MEETING

STATE OF CALIFORNIA

PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF ADMINISTRATION

FINANCE & ADMINISTRATION COMMITTEE

ROBERT F. CARLSON AUDITORIUM

LINCOLN PLAZA NORTH

400 P STREET

SACRAMENTO, CALIFORNIA

TUESDAY, SEPTEMBER 17, 2019

8:34 A.M.

JAMES F. PETERS, CSR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 10063

A P P E A R A N C E S

COMMITTEE MEMBERS:

Ms. Theresa Taylor, Chairperson

Mr. David Miller, Vice Chairperson

Ms. Margaret Brown

Mr. Henry Jones

Ms. Fiona Ma, represented by Mr. Matthew Saha

Mr. Jason Perez

Ms. Betty Yee, represented by Ms. Lynn Paquin

BOARD MEMBERS:

Mr. Rob Feckner

Ms. Lisa Middleton

Ms. Stacie Olivares

Ms. Eraina Ortega, represented by Ms. Michelle Mitchell

Ms. Mona Pasquil Rogers

Mr. Ramon Rubalcava

STAFF:

Ms. Marcie Frost, Chief Executive Officer

Mr. Michael Cohen, Chief Financial Officer

Mr. Matthew Jacobs, General Counsel

Mr. Scott Terando, Chief Actuary

Ms. Renee Ostrander, Chief, Employer Account Management Division

A P P E A R A N C E S   C O N T I N U E D

STAFF:

Mr. Julian Robinson, Senior Pension Actuary

Ms. LaRiesha Simmons, Committee Secretary

Mr. Kerry Worgan, Supervising Pension Actuary

I N D E X

P R O C E E D I N G S

VICE CHAIRPERSON MILLER: Okay. Good morning.

COMMITTEE MEMBER BROWN: Shouldn't we switch your name plate around?

VICE CHAIRPERSON MILLER: Yeah, I guess they will at some point. So good morning. We're going to call the meeting of the Finance and Administration Committee to order. And we'll start with the roll call. And at some point, hopefully, the Chair will arrive. I knows she's stuck in traffic. And we want to honor everybody's time, so we'll get started.

So roll call, please.

COMMITTEE SECRETARY SIMMONS: Theresa Taylor?

David Miller?

VICE CHAIRPERSON MILLER: Here.

COMMITTEE SECRETARY SIMMONS: Margaret Brown?

COMMITTEE MEMBER BROWN: Here.

COMMITTEE SECRETARY SIMMONS: Henry Jones?

COMMITTEE MEMBER JONES: Here.

COMMITTEE SECRETARY SIMMONS: Matthew Saha for Fiona Ma?

ACTING COMMITTEE MEMBER SAHA: Here.

COMMITTEE SECRETARY SIMMONS: Jason Perez?

COMMITTEE MEMBER PEREZ: Here.

COMMITTEE SECRETARY SIMMONS: Lynn Paquin for

Betty Yee?

ACTING COMMITTEE MEMBER PAQUIN: Here.

VICE CHAIRPERSON MILLER: Okay. The first order of business is the approval of the September 17th, 2019 Finance and Administration Committee timed agenda.

COMMITTEE MEMBER JONES: Move it.

COMMITTEE MEMBER BROWN: Second.

VICE CHAIRPERSON MILLER: Moved by Jones, Seconded by brown.

I'll call for the question.

All in favor?

(Ayes.)

VICE CHAIRPERSON MILLER: The ayes have it.

Well, executive report, Mr. Cohen.

CHIEF FINANCIAL OFFICER COHEN: Thank you, Mr. Vice Chair. I'm Michael Cohen with CalPERS. Just a couple things to note this morning. First of all, we did have a revision to Item 5d, which is the annual contract and procurement report. There's copies in your materials, as well as the back of the room, and on the website.

And then the second item, some good news. You'll recall on July 1st, we opened up the Pension Prefunding Trust Fund for our member agencies to begin depositing funds. I'm happy to report that we have our first contract and first deposit from the Midway City Sanitation

District. So that's very exciting news. We're looking forward to additional local governments joining the trust in the coming months. So with that, I think I can turn it back to you.

VICE CHAIRPERSON MILLER: Okay. Thank you.

Item number 4, action consent items. Back to you, Mr. Cohen, approval of the May 14th, 2019, Finance and Administration Meeting Minutes.

COMMITTEE MEMBER BROWN: Move approval.

