ONTARIO ENERGY BOARD

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BEFORE:	**Paul Sommerville**	**Presiding Member**
	Paul Vlahos	**Member**

EB-2007-0673

THE ONTARIO ENERGY BOARD

3rd Generation Incentive Regulation for Electricity Distributors

Proceeding held at 2300 Yonge Street,
25th Floor, Toronto, Ontario,
on Thursday, August 7, 2008,
commencing at 9:33 a.m.

Stakeholder Consultation

BEFORE:

PAUL SOMMERVILLE	Presiding Member
PAUL VLAHOS	Member

A P P E A R A N C E S

LISA BRICKENDEN ALLAN FOGWILL MARIKA HARE BILL COWAN	Board Staff
JAY SHEPHERD	School Energy Coalition (SEC)
RANDY AIKEN	London Property Management Association (LPMA)
BILL HARPER	Vulnerable Energy Consumer's Coalition
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JULIE GIRVAN	Consumers' Council of Canada (CCC)
JULIA FRAYER	London Economics Group
JUDY KWIK DR. FRANK CRONIN	Power Workers' Union (PWU)
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DR. LAWRENCE KAUFMANN	Pacific Economics Group (PEG)
DAVID MacINTOSH	Energy Probe Research Foundation
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Thursday, August 7, 2008

--- Upon commencing at 9:33 a.m.

MR. SOMMERVILLE: Good morning everyone. Thank you.

This is the third day of consultation with respect to the 3rd generation incentive rate mechanism.

Today we will be focussing on, and will be continuing our focus on the capital module threshold question. We have outstanding presentations from Ms. Frayer and Mr. Shepherd.

I have been advised that Mr. Cowan, in response to a question from Mr. Vlahos, would like an opportunity just to clarify his presentation. So unless there is something else that we need to deal with prior to that, we will proceed to that. Is there anything preliminary from anyone? Mr. Cowan.

CAPTIAL MODULE THRESHOLD

ONTARIO ENERGY BOARD STAFF

PRESENTATION BY MR. COWAN:

MR. COWAN: Thank you, Mr. Sommerville.

It is actually by way of amplification to the answer to a question from Mr. Vlahos, and I believe the panel does not have a copy of a one-page analysis that I have done, and if Pasquale would be so kind as to give the Panel Members a copy, then we will be in business.

The question posed by Mr. Vlahos would be or was: What would happen to the inflation factor if one were to -- or how would the method or the outline of possible method that we discussed from Board Staff's perspective yesterday,

how would that be affected if one were to apply it on an individual utility basis?

I had commented that one would apply -- or if we were to apply Mr. Aiken's method, how would it be modified to accommodate the adder for inflation?

I suggested that it would be a simple add of a 50 basis -- 50 percentage point, excuse me, adjustment to Mr. Aiken's methodology.

There was some consideration of that afterwards. I have also done a review of the actual age, distribution of the distributors in Ontario, on a relatively simplistic method, but I think it is realistic enough for purposes of this discussion.

So I also responded to a suggestion that Mr. Harper made to me after the meeting yesterday, which was that perhaps it would be possible to develop a table that was reflected -- reflective of the age of the plant, and thereby came up with a particular inflation adjustment factor that would be sensitive to the individual age of plant.

So, in fact, the first thing that I did, then, you will see on the one page that I have distributed, is determined whether or not there is a distribution of ages of plant. I have done this by using the three columns of numbers that I have shown, and I selected a number of utilities without the particular rationale, other than to make sure that we picked up a substantial amount of the moneys attributable to the total plant in Ontario, which,

as per our discussion yesterday from the yearbook, is $17 billion. You will see that as the total of the first column of numbers.

The sample that I selected pulls out 13.3 billion of that. So I would suggest it is a reasonable representation of the whole population. In that I didn't have a lot of time to pull this together, I didn't do all 83 distributors, but you can see that the sample that I pulled, the depreciation expense is given in the second column and that the population that I selected actually does have an average age of 25.2 years, which is pretty close to the average for the entire population of 25.3.

The interesting message from this is that there is a distribution of age of the various plants involved that appears to run from about 19 years, which I have highlighted in a square box, up to 29 years.

So if you step back for a moment, and then realize that the method that I described yesterday for inflation adjustment was one that escalated as a function of the number of years of average age, and came up with a factor of 49.1 percent attributable to a 25.3-year average life for all of Ontario distributors, that if you were more particular for an individual distributor and that that distributor had a life of -- average life of plant of 19 years, that you would find an equivalent adder of 27.6 percent.

You will see that I haven't given you the details for that calculation, but I certainly could, should you want to

see it, as to how we did the compounding. It is the same methodology as I used and displayed on frame 13 in our presentation yesterday, that with an average age of 19 years, the adder would be 27.6 percent; with an average age of plant of 29 years, picking the other extreme, it would be 72.8 percent.

So I would ask you for a moment to take a look at frame 11 in our presentation, which is up on the screen, but that frame is the one where I pulled together the summary values that were in our presentation from yesterday.

So in response to Mr. Vlahos's question of what would happen if you were to be more utility specific, I am suggesting that age of plant would make a difference and that the adjustment for the inflation, which is shown as 50 percent in each of the two columns on this presentation, could be adjusted to a lower number of 27.6 - call it 28 if you like - and the higher range, the 50 percent, could be replaced with a value for a 29-year average life of plant of 73 percentage points, being a round-up from 72.8 to 73.

Should one do that, the totals for the two columns become 148 percent for the lower bound and 213 percent for the upper bound. The 213 percent is a significantly large number, as we certainly can appreciate. One of the components in there, of course, is the 2 percent escalator assumption for IRM 3 versus a 1 percent assumption.

So, interestingly, the higher and lower still do tend to have a midpoint somewhere around 170, 180 percentage

points.

It does suggest that if one were to apply this methodology, since the bandwidth on this analysis is quite broad, that it would be useful to think about some sort of utility-specific methodology, and the very quick sketch at the beginning that I gave, which was to say that Board Staff could generate a table that showed the number of years of the average age of plant down one column and the inflation adjuster in the next column, that could then be simply used by individual distributors when making a judgment as to whether they pass the threshold test, or not.

So that's a more full answer and perhaps longer than you had anticipated, Mr. Sommerville, but a more full answer to Mr. Vlahos's question.

MR. SOMMERVILLE: Ms. Conboy.

MS. CONBOY: Sorry, if I could ask a quick question. Paula Conboy with PowerStream.

I am struggling following this, and certainly I am going to have to spend some time with it offline.

But when I look at numbers and step back and try and think, intuitively, do they make sense, the numbers for my company, PowerStream, don't make sense here. And certainly I have to go back to the year book, but as a newer utility, certainly we have some older plant, but most of our plant I would suggest is quite a bit newer. And, actually, when Dr. Kaufmann's colleague did his benchmarking report and looked at the econometrics, I think that that was

specifically discussed, the fact that we had newer plant.

Yet on here, if I go down, the implied average age of our property, plant and equipment is the oldest among all of them, with the implication that we would have the highest threshold to meet.

I am just struggling a little bit with whether that intuitively makes sense or not.

MR. SOMMERVILLE: Let me just follow that up. It seems to me a little odd that the oldest plant results in the highest threshold.

MR. COWAN: But the purpose of the adjustment is to reflect a bringing of the value into dollars of today.

So if there is older plant, then one would expect to have to gross it up by a larger amount in order to bring it into dollars of today.

Keeping in mind that this is a threshold, not an indication of what the amount of cost ought to be for investment in the plant. It's a measure of adjustment to bring the dollars of today to the table.

So that's why the number is signed the way it is.

Now, with regard to Ms. Conboy's observation --

MR. SOMMERVILLE: It's a data question, I think.

MR. COWAN: Well it may be a data question, but it may also be a function of thinking about the extent to which the mix in the asset base is a function of long life versus shorter life assets.

If one were to compare Enersource, which is the -- I take the liberty of picking them simply because they are

the other extreme, and PowerStream, I am not sitting here -- I don't know the answer as to whether or not there is a higher degree of technology investment in Enersource than there is in PowerStream. I have no knowledge of that. In fact, it may not be the case.

The other phenomenon that sometimes occurs in asset management is that if there are assets that have actually been fully amortized, they may not have been removed from the file. And that problem is typically one that is covered through annual audited financial statements, in that auditors aren't generally comfortable leaving fully amortized assets on the books. But I have seen it happen.

That could be a cause of some of this. So I must say that I had the same observation about the list, that PowerStream does seem anomalous in that particular way. PowerStream is always special, of course.

MS. CONBOY: Always. Did you get that spelled properly?

MR. COWAN: But -- so I have no more detailed explanation, but do point as those two possible elements that might make up the reason.

MS. CONBOY: If you've got longer lived -- if you've got older assets, so you have a higher escalator to bring it up to meet the threshold, is that in and of itself a little counterintuitive as well because the older assets would be what you would have to replace and need the capital adjustment factor for.

MR. COWAN: Absolutely right. But the purpose is to

have a threshold that is reasonably representative of what a normalized value would be.

So I would suggest that trying to resolve that question is not a function of calculating the value. It's a question of how to deal with the value.

MR. SOMMERVILLE: Mr. Aiken's methodology dealt with the -- we will move on to the other presentation shortly and bring all of the options into the discussion, but it seems to me that Mr. Aiken's proposal individualized the thresholds, but he did it through the depreciation number.

Is there some inherent flaw if you were to use the -- your kind of averaged inflation factor number, the 49.1 or whatever it turned out to be, but individualized according to the depreciation number without adjusting it in that fashion? Without adjusting it, more particularly, for the specific age of the specific assets within the specific utilities?

MR. COWAN: I believe that to use the depreciation number responsibly, you need to relate it to, on an individual basis, to some aspect of the plant.

So to use it on its own, without adjustment, I don't think is whole. But I see the question moving to a bigger question, and that is whether you wish to adjust a revenue requirement or a rate for a utility using IRM 3, whether you wish to adjust the rate, given what's already approved in rates, or whether you want to respond to unusual spikes in capital spending as a basis for reviewing an application and deciding to adjust it.

If you want to identify unusual capital spending, I would suggest that you need to make an inflation adjustment in order to get a determination of what is a realistic, normal level of expenditure that one would expect.

If you want to adjust in relation to what is already in the rate, then it is possible to ignore the inflation component altogether.

MR. SOMMERVILLE: Okay.

MR. VLAHOS: Mr. Aiken, before we proceed, can you just clarify for me, your growth factor, can that be a negative as well? To the extent it is a negative, should that be inputted as a negative? Or there is a restriction to zero or greater than zero?

MR. AIKEN: It could also be negative load growth.

MR. VLAHOS: All right. Thank you.

MR. SOMMERVILLE: Ms. Frayer, I think you are next up, please.

I should mention there will be an opportunity, after the presentations and the discussion on this subject, for very brief summations from the parties.

I think we are looking at basically a ten-minute wrap-up and anyone who wants to is entitled to take advantage of that, or not, as the case might be.

We do -- we will enforce the ten-minute restriction. So you will be forced to be brief and to the point. With that, Ms. Frayer.

MS. FRAYER: Good morning. I think my mike is on this morning.

COALITION OF LARGE DISTRIBUTORS & HYDRO ONE NETWORKS

PRESENTATION BY MS. FRAYER:

MS. FRAYER: Let me start off by saying that the Board had asked a very specific question, and my recommendations today are, in fact, answering that specific -- geared to answering that specific question which was: What level would we recommend for materiality threshold, which would be based on a specific metric, CAPEX as a function of depreciation?

So, again, kind of -- we took the Board's decision to use CAPEX as a function of depreciation as a given, and moved from that point forward.

Before we start talking numbers, I thought it is useful to review a little bit of the fundamentals of the capital investment module, because that affected how we dealt with this particular question that the Board had asked.

The first element that is important to understand is that during the IR period, there is no rebasing. So rates assume a constant rate base.

However, in financial terms, for the utilities and their day-to-day operations and financially, rate base is growing or asset base is growing.

In effect, the need for an incremental capital module and funding of that, for that capital investment arises because rate base is growing faster than the rates under the price cap regime.

So in that sense, we are acknowledging we do not want

to double-count and we acknowledge that some portion of rate base growth is already remunerated through the price cap mechanism. But the question is that that may not be sufficient, depending on the depreciation profile and the capital additions profile for a particular utility.

What are the implications of that? Well, the implication is growth in rate base that is not funded through rates results in a potential loss of the capital carrying costs, because the rate base implicit in rates is held constant, and also the potential for deteriorating returns despite the utility's best efforts to cut costs and that may also result in a delay in capital expenditures, which, when it comes down to it, may not be consistent with good utility practice.

The other point I would like to make is that growth in rate base can also outpace the price cap, even if annual expenditures stay consistent with historical levels or stay constant over the term of the IR.

So it is not a function of just ballooning capital expenditures. It is more a question of: How does rate base grow; not just capital expenditures, but how does rate base grow vis-à-vis the price cap?

The last point I would like to make on this slide is that when we think of the incremental capital module, what we're really thinking about is incremental rate base and the need for rates -- a rate adder of some sort or revenue adder to cover that unfunded amount of incremental rate base.

So given that perspective in mind, my clients and I originally started with a materiality threshold that was linked to rate base growth.

Given our own experiences and looking at the actual data, we believe that growth in rate base of 2 percent is material, and substantially material that it has significant influences in operations.

Let me give you an example. Let's take the situation in 2007. There was an effective price cap of 0.9 percent. Now, let us for the time being assume some numbers, that 60 percent of the revenue requirement is related to capital. I think that's about right, given what Mr. Cowan presented yesterday, on average, for the industry.

So then 60 percent of 0.9 would mean that 0.54 percent of 2007's price cap was available for capital-related costs.

In contrast, if a utility had a 2 percent increase in rate base, that would have resulted in about a 1.2 percent increase in the revenue requirement on a rebasing basis.

So there is a difference. There is a gap of 1.2 versus 0.54 percent. So the 2007 price cap would have fallen short on funding by 0.68 percent, resulting in reduced returns.

Frankly, that's the reason that many of the LDCs chose to rebase in 2008, that they couldn't sustain that deterioration in their financials.

I know that the Board is concerned with sustainable IRM principles, and, from my perspective and in my

professional opinion, given where we are in the investment cycle here in Ontario, given the situation for utilities here in Ontario, the incremental capital module is necessary and it will be useful to sustain that, the IRM principles and the -- sustain rate making to the extent it actually provides the sufficient opportunity for capital investment funding and reasonable interest rates.

In that respect, the trigger is a key component of the module, because, as we understand it, if you don't hit the trigger, even if you are, you know, one basis point right below the trigger, you cannot apply for the Board for treatment under this module, and so we have to be very -- we have taken this as a very serious assignment.

So even though our original proposal was based on the concept of rate base growth, after we saw the proposal from Staff, I think we find that acceptable, because we understand that there is a linkage between the CAPEX to the depreciation formulae and a metric that is based on rate growth -- rate base growth.

I thought that it would be useful to illustrate that relationship very quickly, so if you appease me for a few minutes, I would like to take you down through my five equations and explain the logic of the concept. Andy Poray from Hydro One helped put together this graph with me.

