variations.

 I mean, that is basically the equipment wasn't operated in a manner that was consistent with the originally submitted calculations.

 MR. SHEPHERD: One of the things that you concluded -- correct me if I'm wrong -- one of the things that Michaels concluded after doing this was that customers should be required to give better information at the time they make their application, because of exactly this sort of problem, right? Isn't that right?

 MR. KROLL: I guess I would have to re-read that. I think that we encouraged Union Gas to try and collect the best available information, yes, and for large projects specifically to go back and collect additional information after the fact, to verify operation.

 MR. SHEPHERD: All right. I want you to go to page 14 of 159.

 There, you have 10 of the 25 projects, you propose changes to the claimed savings of at least 50 percent, up or down, right?

 MR. KROLL: Correct.

 MR. SHEPHERD: Does that strike you as an unusually high level of big adjustments?

 MR. KROLL: When compared to other programs, you mean? Or what is --

 MR. SHEPHERD: For example, you've done it for years before at -- for Union, and you've done it since then in 2012. This is a lot more than other years, isn't it?

 MR. KROLL: Yes. I would say that there was some significant adjustments this year, and that would not be typical of what we would like to see or what we would expect to see.

 MR. SHEPHERD: And so I just want to that ask about a couple of your specific projects and then we'll be done.

 The first is on page 27 of 159, and this is an upgrade to an existing building automation system, right?

 MR. KROLL: Yes.

 MR. SHEPHERD: And it costs $120,000 to do it. So basically they are putting in a new one, right?

 MR. KROLL: Yes.

 MR. SHEPHERD: And what you did is you measured the savings using a build regression analysis, in which you look at what was the usage before the project and what is the usage after, and then you track it to heating degree days, right? To normalize it?

 MR. KROLL: That's correct.

 MR. SHEPHERD: So your baseline was the old system?

 MR. KROLL: In this case, yes.

 MR. SHEPHERD: How old was the old system?

 MR. KROLL: Well, the existing operation was -- it didn't have the controls. There was -- I mean, the operation was -- I guess I'm not understanding the question.

 MR. SHEPHERD: The customer upgraded the existing building automation, so they had building automation already in place, right?

 MR. KROLL: Yeah, they probably had some building automation system, but you know, these upgrades are pretty extensive.

 MR. SHEPHERD: I guess what I'm trying to understand is how old was that, how old was that old system.

 MR. KROLL: I do not know.

 MR. SHEPHERD: Wouldn't you have to know whether it had to be replaced, whether it was due for replacement, in order to determine what your baseline was?

 MR. KROLL: No, it had -- I mean, it had not failed, it was not failing, and the -- it was, for all practical purposes, expected to keep operating as was.

 MR. SHEPHERD: If it was already 20 years old, you wouldn't expect it to last another 15 years, would you?

 MR. KROLL: It -- I don't know. I can't say.

 MR. SHEPHERD: You didn't investigate that?

 MR. KROLL: We did ask about the age of some of the equipment. I do not apparently have that information in this report. Or know it. I would have to check to see if we were able to get that information.

 MR. SHPEHERD: The literature says that building automation systems last for 15 years, right?

 MR. KROLL: Yes.

 MR. SHEPHERD: So your assumption here that this new

-- the new project would last for 15 years assumes that the existing system was zero years old, right?

 MR. KROLL: Assumes the change that is being made will retain in place for 15 years.

 MR. SHEPHERD: But if the existing system was already 15 years old so it had to be replaced anyway, then your savings are zero, right?

 MR. KROLL: No.

 MR. SHEPHERD: Well, you didn't use as a baseline a less efficient new system, did you?

 MR. KROLL: In this case, no, there was no need to.

 MR. SHEPHERD: All right. The last one I want to talk about is project 203, which is on page 41 of 159.

 MR. KROLL: Sorry, could you repeat that?

 MR. SHEPHERD: 41 on page 159, project 203. Do you have that?

 MR. KROLL: That was project number?