VICE CHAIRPERSON MILLER: Moved by Brown.

ACTING COMMITTEE MEMBER PAQUIN: Second.

VICE CHAIRPERSON MILLER: Second by Paquin.

I'll call for the question.

All in favor?

(Ayes.)

CHAIRPERSON TAYLOR: Any opposed?

No abstentions.

Motion carries.

So we're on to number 5. This one is to Mr. Cohen, information consent items starting with our annual calendar review.

CHIEF FINANCIAL OFFICER COHEN: So unless one of the members has a question about the consent items --

VICE CHAIRPERSON MILLER: Any consent items to pull?

Okay. We'll move along to the action agenda items. Okay. Proposed regulations for Social Security Administration fees. And it looks like Renee Ostrander. Welcome, Ms. Ostrander.

EMPLOYER ACCOUNT MANAGEMENT DIVISION CHIEF OSTRANDER: Good morning. Renee Ostrander, CalPERS team member.

So I'm here today to present to you Agenda Item 6a. It's the proposed regulations for the administration of Social Security. The State is required by the federal government to have a designated State Social Security administrator to act as a liaison to the Federal government on behalf of public entities. However, no funding is provided for that purpose.

In 1955, the Governor's office designated CalPERS to serve in this capacity. The cost of administering the program was previously covered from the interest earned by the Social Security and Medicare tax holding account. The fund is nearly depleted and can no longer pay the program's administrative costs.

CalPERS cannot use retirement funds to cover the cost of administering the program. CalPERS is authorized in the Public Employees' Retirement Law to collect fees to cover the cost of administering the program.

Within these draft regulations, there are two types of fees that are now being charged, an annual administrative fee, and a one-time fee for any new agreements or modifications.

The annual fee will be charged to all agencies that have voluntary coverage, which is a section 218 agreement in place with the Social Security Administration. The annual fee is based on a total number of persons employed at the agency. The range is from $200 a year to $2,500 a year. The fees began with the 19-20 fiscal year.

The purpose of these regulations is to document the administration of these Social Security fees including the fee structure, data hierarchy, calculation of fees, et cetera.

With the approval of this agenda item, we will move the regulation -- the draft regulation text forward to the Office of Administrative Law. They'll release it for a 45-day comment period. At the end of that 45-day comment period, we'll bring back any comments that we receive, any other changes that are required, and bring it forward for your approval.

That completes my presentation. I'm happy to answer any questions you may have.

VICE CHAIRPERSON MILLER: Okay. Thank you.

We have a question from Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you, Ms. Ostrander.

VICE CHAIRPERSON MILLER: Did that work?

No. Hang on. Oh, there we go.

Okay.

COMMITTEE MEMBER BROWN: Great. Thank you, Mr. Vice Chair.

Anyways I had a question about the establishment of the fee. Typically, as a governmental agency, you must have a nexus in order to collect a fee. And I see that you've -- it says in here that you ran this through the California Department of Finance --

EMPLOYER ACCOUNT MANAGEMENT DIVISION CHIEF OSTRANDER: That's correct.

COMMITTEE MEMBER BROWN: -- for the fee structure methodology?

EMPLOYER ACCOUNT MANAGEMENT DIVISION CHIEF OSTRANDER: That's correct.

COMMITTEE MEMBER BROWN: It would be lovely for those of us who like to look at that analysis to make that as an attachment, because we're essentially going to be approving a fee. And I really don't want to be doing that. So I would like to just see the report that shows the nexus between the cost that we're going to be charging these agencies and the amount we're charging.

So maybe you can either send that to me out by separate cover or if everybody wants to take a look at that. I assume it's some port of report that shows the analysis?

EMPLOYER ACCOUNT MANAGEMENT DIVISION CHIEF OSTRANDER: Yes, we do have some information based on -- it's actually a 9 tiered fee structure. So we -- we aligned with the Department -- the U.S. Department of Labor Statistics. And they use that same 9 tier fee structure, and we set it up for that. So we can provide additional information.

COMMITTEE MEMBER BROWN: I would just like to see that fee structure methodology before we -- at least before we make a final. Right now, this is just a proposed regulation, correct?

EMPLOYER ACCOUNT MANAGEMENT DIVISION CHIEF OSTRANDER: Correct. This is just proposed and going out for public comment for the 45-day period. So it will come back after the 45-day comment period has ended.

COMMITTEE MEMBER BROWN: So, Mr. Chair, I'm happy if it's just me or if anybody else on the Board can't sleep and wants to read that, anybody else can have it as well.