First, we must start off by defining rate base as a function of depreciation and capital expenditures. Equation 1 is effectively identity. I don't think anybody is going to argue that equation.

In effect, it says that new rate base is a function of the original rate base, plus capital expenditures, less depreciation, where depreciation is in this equation one defined as new rate base times the depreciation rate.

We then substitute for the depreciation rate the actual ratio that defines depreciation, the depreciation expense divided by rate base. That's equation 2. So we've got D-naught (sic) divided by ORB, in the acronyms that I have used.

Equation 3 then simply recognizes that new rate base minus original rate base on the left-hand side of equation 2 is identity for the annual change in rate base, the original concept or metric that we thought should be a trigger for the capital module.

Equation 4, then, defines capital expenditure as a multiple of depreciation expense, the Y times the D-naught. So, in effect, that is that new metric, the threshold metric, that we are working to define a number for.

So we can rearrange the right-hand side of equation 4 to yield equation 5, and that shows us the linkage, if you will, between growth in rate base, change in rate base from year to year, and the CAPEX to depreciation expense ratio.

So what we're after here today is the value of Y. What multiple would be sufficient to reasonably capture the funding gap?

We believe that 125 percent multiple is reasonable and just. Based on our actual analysis of reported data for 2007, we can see there is a strong correlation between the

2 percent growth in asset base that we are concerned with, that we believe is material and substantial, and a 125 percent ratio of capital expenditures to depreciation expense.

This graph here is a simple illustration of that, if you will, relationship using actual 2007 data. I took it from the CCM database that is publicly available off the Board website, and I believe in the CCM database, it is defined as capital additions, and then there is a line item for depreciation expense for the year, as well.

Asset base growth is effectively -- as per my formulas, it is looking at the change in asset base.

So what we see here is a very strong correlation in relationship between the capital additions, depreciation metric, and the growth in asset base.

Now, you may ask, again, 2 percent, why 2 percent growth in asset base? Well, we believe that 3rd generation IRM, the rate adjustment mechanism in that, based on our recommendations for X factor, but also loosely taking into account other potential variations around that, as well as expectations on inflation rates for the next few years, should result in year-on-year changes in rates below 2 percent.

So, in effect, the Coalition of Large Distributors and Hydro One Networks are advocating their willingness to take on some responsibility and risk in managing that capital expenditure funding until they reach or breach that materiality threshold of 2 percent growth in rate base,

because we believe, clearly, at 2 percent or higher, that growth in rate base is not being funded by the price cap mechanism.

Now, we agree there may be other sources of funding, like load growth, and we believe those elements should be acknowledged and carefully validated for the application process.

So we understand that there needs to be justification for the need for the capital module that extends just beyond the simplicity of the trigger itself, and we believe that the utilities will do that within the application.

Now that I have explained the number we are proposing, if you can allow me for a few minutes, I wanted to talk a little bit about the incremental capital module and how we foresee the trigger, that materiality trigger threshold, working within the module.

We believe that the depreciation expense in the trigger should be based on the Board-approved base year level, because that is what is in rates. In effect, what we're asking for is an incremental capital module, because there is not enough funding in rates. So we want, in effect, the denominator and the ratio to represent what has already been approved by the Board to be in rates.

We believe that the capital expenditure, which is the enumerator of the trigger, should be based on forward budget projections, because that is what is not in rates. That is what is -- what causes, to some degree, that funding gap to occur.

I understand that a test year or historical year capital expenditure figure is certainly easier to implement, but I think that a forward budget projection capital expenditure figure would actually provide for the flexibility that is needed, because in effect, we also want the module to be used as an exception to the rule. And it is really those capital expenditures that the utility anticipates are coming down the road that are an exception to the rule. That it hasn't managed to incorporate in rates so far.

In effect, if you are using a historical number, the LDC would effectively kind of know that it needs a capital module even at the time of rebasing and that is not really the purpose. The purpose of a capital module is to assist with year-on-year funding requirements as they develop, on an as-needed basis.

We also, again, just to emphasize we believe that each utility if it applies for the module has to demonstrate that it would not receive funding through other sources to meet this requirement.

One other element that I thought it is worth mentioning is this question of discretionary versus non-discretionary. In my opinion, the problem is I don't believe there is any language that really concretely defines what is discretionary and non-discretionary with respect to distribution assets and distribution capital programs.

So in my opinion, from sort of a logical layman's

perspective, discretionary or non-discretionary is really conditioned on the time frame. And there may be leeway that utilities have in some of their capital expenditure operations, should we do it this season, next season or the year after. But really over the period of a multi-year incentive ratemaking regime, to defer, for example, pole replacement until rebasing, that is probably very contrary to good utility practice.

So I don't want to artificially set limits when, in fact, it may not, again, provide for sustainable framework going forward.

That basically concludes my session.

MR. SOMMERVILLE: Thank you. Thanks very much.

Mr. Shepherd.

SCHOOL ENERGY COALITION

PRESENTATION BY MR. SHEPHERD:

MR. SHEPHERD: Thank you, Mr. Chairman.

I apologize, I wasn't able to see what transpired last night. The transcript was caught in my spam filter. But I have read the -- it wasn't actually spam, Bill and Larry. But I have seen the presentations and I am familiar with the concepts.

The most important thing the Board has to assess in getting to the right threshold is: Do you want this to be an exception or a standard?

Ms. Frayer has just said that the Coalition of Large Distributors wants it to be an exception, but in fact in her presentation she's provided you with a chart that shows

that at the threshold they're proposing, almost every utility would qualify for the "exception," based on past data.

Our view and the way we have approached trying to get to the threshold is, it should be an unusual situation when somebody qualifies. There should be some reason for it. And the reason is, as Dr. Kaufmann has pointed out a number of times, and I assume yesterday as well, the normal IRM process captures the need for new capital spending and the fact that new capital spending is at new dollars, not old dollars.

The process already captures that. And when you backcast into productivity numbers and things like that, you are capturing all of those impacts.

So if you choose a threshold that everybody gets to play, then basically what you're saying is: That IRM number that we had inflation minus .88 or .72 or whatever the number ends up being, that is just a pretend number. The real number is the cost-of-service number that comes out of you asking for a bunch more money.

That would produce a result that is not what the Board's looking for and certainly not what the ratepayers are looking for. So that's the first point and the reason why we have approached it the way we have.

The second general point I want to make before I get into the algorithm we have come up with is Mr. Cowan has proposed an inflation adjustment and there has been some talk yesterday and this morning about the possibility that

it be specific to utilities. We agree with PowerStream, I think, and with other utilities that it is not correct to have a higher threshold because you have older assets. That's counterintuitive.

That would basically say, If you need to spend more, we better give you air higher threshold.

Well, no, that's wrong.

If you need to spend more, then there's good reason why you do. Your assets are old. And you should, in fact, be the exception.

So we disagree with that adjustment. We don't think this is a sensible adjustment. We don't think it should be in there at all.

So then I am going to talk about the algorithm, but I have had a chance, since looking at this for us -- remember I'm not a mathematician or economist; I'm a lawyer, so you're getting a lawyer's view of this. Since this, we have had a chance to look at Mr. Aiken's material, Mr. Cowan's material, and the material of others.

I think what we're proposing is closest to what Mr. Aiken is proposing, and it may be useful to point out the two differences that we have been able to identify in what -- from what he is proposing to what we're proposing.

MR. SOMMERVILLE: Mr. Aiken acknowledged yesterday that his work was predicated, to some degree, on earlier work that you had done.

MR. SHEPHERD: Well and his is a substantial improvement on the earlier submissions we made. Trust me

on that.

The two differences that we see now are: Number 1, his proposal assumes that the productivity factor does not apply to capital.

He's proposed that you escalate IRM based on the net adjuster, as opposed to the inflation adjuster.

What we have said is, no, you should -- the amount that you assume that IRM provides is the inflation amount, because there should be productivity built into the capital spending and so that should not be an additional adjustment because otherwise you're saying there's the -- the capital spending should have no productivity impact. And of course there should be.

So that's the first difference we have. The second difference we have is that his adjustment starts with the depreciation amount but does not include an explicit adjustment for the fact that the reducing rate base, reduces, also, the cost of capital associated with the old assets.

And that you have to take that reduced cost of capital and gross it up to get to an additional amount that you can spend based on your old revenue requirement, because you don't need to service that additional capital, the depreciation amount. I will take you through how that works in a second.

So aside from that, and the second one is a relatively small impact but the first one is quite a big impact and Ms. Frayer makes the same mistake - which we consider it to

be a mistake - to assume that 0.9 percent adjuster is the one that should be treated as what you have available for capital. No. It is the inflation amount that you have available for new capital.

Then you should then be productive in spending that, the same as you should be productive with everything else.

So what we did we said, okay, the amount that you -- that a utility needs for capital is the cost of its old capital assets and the cost of its new capital assets.

This is just, that's a pretty simplistic thing but it helps the analysis to say: Let's look at the old stuff separately from the new stuff. Because it is the new stuff that we're trying to build this capital asset module for.

So the old stuff, the cost of the old capital assets is going down every year. It's going down for a number of reasons, but you can say mathematically that it's going down by the amount of the depreciation, and by the amount of the interest ROE and PILs on that reduction.

So you can actually calculate that, and the reduction in the cost of the old capital assets is about 12-1/2 percent. I think. I'm not as clear this morning as I normally am.

By the way, in doing that, we haven't separated out PILs. We have taken a number of 8.7 percent, which is the total weighted average cost of capital, including PILs. It is a simple way of doing it. But I think if you do the math, you will find that is the right number.

Then we have to look at, okay, now, how much does IRM

give you for the new capital assets? Well, it gives you three -- it gives you money from three sources.

It gives you money from the reduced cost of the old capital, which you can calculate. It's the depreciation plus the cost of capital on that depreciation.

It gives you money from the inflation factor, because as you increase rates by inflation, you are implicitly saying, Here is some more money to spend on a whole bunch of things, and -- but only the inflation factor of, course, on the capital component of revenue requirement, not on the operating component.

And it gives you money through organic growth in revenues through -- you can measure that either by load or, more likely, by customer numbers. That's probably the more sensible approach, and, again, only the percentage that relates to the capital component of revenue requirement.

If you work that all through, you can actually come up with a formula, and please don't ask me to explain the formula this morning, but I think if you work it through, you will see that this formula does exactly that.

What it results in is, if a utility has no growth, then IRM gives it 148 percent of depreciation expense as a base capital spending amount available. That's how much you can spend on capital if you have no growth.

We have used some standards here which are pretty -- I think they're pretty well accepted. I think Ms. Frayer used 60 percent as the component of revenue requirement that's based on capital, but whether you use 50 percent or

60 percent, 60 percent is just going to increase the threshold.

We have used a 6 percent interest rate and 8-1/2 percent ROE. You can play with those, but it is actually not very sensitive to those numbers.

The main difference between this number, our 148 percent base, and the numbers that other people -- that Mr. Aiken has come up with is the fact that we use the 2 percent inflation rate instead of a 1 percent net rate by including the productivity factor. Other than that, we come up with similar numbers to Mr. Aiken.

We can also see that there is a predictable relationship between growth and the threshold percentage, and it's basically 36 percent more for every 1 percent of growth.

MR. SOMMERVILLE: Thirty-six percent of what?

MR. SHEPHERD: This is again 36 percent of depreciation expense. We approached this, as the Board directed, strictly on the basis of: How do we get to a number that is a percentage of depreciation?

Now, the one other thing that we had to look at, then, is: If we did this, if we took this approach, how does it relate to the real world? Go back and look, which we did. We looked at the last five years for -- four years, I think, of capital spending, using the Board's annual published year book data, I believe.

What we found is that 34 percent of utilities -- no. In 2007, out of 71 LDCs we looked at -- and we excluded

some, because the data we had was clearly anomalous. For example, we had Toronto Hydro with a revenue of $42 million. Clearly the data was wrong.

So we excluded the ones where the data was clearly incorrect. We looked at 71 LDCs. Thirty-four percent of them were over a standard of 148 percent of depreciation, plus or minus growth, and 66 percent were under.

We said, if we set the capital module at 33 percent of that standard -- that is, 148 percent plus or minus growth, plus 33 percent of that, whatever that was - then what would the results be for past data?

The answer would be that 14 percent of utilities would still qualify for the capital module, but, surprisingly, 21 percent would be -- because the bottom end of that would be 100 percent of depreciation plus growth. Twenty-one percent weren't even spending their depreciation level on capital spending. That's called, I think, in the trade, harvesting the assets.

So we propose a threshold of 200 percent, which is 148 percent plus a third, rounded, plus or minus 50 times the average three-year growth. And that, again, is 36 percent plus a third, but we also want to make a point to the Board that's important, and that is those numbers, the 200 percent plus 50 percent times the growth percentage, that just comes from a mathematical calculation of how IRM works.

And 15 percent, roughly, of utilities will still qualify on that basis, 14 percent, I think. But we also

know that if the Board uses -- whatever the threshold the Board uses, two-thirds of utilities will under-spend during IRM and keep the money, and so we're actually a lot more concerned about that than about the threshold. And having done the review of the past data, we want to make a point to the Board that if the Board is already monitoring this, that's great. But if the Board is not monitoring this under-spending, we're very concerned about that, because that means that the system, in many utilities, is deteriorating pretty rapidly.

So, therefore, our proposal is 200 percent, plus or minus growth, as the threshold. We think that is consistent with the data we have presented.

That's it.

MR. SOMMERVILLE: Thank you, Mr. Shepherd.

Questions or discussion with respect to this module. Mr. Thompson, do you have questions?

MR. THOMPSON: Yes, I do, primarily at a conceptual level, and perhaps what I will do is put them to Ms. Frayer, and any other parties that have sponsored a proposal, if they want to add anything, they could speak up, if that is appropriate.

Ms. Frayer, again, I sort of come at this as where do we agree and where do we disagree approach. I think -- well, let me just run through this quickly.

Are we agreed that what the Board approved for this three-year IR term is -- in terms of this incremental capital module feature, is what they have described in the

report at page 32 as a "clearly defined modular approach to incremental capital expenditure"?

MS. FRAYER: Well, without actually knowing what the Board thought about in writing, I think that I agree that this is an incremental module to the price cap mechanism.

MR. THOMPSON: Okay.

Do we agree that any recovery under this module depends upon the outcome of an application?

MS. FRAYER: Oh, yes.

MR. THOMPSON: Okay. And do we agree that the application needs to be accompanied by comprehensive evidence to support the claimed need?

MS. FRAYER: Of course.

MR. THOMPSON: And that the issues to be determined in the application include these issues of materiality, need and prudence?

MS. FRAYER: Of course.

MR. THOMPSON: And if something is to be recovered, then do we agree that we're into a determination of a revenue requirement amount in that application, and then who is going to pay for it?

MS. FRAYER: Yes. I agree the next -- to the extent there is a decision that the applicant passes that needs that funding, the next question is: How much funding?