 MR. SHEPHERD: 203. Page 41 on the top right.

 MR. KROLL: Yes.

 MR. SHEPHERD: And what this is is this is a replacement of an existing boiler that was badly oversized, right?

 MR. KROLL: Correct.

 MR. SHEPHERD: It was inefficient as well?

 MR. KROLL: Correct.

 MR. SHEPHERD: So they put in a new, more efficient boiler that was properly sized, that was 150 as opposed to 400; it was quite a big difference?

 MR. KROLL: Correct.

 MR. SHEPHERD: And as a result, they needed a lot less gas. That's basically it, right?

 MR. KROLL: Correct.

 MR. SHEPHERD: Okay. So you reduced the savings calculated, and why is that? Why did you reduce that?

 MR. KROLL: I re -- we reduced the savings claimed? Is that your question?

 MR. SHEPHERD: Yeah. The savings claimed were 66,000 per year, and you reduced them to 45,000 for gas.

 MR. KROLL: We didn't find the savings that were claimed to be supported by the bill data reduction or the expected operation of the boilers when we modelled it.

 The expected loads were excessive.

 MR. SHEPHERD: All right. Now, you were comparing the new system to the old, oversized system, based on past usage patterns, right?

 MR. KROLL: Were you comparing the new system to the existing system, you are saying?

 MR. SHEPHERD: Yes.

 MR. KROLL: Yes.

 MR. SHEPHERD: Okay. So you reduce the savings, but then the auditor looked at your work and concluded that you interpreted the baseline data wrong and increased the savings back up to somewhere in between the two. Were you aware of that?

 MR. KROLL: Not until now.

 MR. SHEPHERD: Ah. So the auditor didn't come back and say, Hey, you were wrong, you misinterpreted the baseline data?

 MR. KROLL: No, no.

 MR. PHILLIPS: Our approach was to independently audit to get information from both Michaels and Diamond, but to come to a separate conclusion and give our recommendations accordingly.

 MR. SHEPHERD: Mr. Kroll, do you agree that you interpreted the baseline data wrong?

 MR. KROLL: I have not seen the information that he was able to collect or see his analysis. Based on the information that we had, I believe that we interpreted the baseline correctly. However, if he received additional information to the contrary, then it is possible that the baseline that he used is more correct.

 MR. SHEPHERD: So anyway, you disagreed on the baseline, but I have a problem with another part of the baseline, and that is, the existing boiler was already 20 years old, wasn't it?

 MR. KROLL: I would have to verify that, but it was --

 MR. SHEPHERD: It's in your report later on. So why would you assume a baseline of continued use of the existing inefficient boiler, oversized inefficient boiler, for a further 20 years? Surely that's not realistic.

 MR. KROLL: It was the -- it had not failed, it was not failing, and it had basically, as far as we could tell, the ability to keep going, to keep operating as expected.

 MR. SHEPHERD: So you thought it would last another 20 years.

 MR. KROLL: I thought that the -- it was possible or plausible.

 MR. SHEPHERD: Well, are you trying to get a right answer, or are you trying to see whether the claim is plausible?

 MR. KROLL: We are trying to come up -- to get the right answer, yes.

 MR. SHEPHERD: But you didn't look at whether -- you didn't form a conclusion as to whether that existing inefficient boiler was going to last for 20 years, did you?

 MR. KROLL: For this project the determination was made that the existing boiler was the appropriate baseline. If you look at all of the other boiler projects in the report, they were compared to a new construction because they were -- they were not expected to. They were failed, failing, or -- the expectation was not that they would continue to operate.

 MR. SHEPHERD: Your report, which is very detailed, by the way, has all sorts of detailed information on each project, including your notes and things like that. I looked through all of that, and I didn't see anywhere where you put your mind to how long the existing boiler was going to last. Isn't that right?

 MR. KROLL: I guess I can't really respond to how you looked at the report. I could say that -- it may not be in there.