VICE CHAIRPERSON MILLER: Fine.

CHIEF EXECUTIVE OFFICER FROST: Ms. Brown, we will provide it to the full Board.

COMMITTEE MEMBER BROWN: Great. Thanks.

VICE CHAIRPERSON MILLER: Okay. Nothing else on this item, so...

COMMITTEE MEMBER BROWN: Move approval.

VICE CHAIRPERSON MILLER: So we have got a motion here.

COMMITTEE MEMBER PEREZ: Second.

VICE CHAIRPERSON MILLER: Second by Mr. Perez. So I'll call for the question.

All in favor?

(Ayes.)

VICE CHAIRPERSON MILLER: Any opposed?

No abstentions.

The ayes have it.

So moving on, Item 7, Information agenda items. 7a, annual actuarial valuation Terminated Agency Pool. Mr. Terando and Ms. Robinson -- oh, Mr. Robinson. Sorry.

(Thereupon an overhead presentation was presented as follows.)

CHIEF ACTUARY TERANDO: Good morning, Mr. Chair, members of the Committee. Scott Terando from the Actuarial Office. Item 7a is an information item and presents the annual actuarial valuation report for the 6/30/2018 Terminated Agency Pool.

The Terminated Agency Pool, or TAP as we like to call it, exists to provide those benefit payments for those members who were credited with service and later on the agencies terminated from CalPERS. The agencies in the TAP program don't pay regular contributions into the fund. Instead, when each plan terminates, the plan is required to have a fully funded status before we move it into the TAP pool.

In those cases where a plan may be overfunded, there will be a refund issued to the employer. And in cases where a plan is underfunded, we collect the difference between what's owed at the time of termination. At this point, I'm going to pass it along to Julian who will provide more details about the -- this year's valuation.

SENIOR PENSION ACTUARY ROBINSON: Thank you, Scott. I'm Julian Robinson, CalPERS staff. I'm happy to present the results of the Terminated Agency Risk Pool. We do this valuation on an annual basis and present the results to the Board to update them on the financial status of the pool.

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SENIOR PENSION ACTUARY ROBINSON: As of January -- July -- June 30, 2018 there 109 aged plans in the Terminated Agency Pool. The funded ratio of the TAP is 197.4 percent, close to 200 percent.

There have been a number of small changes since the last valuation. There was the addition of one agency, the Glen Ellen Fire Protection District, which added approximately half a million dollars of assets and liabilities to the pool.

We changed the valuation assumptions on a yearly basis. The methodology is described in our actuarial report. We use the 30-year STRIPS rate to determine the discount rate to value the liabilities. And the inflation rate also changes from year to year, also based on this year.

As with all the other plans that CalPERS handles, we did apply the new methodology and valuation system to the plans in the TAP, and that has had an effect on the liabilities.

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SENIOR PENSION ACTUARY ROBINSON: The approximate -- well, the value of the assets in the fund as of June 30, 2018 is $286 million. The accrued liability is $145 million. As you can see, the assets exceed the liabilities and that's why we have a funded status of close to 200 percent.

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SENIOR PENSION ACTUARY ROBINSON: The assets in the TAP are invested in an interesting way. The assets are split into two segments. There's an immunized segment and a surplus segment. The immunized segment is handled by the Investment Office. And they set up a fund of bonds, which cash match the expected benefit payments into the future. So they buy a portfolio of bonds. The payments from the maturities and the coupons on the bonds are expected to match the benefit payments for the TAP out into the future.

The Investment Office presents this information on an annual basis, as they rebalance the TAP. As new plans enter and leave the TAP each year, the Actuarial Office provides fresh cash flows to the Investment Office, which they use to -- for their analysis to rebalance the TAP, the immunized segment in the portfolio.

Any surplus beyond those assets, which are required for the immunized segment, are called the surplus segment, and that's invested with the rest of the assets in the PERF.

And the rate of return that we achieved last year for the -- for the TAP over all was 5.1 percent. We expect this to be a lower rate, because the immunized segment, given that it's invested essentially in government bonds, has a lower rate of interest attached to it. And we do that because of the security of the cash matching, which we have to do for the TAP.

As the Chief Actuary explained, once an agency goes into the TAP, we can no longer reach out to them for any further contributions. So essentially, this is a unique aspect of the TAP that CalPERS, so to speak, is on the hook for all the liabilities and to pay all the benefits, unlike other plans where future contributions can come from outside agencies. And therefore a conservative investment approach, the immunized segment has been established to take on that risk appropriately.