MR. THOMPSON: So the application that is being contemplated here is not some sort of rubber stamp deal. It is a full fledged --

MS. FRAYER: I don't see it practically being a couple

of equations and one single piece of paper.

MR. THOMPSON: Okay. Now, I have this pragmatic consideration and perhaps I will pose this question to you, and I will also ask Mr. Cowan to comment on it.

There are 83 distributors that are subject, as I understand it, to this IRM proposal. And the Board has limited resources to deal with applications.

So have you considered, Ms. Frayer, how many mid-term incremental capital module applications the Board has the capacity to accommodate?

MS. FRAYER: I cannot speak for the Board's capacity. The Board Staff's capacity to process applications, but I would like to speak a little bit to two points that you raised, which is -- well, because it has been raised elsewhere I think in discussions today, that the historical data may suggest this many utilities would qualify, or this few or this many.

I think we have to be very cautious about looking at historical data to see and making predictions off of that about who would qualify in the future.

That's actually one of the underlying purposes of capital module, in that I think going forward we're going to have rebasing before we start third generation IRM.

The rebasing may end up giving opportunities -- you know may set rates at a different course so some utilities won't need the capital funding through the module. Also what happened historically may not necessarily be representative of the need for funding going forward.

So I think looking at historical data to try to anticipate how many applications could lead you down a false path.

However, one other point to answer -- or to address at least your question of how many applications. I think we also have to think of the upshot, the alternative. If we didn't have this module or the trigger was set so high that in effect nobody could ever qualify for it, no one, the alternative is that utilities would eventually probably seek cost-of-service applications in lieu, if they can't fund their capital expenditures and they need that for prudent utility practices, what is the alternative?

MR. THOMPSON: All right. That's a fair point.

Mr. Cowan, can you help us with capacity to accommodate?

MR. COWAN: I would simply observe, in response to your question, that the effect of the number of utilities, indeed there is a work load issue which is obviously of concern but I won't speak on that. I think that is well understood. That if you have to deal with 83 major applications, you are in for a lot of work for everyone.

The other dimension of it is that -- and I think it is what Mr. Shepherd was touching on right in his introductory remarks, that to the extent that a large number of utilities could apply to the Board for relief on capital, effectively what we are doing is modifying what is intended by design to be an IRM application that is broad-based, being one that has become targeted on O&M. It becomes, in

other words, capital, if everyone is applying for capital relief, then, in fact, we are doing a partial cost-of-service approach with regard to all of the capital-related matters on a large number of utilities, as opposed to those that are the exceptions.

So that the fundamental design is no longer a comprehensive IRM but more of a targeted IRM.

So that is how I see the implications of a large number of applicants.

MR. THOMPSON: Okay, thanks.

Let me move forward, then, Ms. Frayer, to the -- this materiality threshold question, and I assume we agree that this pertains to the ability to apply for incremental capital module relief.

MS. FRAYER: Yes.

MR. THOMPSON: Okay. Can we agree that related to a determination of this threshold is a clear understanding of what the phrase "incremental capital" refers to in this module.

MS. FRAYER: I am not sure. Can you rephrase your question?

MR. THOMPSON: Well, I think here is where we have this fundamental different concept.

When you talk about "incremental capital," within this incremental capital module concept, you have this vision of this rate base growth.

MS. FRAYER: Hmm-hmm.

MR. THOMPSON: Whereas I think others look at it and

say: Incremental to what? It's incremental to what the price cap and growth accommodates.

MS. FRAYER: I think we agree there, though.

I think in the application, when the utility is actually calculating the additional revenue that it is requiring because of the rate base growth, it needs to take into account, so it doesn't double-count the fact that it could get funding from the price cap mechanism, load growth, or other sources.

So I think we're in agreement in that respect.

MR. THOMPSON: All right. But I think where we disagree is, or at least my sense is, you would do all of that in the application.

MS. FRAYER: I would do that in the application, yes.

MR. THOMPSON: Right.

MS. FRAYER: But where else would you do that?

MR. THOMPSON: Before you determine whether you are eligible to apply or recover. And this is the distinction.

And so what I think Mr. Aiken had done, Mr. Shepherd has done, and Board Staff has offered in the generic sense is, the concept that a utility is ineligible to apply, I would say or recover, any capital that is already covered by the price cap/growth calculations.

MS. FRAYER: But I think, to some degree we have done that too. We may differ on the numbers. I give that to you. But I think we have done that as well, otherwise we would have been proposing a metric value of 100 percent.

So we have done that as well, because we have

acknowledged that there are some capital expenditures that are funded through price cap, adjustment mechanisms, and therefore we're not asking -- we wouldn't be ever asking for a threshold that would be lower than that which would be funded out of the capital adjustment mechanism.

Recall, we're very similar. I think Mr. Cowan, in his proposal, when he looked at what is funded in rates, that first line, what is funded through the IRM, he did suggest, if it's 1 percent or 2 percent, it is somewhere between 120 percent to 140 percent.

MR. COWAN: But that percentage, I think to be fair, was a function of the inflator, net -- and Mr. Shepherd has pointed out that maybe it should be gross. Not the growth in the asset base.

So I suggest that your submission deals with the asset base growth. Not with the growth in load. Although, I think if you are bringing one side of the analysis on to the table, you probably need to bring the other on to the same table.

MS. FRAYER: I agree that the 125 percent we recommended, a single number, was not dealing with growth. Because we anticipated that it would be dealt with in the application, and I don't think we're against. I am talking a little bit -- I should probably look to my clients, to the members, and have them speak for this themselves. But I don't think we're against adjustments for growth to the extent that they represent growth accurately. We're talking about what is the right parameter to represent

growth, which feeds into your revenues, probably load growth is the best parameter rather than customer numbers, because customer numbers could increase and you could get no additional revenues out of that.

MR. THOMPSON: All right. Well, take Mr. Aiken's formula. I take that because I understand it. It seems fairly sensible to me in terms of a method for calculating the extent to which capital spending is covered by the price cap and growth.

Now, can you accept that as a reasonable method?

MS. FRAYER: Well, I understand the concepts that Mr. Aiken had put into his formula and I accept those concepts, in principle.

I think I need to think a little bit more about the formula per say but the concepts, yes.

MR. THOMPSON: And Board Staff is saying Mr. Aiken's approach doesn't have the inflation adjustment for older stuff. Do you accept that, conceptually?

MS. FRAYER: No. I don't accept that.

Mr. Cowan clarify me, but the inflation adjustment is not funded in rates.

MR. COWAN: Absolutely right.

MS. FRAYER: So there is no funding from it. It is just that we expect that once they replace their capital, they are going to have to spend this much more than they had originally spent on the original piece of asset.

I have concerns about that, too, because as we approach what I call the walls of wires, with aging assets

and replacement, that is a large burden and that could derail incentive rate making.

MR. THOMPSON: Okay. Let's just leave that inflation adjustment aside. But back to Mr. Aiken's concept for determining the ambit of capital spending that the price cap in growth covers, assuming you are comfortable with that, then, conceptually, do you accept that under IRM you should be ineligible to apply and recover that money, because it is already covered?

MS. FRAYER: Sorry, what was the first part of your question, because I think I lost you?

I understood the...

MR. THOMPSON: I am back to Mr. Aiken's concept for calculating what capital spending the price cap and growth in combination covers.

This goes back to Dr. Kaufmann's point. IRM covers something.

MS. FRAYER: Yes. I agree with you on that.

MR. THOMPSON: Mr. Aiken is saying, This is what it covers.

MS. FRAYER: Well, I think, in principle, I agree that there's a portion of -- that the price cap covers some portion of capital expenditures, and growth covers a portion of capital expenditures. The question is: What number?

MR. THOMPSON: And so just stopping there, do you accept you shouldn't be able either to apply for what that formula covers or be eligible to collect it?

MS. FRAYER: Of course. It is double-counting.

MR. THOMPSON: All right. So the materiality threshold, if that's what it covers, should there be a band, 10 percent or something, to eliminate marginal-type applications around what's covered?

MS. FRAYER: There should, and, in effect, that is what we were talking about, to the extent that price cap is delivering 1 percent -- 1 percent growth in rate base is covered or funded. We're not saying, Okay, at 1.01 percent we want the trigger to kick in.

We're saying we will take the risk and responsibility, but at 2 percent, because above two and higher we are really getting into a funding crunch. There is material, substantial impact on financial performance.

MR. THOMPSON: And so then, conceptually, can we agree that the module approach that we're discussing shouldn't be driven by ROE considerations?

MS. FRAYER: Well, in fact, I think the question -- let me actually go back. I think there was a presentation in -- a slide in Mr. Cowan's presentation that talked about - it is slide 5 - the criteria for the module.

The materiality threshold, the quote I have is that it has a significant influence on the operation of the distributor.

In my opinion, that's financial performance of the distributor. That's the return.

MR. THOMPSON: All right, but I just want to come -- is the driver, conceptual driver, for the utility, what I

would characterize as a low threshold, the notion that you should be, in IRM, kind of guaranteed your approved return?

MS. FRAYER: No. IRM never guarantees, and that's not what we're advocating.

The IRM provides an opportunity to earn your allowed rate of return if you meet the productivity targets set in IRM. That's what we're trying to maintain, that opportunity to get your allowed rate of return.

MR. THOMPSON: Okay. Now, my last question is: Your 125 percent has not been derived by attempting to measure what the price cap in growth covers. You have come at this in some other fashion.

MS. FRAYER: We started it with a rate base analysis, and that refers back to what is covered, if you will, by the price cap mechanism, with some window in there, you know, some -- I don't know if you want to call it window of error or discretion.

But I think once the Board's proposal came out and they have asked for a very specific metric, that's when we then moved to try to relate it to that specific metric.

MR. THOMPSON: Let me close with this. The question the Board asked is: What is the appropriate capital expenditure to depreciation threshold value to determine materiality?

MS. FRAYER: Hmm-hmm.

MR. THOMPSON: If my client suggests that it is the -- it's the percentage depreciation calculation, plus a margin of 10 percent, this depreciation to -- sorry, CAPEX to

depreciation percent, plus a margin of 10 percent, which the Board determines or gives us the rules to determine is the amount of coverage for capital spending that the price cap and growth, in combination, produce.

Is that an answer to the question that you can live with?

MS. ANDERSON: Lynne Anderson from Hydro Ottawa. You are saying you want to sort of a 10 basis point sort of threshold added on?

MR. THOMPSON: Right.

MS. ANDERSON: The way I would see that, if we can agree with the work done by Mr. Cowan, which said that 20 basis points were being funded by the mechanism, to me that would end up with a threshold of 130. That would be 20 funded by the mechanism, by the escalator, and then your 10 to add in.

So not dissimilar to the approach that we took, adding a little bit more perhaps than we did.

MR. THOMPSON: Well, let me be more specific.

I'm saying Mr. Aiken's approach, subject to whatever ruling the Board makes on inflation, plus 10 basis points.

So if his is 150 -- he does it on a utility-specific basis. He comes up with a percentage in his illustrations of 150 percent. There may have to be an inflation adjustment on top of that. I'm saying you have to add a band to eliminate the marginal plays, conceptually.

Forget about the width of the band. Conceptually, does that work?

MS. ANDERSON: I would say, I guess, from my perspective, I think conceptually that is what we did by not recommending something that was only at the amount funded by the escalator. At the 125 percent, we have essentially incorporated a small band.

MR. THOMPSON: Well, there obviously seems to be disagreement on what is funded by the mechanism.

MS. ANDERSON: Well, we can --

MR. THOMPSON: What number is it? The other numbers are far higher.

MS. ANDERSON: We can accept Mr. Cowan's position on that, that it was the -- if the escalator is 1 percent, that the amount funded by the escalator is about the 20 basis points. If it was 2 percent, it would be 40.

MR. COWAN: With one adjustment. I really don't think you mean 20 basis points.

MS. ANDERSON: Sorry, 20 percent. Sorry, 20 percent.

MR. COWAN: But that indeed is one component, and I also would suggest that Mr. Shepherd has identified the other component that arises by virtue of the fact that there are old assets and that the value in your cost stream attributable to assets that are being retired over time means that the depreciation expense will automatically decline over time.

So that is another component that I did not express in the analysis that we did.

MR. THOMPSON: I will leave it there. Thanks, Mr. Chairman.

MR. SOMMERVILLE: Ms. Frank.

MS. FRANK: I wanted to make a comment, but I was going to wait for my turn on questions on this.

But the assumption I think Mr. Shepherd has made is that the rate base is actually declining. They're depreciating over time the assets are declining. I think the language you used was the utility was harvesting their assets.

I think you have to assume that the rate base is staying the same. The depreciation is not --

MR. SHEPHERD: I said --

MS. FRANK: When you said there is money available to fund part of this growth, you assumed that the assets were declining. That assumes you harvest.

MR. SHEPHERD: No, I didn't say that.

MS. FRANK: I don't think that is the direction you wanted us to do. So there is no decline. So the premise that there is money available because assets are declining I think is a faulty premise.

MR. SHEPHERD: So I didn't actually say that.

What I said was if you look at the old assets, the amount that it costs you to cover the cost of the old assets declines each year only on the old assets. Of course that's math.

MS. FRANK: But then that would mean you have to do the one time just to sustain your assets. That money -- we are not talking about capital expenditures being less than depreciation.

We're assuming that at equal has to happen to sustain the value. That means there is no money being thrown off to fund an increment over one time. So no money thrown off.

MR. SHEPHERD: Are you disagreeing that the annual cost of the old assets declines?

MS. FRANK: I am disagreeing that the value to sustain assets declines, because you have to replace them.

MR. COWAN: I would suggest that what happens is that the cash flow will stay the same, insofar as the rate has not been adjusted.

So therefore, the approved rate base has stayed the same.

MS. FRANK: Right.

MR. COWAN: The financial income will increase, because the amount of the annual depreciation, absent reinvestment, will decrease.

MS. FRANK: Oh, but that's... that's the flaw. There is reinvestment, right. You have to reinvest to maintain, at least one time.

MR. COWAN: So the issue then becomes distinguishing reinvestment from growth.

MS. FRANK: Right.

MR. COWAN: Ms. Frayer has said 2 percent growth.

MS. FRANK: Right.

MR. COWAN: So not only reinvestment to sustain, but growth.

MS. FRANK: Right.

MS. FRAYER: Yes. It was an aggregate number.

MS. FRANK: Hmm-hmm.

DR. KAUFMANN: Can I just make a point? I think these issues are tied in with your inflation escalator, to some extent. And whether or not there was the question raised of whether or not it makes sense to have a higher inflation escalator for companies that have older plant.

I think if you just look at what you have here, I think implicit in the inflation escalator adjustment is the idea that if you have an older capital stock, then you are going to have a lower value of reported depreciation because of the fact that you have assets that were booked in the 1950s at book prices and say you need to adjust for that.

So I think that is where the inflation escalator comes in, and then you have a lower threshold. All else equal, for any amount of capital expenditures if you don't adjust up for that, the companies that have old assets are going to have a lower threshold it will be easier for them. That's why I think that's the motivation for that inflation escalator. I think given that, it does make sense to have bigger escalators for companies that have older assets.