 MR. SHEPHERD: Okay. Mr. Chairman, those are all my questions. Sorry to take so long.

 MR. QUESNELLE: Thank you very much.

 MS. FRY: Yes, I do have a couple questions. We could go in public. Do we want to open the door, or --

 MR. QUESNELLE: Yes, sorry, actually, before we do that I'll ask Ms. Sebalj if she has anything that we want to stay in the confidence --

 MS. SEBALJ: I had no intention of cross-examining, but I did have just a couple of things that arose out of Mr. Shepherd's cross-examination --

 MR. QUESNELLE: Okay. Let's do that.

 MS. SEBALJ: Been about to ask the same questions.

Cross-Examination by Ms. Sebalj:

 MS. SEBALJ: I was just wondering, this whole question of free ridership, you've indicated that this is already built into the calculations, and those of us at the Board are obviously very familiar with that being built into the calculations. Is it, however, built into the choice that you make with respect to what customers' applications you

-- which ones you choose to go forward with?

 MS. LYNCH: The determination of our free rider for customer is done on a portfolio basis. That was determined through the generic proceeding in 2006. So we do apply the rate on a portfolio basis, not a customer-by-customer basis.

 MS. SEBALJ: No, but I think my question is slightly different, and I probably didn't ask it very articulately, so that's my fault. I'm wondering when you -- perhaps you should help me remember how it is that you choose which projects you are going to go forward with at Union. I don't know that we had that discussion this morning. We had a discussion about how the sample size is chosen from a verification perspective.

 MR. SMITH: Can I just ask, just for a point of clarification, Ms. Sebalj, do you mean which questions -- which projects are the subject of the verification, or do you just mean --

 MS. SEBALJ: No, I mean which projects Union -- I'm speaking with Union about which ones you go forward with in terms of your DSM plan for the year.

 MS. LYNCH: Our sales managers and our account managers work with our customers on an ongoing basis, so when they are out for their account visits or through their regular interactions they are always discussing energy efficiency options with then, and when they are there and they identify the potential for a project, then that is taken and considered. That goes through our internal verification process to ensure that we can support the savings that are put forward, and then it is put in. Once we know the project has been completed and put in place it would then be put forward for -- as an application to be included in our results.

 MS. SEBALJ: And as part of that evaluation process is there any consideration given to -- or do you even have the detail at the time with respect to whether this is the kind of project that would have happened anyway? I guess I'm asking if there is any free-ridership filter at the selection stage, understanding that you have it built it into your portfolio analysis and you have a percentage that the Board has already dictated, but is there any sort of filter in the evaluation of which projects to go forward with with respect to, no, this is the kind of project they are going to go forward with anyway?

 MS. LYNCH: Because it's been an ongoing relationship, and ongoing work that we've done with them, we don't have a direct filter of that.

 MS. SEBALJ: And then my only other follow-up was with respect to the last discussion that Mr. Shepherd was having with Mr. Kroll. Do you have any -- you made the determination in the last project about the boiler and the 20 years. We're very familiar here in the regulatory world about useful lives and that sort of thing. Are there schedules that you use? Do you -- is it really just a case-by-case -- it's this boiler in this installation, and I need to determine whether it's going to work for the next 20 years, or do you have useful life schedules and methodologies that are sort of generally accepted in your practice?

 MR. KROLL: Effective useful life is a topic that is studied in many jurisdictions for the purposes of the verification. It is looked at on a site-by-site basis, because the expected operation will vary from site to site.

 MS. SEBALJ: Okay. Thanks, that's it.

Questions from the Board:

 MS. FRY: Ms. Sebalj asked most of the questions I wanted to ask. Thank you very much. But just a couple of small additional things.

 So when you were speaking with her you were talking about your internal verification process that looks at whether you can support the savings claimed for the project. So when you're doing that, are you basically doing a calculation on the same kinds of assumptions as the gentlemen doing verification and audit were doing, or are you actually looking at, you know, the age of the boilers and so on?