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SENIOR PENSION ACTUARY ROBINSON: We conduct a number of sensitivity analysis, both with this plan and all the other plans and pools in the system. We look at the risk of mortality. That's probably the most significant risk associated with -- with this pool, if people live longer or if people live shorter.

So we run an assessment based on attempts at improvement in mortality and a 10 percent increase in mortality. And as you can see the results, approximately 6 percent up and down would be the impact of a 10 percent change in the mortality rate.

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SENIOR PENSION ACTUARY ROBINSON: We similarly conduct an impact -- inflation impact analysis to see what would happen if the inflation rate we assume in the valuation is increased by 1 percent or decreased by 1 percent. As you can see, the impact here on the liability with a lower rate of inflation would lower the liabilities by about $16 million. If -- with the higher inflation, we would have an increase of about $6 million.

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SENIOR PENSION ACTUARY ROBINSON: That completes my presentation and -- of the financial status of the TAP. We're happy to answer any questions which you may have.

VICE CHAIRPERSON MILLER: Okay. We have several questions. I'll start with Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you. I was actually looking at Agenda Item 7a, page -- attachment 1, page 14, where we show the funded ratio going down every year since 2015. And I'm wondering is that because we have more people coming into the pool and there's less fund, or I'm just tying to figure out why it's going down, and what is our sort of minimum threshold that we won't fall below?

SENIOR PENSION ACTUARY ROBINSON: Well, the answer is there are additional agencies, which are entering the pool. As you can see in the accrued liability column, those liabilities have been increasing over the same period, and that's as new agencies come into the pool.

Also, the discount rate changes from year to year, so that will also impact the liabilities and therefore the funded status. When we do a valuation, when an agency terminates, we add a 5 percent load onto the liabilities as a contingency factor. So in the long run, if the TAP continues to grow, then that would kind of be the ultimate percentage that we would expect in the long run, because the addition of each -- of another agency into the pool will -- will effectively reduce the funded status each time.

So the amount of surplus in dollar amount may remain the same, but as a percentage of the whole pool will become smaller, so --

COMMITTEE MEMBER BROWN: So I saw that like the discount rate increased, right, from 2 point something, something to 2.99, right?

SENIOR PENSION ACTUARY ROBINSON: Right.

COMMITTEE MEMBER BROWN: And then there was another calculation you did that -- there was two calculations that changed that. So did -- did we approve that discount rate change like we do for the PERF or, no, do you guys do that on your own?

SENIOR PENSION ACTUARY ROBINSON: Well, you -- the Board has approved a policy in the way we establish what the discount rate is. So we follow the policy. So if you -- if the Board wanted to change the policy and that would impact the changing the discount rate. But that's why it moves each year, because the rates that we use are based on the market yield at the valuation date.

COMMITTEE MEMBER BROWN: Great. So we did not officially -- we did not act and change the discount rate. You followed the policy and changed the rate.

SENIOR PENSION ACTUARY ROBINSON: That's right.

COMMITTEE MEMBER BROWN: Okay. Good. Because I was going to say I didn't know that we had changed the discount rate. So I didn't know if I was not paying attention or not.

And then I know Mr. Terando, you and I have talked about how we recalculate the pool or is it possible to recalculate the pool, especially for some of the people that are receiving less than their pension amount? And so I'm just wondering sort of what our process or procedure is for that. Maybe every couple of years do we take a lock or is it every year we take a look at the mortality rates and things like that?

I'm just trying to figure out how we can get some of the people who've received steep discounts in their retirement, because they're in the TAP how we can get them more of their pension?

CHIEF ACTUARY TERANDO: That would --

COMMITTEE MEMBER BROWN: Specifically East San Gabriel, but I'm sure it's more than them that are -- have a discount.

CHIEF ACTUARY TERANDO: Right. Right. I understand that we -- you know, like in East San Gabriel their benefits were decreased going into the TAP. The thing we have to keep in mind is those assets in the TAP were designed to fund and provide a cushion, a safety margin for those members that are in the TAP. And it wasn't designed to provide additional benefits for members coming in and to kind of buffer that decrease.

You know, it would be akin to just taking assets from current other employers. You can think about it from that -- from the point of when we -- when plans terminate, we make -- we true them up when they go in. And so you would be creating a precedence where you're taking money away from those plans that, you know, say paid their fair share to get into the TAP, to make up for plans that are a little bit short going in.