But it does raise the question and I have a couple of questions to you which I don't expect to solve this puzzle today, but PowerStream -- it is counterintuitive that PowerStream would have a higher implied age.

If you just look at what your depreciation calculation is, it's depreciation expense divided by gross plant and

equipment.

Obviously the gross plant and equipment --

MR. COWAN: Provided into gross plant and equipment.

DR. KAUFMANN: It is depreciation divided by -- it is the second column divided by the first.

MR. COWAN: The first column, fair enough. It works. We get...

DR. KAUFMANN: Either way, the inverse of that.

MR. COWAN: Right.

DR. KAUFMANN: Okay, so if you have newer plant, then the gross value of that plant is going to be higher, all else equal. Right?

MR. COWAN: In dollars of today, because it is in dollars of today is your suggestion?

DR. KAUFMANN: That's right.

I think implicitly, there is an assumption that your depreciation expense will rise in line with that. Is that correct? All else equal.

MR. COWAN: Yes, indeed.

DR. KAUFMANN: Okay. So that raises two questions that I had. One is whether there has been a change in regulatory depreciation rates over time, in general? And it seems to me there could be, on assets and lines, that depreciation schedules could be greater today than they have been in the past.

MR. COWAN: In general, they have not changed.

There are a couple of individual instances where they have been adjusted, but across the board, they have been

pretty stable for the period of, I am going to venture, a long period. More than 25 years.

DR. KAUFMANN: Okay. The second question was a more general question, about the mix of assets within capital.

It seems to me that when we're talking about old assets, what we're talking about is the infrastructure. We are not talking about all companies probably have relatively the same age for relatively new things, like computer systems and OMS, and SCADA and that sort of thing. That probably varies from companies to company to the extent they have that, but those are significant capital assets too and that is going to be -- those are rapidly depreciating assets.

So it seems to me if you have a lot of old infrastructure assets and new computer assets, that that's going to tend to distort the measured depreciation in some sense. You are going to be kicking out the big depreciation number for the new rapidly depreciating assets. And I think that sort of capital mix issue could tend to distort this calculation.

MR. COWAN: Would you agree -- indeed, I did raise the mix issue as one potential reason for the particulars associated with PowerStream, without any particular knowledge of what their circumstance is in relation to others.

I think the question is whether the community of all of the distributors is significantly different across the spectrum of them with regard to the amount of investment

they are making in IT-related faster depreciating assets.

So I am -- would you agree that really it's the question of the mix across the array of all distributors that would distinguish your point as being useful to make a difference here?

Or that, or how much are you thinking that is significant?

DR. KAUFMANN: I don't know. But I think it could be significant. Because if you have companies that have old assets, and that means their depreciation expense on those assets is relatively low, and yet they have -- yet they have you know these relatively newer systems, and if that tends to be constant across the industry, I guess that's really the distinction. We have two assets. We have the old infrastructure assets, or the infrastructure assets where the age is likely to vary, to a greater degree among companies than the newer IT-type assets.

MR. COWAN: All I can say in response is that we did actually do a review of this about a year ago in terms of what are the proportions and what is the effect of different depreciation rates.

I reached the conclusion that it was not a distinctly different factor across the community of distributors.

I can't cite -- that was the conclusion. But there was a lot of numeric analysis behind it, which I can't bring to the top -- right off the top, but I do recall that we had the conclusion that the mix of short-lived assets can be -- shorter life assets and longer life was not

variant, in particular, across all of the distributors.

Now, the case in PowerStream's case, I don't know the particulars, but I am sufficiently confident to make a statement here that the work we did said that the mix was not significantly different in terms of contributing to the depreciation expense.

DR. KAUFMANN: Okay. One thing I am not trying to do is complicate this anymore --

MR. COWAN: No.

DR. KAUFMANN: -- by introducing new factors. I think simplicity on the threshold issue is a virtue. But I think what this discussion has raised for me is whether or not, whether or not we're overly aggregating in some sense in some of these calculations.

Perhaps those are issues that are better dealt with in applications than in the formula itself. But I think these are some of the issues that I think might be relevant to think about, in terms of an application, and maybe having some type of band around the threshold to reflect the fact that there is uncertainty that goes into even these calculations because we're not controlling for a number of things.

MR. SOMMERVILLE: Ms. Girvan.

MS. GIRVAN: I just had sort of a general question and it is really to the LDCs...

Sorry. I have a general question really and it is to the LDCs around the room, and there are lots of LDCs around the room, and we haven't heard too much from them.

What I am really looking for is the sort of practical realities of what we're proposing, because I guess I have heard Ms. Frayer say that that side of the table believes that this will be an exception and not the norm.

So when I look within the industry, what I see is sort of significant capital expenditures, I think of things like CIS systems or I see transformer stations, or a building, things like that. And I am just wondering, because all of these LDCs are rebasing and because we have a three-year term, are we really going to see a lot of applications from a practical perspective, wherever the threshold is? Let's say it is 150 percent of depreciation.

But I would assume people like Ms. Frank and Ms. Anderson, in particular, probably know what's going to happen over the next three years with their companies and they're currently, you know, have gone through these rebasing applications.

So I guess what I'm really looking for, is it going to an exception or are you identify that every utility in the room, in the context of this three-year plan, actually sees they're going to need to apply for the capital module?

MS. ANDERSON: I am not sure we can speak on behalf of the whole industry.

MS. GIRVAN: No, no, I'm not asking --

MS. ANDERSON: On behalf of ourselves, I think we have been long on record as indicating, you know, that there is a need mere because of aging infrastructure because of the need to invest in capital, and that has been a main theme

at the time of rebasing. That doesn't go away during the three-year period.

So I think where there is a lot of conceptual things here, what we're talking about here probably dwarfs, from an impact on our financials, what we spent the last two days talking about on the productivity factor, where we indicated that 30 basis points was material to us there. That will be dwarfed by the sort of -- this module or the inability to use this module.

So it is certainly very critical to us, and so critical that I think, as Ms. Frayer indicated, the alternative, if we don't meet the threshold, is a cost-of-service application.

MS. GIRVAN: But you are really saying, then, in your view, it is not the principle, it will be an exception? Many LDCs will be applying each year for this capital module?

MS. ANDERSON: I really can't say that, because certainly they have to take into account their growth, and there are a number of LDCs that have a lot higher growth and perhaps Hydro Ottawa does, and that would certainly have to be taken into account.

If you have very high growth and your capital isn't that much higher in accordance, then you would be self-screening yourself and not applying.

So we are looking for a threshold that gives us that opportunity to review that and go forward.

Not everyone has the same age of assets. Not everyone

has -- in their rebasing application has focussed as much attention on this, and I think that is an indicator, perhaps, of what could happen going forward.

MS. FRANK: I just want to add a little bit about -- I appreciate there seems to be a horrendous concern that this would add incredibly to the volume of the work to the Board and Staff, in terms of the capital module, and I am not convinced it would.

Certainly not everybody will apply. There is no doubt about that. One-third of the actual distributors will be coming, anyway; right? They're there, anyway. So we're down to -- it is not the over 80. It is down somewhere under 60, right, that we are talking about, in any case, and then it is a portion of that group.

Then what would we look at, even if they do qualify? It is only the capital, nothing else.

Now, when I look at what happens in terms of examination and days of effort to review the capital, I think it could be done written, but even if not, I imagine it is no more than one day. One day, that's it, because you are not actually doing the whole cost of service. All you are doing is saying, Here's my capital. Do you buy my capital? And, if you do, let the mechanism go through.

So this desire to somehow prevent people from coming forward with their capital because we can't handle the work volume, to me, is problematic. I think you can handle the work volume, and I do you think you have to look at what the impact is. We have been waiting for the opportunity to

talk about the work we did last night, and I think Lynne is going to talk about it, but I think this is it. What happens if we actually don't get funded for that escalation that -- Bill, we agree with you. The 50 percent increase, just to keep the same level of assets in place, the dollars go up. We totally buy that number, but what does it mean to the company?

I am going to hand this stuff out, and Lynne is going to talk to it.

MS. ANDERSON: Sure. I guess it was going to be in the form of questions to Mr. Cowan, which was his slide 11, and it is very much a conceptual question of, Mr. Cowan, you said there is two or three adders, and that's the concept that we're struggling with, because we don't see them as adders.

We can agree that your first -- if you look at slide 11, your first line says, "How much is being funded by the escalator?"

You're saying somewhere between 20 and 40 to be what the escalator is. Then there is this inflation factor.

From our perspective, this inflation factor is not being funded by the mechanism. Mr. Cowan, do you agree with that?

MR. COWAN: I absolutely agree with that.

MS. ANDERSON: So then that is where our problem came, because we started looking at: What is the impact on the ROE of an LDC, for this portion that is not being funded, that is now being proposed to be added into a threshold?

So we did, you know, a fairly rough calculation to come up with the decrease in ROE on an annual basis as nearly 100 basis points.

So over a three-year period -- and this is the poor utility that is at 49.9, you know, a threshold of 149.9 and doesn't meet the threshold, over the period of three years could be losing 300 basis points on their ROE, which clearly is extremely material.

So that's the concept that we're struggling with is, in the proposal for the threshold, we don't think these numbers would be added. We think -- we're saying, Okay, if you buy the 150, then 120 is being funded by the mechanism, and then shouldn't you be subtracting the two and not adding them?

And that's really the material concept that we're trying to get to. This 100 basis points per year is just very, very material to us.

MR. COWAN: If we accept the notion that there is some erosion on ROE estimates, which I don't conceptually have a problem with, there is -- I do have a problem associated with the particular -- I mean, we haven't examined whether 99 basis points is it or not, but if it is anywhere close, it is still big in terms of potential effect on ROE.

The intent in the inflation adder, and I do suggest it still should remain as an adder if it stays in the algorithm at all, is to address the question of the value in current dollars.

It is not a component to address a revenue

requirement, a return on equity or any such value. The purpose of it is simply to be able to figure out what constitutes unusually large spending in a utility that would be what might be seen as larger than conventionally required to sustain the asset base.

The thought behind it is that the asset base will need to be reinvested in every year, but that reinvestment is in dollars of today.

So if you are saying -- if you are attempting to compare the funding that is already acquired through depreciation for a steady-state utility, not one that is growing, and taking the depreciation number as a starting point, you at a minimum have to adjust it for inflation.

Then on top of that, you need to consider whether or not there is funding already being provided through another means and add the two together in order to determine a base floor.

So I have stated I guess in my final remarks - and this is an amplification to the question from Mr. Vlahos when I did that this morning - that the fundamental question is whether you want to use this tool to detect unusually high spending, or whether you want to use it to make a utility whole against its rate base.

I am suggesting it should be the former, because the model has already been determined, that it's going to be an incentive-based regime and it needs to be such in its wholeness with a full model, IRM 3, not IRM 3 cost of -- for OM&A, and cost of service for capital spending.

That's why I see this tool as a test not an -- an entry level criterion, not a control variable to determine whether or not there will be a ROE loss.

It is absolutely true that the pressure will be on ROE. I agree with that. This analysis demonstrates it. As to the amount and the size, I am not ready quite to buy that it is 99 basis points.

Others in the room may have a view.

MR. SOMMERVILLE: Ms. Anderson, you can respond to Mr. Cowan as you wish. It would be helpful for the Board and for the record if you could state very explicitly, in sort 25 words or less, precisely what it is that your concern is about this, the 50 percent adjustment.

That would help us as we look at things, rather than trying to discern it through this particular portion of the dialogue. Dialogue is great, but there is also a place for a very explicit statement of your concern about it. If you could do that, that would be helpful.

MS. ANDERSON: From my perspective, the concern is that it is the utility that is having to fund this 50 percent factor that relates to our capital spending.

Therefore, in order to achieve our ROE, if it was possible, it is likely de facto increase beyond the productivity factor that has been set by the Board if we're to achieve our return.

The alternative is not to achieve our return, which obviously is not something we would seek. So that's the fundamental concept, is: Who should be funding for these

capital expenditures? We don't expect to be held harmless.

Perhaps there is a middle road between your two points. What we're saying is we need a reasonable ability to achieve it, and to bridge 100 basis points is just too large.

MR. VLAHOS: Just following up on this, are you suggesting that in the case of utilities that would not qualify for the CAPEX mechanism, that a priori they're going to be facing lower rates of return on equity? Is that what you're suggesting?

MS. ANDERSON: Correct.

MS. FRANK: Can I add? It is not only lower by the 100 basis points. That's in year one.

MR. SOMMERVILLE: It's cumulative.

MS. FRANK: It’s cumulative. So year 2, you're at 200; year 3, you're as 300 basis points lower. That is already the number that the Board Staff has said gives them some concern and we should have a look at it.

So to me, this factor, if you can't find productivity to eat into it, means you are off of incentive regulation before the three years are up. This factor alone will do that.

So that's why we're so concerned, and that's why it really was the large distributors, as we were in the working group, said we need to deal with capital. Capital is a serious problem here and we need to have some special module to deal with capital, because incentive regulation without dealing with capital cannot be long life.

So this notion now that it is a threshold that only a few can meet, I don't think that was ever the concept.

MR. SOMMERVILLE: Dr. Kaufmann's point of view is, if I can characterize it, Dr. Kaufmann has suggested that there is, in fact, a substantial funding through the IRM process for capital spending that needs to be accounted for.

Dr. Kaufmann, have I got that right?

DR. KAUFMANN: Yes, yes.

MR. SOMMERVILLE: So that the gap that you are describing is not as wide as you may be describing it.

MS. FRANK: Actually, the suggestions that were made by several people that we add this on to the stuff that Mr. Aiken was doing.

So that's what we're arguing with. You don't add it on.

I don't think we're arguing that the amount that you are getting through the formula and the amount you get for growth, we do not want that money back. We do not want to double-dip. But we're saying, Don't add this on top. That's our problem.

MR. SOMMERVILLE: That's because it may make sort of a theoretical sense to make this adjustment, in the real world, your utilities are actually funding that change.

MS. FRANK: Right.

MS. ANDERSON: Correct.

MR. SOMMERVILLE: So the theoretical adjustment is too large and is not -- doesn't work in the real world, because

you guys have actually, under this arrangement, basically have to fund that change --

MS. FRANK: Yes.

MR. SOMMERVILLE: -- fund that adjustment.

MR. COWAN: I agree that is exactly the problem and that the panel is left then with the question of whether or not to use a threshold that is based on extreme spending requirements.

MR. SOMMERVILLE: Capital or the rates.

MR. COWAN: Versus rates, yes.

MR. SOMMERVILLE: Mr. Shepherd.

MR. SHEPHERD: I listened to Ms. Anderson, and while she was talking I went to their, the Hydro Ottawa numbers for 2007.

Your actual revenue increased from 2006 and 2007 by about $11 million.

So since 57 percent of your revenue goes to feed your capital requirements, that would produce 49 million in capital spending.

And you had 38 million in -- if you just do the math, and you had 38 million in depreciation, as well, so you could have spent $87 million and you spent $69 million. I don't understand how that's consistent with the big problem you are talking about.