 MS. KULPERGER: So we have quality-control engineers who would review every aspect of the project file to ensure that the baseline assumption was a reasonable one. So I think Mr. Kroll alluded to some boilers, that they used a standard market or a new construction scenario as the base case, which is what you would do when you assume that your existing boiler would no longer be functioning. You go to the market standard, and then you look at what is the more efficient option from there, so they would look at things like that to ensure that we were calculating the correct delta or savings value on a project-by-project basis.

 MS. FRY: So would they do it, like, generally, in relation to kind of general specs, or would they actually go into the plant and look at those boilers?

 MS. LYNCH: They are professional engineers that are looking at each one of the projects, so they are looking at the detail of the information that is provided to support whether it could be an engineering study or different pieces of work that would support the savings. They do go on-site when they need to to ensure that they've reviewed the application.

 MS. FRY: Okay. And what about the situations about steam leaks? Would they get involved in the kind of the discussion that might have somebody asking the company: Well, what would do in the course of normal maintenance? Would that be included in the process, or no?

 MR. CLARKE: They frequently discuss best practices amongst their clients. So yes, they would talk about approaches. Without betraying confidential information, they will.

 MS. FRY: Yeah, but I think perhaps you're not involved in that stage of the process. I'm interested in the people who know about sort of the stage before you get involved, sir.

 Your engineers, at the project approval stage, would they be speaking to the people in the plant about what they are practices were for steam leaks, and so on? Or sometimes or never or always or...

 MS. KULPERGER: To some degree. We usually support the customer in doing a survey of the facility, to identify the steam leaks in advance of any repair work. And we would help them to prioritize which ones would be -- should be addressed.

 And the challenge is, of course, as Mr. Clarke from Diamond Engineering shared with you, that to repair a steam leak is a major understanding for the customer. Because they have to stop their production, they have to stop the boiler, stop the steam from going through the pipe. Generally speaking, that's what happens. And if there's insulation on the pipe, they have to take all that off.

 So it's a pretty major undertaking, and one day less loss of production means a lot to a customer. So if they can continue functioning with some leaks, they will continue to do that.

 MS. FRY: I understand that it could be major undertaking. I guess my question is more basic than that.

 I'm asking: Would they have that kind of discussion all the time? Some of the time? Never?

 MS. KULPERGER: Most of the time, they would be having the discussion with the customers on what their normal practice would be, how they can improve, and what they should be doing. And also helping them understand what the savings potential would be and what that would mean to them from a cost perspective, in the savings that they could achieve.

 MS. FRY: And one other question. The percentage that Union would contribute to a given project, is that set somewhere? Are there set levels or set percentages? Can you just tell me very generally how that is determined?

 MS. LYNCH: It is set. There is some flexibility within it, but we do set the incentive levels for the different types of work that we do under our custom projects.

 They are actually included in Exhibit D4.2, attachment 1, which is page 65. That outlines that incentives that we offer for the different types of projects.

 MS. FRY: And it's a percentage basis, is it?

 MS. LYNCH: Yes. For the equipment incentives, it is.

 MS. FRY: Great. Thanks.

 MR. QUESNELLE: Ms. Hare?

 MS. HARE: Just a few clarifying questions. The first one is for Ms. Kulperger.

 Your response to Mr. Shepherd about the SSM, he was asking you about the project on page 7 and he put to you that the SSM would be 92,000 and you said not necessarily, because it's based on TRC, which is based on, as I understand it, a curve.

 Can you explain that a little bit more, please?

 MS. KULPERGER: Sure. Yeah. I think one thing to consider is that one project might go up in the verification; another project might go down. And we're doing that at a 90/15 confidence level. Right?

 So when you get the final analysis, then you can calculate the SSM.

 So it's not done on a project-by-project basis, and it really depends where you are on the curve. So there's a formula for a certain part of the curve, and that formula changed, one of the inputs changed on the second part of the curve.

 But generally speaking, what Mr. Shepherd was describing was reasonably correct.