COMMITTEE MEMBER BROWN: Can you tell me how many plans are -- went in short, but basically got -- of the 109 -- what is there 109 plans in the TAP, is that what I heard you say?

SENIOR PENSION ACTUARY ROBINSON: That's right.

To my knowledge, besides East San Gabriel and Loyalton.

CHIEF ACTUARY TERANDO: Loyalton and then there were about, I think, an additional two more plans. I want to say there's about four plans that went in within the last 3 to 4 years. And then if you go back several years, there were some sporadic plans that went in a little bit unfunded before that.

COMMITTEE MEMBER BROWN: And so what is the -- what is the minimum funded ratio we need to keep the TAP at?

SENIOR PENSION ACTUARY ROBINSON: Like the target of the whole system is to be 100 percent funded. So with the TAP, because of our additional contingency load, that would -- in the -- you know, ultimately be 105 percent because of that additional buffer. So that's -- that's the target.

I mean, it will take quite a long time to get there. But just to put these in perspective, you know, the total assets of the plan is about $300 million. So that's -- if you look at it compared to the whole system, that's less than 0.1 percent of the whole system.

So we're talking about a relatively small unique pool. And, you know, the fluctuations of the entire portfolio probably exceed the total value of the assets in the pool.

COMMITTEE MEMBER BROWN: And I did want to congratulate staff on getting 8.6 on the excess. I thought that was very nice and helped that pool. And I know it won't always happen, but that was a nice return, and that does help the pool as well.

So thank you.

VICE CHAIRPERSON MILLER: Okay. Mr. Perez.

COMMITTEE MEMBER PEREZ: The -- I'm thoroughly confused. Shocker, I know.

The funded status, is that not the 201.5 percent? I'm sorry, for the 18 is 197.4?

SENIOR PENSION ACTUARY ROBINSON: That's right, yes.

COMMITTEE MEMBER PEREZ: Okay. And you said we need to be at 100 percent?

SENIOR PENSION ACTUARY ROBINSON: Right. Over the -- over the years the surplus has emerged. Unlike other plans in the system where there were benefit improvements, which ate away at the surplus, that didn't happen in the TAP. So as a result of that, and, you know, the investment performance, we're in a relatively comfortable spot with respect to the TAP.

But as I mentioned, the relative liabilities are small. If there was a significant bankruptcy of a city, and they would have to be moved into the TAP, that could very easily wipe out a large proportion of that -- of that surplus, even though the -- you know, the 140 million amount would remain the same. But if that 140 million was now part of $1.4 billion fund, it would have a significantly lower funded status.

COMMITTEE MEMBER PEREZ: Okay. The members in the TAP, do they get COLAs?

SENIOR PENSION ACTUARY ROBINSON: They do get COLAs, because that's part of the contractual agreement that the benefits were based on. Most of the plans in the TAP have a 2 percent COLA.

COMMITTEE MEMBER PEREZ: Thank you.

And then roughly how many members there's 190 little TAPs, but how many members all told?

SENIOR PENSION ACTUARY ROBINSON: So our report in Appendix C shows the membership of the plan. The TAP is the -- two-thirds of the liabilities in the TAP are in respect of the retire -- retirees. And there are about 770 retirees in the TAP. The other components are terminated members and transferred members. There are 346 terminated members and almost 100 transferred members. And, of course, there's no active members, because all of the agencies are terminated.

COMMITTEE MEMBER PEREZ: Yes, sir. Thank you.

And then at what point -- and I'm sure it's a policy issue, and I'm -- this is not an indictment. I'm just asking a question. At what point is -- do we recognize that maybe we are a little fat and maybe we can throw some more funds to not just the -- not just the underfunded folks, but all the folks?

SENIOR PENSION ACTUARY ROBINSON: To use the surplus for other purposes, is that the --

COMMITTEE MEMBER PEREZ: No. Yeah, use the surplus to give the members of the TAP more than -- I would like to make the members that are not receiving their full retirement, I would like to make them whole, whether it be East San Gabriel, or Loyalton, or where these other four that you mentioned.

CHIEF ACTUARY TERANDO: Right now, we don't have that authority. It's kind of laid out in the PERL that the funds are supposed to support the employers going into the TAP at the time of the TAP. And right now --

COMMITTEE MEMBER PEREZ: As I think about it, as I thought about the question I asked, I can see the danger in allowing that to happen, because more cities would just box them up.