MS. ANDERSON: The increase between 2006 and 2007 was related to a concern we have with the regulatory process that sets rates from May 1st, even though the base year was a calendar year.

So that in 2006, our revenue was otherwise lower than it should have been, because the revenue increase didn't start until May. So by 2007, we had a full year of our 2006 rate increase.

So it's not really fair to compare those two years, because one related to an under-funding of the revenue in 2006.

MR. SOMMERVILLE: Let me just say, I would rather we stayed away, to some extent, the sort of zeroing-in, perhaps, on the specific performance of specific utilities.

I understand the urge to do that, and the attraction of it, Mr. Shepherd. But by the same token I think we need to take sort of a bit of a step back and you may want to look at those numbers and posit a fictional utility and make that same kind of point, rather than have Ms. Anderson perhaps in a position where she sort of didn't expect to be in and defending the specific performance there.

Ms. Brickenden.

MS. BRICKENDEN: Just a point of clarification since Andy isn't here to help us out.

In the working group discussions, when we were developing the concept of a module, Andy had pointed out several times to remember that, yes, while the price cap adjustment does deal with what he termed "business as usual," perhaps reinvestment needs, it was identified by a number of the - and recognized by I think all of the working group members - that there will be spikes.

So that the exceptions are what the module is intended

to try to capture, and when he did his example, he tried to separate out those exceptions. It was very difficult, I think as Julia pointed out, to separate what specific types of investment needs might qualify. Therefore we went to this macro-type of threshold.

So while we do all agree that the price cap mechanism will have some injection into the capital spending needs, the assumption is that it's business as usual. Not necessarily aging plant, or something...

MR. SOMMERVILLE: Well, some would say aging plant is business as usual.

MS. BRICKENDEN: Not all of the members of the working group --

MR. SOMMERVILLE: I understand that, but aging plant is a phenomenon that is endemic. It is a component of the practice.

So I mean, I think that the Board in its report is looking, and very specifically, at a mechanism that would provide extraordinary relief.

I mean, I think that much can be discerned from the Board report pretty clearly. We are looking for a module that is -- that would provide for an extraordinary kind of relief in an extraordinary circumstance, and not dealing with this business as usual business and not dealing with the normal incidence of utility practice. But something that is outside of that. Something that requires a special intervention to address.

Ms. Conboy.

MS. CONBOY: Yes. Just to add to what Lisa was saying when she was referring to aging plant.

We were talking – correct me if I am wrong, the rest of you that were in the working group - the differences in aging plant I think when Lisa is talking about business as usual, there is a component of aging of plant in business as usual.

What I think you are referring to was the spike, was it in the '50s, I think, where there was a huge increase in infrastructure. So we are coming up against this wall of wires or this complete ramp-up of the aging of plants. Luckily it is not happening so much where we are, but that is, I think, what Lisa was trying to address.

MR. SOMMERVILLE: I can understand that and I can understand where there may be, in specific instances, and that's what we're really trying to identify here is when you hit something that is that extraordinary kind of event, that there is an option for you, within the IRM regime, to manage that. But it is not, it's not a mechanism that is designed to be normal or usual, or even deal with -- I think to some extent to Mr. Thompson's reference -- the idea of a band around normalcy.

Mr. Shepherd.

MR. SHEPHERD: This is another reference to the wall of wires and the, you know, the time that we're all going to die shortly because of this huge spending requirement.

I have been asking for a year, in the working group, in a very presentation we have made, can somebody please

give me data to show that this actually is a problem?

The answer is nobody has. And I think we shouldn't assume that this is going to happen just because everybody says it's going to happen.

MR. SOMMERVILLE: I think, I guess further to Mr. Thompson's point and his exchange with Ms. Frayer, is the idea that the Board will, in the context of an extraordinary application under this module, still be exercising a review that approaches the three key factors: Materiality, need, and prudence.

So that this is a qualification exercise.

There is a work load dimension to it that we have to be mindful of, both from the standpoint of the utilities and from the standpoint of the Board.

So we are in that together, to some extent. So as the Board considers this subject matter, we are going to have to deal with simplicity of application.

We would rather not see regulatory costs spike in order to develop a highly complicated formula or consideration of whether an application should be made under the IRM for the special module, and sort of simplicity of application and sort of a general kind of adoption -- and I think this comes from the Board's report quite clearly, and, Ms. Hare, you can correct me if you think I am getting this wrong, but I think the Board, as it considered this, was really looking at some kind of a screening process that would identify genuine problems, and that's to your point, Mr. Shepherd.

I am inclined to say that our discussion of this subject matter, unless someone has a burning interest to add to it, I think the positions of the respective parties are on the record.

If you think that your point of view is not on the record, speak now or forever hold your peace.

QUESTIONS/DISCUSSION:

MR. HARPER: Actually, Mr. Sommerville, if I could maybe -- actually, there is a couple of points I would like to follow up on, clarification on things that have been raised, and I am not too sure if I am quite clear on them, and I think it might be useful for others.

One is there has been, I guess from yourself and from Dr. Kaufmann, continued reference to the fact that the existing -- the IRM mechanism itself provides for some funding of capital expenditure.

I just wanted to ask Dr. Kaufmann, if you look at the approach that has been taken by, say, Mr. Aiken, where his formula does recognize the IRM, you know, in inflation minus productivity adjustment. It does recognize growth in the utility. Over and above that is -- and it allows for that in the calculation of the threshold.

Is there additional capital spending allowance that the IRM mechanism naturally provides over and above what is already captured in the formula that the Board should be aware of and maybe adjust for in this band or whatever, or is that sufficient to cover what you believe is the amount of capital funding that is provided through a standard IRM

adjustment mechanism?

DR. KAUFMANN: I haven't reviewed Mr. Aiken's calculations in any real detail, but, in general, the two components of IRM that are going to lead to additional funding are the pricing increase through the price cap index and the additional revenues through growth.

Both of those are --

MR. HARPER: So to the extent a criteria covers those two issues, it addresses the point you have been making about there is natural funding available through the IRM mechanism and we don't have to worry about missing something through the process?

DR. KAUFMANN: That's correct.

The funding that's being reflected there is the industry's historical trend in capital spending.

MR. HARPER: Okay.

DR. KAUFMANN: So the capital module really only becomes an issue to the extent that the future departs from the past, which is what is reflected in the price adjustment.

MR. HARPER: Okay, thank you. I think that is useful in my mind. The other issue is, and there hasn't been much raised on, is, Mr. Shepherd, your sort of reference to whether we include or exclude the productivity factor adjustment in the capital spending.

I guess the way I was understanding - I just want to see if I can characterize this and see if you agree - it's a matter of, if you assume that a utility's proposal for

capital spending already included some significant effort of productivity, then it would be fair to subtract the X. If you assume it doesn't, then you shouldn't subtract the X.

That is the way I would sort of characterize whether or not you need it or don't need it.

MR. SHEPHERD: No. What I was saying is that the threshold should assume that you are getting the inflation increase in your rates --

MR. HARPER: Yes.

MR. SHEPHERD: -- and that if you are going to spend money on capital, all of your capital budget will have productivity in it.

Therefore, you wouldn't deduct that, because your actual spending will be that much lower because of productivity. Otherwise, you are assuming that your capital spending has no productivity in it.

MR. HARPER: I guess maybe this comes back to maybe the difference between what Mr. Cowan was talking in his threshold and you're talking in yours.

Mr. Cowan, out of the four people that talked, you were talking about basing a threshold on historical capital spending, whereas most other people were looking at a threshold based on forecast capital spending.

If you're using forecast capital spending, Mr. Shepherd, and you assume the forecast already incorporates some productivity in it, maybe -- I appreciate I am sounding like -- I am talking like Susan Frank would talk,

but I am just trying to make sure I understand the issue. I am just making sure that we aren't missing something or being fair in the process.

MR. SHEPHERD: What that resolves to, then, is the question of whether you consider productivity in the spending in the threshold or in the application.

MR. HARPER: Okay. Maybe that's -- maybe that's --

MR. SHEPHERD: If it's a threshold, then you would not deduct productivity. You would just increase by the inflation factor. If you consider it in the application, then in the threshold you would reduce.

MR. HARPER: Okay, that's useful from my perspective.

MR. SOMMERVILLE: Very helpful.

MR. HARPER: The final thing is there has been some discussion - I think you made a reference to it, Mr. Sommerville - about how complicated we make the formula. We have things in the formula we can put in, like the inflation factor and the productivity factor that is standard to everybody.

Then there is things like the growth rate for the utility, to some extent the age of the assets of the utility, and things like that, that are going to be utility specific. The more we try to incorporate those into the threshold calculation, the more complex it becomes.

On the other hand, and I guess, Ms. Frayer, yours is probably the simplest -- and I don't mean that in any derogatory sense -- the simplest of the mechanisms. I guess my assumption would be, and maybe see if your clients

would agree, that because you don't take into account growth or historical, if somebody went through that mechanism and said, On a first blush I pass, but when I recognize my own growth rates and whatever is going on, I truly don't meet the spirit of this, and so I am not going to file an application.

Whether that would be the expectation the Board should have, if we were to apply a simple formula that somebody wouldn't come forward just because they passed on the face of it, but when you got into the details of it, it was clear that on an individual basis they would fail, and therefore the expectation of the Board would be we wouldn't see them in front of us to begin with.

MS. FRAYER: Just to answer that, and, utilities, please step up, but my prospect is a utility would go through the entire exercise, down to the details of actually probably calculating a revenue adder that it would be requesting, before it actually made any filings to the Board.

That's just, you know, good business practice.

MR. HARPER: Okay, thank you. That's helpful. That's all I was wanting to clarify.

MR. SOMMERVILLE: The Board would probably be developing filing guidelines that would be -- that would guide that process, to some extent. Not just guide it, but shape it.

Mr. Cowan, you get the last word before we take a short break.

MR. COWAN: A question of clarification for Mr. Shepherd with regard to his model, and it's actually the sort of formulaic second last slide, where he says, Here is the proposed threshold.

I guess just in hearing how this works, I must confess I didn't fully understand how the theory works that you have brought forward.

I guess I am trying to visualize here how it works and the rationale for the 50 times the average three-year percent organic revenue growth, exactly what that is? I have lost the thread of it.

MR. SHEPHERD: I was probably -- I ran through it too quickly, I think it is fair to say.

The formula we're proposing is 148 percent of depreciation expense, plus 36 percent, times the growth rate, because that's what IRM gives you.

That's what our calculation of the IRM implications gives you.

MR. COWAN: Okay.

MR. SHEPHERD: Then we're saying, But you should increase it by a third as a dead band.

MR. COWAN: Oh, the third is the dead band notion? I understand.

MR. SHEPHERD: That's right. So this was increasing the 148 percent by a third, increasing the 36 by a third, and getting these results. They're rounded.

MR. COWAN: I understand. Thank you.

MR. SOMMERVILLE: We will take 15 minutes, reconvene

at -- actually, we will reconvene at quarter to 12:00, at which point we will have the submissions.

In the break, I wonder if you could just determine if you are going to make submissions, if there is some order that you would like to impose, and we will go from there.

We would look to have the submissions to be no more than ten minutes long, and is there any comment with respect to that? Is everyone satisfied that the questions on this last module? We've finished that discussion?

Okay. So we will reconvene at quarter to 12:00 and conclude. We are going to be a little later. Does that create some difficulties for anybody? Thanks very much.

--- Recess taken at 11:23 p.m.

--- On resuming at 11:45 a.m.

MR. SOMMERVILLE: Thank you. Thanks. Thank you very much. We have reached the point in this consultation where we will have summations. As I have indicated, we will limit them to ten minutes each.

I do have a list and I have numbers beside the list which indicate order. Dr. Kaufmann, you are batting the lead off.

FINAL SUBMISSIONS

SUBMISSION BY DR. KAUFMANN:

DR. KAUFMANN: Thank you. I am just going to reinforce some of the main points I have already made. I have a total of nine points, and I promised Lisa I would do this in nine minutes. The first is on the issue, four on the productivity factor, four on the stretch factor. And

one is on the capital module. On the productivity factor, one is the issue of Ontario data. We all know that that's what we want to use in the long run, but it is not feasible currently to rely only on Ontario data and because of that, I have used a proxy in the calculation for the productivity factor.

I believe my proxy calculation provides a reasonable measure, given all of the information that exists in Ontario, and it can be easily and naturally applied to Ontario data in IRM 4.

The second issue is the physical capital measure, and one hoss shay depreciation.

I know I was very critical of this in my opening statement and I didn't want to upset the collegial atmosphere or necessarily deliver a withering critique but I know we wanted a frank discussion, and I feel very strongly about this. There is no theoretical or empirical support for this specification and I would be happy to provide information to the Board to support that and it is not an academic point but a practical one, because depreciation is a reality in this industry.

The physical method essentially assumes that issue away. Any time you take a line from 1950 and you add it to a line that was installed in 2006, you take the sum of those two lines and you say this is the measure of capital, you are assuming away all of the depreciation associated with the line in 1950. So that's -- so implicit in any physical measure like that, is ignoring the entire issue of

depreciation with the older assets.

It is worth pointing out that no North American regulator has ever approved a physical capital measure in a TFP study or a one hoss shay depreciation specification. In the one place where it was implemented which is New Zealand, they have very different standards for evidentiary review, that is the case throughout North America. I don't believe that this specification would withstand an objective review of the evidence.

So given that, it is not an academic point and I feel very strongly it would be a mistake for this Board to approve a productivity factor that included even implicitly as a component of the productivity measure any capital measure that was based on a physical capital measure or one hoss shay depreciation. I think that would negate a lot of the good work that has been done and I strongly recommend that that approach not be adopted.

The third issue is on the issue of the start date. That has received a lot of attention in this proceeding. I have presented a very practical and what I believe is a reasonable approach for determining how long we should measure TFP growth. That approach has been adopted in other proceedings and in those proceedings it has not been found lacking.

I believe the approach that our start date analysis is firmly grounded in the realities of the industry and what we know what can influence TFP growth in both long term and short term and it is a rigorous attempt to ensure that we

really are just focussing on the long-term trend and not measuring TFP in such a way that it is distorted by transitory impacts.

Professor Yatchew has criticized the approach on theoretical grounds and in terms of the literature and I have listened very carefully to his critiques throughout the process, but I still believe that his critiques rests on an assumption that there are regular cyclical patterns in the underlying TFP data; and if those patterns don't exist, then his conclusions about the deficiency of my approach don't follow.

I don't believe that there has been any persuasive evidence that has been put forward that there really are regular cyclical patterns that have been persistent in the TFP data and that we can expect will continue in the future.

The final issue on the productivity factor has to do with the recent slow productivity growth in Ontario and I said this several times, that we know that this has happened before. In IRM 1, there was slow productivity growth between 1988 and 1993, and that was followed by rapid productivity growth between 1993 and '97. So given that experience, I don't think that we should assume that the current slow TFP growth will necessarily continue in the future. And I think a consequence of that is that we shouldn't put any extra weight on the TFP growth of the last four years. It's not necessarily a good predictor of where TFP is going during IRM 3.