 MS. HARE: Reasonably close, you mean?

 MS. KULPERGER: I believe so. I didn't do the math myself, but it appears to be reasonable.

 MS. HARE: The next question is for Mr. Clarke, and I may not have heard properly. Mr. Shepherd took you to the project on page 12, then on page 35, and both are steam leaks, and he asked you is that the same refinery and you said no. Is that -- did I hear that correctly?

 MR. CLARKE: Those are different refineries. It just happens to be the same parent corporation. That's why that gave you pause.

 MS. HARE: And that explains why they have the same Union Gas account number?

 MR. CLARKE: I believe so, yes.

 MS. HARE: So they would be two separate plants belonging to the same corporation?

 MR. CLARKE: Parent corporation, yes.

 MS. HARE: Okay. Thank you. The last question is again for you, Ms. Kulperger, the free ridership rate. You explained that that was based on a survey of custom projects undertaken, I thought you said, in 2007?

 MS. KULPERGER: I believe the survey was fielded in 2008. And the results, I think we received the report October 31st of 2008.

 We are currently scoping out a new free rider study.

 MS. HARE: That was going to be my next question: Are you going to redo the study to see if the numbers have changed?

 MS. KULPERGER: Yes. It was the intention to do that previously. We were waiting for the new framework that's come into place, and now the technical evaluation committee is scoping out the new piece of work.

 MS. HARE: Thank you.

 MR. QUESNELLE: Redirect, Mr. Smith?

Re-Examination by Mr. Smith:

 MR. SMITH: Just a couple of questions.

 Mr. Clarke, you were asked about the verification work that you did, and I wondered how the verification work you did that you were taken to by Mr. Shepherd compared to the verification work you've done in other jurisdictions.

 MR. CLARKE: I'm not sure I understand.

 MR. SMITH: Well, the suggestion -- Mr. Shepherd asked you a number of questions relating to questions you might have asked or -- the suggestion being you didn't ask, relating to what the company would have done otherwise.

 And the question I want to ask you is: The approach you took in -- as you described it to Mr. Shepherd, how does that compare to the approach you've taken in other jurisdictions?

 MR. CLARKE: The approach fundamentally is the same. The difference is most of my engagements are far more in depth, far more time on site where I am responsible for the generation of significant amounts of data.

 This is an analysis of data provided by others, and that's the primary difference.

 MR. SMITH: Okay. And can I ask you, Ms. Lynch or Ms. Kulperger, on the free ridership study and the free ridership rates -- and perhaps we've already got this from Ms. Hare's question -- how did those come about? There was a –- well, just how did they come about?

 MS. LYNCH: There was a custom free rider study done in 2008 by Summit Blue that had identified different segmented free ridership rates.

 It was then identified subsequent to that, in an audit recommendation, that we should apply one rate, the 54 percent to the portfolio of custom projects.

 MR. SMITH: Since that time, have you applied it in the various reports you've done since that time?

 MS. LYNCH: Yes, we have.

 MR. SMITH: Do you know how Enbridge approaches the questions of free ridership?

 MS. KULPERGER: When we -- when the report was initially authored, as Ms. Lynch mentioned, there were segmented results for free ridership for different customer groupings. And both Union Gas and Enbridge, in consultation with their EACs at the time, moved forward with applying the free ridership rates to the customer groupings according to the segmentation in the Summit Blue report that Ms. Lynch described.

 So we were directed to do a weighted average of 54 percent in 2009 by ECONorthwest, and Enbridge is currently still using the segmented numbers that they received from their results from the Summit Blue study.

 MR. SMITH: Maybe it's implicit in the answer, but my question was more direct. And I guess the follow-up on that was: Do they take a portfolio approach?

 MS. KULPERGER: Yes.

 MR. SMITH: You mentioned a persistence study, and maybe I just missed the explanation, but can you describe what a persistence study is?

 MS. KULPERGER: Well, a persistence study would be one where you take a sample of program participants over a longer time horizon. And you would go back and look at the customers that participated in a custom project application, and examine whether or not the savings that were originally claimed were actually achieved.