CHIEF ACTUARY TERANDO: Yeah. So, I mean, another point is we also need to think about --

COMMITTEE MEMBER PEREZ: We can strike that question. Strike it from the record.

(Laughter.)

CHIEF EXECUTIVE OFFICER FROST: Scott will answer.

CHIEF ACTUARY TERANDO: All right. The -- if you think about it, it's getting paid down slowly. But as Ms. Brown noted, that's -- that -- the funded percent is coming down year after year, and as more plans are coming in. If we have additional plans that terminate, we will anticipate that funded status dropping continually down closer to what Julian mentioned is ideally around 105 percent. We will see.

At that point, you know, there's not much of a buffer there, if you think about. We don't get additional contributions coming in. And so we want to have somewhat of a buffer for members who are in this plan and gotten terminated, because we have no recourse to go to the employer.

So, you know, you see that 197. It looks like it's a large amount. But in reality, you know, it's an amount that's decreasing. You can look at the last several years. It's kind of -- it's slowly coming down. We anticipate that it will continue that way.

And we wouldn't want to be in the position of, I don't want to say, redistributing those monies elsewhere, and then finding ourselves short a couple years down the road.

COMMITTEE MEMBER PEREZ: Yes, sir. Thank you. Thank you.

VICE CHAIRPERSON MILLER: Okay. President Jones.

COMMITTEE MEMBER JONES: Yeah. Thank you, Mr. Vice Chair.

Yeah, thank you or the report. I don't have any substantive question. It's just one observation. I noticed on one of your overheads, 5 of 8, Attachment 2, where you make reference to the unfunded accrued liability, and then you show brackets of 142 million in 2017.

SENIOR PENSION ACTUARY ROBINSON: Right. So that's a negative, negative --

COMMITTEE MEMBER JONES: Negative, I noted.

SENIOR PENSION ACTUARY ROBINSON: Right. So it's --

COMMITTEE MEMBER JONES: Most people won't pick that up. They just look at unfunded, but it's not unfunded, but I understand that math. So you may want to put an asterisk on that and indicate that it's an excess as an unfunded, instead of unfunded.

SENIOR PENSION ACTUARY ROBINSON: Okay. We'll be happy to update the slides and the report next year for that. Thank you for that observation.

VICE CHAIRPERSON MILLER: Okay. Ms. Middleton.

BOARD MEMBER MIDDLETON: Okay. Thank you, and -- Mr. Chair and thank you for the report.

I want to follow up on Mr. Perez's question. And just for clarification, my understanding is this is a restricted account. The funds in this account cannot be used for anything other than to pay the pension obligations for those employees that worked for terminated agencies, is that correct?

SENIOR PENSION ACTUARY ROBINSON: I mean, my understanding of that is that the TAP fund is a segment of the PERF. So the -- and has been designated to pay those -- the benefits for terminated members.

BOARD MEMBER MIDDLETON: Designated in what fashion?

SENIOR PENSION ACTUARY ROBINSON: I'm -- this is probably more of a legal question than an actuarial question.

CHIEF ACTUARY TERANDO: Yeah, it is. But those funds are set aside to cover the obligations of those specific employers. When the employer does terminate, we take the assets allocated to those employers and we pool it in the Terminated Agency -- the pool. And those assets are dedicated to paying for the benefits for those members in the Terminated Agency Pool and not any additional members.

BOARD MEMBER MIDDLETON: What I'm trying to get at is did we, as a Board, make that decision to restrict those funds in such a -- in the way that they are now designated or is the Public Employees Relations Law what is restricting these funds?

GENERAL COUNSEL JACOBS: It's the law.

BOARD MEMBER MIDDLETON: Okay. That's --

GENERAL COUNSEL JACOBS: There is a provision where if an agency terminates, that the -- it can be considered to be placed into the TAP, even if there is not -- they're not able to pay their termination fee. But that is -- requires that a termination by the Chief Actuary that there is -- that there is -- that that will not negatively affect the TAP, which is virtually impossible for him to make. So there is that. But basically that's the way the PERL sets it up.

BOARD MEMBER MIDDLETON: And that's what I thought it was.

Last question, I believe. Have we faced any allegations from agencies that are terminating that the fees that we are charging them for termination are excessive?

SENIOR PENSION ACTUARY ROBINSON: Yeah. I personally don't like these term "termination fee". And

I'm not sure exactly how that emerged over time.