On the stretch factor, first point is that this is inherently a forward-looking factor, that makes it distinct from the productivity factor and there is no logical link to average TFP growth or a range of average TFP trends that could be calculated using different TFP specifications.

What you really want to focus on are the incremental TFP gains that could be expected under incentive regulation as the Board report has said.

The second point is, given the difficulties of forecasting incremental TFP gains, I believe the values that are established for the stretch factors will ultimately depend on judgment. And I believe that is the case for the four proposals that have been put forward. We have all ultimately picked values that are based on some judgment.

My judgment is that a conservative approach is warranted now, given that we're taking a first step towards the use of benchmarking in Ontario and using that to set stretch factors. I think the first step should be a conservative step, and we will learn more in the future.

Finally, I believe a reasonable conservative approach is one that is tied directly to the precedents in Ontario to date, and those precedents are essentially an average stretch factor of 0.25 percent, and a maximum stretch factor of 0.5 percent.

I have embodied those precedents in my recommendations. The average stretch factor, with the exception of the -- or the average stretch factor would be

0.25 percent. And that would also be the stretch factor that applies to companies in the second efficiency cohort group. The 0.5 percent stretch factor would apply to the least efficient companies.

And in my opinion, these values strike a reasonable balance between non-trivial benefit sharing -- remember this is a benefits sharing mechanism -- and we want the benefit sharing to be significant. These are non-trivial values and yet they are conservative values as well and tied directly to the precedents that have been approved today.

Finally, and I think I may be ahead of schedule, the capital module. I would just like to say one thing about the handout that has recently been distributed from CLD, and that is they have isolated a single element of the, of Staff's proposed threshold for the materiality -- value for the materiality threshold which they say will lead to unfunded capital expenditures and they have traced the implications of that to net income.

I think we should recognize that this is not a complete analysis of the issue, and, in particular, their calculations don't include any adjustments for revenue growth.

They are implicitly comparing one year to another, and looking at the impact of capital expenditures between those two years. And if we're going to do that, we also have to consider how revenues are going to change between those two years.

I have just done a back-of-the-envelope calculation based on data that Mr. Cowan presented in his presentation, and based on that, I estimate 1 percent revenue growth in the industry would lead to about $25 million extra revenue, and all else equal, an extra net income, which would essentially offset the revenue erosion they say would result from the inflation adjustment.

I believe that is a very conservative estimate of how revenues will grow. Revenue growth of course depends not just on price growth but on growth in customer numbers and megawatt hours as well, and peak demand.

So I just think it is important -- I am not offering this as a full analysis, either, but I think it is just important to point out that you can't look at these elements in isolation, and you really have to consider mitigating factors if you want to consider the implications of the decisions we're making on the concrete bottom-line implications for companies and their earnings.

MR. SOMMERVILLE: Thank you.

Dr. Yatchew.

DR. YATCHEW: Thank you.

So let me return, once again, to the -- let me return once again to the infamous picture. I think that for me this particular graph summarizes a great deal of information relating to the productivity factor. From it, one can learn that average productivity growth in the US electricity distributor data is about 0.72 percent over this period.

There is no systematic evidence of systematic -- there is no systematic evidence of acceleration or deceleration in productivity growth over the entire sample period. However, there is substantial evidence that there are persistent trends over the shorter period -- over shorter periods of time, periods of time when growth is accelerating and decelerating.

The most recent years suggest a period of deceleration with growth of 0.4 percent, and I expect that recessionary effects in the US are likely to have an adverse impact on this in the upcoming months, as well as the job losses in Ontario.

Now, the early 1990s were a period of relatively high unemployment, which arguably should not be excluded precisely because the subsequent years enjoyed higher employment levels and are, therefore, not likely to be representative of the longer term.

Neither the raw data depicted by the volatile line nor the estimated trend model would suggest that the data prior to 1995 should be excluded.

Let me make a couple of comments on the start date analysis, because this is a key difference between Dr. Kaufmann and myself.

Dr. Kaufmann suggests that my arguments rest on an assumption, an unproven assumption, that there is a cyclical effect going on here. Let me suggest the following syllogism. Business cycles are cyclical. That's why they're called cycles.

TFP is influenced by business cycles, an assertion Dr. Kaufmann has made, as well. Therefore, TFP will have a cyclical component. So -- and Dr. Kaufmann himself asserts the importance of the business cycle in the analysis of TFP.

My critique of the start date analysis remains unchanged. This analysis searches for a single year that is most similar to the most recent year, rather than a period that is likely to be representative of the data.

If the Board wishes to move forward to create a predictable and evolving regulatory environment, in my view it would not be prudent to embed an algorithm that can be easily refuted in intuitive terms, an algorithm for which I was unable to find supports in the statistics or econometrics literature.

So my recommendations on the productivity factor, the recent slower productivity growth should not be ignored and should be incorporated in the target X factor.

We recommend a productivity factor of 0.55 percent, which combines the 1988 to 2006 estimated productivity factor of 0.72 percent, and discounts that, to a degree, by the evidence on slower productivity growth in both Canada and the US.

Let me turn to the stretch factor.

In my view, the rationale for stretch factors is relatively weaker in Ontario than may be the case elsewhere, principally because Ontario distributors have been under a form of price cap regulation for a period of

time, and, in addition, they've experienced yardstick regulation for many years.

The development of the stretch factors themselves and an allocation of utilities to specific groupings or cohorts is, in my view, seriously hampered by the potential for misclassification. At least four sources of misclassification have been identified: The first being the use of OM&A rather than total cost data; second, mismeasurement or omission of important variables; the third, the statistical type 1 error, which is at 20 percent; and, fourth, the use of US rather than Ontario data.

There is also the issue of incentive distortion. Regulatory focus on OM&A costs rather than on total costs could induce utilities to over-capitalize and under-spend on OM&A.

Therefore, in stretch factors, my recommendations are as follows. For the reasons I have given, the stretch factor should be materially lower than those recommended by the Pacific Economics Group. We recommend stretch factors of 0.1 and 0.2 percent for the three groups, with resulting X factors of 0.55, 0.65 and 0.75 percent.

Finally, let me make a comment on the third set of issues, and that is the calibration of the capital threshold. My original suggestion in my written submissions was to have multi-year capital plans examined by the Board. The Board decided this was not the route they wanted to take, which is fine.

My concern, then, is that if the capital module does not provide adequate relief - the threshold itself plays an important role in that - then there is a potential for incentives, again, of the wrong kind, where utilities might feel the need to front-end load their capital expenditures into their test year, rather than to plan their expenditures on the basis of more rational time distribution.

Those are my submissions.

MR. SOMMERVILLE: Thank you. Mr. Shepherd.

MR. SHEPHERD: I understood that Ms. Frayer was next. Am I mistaken?

MS. FRAYER: I actually am handing over the reins to the Coalition.

MR. SHEPHERD: All right, that's fine. I am happy to go next.

SUBMISSIONS BY MR. SHEPHERD:

MR. SHEPHERD: On the productivity factor, we have three experts providing you with proposals. Ms. Frayer's proposal uses a depreciation method that is clearly suspect and, in fact, no one else uses it as we know. And even the experts that the Board has seen, Dr. Cronin, Dr. Yatchew and Dr. Kaufmann, have not used it, and, in fact, we have no examples of anybody who has used it, except in New Zealand. It is intuitively incorrect.

So I think it is difficult to have any confidence in the numbers that Ms. Frayer has come up with on the productivity factor.

Dr. Yatchew has posited that there is a cycle, but he doesn't base his analysis on any proven cycle because he hasn't done the empirical work, which he admits; that he hasn't had time or the scope to do the empirical work to identify the cycle. So he hasn't put forward to you what the cycle is, and he hasn't based his recommendations on a particular cycle.

Now, he does raise an issue about the start date analysis that Dr. Kaufmann has used, and I have to say that it is not an insubstantial concern that he has raised.

If indeed there is a cycle, then you can see that there could be a possibility that the start date analysis would put you in the wrong part of the cycle.

But Dr. Yatchew doesn't have an answer for that. His answer is, Let's use a different set of years, but he has no basis for using that different set of years.

So that leaves us with Dr. Kaufmann. Dr. Kaufmann basically has provided us with two numbers, 0.88 and 0.72. 0.88 is his recommendation based on his start date analysis. If you agree with the start date analysis, there is basically no other conclusion you can come to but that 0.88 is the right number for productivity.

We should say School Energy Coalition believes that that start date analysis is correct. It has been tested in other jurisdictions and it is a very thoughtful way of getting the right number.

If you disagree with his start date analysis, then you would take Dr. Yatchew's recommendation to use the longest

period of time available, and then you would use 0.72, because that's the productivity that empirically comes out of the longest data set that we have available to us.

Moving on to stretch factor, I was not here for this discussion yesterday, and -- but I do understand and I have read in the transcript that the suggestion was made that it might be possible to use the same number for all three cohorts. I wanted to say, very strongly, that we, very strongly disagree with that. That if we use the same number, we're basically saying the cohorts don't matter. That, yes, we will identify that some people are more efficient than others, but there will be no consequences to it and that, in our view, is not a good regulatory result.

On the actual number itself. I guess you could divide it into two components. Component number one is: What's the average? What's the mean that you should end up with? Then what's the variation around the mean to reflect the cohorts? I think Mr. Thompson talked about this a little yesterday.

Dr. Kaufmann proposes a conservative approach. He says, Let's make the mean a conservative number, 0.25.

We think that that is wrong, that is just incorrect. If you don't have an earnings sharing mechanism, then your mean should be the fair number, at the very least you should have the fair number. You should not have a conservative number. Because this is the only way the ratepayers are going to get a benefit from this.

So that mean should be substantial enough to give them

a reasonable benefit from that process.

So the result, in our view, is that the average stretch factor should be 0.5 percent, because that is the low end of the spectrum for what other jurisdictions select. About as conservative as we can imagine you would go.

Then the next question is: How much variation should you have around that mean? And we have already made our comments on that, that it should be a 0.5 percent variation because the Board's already decided on materiality, and it is 0.5 percent. And the variation around the mean should matter to the utilities. If it doesn't matter to the utilities, then there is no point in doing it.

The problem that has been raised is, well, what if all of our benchmarking activities are not perfect? So we're not sure we have everybody in the right camp? Well, the answer, it seems to us is the old adage: The perfect is the enemy of the good. Yes, it is not perfect, but a lot of work has gone into this benchmarking exercise.

Excuse me.

MR. SOMMERVILLE: Can we help in anyway?

MR. SHEPHERD: I wonder if somebody else might proceed and you can come back to me after.

MR. SOMMERVILLE: You have about four minutes in the bank.

Mr. Thompson.

SUBMISSIONS BY MR. THOMPSON:

MR. THOMPSON: Thanks very much. I will make my

submissions in response to the questions that are posed at page 53 of the Board's report and I will deal with them in reverse order.

The first one is dealing with the incremental capital module. I won't repeat the question, but in my submission, you should be clear in your response that on this question of materiality, that a materiality means to apply and recover, not simply eligibility to apply. And we submit that to be eligible to apply and recover, under the module that the Board has approved in the IRM mechanism, the capital expenditures applied for must exceed, by a dead band -- which the Board can determine, we suggest at least 10 percent, the capital expenditure depreciation ratio, which is supported by the combined effect of the price cap and growth. We submit that the calculation of that ratio should be performed, as Mr. Aiken proposes, subject to any increased adjustment that the Board considers to be appropriate for inflation, as suggested by Board Staff, and subject to this question that Mr. Shepherd has raised about whether the inflator should be inflation less productivity or simply inflation.

We urge you to emphasize in dealing with this question, that the incremental capital module feature of the IRM is not a cost of capital ROE Y-factor pass-through. And our sense is that the utilities are trying to structure it so it is a mechanism of that nature.

Turning to the stretch factor.

The question was: What are the appropriate stretch

factor values for each of the three groups?

In responding to that question, we urge you to take into account the consensus that this is primarily a matter of judgment. It's not empirical analysis. And the factors to be considered include, and I am not trying to exclude others, the term of a plan, the lack of earnings sharing mechanism, and the incremental capital module feature of the plan that has been established.

The stretch factor is a consumer protection mechanism and should be viewed in that light in our submission.

Now, concerns have been raised about the means of measuring the efficiency cohort and it has been suggested that the means that the Board has directed be applied will lead to some material risk of miscalculations.

In evidence or in discussion, I understood that to mean that there are 2 of 11 in cohort 1 that might be misplaced. So that is two winners, and 2 of 11 in cohort 3, which might be misplaced, which is two losers. That is 4 out of 83, which is less than 2 percent and we leave it to you to determine whether that is a material risk of miscalculation.

On the question of the appropriate ranges. I urge you to find that the ranges proposed by Professor Yatchew of 0, 10 and 20, 0 to 20, the lower range proposed business Ms. Frayer, are unrealistically low, unreasonably low, and that then leaves the ranges proposed by Dr. Kaufmann, with a midpoint of 25 basis points, and the range proposed by Mr. Shepherd, with a midpoint of 50 basis points. We urge you

to find that the midpoint of the range is in that range, 25 to 50 basis points.

In terms of distinguishing the stretch factor allowances by cohort, we question whether zero is appropriate for any utility at this particular point in time in Ontario, and caution, urge you to consider moving off the zero floor, and if you are concerned about this miscalculation risk, then that is another reason to move off the floor and to lower the ceiling.

So we urge you at least to consider positive numbers for each cohort around the average of between 25 and 50.

Finally, with respect to the productivity factor. Again, the question is what is the appropriate value for the TFP trend?

Our response would urge you to find that it is no less than 0.80 percent. Let me just quickly explain how we get there.

First, the major disputes appear to be -- apart from this question of data, which we understand will be temporary -- the major disputes appear to be with respect to the method of calculating capital input quantity of electricity distribution assets, and the appropriate time period to be used in the empirical analysis. And within that there is this question of whether a recent short-term component of the sample should be accorded special weight.

Dealing with the first of these disputes, the method of calculating the capital input quantity for electricity distribution assets, like Mr. Shepherd, we urge you to

reject the one hoss shay method that Ms. Frayer has used in deriving the TFP trend in this 2002 to 2007 segment of her sample.

We submit it is incompatible with the accounting depreciation method that is used to derive the numbers for the period '88 to 2001 on which she relies, and the use of the numbers appears, to us, to materially distort the results downwards.

Intuitively, we would submit, the 0.58 percent number that she recommends should increase if you eliminate this distortion. Ms. Frayer was unable to provide the number that would ensue if that distortion were eliminated. So we really don't have a number from Ms. Frayer that eliminates the distortion.

Turning to the appropriate time period question, we submit that principles that should guide your consideration of this issue include that the time period selected should be sufficiently long to be statistically significant, and, secondly, the time period selected should be one that avoids statistical aberrations, to the extent possible.

There is a consensus, as I sensed, from the information discussed that to be statistically significant, the period must be in excess of eight years, and I sense there was a consensus - I am not entirely sure - on this point, but to avoid statistical aberrations, the external conditions existing at the start and end date of the period should be demonstrated to be similar.