 And it's a separate research piece. It's a separate survey that would be designed.

 MR. SMITH: And has that been done?

 MS. KULPERGER: That has not been done.

 MR. SMITH: Is that part of the new framework?

 MS. KULPERGER: It is intended to be done in the new framework.

 MR. SMITH: Thank you. Those are my questions.

 MR. QUESNELLE: Thank you. Just on that last one, if you don't mind, Mr. Smith -- and if it causes any further redirect -- just on the persistence study, does that capture or it is intended to capture kind of one-off projects where the installation of a piece of equipment that has a physical kind of a use and expected life as opposed to a behavioural item? Like, is there any distinction between persistence of behavioural, you know, programs versus equipment renewals?

 MS. KULPERGER: That would depend on the sampling methodology, if it were segmented according to the different program attributes or project attributes, but if it -- regardless of what the sampling methodology is designed to achieve, if there was one particular project that didn't fit the mould or wasn't a typical programmatic approach, that would be treated as an outlier from a programmatic standpoint and from a statistical standpoint.

 So -- but generally speaking, you're looking at getting a large enough survey so that you can say with confidence what the persistence factor might be for the --

 MR. QUESNELLE: So the outliers aren't necessarily taken out of the mix, they are just considered outliers in your statistical analysis coming up with a persistence rate.

 MS. KULPERGER: Well, and I think how that would be applied would be a topic of discussion with the consultant and the intervenors involved in the project.

Procedural matters:

 MR. QUESNELLE: Thank you. Thank you very much, panel, for your participation today.

 We've got a couple of items to deal with now, administratively. I'll come back into camera to deal with the final things, and I'll discuss when we're back on-air here.

 --- On resuming in public at 2:55 p.m.

 MR. QUESNELLE: Okay. Just returning out of camera. And just to recap, the process going forward as far as the creation of transcripts -- and maybe you can help me with this, Ms. Sebalj. I understand that the intent is to review a transcript of the in camera session and determine what would be appropriate to redact from that, with the, you know, desire to have as much on the public record as possible, and that only those things that were deemed confidential -- is it the intent that Mr. Shepherd, given that it was the bulk of yours -- cross, that would be in consideration, that you would participate in that, or --

 MR. SHEPHERD: Mr. Chairman, Union and at least I have done this before, and normally what happens is that Union proposes redactions because they are the ones making the confidentiality claim, and they then circulate them to anybody else who participated, which in this case I guess would be Ms. Sebalj and myself, to see if we agreed with the redactions, and we would talk about it and then propose to the Board hopefully a consensus result.

 MR. QUESNELLE: Okay. Mr. Smith, does that meet with your expectations?

 MR. SMITH: There's a joke about consensus in here and nevertheless having a disagreement later, but I will say yes.

 [Laughter]

 MR. QUESNELLE: Ms. Sebalj?

 MS. SEBALJ: I think that's correct. And just for the record, Mr. DeRose chose not to participate and communicated that with me. But he would like to, because he has signed a declaration and undertaking, see a copy of the confidential transcript, but he won't participate in the redactions.

 MR. QUESNELLE: Okay. All right. Okay. With that aside, we have --

 MR. SHEPHERD: Sorry, Mr. Chairman --

 MR. QUESNELLE: Yes.

 MR. SHEPHERD: -- do we have a schedule for that, or can we put a schedule together for that so that we can do it quickly?

 MR. QUESNELLE: Certainly. Typically we would have it -- later this evening you would have the first cut of the transcript within hours.

 MR. SMITH: If I can just talk to the witnesses. I'm just not sure of people's availability. They will be tighter to the confidentiality.

 MR. SHEPHERD: Would you prefer if we took this off-line?

 MR. SMITH: It will just take 30 seconds. I will just --

 MR. QUESNELLE: Okay. Yeah, let's nail it down then.