BOARD MEMBER MIDDLETON: Okay. I'm happy to substitute another term.

(Laughter.)

SENIOR PENSION ACTUARY ROBINSON: Thank you.

When we do a termination valuation, we use a much lower discount rate, because we know the liabilities are going to be put into the TAP and the assets supporting the TAP is this dedicated immunized portfolio of government bonds. So to match the expected payments from that, the underlying discount rate for the valuation is much lower and that makes the liabilities much higher. We show in each of the public agency reports, our hypothetical termination liability in the event that an agency terminates.

So the funded -- so that additional payment which they need is just to bring the funded status up to match the lower discount rate used. So it's not a fee which is a processing or handling fee in that sense --

BOARD MEMBER MIDDLETON: Right.

SENIOR PENSION ACTUARY ROBINSON: -- it's an amount to make the liabilities and the assets match going into the -- going into the pool.

BOARD MEMBER MIDDLETON: And I appreciate that's a tough decision and calculation you have to make.

Because once we accept that termination and receive that fee, that's the last fee we're going to receive.

SENIOR PENSION ACTUARY ROBINSON: That's right. And that's why we have to be particularly conservative. And each valuation we look at the demographics of the terminating plan, and we look at the duration of liability, and select an appropriate discount rate based on the then existing treasury bond rates at the time.

So we're very market sensitive and we want to do our best -- the best job to protect one of -- the system and also give a fair deal to the agency who's terminating.

BOARD MEMBER MIDDLETON: Thank you. Appreciate it.

VICE CHAIRPERSON MILLER: Mr. Saha -- oh, could you push your button there, so I can get you. There we go.

ACTING COMMITTEE MEMBER SAHA: Thank you, Mr. Vice Chair. Just a quick question. I'm sure you've probably done some research on when the -- you expect the fund to go down to the 105 percent.

SENIOR PENSION ACTUARY ROBINSON: Well, that's kind of best of speculation.

ACTING COMMITTEE MEMBER SAHA: Right. Right.

SENIOR PENSION ACTUARY ROBINSON: So, no, we don't have anything, you know, in the Actuarial Office where we project you know, when plans are going to terminate in the future.

ACTING COMMITTEE MEMBER SAHA: Okay. Yeah, I was just curious if you'd done any modeling for forecasting on that?

SENIOR PENSION ACTUARY ROBINSON: No, I mean, I think -- I think we mention in the agenda item that if an agency terminated with a liability of 50 million what the impact would be --

ACTING COMMITTEE MEMBER SAHA: Right.

SENIOR PENSION ACTUARY ROBINSON: -- on the -- But we don't spec -- you know, have any notion of which agencies are -- may terminate or not terminate. That's beyond the scope of the work that we do.

ACTING COMMITTEE MEMBER SAHA: Okay. Thank you very much.

VICE CHAIRPERSON MILLER: Okay. I'm seeing no requests to speak, so I think that wraps that item.

Thank you, gentlemen.

SENIOR PENSION ACTUARY ROBINSON: Thank you.

CHIEF ACTUARY TERANDO: Thank you.

VICE CHAIRPERSON MILLER: Okay. On to 7b, Pension Modeling Tool, Pension Navigator. Mr. Terando and team member Kerry Worgan.

(Thereupon an overhead presentation was

presented as follows.)

CHIEF ACTUARY TERANDO: Good morning. Scott Terando from the Actuarial Office.

Item 7b is also an information item. And this item is a -- it's a demonstration of a pension tool that the Actuarial Office has developed in conjunction with the IT department.

We've had -- we've heard a number of employers requesting for us to help provide tools to them to kind of help them plan for their retirement contributions and do some analysis on their own. And so we went back and we looked at what we could do. And with that, we've come up with this tool.

It enables the stakeholders to kind of generate contributions and projected status on a number of scenarios and it gives the employers some kind -- some budget information as well. Kerry Worgan is Supervising Actuary in the office and he's going to step through and show a demo -- a demonstration of what the tool can do.

SUPERVISING PENSION ACTUARY WORGAN: Thank you, Scott.

Good morning, Committee and Board members. Kerry Worgan, Actuarial team.

And I have the pleasure today of introducing you to Pension Navigator. You may have heard this referred to in the past as Vital Signs. It's kind of our working name. And it was a good collaboration between the Actuarial Office and Tim Taylor's group, the Enterprise Division. And it was a fun project, I'll have to say, and it is ongoing.