Now, Dr. Kaufmann's time period of nine years

satisfies both those -- for 11 years satisfies both those criteria.

Dr. Yatchew's 20 year-time frame really doesn't, because he hasn't demonstrated that the beginning date and the end date have external conditions that are similar.

In addition with Dr. Yatchew's proposal, he's ascribing some weighting to the last five years of his 20-year time period, and we submit that is inappropriate; again, distorts the results by reducing the long-term TFP trend of 0.72 percent to about 0.55 percent.

We submit that weighting most recent years in a 20-year sample calls into question the appropriateness of the 20-year sample and that a more recent statistically significant sample, if that situation arises, should be selected, but to be statistically significant it has to be, on the evidence, more than eight years.

So Dr. Kaufmann's eleven-year period falls within that range.

Similarly, we submit that before weighting any portion of a statistically significant sample, the portion to be weighted must satisfy the statistical significance, minimum, of eight years. And we agree with Dr. Kaufmann if you take a short period and weight it, that you are distorting the results.

So we submit Dr. Yatchew's weighted number of 0.55 percent is inappropriate; that, if anything, what we have is 0.72 percent, unweighted, which Dr. Kaufmann agrees is the appropriate number for 20 years.

So you have Dr. Kaufmann's eleven-year number of 0.88 percent to which you should accord the highest priority. If you accorded priority to any other number, we submit it is 0.72 percent, and that produces, in our view, a number of no less than 0.80 percent.

Those are my submissions.

MR. SOMMERVILLE: Thank you. Mr. Shepherd, do you want to...

MR. SHEPHERD: I am sufficiently recovered. Yes. Thank you for your indulgence.

I think I am finished on the stretch factor. I am not sure you got the last part of it, but I hope I made the point.

I have just a couple of comments on the capital module.

The first comment is that it is very important that the Board recognize that this is an exceptional measure, as I know the Board does. And the way to test whether that is the result you're going to get is to go look at the past data and see how many people would qualify under your threshold if you use one threshold versus another, and, indeed, then add some more, because the past data is data -- assuming you couldn't come in to ask for more money. So that's capital spending in a constrained environment, or what the utilities say is a constrained environment. If you have a capital module, you can assume there will be more applications, not less.

So our first comment is that you should do that test

and make an assessment how many utilities -- when does it qualify as an exception, put it that way? Is it ten utilities would it qualify, 50? And that should influence, in our view, your decision.

Now, with respect to the actual threshold itself, we have done a quick chart which is up on the screens - I'm sorry, I didn't have a chance to get it printed, because we just did it on the break - to try to assess: What are the actual differences between the various proposals you have in front of you?

I do not have one for Dr. Yatchew, because his -- I didn't see it in his written material, but the other four I do have. I just want to walk you through it and see if I am correctly identifying the places where people differ.

The first is everybody agrees that the amount available to the utilities includes the base depreciation claim. So that's 100 percent.

We are the only ones who propose that you also have the return on that depreciated component of rate base. Although I didn't sense anybody disagreed with that, I think that other experts simply had not included it, and that calculates to be roughly 9 percent.

I think everybody agrees that if you include inflation at 2 percent, that that's roughly 40 percent addition. And I understand, for example, that Mr. Aiken has not calculated it in that way. He has calculated it on a utility-specific basis, but if you used the standardized utility, you would get the same answer for everybody,

because it's inflation. It is just math.

So everybody agrees that the inflation component should be included. However, three of the people who have proposed models to you have said you should reduce that amount by the productivity component, the productivity plus stretch factor, because that's money that the utilities aren't getting.

So we have taken the position you should not reduce it by that much, and other people have taken the position that you should reduce it by that much.

It's not clear to us whether Mr. Cowan's position is one or the other. I think he has presented both to you and given you the -- put the issue before you.

So that appears, to us, to be issue number 2. Is that component a legitimate deduction from the threshold or not?

The third, then, is: Should there be a dead band? Mr. Cowan has effectively included a dead band by the inflation factor that he has included; that is, the increase in the amount of the depreciation. That effectively operates as a dead band. We have proposed a dead band that is roughly the same.

Ms. Frayer has proposed what we calculate to be a 5 percent dead band, because she said, Well, we think the right number is 120, but we're accepting 125.

And Mr. Aiken has not proposed a specific dead band. We have assumed his proposal implicitly is around 25 percent, but he can speak to that, I'm sure.

But, in any case, issue number 3 is: What is the dead

band? What is the cushion that is appropriate?

Then that gets to a net threshold, and then you have two additional issues to deal with. Should the formula include an adjustment for growth? Mr. Aiken and myself have both proposed that it should, proposed it include an explicit adjustment.

Mr. Cowan and Ms. Frayer have proposed that that be dealt with through the application process.

Our view is that the former is the better approach, because that allows you to have more regulatory efficiency. It's just a calculation, anyway.

Finally, the fifth issue that you have to deal with here is: Should this calculation be specific to each utility, or not?

Mr. Aiken has said that it should. We agreed that it should, although we accept the fact that it may be more efficient for the Board to have a general threshold with some variations as opposed to a formula that every utility applies.

But conceptually we are on the same page on that.

Mr. Cowan and Ms. Frayer have both said that this should be a general threshold for everybody.

To our minds, that, therefore, is the five issues that you are being asked to address and the impacts of those issues.

I hope that is helpful.

MR. SOMMERVILLE: Thank you, Mr. Shepherd.

Mr. Aiken.

SUBMISSIONS BY MR. AIKEN:

MR. AIKEN: Thank you. I want to say at the outset that the submissions I am about to make are made on behalf of both the LPMA and Energy Probe.

The first issue is the productivity factor.

I will start off by saying that I agree with the submissions of Mr. Thompson related to the methodological issues associated with the Frayer and Yatchew proposals and I won't repeat them.

It is the submission of the LPMA and Energy Probe that the productivity factor should be 1 percent. We believe that Dr. Kaufmann's recommendation of 0.88 percent is in the right ballpark, but that it is at the lower end of the range than should be considered.

In our submission, there are three reasons for this conclusion. First, Dr. Kaufmann was asked, with respect to the 0.88 percent recommendation how that compares to what he has seen in terms of his studies of other jurisdictions and what has been defined in more recent IR plans. Dr. Kaufmann's response was that his 0.88 recommendation was on the low side.

He further indicated that it would be one of the lowest approved productivity factors anywhere.

He also indicated that most productivity factors are 1 percent or higher. And that's from yesterday's transcript, pages 47 and 48.

Second, the Board has approved the concept of k-factor or capital module. Dr. Kaufmann has indicated that the

inclusion of such a module is rare. It is our submission that the inclusion of this module should be reflected by a higher productivity factor to account for this deviation from the norm and the relief that it may provide to distributors.

Third, there is a Canadian data available from Statistics Canada. While there were reservations expressed about using this data because of the "contamination" of the multi-factor productivity figures with the inclusion of transmission and generation, it is submitted that there are also benefits of using this data, at least using it for comparison purposes.

It is Canadian data rather than US data. It is from an impartial source, but most importantly, the data is available for a long period of time beginning in 1961.

This provides a data series of more than 40 years in length, more than double that of what anyone else has used in their analysis in this process. This longer period of data more closely matches the life cycle of the distribution assets.

Statistics Canada has three utility multi-factor productivity indices. These indices average growth rates of 0.86 percent, 1.07 percent and 1.08 percent over the entire period for which the data is available. The average of these three averages is 1.00 percent. And I can provide the Board with the name of the specific series, if it so wishes.

I should also note that the "contamination" of the

indices that results from the inclusion of more than electric distribution utilities also contaminates the estimates of the Stats Canada wage index used by Ms. Frayer in her analysis.

Moving on to the stretch factor.

There are three topics under the heading of the stretch factor that I will be addressing. These issues are the appropriate level of the stretch factor for the efficient distributors or Group I; the level of a stretch factor for the average distributors, Group II; and finally, the issue of misclassifications of distributors into Groups I and III.

So what is the appropriate stretch factor for the efficient distributors?

All of the proposals you have seen set the stretch factor for this group of distributors to zero. We disagree. If there had been an earnings sharing mechanism, then zero may have been appropriate.

However, in the absence of an earnings sharing mechanism there should be some upfront benefit to ratepayers. There is no evidence on the record to suggest that productive distributors will not or cannot continue to achieve additional gains. Their opportunity may be less, but it is still greater than zero.

We submit that the stretch factor for this group of distributors should be 25 basis points.

The second issue is the level of stretch factor for Group II which is where the majority of the distributors

will resides. It is submitted that this stretch factor should be set at 50 basis points. This recommendation results from a number of comments that have been made. First, Dr. Kaufmann has indicated that the average stretch factor across jurisdictions is approximately 50 basis points. Our recommendation also reflects Dr. Kaufmann's characterization of his 25 basis point recommendation as very conservative.

We do not believe that with a relatively short IRM plan term of three years, there is any need to be conservative.

Our recommendation further reflects regulatory precedent. Union Gas had a comprehensive price cap plan that included a Board-approved stretch factor of 50 basis points. The term of that plan was also three years.

Finally, the Board has determined that there will not be any earnings sharing. In the absence of an earnings sharing mechanism, it is submitted that the consumer dividend needs to be higher. Again, I go back to the fact of the 50 basis point recommendation is the industry average, according to Dr. Kaufmann, but some of these included in this average would be plans that also included an earnings sharing mechanism as, in fact, did the Union Gas plan approved by the Board.

The relatively short term of the plan should also mitigate any concerns that the distributors may have with the stretch factor value.

Group III distributors would have a stretch factor of

75 basis points to be systematic with group one of 25 basis points.

The final stretch factor issue is the possible misclassification of utilities into Groups I and III. As the exchange between Mr. Thompson and Mr. Yatchew indicated there is a potential for two distributors to be in Group I that should not be there and two others to be in Group III that should not be there, and that is yesterday's transcript pages 125 and 126.

Quite frankly, we do not believe that this is a problem. However, if the Board believes that some sort of mitigation is required, the range of stretch factors could be narrowed. However, it is our submission that the midpoint should remain at 50 basis points. So rather than the proposed 25, 50 and 75 scenario, it could be, for example, 35, 50 and 65.

The final issue, the incremental capital module. The formula that I presented incorporates both the impact of the price cap and the load growth on the level of capital expenditures that can be funded without additional rate relief.

The materiality threshold should be based on the calculation of the individual threshold for each utility, plus a dead band or margin of some level, and I would be happy for it to be 25 to 50 basis points, in that range.

The Board may want to add other components to this approach based on the presentation of other properties and we would not oppose this.

In our submission, the formula has a number of advantages. It provides a materiality threshold that would be different for each utility, reflecting both distributor diversity, and the differing positions of the utilities in the asset replacement cycle.

We do not believe that a one-threshold-fits-all approach is appropriate for a capital module, given the differing demands on utilities across the province.

There is significant diversity in economic growth across the province and there appears to be significant differences in the need to replace aging assets across utilities.

While the threshold would be different for each utility, the calculations are simple, and based on figures that can be taken directly from the last Board rebasing decision for each utility, are easily calculated based on those decisions.

Thank you.

MR. SOMMERVILLE: Thank you, Mr. Aiken. Ms. Girvan.

SUBMISSIONS BY MS. GIRVAN:

MS. GIRVAN: Thank you. In light of these discussions, we haven't changed our views with respect to productivity and the need for a stretch factor.

The experts are relatively close and we have seen that determining this productivity number is not an exact science. Not to repeat the arguments, but we support the value put forward by Dr. Kaufmann. It is a proxy and it should be recognized as such.

Let's just try the approach that he has advocated and we can see how it works. It is consistent with examples elsewhere and conservative, relative to plans in other jurisdictions.

With respect to the stretch factor, we are strong advocates and believe a positive stretch factor is required. It is common and pervasive -- it's a common and pervasive element in many IRM plans.

In our view, it provides a ratepayer benefit up front. As the other ratepayer representatives have made clear, without earnings sharing, the need for a stretch factor is even more important for ratepayers.

We advocate the cohort approach and would support what Mr. Aiken has put forward, the 0.25, 0.5 and 0.75 for the three groups.

In the alternative, if the Board accepts the arguments about misclassification, we would support 0.5 across the board.

With respect to the capital module, we completely agree that it should be in place to deal only with extraordinary circumstances, and that's the only reason why we would support it. The threshold should be set along the lines advocated by Mr. Aiken and, in effect, to calculate what the formula allows for with the consideration of growth.

In terms of the filing requirements, these should be well-defined and very clear, and the Board should go through a process to develop these filing requirements to

ensure that applications under this module are properly supported.

If in the first year the Board gets a large volume of applications under this model, then I guess we've gotten it wrong and the threshold should be reconsidered.

One point I would just like to add is that -- something that hasn't really been discussed, but in terms of these utilities, we are dealing with publicly-owned utilities, and I believe that they should be making rigorous efforts to increase their productivity and ultimately reduce rates for their customers. Thanks.

MR. SOMMERVILLE: Thank you, Ms. Girvan. Ms. Frank.

SUBMISSIONS BY MS. FRANK:

MS. FRANK: Thank you.

I would like to take a few minutes to summarize the submissions from the perspective of the large distributors. Ms. Frayer has provided a summary in the evidence -- are we okay?

MR. SOMMERVILLE: Yes. Sorry. Sorry, go ahead.

MS. FRANK: Ms. Frayer has provided a summary of her positions in the overheads that were handed out, and I will leave that to you to read, so she is not going to have a rebuttal chance here. Instead, you are going to hear from the large distributors and Hydro One, our perspective on these issues.

There has been a very cooperative approach that has been involved in getting the Board to this point of 3rd generation, many players involved and I think a lot of

cooperation, so I commend Board Staff on their approach.

Over the past three days, we have heard from three experts who are knowledgeable and reputable in their fields and who took only slightly different approaches on the remaining issues.

So where does this leave us?

I think we need to proceed, and the approach may not be perfect, but it is directionally right and we have to start somewhere. So let me turn to the three factors that we're dealing with.

Starting with total factor productivity, the experts all observed that recent trends in Ontario result in negative productivity growth. And in the US, when you look to recent trends, there is very low productivity that is experienced in the US.

Despite this, Dr. Kaufmann suggests that a 0.88 percent total factor productivity is appropriate, and he has a lot of support on that. However, we think it is questionable if it can be achieved. Can we actually get this kind of productivity in the near term?

So, naturally, since you are hearing from the distributors, you are going to hear about what is practical, because that's where we come in. We actually have done this, rather than theoretically what a number might look like. We have to find it.

So we turn, first of all, to the suggestions that Mr. Kaufmann had. He said there are two big productivity drivers that are out there that you are going to be able to

recognize right away, and those were smart meters and, for those who are doing them, mergers and acquisitions, there's a source of productivity.

So let's look at those two. Smart meters, yes, we're installing the smart meters. We are all diligently going to meet the government's target for 2010 to have the smart meters in place.

Costs to that and, indeed, there is going to be costs associated with interfacing with the IESO and updating our billing systems to have those smart meters actually work.