 MR. SHEPHERD: I'm just concerned about our argument schedule, if it takes...

 MR. QUESNELLE: Yeah. We will discuss argument schedule in a minute, but I do have another issue that is going to complicate that, actually.

 MR. SMITH: We should be able to provide proposed redactions to Mr. Shepherd by the end of the day on Monday.

 MR. SHEPHERD: Mr. Chairman, I think I can turn it around in a day, so by Tuesday, and --

 MR. QUESNELLE: Okay. So that'll be --

 MR. SHEPHERD: -- I don't know about Ms. Sebalj and Mr. --

 MR. QUESNELLE: All right. So we'll do this in a concurrent fashion with Ms. Sebalj, and also -- well, it would be -- Mr. DeRose will be receiving, but he's not participating in the redaction, as you -- okay.

 All right. That aside, and before we get to schedule, and also early in the week -- and unfortunately, Mr. Shepherd, this is just after your departure on Tuesday morning, and perhaps you've been brought up to speed on it or checked the transcript.

 The issue of the addendum to the evidence that was filed on July 26 -- and this is with respect to the preparation of audited statements for regulated utility operations, and which came out of EB-2011-0210 as a direction from the Board, the filing of an updated estimate of the cost of that initiative.

 We said at that time that we would hear cross on this, create a record on it, and the Board would come back by the end of this week or by the end of this oral segment with its further instructions, and we have the ability to do that now.

 The Board has considered that it will on its own motion take a look at this new information, with the potential outcome of being -- testing the merits of it, I suppose is the activity of it, and we'll do that based on the evidence that has been filed and any subsequent argument.

 We will put out a notice of this, and the considerations that came in from the submissions earlier this week will guide us in the notice, and I'm -- suggest what that is likely to be, but we are guided by the submissions earlier in the week, and given the materiality of this and the potential interest, it will probably be a targeted one, but I'm not holding the Board to that. We haven't -- this Panel hasn't discussed that fully yet.

 If there is anyone who receives notice that requires further opportunity to test the evidence, then we will make -- we will facilitate that, but we are not, you know, going to set out a procedural order and function at that point.

 We'll put out a notice -- we're going to limit the amount of time for response to that likely in the neighbourhood of a week or so. We don't want to put the argument schedule off too much. But we will consider it, that we are doing this, when we establish the argument schedules for final submissions.

 And obviously we'll want to -- we have evidence on it. There has been some cross-examination on it, and we'll be expecting these to be addressed in argument from the applicant in-chief, and then, you know, as the Board is taking this on its own motion, it has an interest in the new information and has chosen to re-think the value proposition of having this initiative carried through.

 Any questions on that? We will be coming out with something on that as soon as we practically can. So with that in mind, I don't know if there's anything else that I've left off. Oh, yes, thank you, Ms. Hare.

 The discussion that we had this morning on the outset of the DSM and what is the focus of our review here, being 2011 and the typical protocol -- and I understand that -- and you've -- on record as -- will be making argument on this, Mr. Shepherd.

 But the Board would see that it would be -- the most practical way to go forward on this is to basically restate what the anticipated number will be for 2012. We don't want to give any -- basically put any significance on the filing of the audited statements and the creation of anything -- the final rate order.

 But if we package this as a -- to the applicant, can that be done swiftly?

 MR. SMITH: Yes, I believe what I'm understanding that it -- essentially what we would be doing is we'd be filing effectively an updated schedule of the deferral account balance that we would be proposing to file as we might have done back in September or August, and it will just reflect the 8.2-odd-and-change number, and I'm sure we can get that out.

 MR. QUESNELLE: I think that would be the cleanest way, and that way, obviously, Mr. Shepherd, you are still free to make argument on the merits of doing that and the appropriateness of that as usual. But I think rather than put any significance on the audited statement itself, the Board's kind of typical protocol on this is one that we'll use as kind of the default, subject to argument.

 Anything else?