The productivity that we're talking about tends to be after all of those are done, after we have the meters in place and we have all of the tools in place to use the data from the meters. So that certainly is not within the next three years that we're talking about.

I suspect there will be productivity in the longer term. How much, I don't know, but not in the first three years, which is what a lot of this group is dealing with.

Turning to the mergers and acquisitions, it is suggested they're going to yield productivity. First of all, there haven't been many mergers and acquisitions recently. There is not a whole lot happening here, and the Board has actually given separate treatment for this. You have recognized that it takes money to make an acquisition. It takes time to do the integration and to bring the parties together, and you've got five years, says the Board, to get the productivity out.

So, therefore, I don't see how it is considered in

this piece. That would be a double-counting, in our opinion. So I don't think mergers and acquisitions is a place you look to to find that 0.88 percent productivity.

So we don't believe smart meters and mergers and acquisitions are going to help us to meet these targets, so let's look to the rest of what you normally expect that you would look at. You look at the outputs and how they're changing. You look at the input.

First, let's look at the outputs. Well, I would say industry conservation measures are working. Everybody is doing a good job. Load growth is actually going to decrease compared to what would have been otherwise because of the CDM activities.

Now, there might be some possibility of some LRAM that might get a part of this back, but it looks like it would only relate to the specific activities of the utility, not to deal with the overall industry direction. So that means, to us, load is going to be lower as a result of conservation. Speaking personally for a moment in the case of Hydro One, that actually will likely be negative load growth.

Secondly, what's happening with the economy? Well, the economy is slowing. Loads are dropping. We are seeing that both from our residential and our business customers. We're also, as a result, seeing an increase bad debt, and the bad debt for a distributor takes on a special significance, because it's not only they don't pay us our distribution costs, but somehow we still have to continue

to pay for the commodity and send that cost into the IESO, and all of the other costs for the other players, the OPA, IESO, all have to be paid. When a customer doesn't pay their bills we pick it up. Bad debts are increasing.

So our outputs don't look too promising. So what about inputs?

Well, you've gone through several recent applications looking at the 2008, so my messages are going to certainly resonate with what you have heard. You have heard a lot about labour costs and labour costs increasing. This truly is the case. We have an aging work force. There is a lot of competition to get the skilled work force, and you have to pay up for it. So we're finding our labour costs are escalating higher than inflation.

Alternatively, you find an untrained person that you believe has good potential and you train them, but training them to do the job takes many years and is a very costly proposition, as well.

If we turn to material costs, I will pick a simple one that you can relate to every day, if you drive a car. The fuel costs are going up just horrendously, way above inflation, and all of our crews have to get to the work sites. There is gas involved. There are many other ones. I am just going to focus on that one for a moment.

My third area of what's happening to the inputs, regulatory costs. I am not actually talking about the Board's costs, because I did hear about how careful you are with that. I am talking about other ones, like the

accounting standards and IFRS.

And what does that mean? Well, I can tell you that those costs to become compliant with that are not in anybody's application today, because we don't even know what is going to come or what it is going to cost to get there.

There is new environmental regulation. We certainly expect that there will be new regulation on PCB management - and that will come out I believe very shortly - that will have a very significant impact.

There are also some of our groups who are expecting large increases because of the demands of the Electrical Safety Association and what expectations they're putting on.

I have just picked a few of the inputs, but I can tell you the inputs are certainly changing far more quickly than outputs in the near term from anything we look at when we do our business planning, and that is a conversation that all of the Coalition have had and that's where we believe they're going.

Finally, there has been a suggestion that the three-year term is sufficient, that any productivity that you make in year 1, any investment you make, you will have time to earn it back in the next two years.

So the suggestion is you might make investments in IT. You might put in new equipment that lowers losses, or, you know, a range of options of investments, and you've got two years to get the synergies back.

And I tell you that payback period is very short. I would actually like to know what those investments might be, because we're not able to find things that typically pay back with that short period of time, two years from the time of the investment and that's all you get with this.

So, overall, we don't expect that the productivity challenge that will be set will be an easy challenge to be met.

So when we return to the suggestions, we conclude that actually the two numbers, two of our experts, Dr. Yatchew, using US data came up with the 0.55, and Ms. Frayer using Ontario data, which we certainly think over the long-term, and everybody seemed to think over the long-term was the place to go, came up with 0.58.

Our notion is those are likely decent long-term-type targets but as you just heard me indicate I don't even think we will achieve those in the next three years. That challenge is too great. Don't make it impossible is my feeling.

A few words on stretch factors and let's start with the tiers, very quickly.

Everybody agrees benchmarking is in its infancy and needs to improve and it will improve.

We certainly have no issues that there be the three groups; that's fine.

Miscalculations. Certainly there likely are some, but we take comfort that improvements will be made over time, and we think we would go with what we've got right now and

use them, and we do support that there should be a difference between these three tiers.

So then what should the stretch targets be? Well, all of our experts concluded that we should be conservative on this. The experts told us that, because of the infancy and potential for miscalculation. So we should take their advice, I believe, and be conservative.

Now, once again from the distributor's perspective what we're going to look at is the combination of what are we doing on productivity and what are we doing in stretch, because that's the number we have to achieve.

We would ask you to also look at combination when you set these. So if you set one a bit high, set the other one low or vice versa, but it is the combination that we're going to have to somehow manage to achieve.

We believe our customers are going to get the benefit from whatever you set as that combined measure, the X factor right away. As a utility we're going to have to figure out how to get there. They get the benefit day 1. We hopefully find a way to get there through the periods and, if not, then we take it on the bottom line.

As long as you have a recognition that is what is happening, that's fine with us. We will naturally say that we take comfort in our expert's recommendation with the zero, the 7.5 basis points, and 15 basis points. That would certainly be our preference.

Finally, and very briefly because we spent a lot of time on the capital threshold today I would like to go to

that one.

From day 1 it was the distributors who said the environment is such that capital is an issue. We look out and we look at what is expected of us in terms of maintaining a viable capital infrastructure and we are concerned, the demands are high. The demands come from many, many sources.

And we certainly agree that price cap and load growth contribute. And we certainly do not want to double-dip, so the suggestion that you have to have a threshold that recognizes those factors and you don't get to recover until you are beyond those factors is certainly, we're 100 percent on side with that. We do not want to double-dip. We also agree that any utility who believes that they are passing that threshold has to bring information forward, all of the capital details, and they have to defend the prudency of that investment.

I believe that that is something that all utilities would come forward -- would be very prepared to do.

It appears that Board Staff has recognized that most utilities will need to make investments well in excess of their depreciation costs, just to sustain their assets.

The analysis that we did only focussed on that increment, the 50 percent increase, because it was treated as an increment on top of any of the escalation factors or load growth. Because it was an increment, we looked at it in isolation.

And that's where we ended up saying that it had a

material impact. I think the challenge is, and several people said, there should be something above. There should be a bit of a stretch. And we're not even adverse to a bit of a stretch. But the question is, who pays when the stretch becomes too much? We figured the 50 basis points is just too much, because that stretch, if we can't make it, is 100 basis points on our bottom line each year added, being 300 basis points by the end of the period. Not doable. Actually, the Board in their own paper, said 300 basis points isn't doable, so we think it is not doable.

The Board actually suggested that where there is a significant influence in operations, there should be an opportunity to defend the additional capital expenditures. We strongly agree. And we recommend that that opportunity should be provided, and I don't believe you are going to find a lot of people -- because even though I think it is fun to come in front of the Board, not many people are inclined to do that unless they feel they have a dire circumstance, so I think you will only get those people who have a dire circumstance.

I would like to respectfully submit that if the capital threshold, the productivity and the stretch factors are set too high, that several of the LDCs will be forced to make cost-of-service applications.

We need to sustainably and reliably operate the businesses that are within our license to operate. And we will feel we must come. I don't think that is what any of us really want to see happen. Thank you

MR. SOMMERVILLE: Thanks, Ms. Frank. I gave you a little latitude from a time point of view. If that has compromised anybody's travel arrangements, you can exit now.

Mr. Harper was going to have our last word and Mr. Harper, you are up now, but do feel free, if you have to leave, to do so. I am sure Mr. Harper will not take that ill, and we certainly would not.

MR. HARPER: No, I won't. I am not usually worth listening to anyway.

SUBMISSIONS BY MR. HARPER:

MR. HARPER: If I could start off with the productivity and maybe to make my comment short, I agree with basically the submissions made by Dr. Kaufmann and Mr. Thompson with regard to what are some of the issues inherent in the analysis presented by both Ms. Frayer and Dr. Yatchew.

The points I would like to add to what they have said is, with respect to Ms. Frayer's analysis of the last four or five years, 2002 to 2007, I believe there is a fundamental flaw in the fact there was no weather normalization undertaken during that period.

You may not have to worry about weather normalization if you're longing at very periods of time. Within a short period of time, I think it is important. We're all painfully aware of what happened in 2002 with respect to weather and how that influenced not only the operations of utilities but the political decisions in this province. I

think it impacts on the results of the analysis as well.

With respect to Dr. Yatchew's analysis, we have heard frequently this issue about we have to take into account the recent past is going to influence the near future.

I think I have two additional concerns with that. One is the fact that that seems to be inherently inconsistent with the other perspective he takes that there is some idea of a cycle involved here, because if there is a cycle it depends where you are in the cycle. The near future could look very different from the near past if the cycle is changing.

Secondly, we're not talking about that short a cycle. We're talking about 2009 to 2014 is when this process is going to end so that to the suggestion that a near-term inflation or recession in the next few months is critical, it is not critical over that entire five-year period.

That leads me to basically the same conclusion that Mr. Thompson had, that we're somewhere in order of 0.72 to 0.88 as the type of productivity factor we should be looking at. And the extent to which you are concerned about the start/end date analysis, you may be gravitate more towards the 0.72, the more you feel comfortable with it, you gravitate towards 0.88 that's my conclusion around that.

With respect to the stretch factor. I think we have to recognize the stretch factor is really addressing three issues. The first is that the productivity factor is only meant to emulate what you would expect to achieve under

normal cost-of-service type application. You are trying to identify what you believe a normal cost-of-service type application would yield, so the type of benefit a consumer would expect to see in terms of the resulting rates under normal cost of service. If we accept there is greater opportunities for productivity improvements by utilities under a IRM mechanism, then you would expect something in addition to that. That's what the stretch factor is meant to capture.

The other point we have heard and I agree is the fact that the stretch factor is meant to offer basically a consumer dividend to provide them some additional benefits really to mirror the additional benefits that the utilities have in terms of an opportunity to earn additional return over and above what you would normally expect under a cost-of-service opportunity.

During this process, the LDCs have a number of outs we heard about. They have z-factors they can apply for, there are off-ramps they can apply for, there are k-factor they can apply for. We heard a number of utilities say, If it doesn't work, we will apply for cost-of-service. With no earnings sharing mechanism, this is the only out that consumers have and I think it is important that that out be exercised.

Thirdly, the stretch factor is meant to recognize the fact there is differences in terms of where utilities stand right now in terms of their level of efficiency and, therefore, the Board has recommended the three tiers. This

all leads me to the conclusion that the lowest stretch factor should not be zero.

Admittedly, there is some judgment involved in that number. I agree with Mr. Aiken that I believe the minimum number should be somewhere around 0.25 as the lowest stretch factor.

I then, in terms of where I go above that, sort of took a different tack. I started from Dr. Kaufmann's suggestion that to be an outlier, the OM&A results had to be at least 15 percent different from what was the estimated or expected value.

I then took a conservative approach and suggested, Well, if you wanted to close that 15 percentage point gap over 20 years, which in my mind is quite conservative and acknowledging the fact that we have got some uncertainty by who is in what tier, that on simple math, and not having to worry about the compounding, leads me to about 0.75 percentage points a year is what you would address.

If you then say, I am further concerned about who is in what tier and I discount that by two-thirds again, I am still down to a differential of 0.25 between each of those three groups, which leads me, based on a different analysis, to a conclusion that we should be looking at 0.25, 0.5 and 0.75, which, to some extent, is fairly similar to Mr. Aiken, except coming at it from a totally different perspective.

Finally, with respect to the capital module, I think the fundamental issue the Board has to deal with is whether

this is meant -- I think you put it very well yourself, Mr. Sommerville at one point, is whether this is trying to capture just incremental impacts on revenue requirement that are not captured by the IRM mechanism when you look at IRM as if it was cost of service, or is this meant to address really significant or materially different or unusual issues?

To some extent, I think that matter can be addressed by building on the approach Mr. Aiken has recommended and deciding on what the level of dead band is that you want to apply to that.

If you believe that it is really meant to be focussed on the revenue requirement, you would choose a fairly small dead band. If you want to address the fact that you feel it is only going to try and screen out just -- and leave just what are the very sort of egregious sort of problems that utilities have, you would have a higher dead band.

A final comment I would like to make is there has been some suggestion that this would be a simple process. I think Ms. Frank said that. People make an application and this would be a simple process.

We haven't seen what the process is, but I would suggest to you that it may be far from simple. There are differences of opinion amongst the parties in terms of whether productivity is included in the adjustment or not included in the adjustment. If you take the approach that it is included in the adjustment, then Mr. Shepherd has raised the issue we're going to have to look at what

productivity improvements are inherent in the capital spending when they come forward.

There is an issue about if capital spending is leading to any substantial reductions in OM&A, people will want to pursue that and see to what extent that should be used as an offset in the process.

There is also a question about how we incorporate this into rates, which leads to load forecasts in growth. We all know the problem we have had with load forecasts for most of the utilities in this province. We have been going through their 2008 rebasing. Load forecasting is not a strong point in many cases.

I think that that could come up again in many of these applications, so I don't think it is a trivial process which I think the Board will have to keep in mind when it thinks about how many of these applications it wants to look at on a year-to-year basis.

Those are the end of my submissions. Thank you.

MR. SOMMERVILLE: Thank you, Mr. Harper.

I think that brings us to the end of this part of this process.

I would like to, on behalf of my colleague and in fact all of my colleagues of the Board, thank everyone for their extremely diligent and cooperative attitude.

While there were skirmishes, they were very civilized, and the Board certainly appreciates that, and, in fact the skirmishes were extremely valuable for us in sort of delineating the respective positions of the parties, as

skirmishes often are.

So we're extremely appreciative, appreciative of the diligence of people who simply attended and showed their interest. That's noted by the Board and appreciated by the Board; the very expert work done by the experts. Those who made the experts' views available to us, we also appreciate that effort greatly.

And those who participated, Mr. Harper, Mr. Aiken, Ms. Girvan, Mr. Thompson and Mr. Shepherd, we really appreciated the effort that you made in this process over the last few days and, in fact, before that, and particularly Board Staff with respect to its excellent logistics support and applying its expertise to these subject matters, as well. It's extremely valuable and important for the process. Thanks to all.

And with that, we will move on to the next stage.

My colleague and I, Mr. Vlahos, will be reporting to the Board on what we have seen and heard, and the Board will make a determination on these issues in a timely fashion.

Thank you.

--- Whereupon the proceeding concluded at 1:04 p.m.