 MR. SMITH: The only question I had related to the argument schedule itself. If I understood the Board correctly, there will be a motion, which will have an impact on the argument schedule. So we're probably not in a position to set the argument schedule today. Have I understood that correctly?

 MR. QUESNELLE: We could do it tentatively, in that if we were to get a –- we've been calling it a notice. It will be a notification on a limited basis, out to particular identified parties this week, I provided a week for that. Operating on the assumption that we are operating with the proviso that if we were to receive an interest from any of these parties and felt it appropriate to grant an opportunity to seek further discovery, then we would adjust the schedule. That would be the proviso on establishing something tentative now, that there is the potential that it could be put off.

 We have had some conversation amongst the Panel here as to whether or not this makes sense to bifurcate at this point and have it run parallel. But I think it would make –- would operate on the assumption that we don't have do that and that this could all be addressed in an argument schedule, as opposed to bifurcating off this one segment.

 MR. SMITH: I think that makes sense. If I understand correctly, I think what you would be proposing, then, in those circumstances is effectively our argument would be due in two weeks' time, roughly. And then we would -- in the usual course, the way these things have unfurled, it would be a week, a week.

 So our argument, responding argument and then reply, I think that that is -- that makes sense. I would be happy to set tentative dates around that timing.

 I agree that I don't think it makes sense to bifurcate at this stage. If this issue does come up and people want to further examine in relation to the Board's motion, I suppose, subject to the Board's direction, we might like to make comments about bifurcation at that point.

 I'm thinking only that some of the matters we've discussed are somewhat challenging to keep in one's head for a prolonged period of time, so I would like to just tackle it, perhaps, as soon as possible.

 MR. QUESNELLE: No, I think --

 MR. SMITH: But we don't have to make that decision now.

 The only other question I'd raise is sometimes the question of oral argument arises, and I'm neutral as to the Board's preference. I'm happy to do my argument in-chief in two weeks' time in person. I'm also happy to do it by way of writing. Whichever is more convenient for the Board.

 MS. SEBALJ: I don't know if your -- the oral versus written aside, I can put dates out.

 If Staff is able to get a notice, presuming it's the Board's own motion and that we will serve the notice directly on those parties that were served the original notice, if we were able do that tomorrow -- although I know at least two of us are in a different proceeding tomorrow

-- that we could give until November 1st for people to respond and to sort of deal with whatever falls out of that, making November 8th argument in-chief, November 15th submissions by intervenors and Board Staff, and November 22nd reply. And if we set that up with this record as the placeholders, barring any other steps that we need as a result of the notice on the regulated financial statements issue.

 MR. QUESNELLE: Mr. Shepherd?

 MR. SHEPHERD: Mr. Smith proposed two weeks, a week, a week, and I think given the nature of the two main issues that are being dealt with here, both of which are quite complex, I think that a week for the intervenors is short.

 MS. SEBALJ: Then that would have us at November 8th.

 MR. SHEPHERD: I would say the 20th, perhaps.

 MS. SEBALJ: So you are saying a week and a half, November 20th and then November 27th?

 MR. SMITH: I don't have a strong objection. I don't think the assessment relative to the time at which we put in our argument is entirely accurate, given I think it's actually three weeks that they will have and we'll have two, but I'm in the Board's hands.

 MR. QUESNELLE: We'll go with the -- name the first date for me again, Ms. Sebalj.

 MS. SEBALJ: November 8th for argument in-chief, November 20th for the submissions of intervenors and Board Staff, and reply on the 27th.

 MR. SMITH: That's fine, yes.

 MR. QUESNELLE: All right. Thank you very much.

 I don't believe we have anything else that we can think of at this point. And like I say, we'll get something out as soon as practical and hopefully this week, and that will -- we'll stay flexible as we go through this. This is a little awkward. We can't really predict what we're going to have to do, so we'll be flexible.

 Thank you very much.

 MR. SMITH: Thank you.

 MR. QUESNELLE: We are adjourned.

 --- Whereupon the hearing adjourned at 3:10 p.m.