So this is version 1. Keep in mind that we are continuing to make improvements and enhancements as agencies and Board members are requesting more useful information.

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SUPERVISING PENSION ACTUARY WORGAN: So -- all right. This plan was developed to assist our agencies in projecting costs and for planning and budgetary -- budgeting purposes.

Let's start with our pension fundamentals.

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SUPERVISING PENSION ACTUARY WORGAN: So the key measure or basic measure we have to view the current health of a pension system is the funded status. So effectively, if the funded status is less than 100 percent, it means that our assets aren't sufficient to meet the obligations. Our current funded status is around 70 percent. But we know that that's today and we have to move forward.

So our current funded status, as you know, is 100 percent and will always be 100 percent. As actuaries, we view the danger zone, if you will, as less than 50 percent. We view anything from 60 to 80 to 90 percent as sort of our caution warning zone. And we would feel much more comfortable at a 90, or 100 percent, or look at the TAP at 197 percent. That gives us much more comfort that those benefits are going to be paid.

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SUPERVISING PENSION ACTUARY WORGAN: So this tool sits on our valuation system. So what we have here is a baseline, based on all the valuation results for every plan that just went out June 30th, 2018. It gives us the position on that date. But we know that there's a lot of factors that we have to consider going forward. Investment returns, which are the primary driver, generally they create about 80 to 90 percent of our experience gains and losses.

So they are the big driver of cost. Member demographics, including salary growth, mortality rates, retirement rates, we have benefit provisions that we need to worry about in terms of PEPRA, transition from Classic to PEPRA. And we have a lot of actuarial assumptions and methods that are in place as well. Discount rate being the key one, currently at 7 percent. Our inflation rate also drives some of these costs at two and a half percent.

And our Amortization Policy that we just recently introduced, and will be fully effective with the next valuation, where we've lowered the amort period down to 20 years.

And, of course, actual experience. We can't predict what's going to happen into the future, but we scan forward. We're looking out on the horizon to see what's coming and we adjust. And that's the key here, it's the path forward we're worried about. Looking into the future, whether it's 3 years, 5 years, 10 years, or 30 years, it's the path forward that matters here.

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SUPERVISING PENSION ACTUARY WORGAN: So let's give you an analogy, and one I like to use for all my agencies, is say you were making a long sailing voyage from San Francisco to Hawaii, you would chart a direct course straight line. Okay. We know -- and that would be our baseline.

Okay. We know that with headwinds, and tailwinds, potential storms, we're going to get knocked off our course. We could be a little ahead of pace, we could be behind pace, but we still know where our target is and we adjust. Okay. Hence, the navigation tool. We are navigating towards this end goal of 100 percent.

So let's start off with the employer view.

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SUPERVISING PENSION ACTUARY WORGAN: Because there are two views under Pension Navigator for, the employer view is what we propose to send out to the agencies and let them have access to. So how does it check the current financial health of their plan? Well, we do projections of accrued liabilities. So we take the current accrued liability, we add in normal cost, we make benefit payments out, and we credit interest as we project those liabilities into the future.

We do the same thing with the assets. Again, we look at employer contributions coming in, employee contributions coming in, benefit payments going out, and assumed investment returns.

We compare those two and that gives us the unfunded liability. So one less two, liability less plan assets gives us the unfunded liability. The fourth one is the projection of the funded ratio. So we're taking assets divided by liabilities to say what is the current funded status.

And then finally, the key one is projecting employer rates and contributions. Obviously, those amounts are needed to fund normal costs going forward, but also to pay off the unfunded liability.

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SUPERVISING PENSION ACTUARY WORGAN: So there's not just the current position we're worried about. We are worried about the path forward, so we incorporated some stress tests that the employers, and agencies, finance directors can use to test for budgeting purposes going forward.

We know there's investment return volatility. Good years, where we earn more than 7 percent and bad years where we earn less than the 7 percent. We also are concerned about potential discount rate changes. And they may be curious to know if PERS was to drop the discount rate, how does that affect my budget?

Finally, there's some tools that the employers have in terms of additional discretionary payments, or ADPs, or if they're making contributions to a section 115 trust in terms of stabilizing their budgets.

And then finally, we've built in a budgetary impact for the tool that they can actually take all this information and produce budgets for themselves based on the next 5 to 7 years.

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SUPERVISING PENSION ACTUARY WORGAN: So again, this is a key aid. And we talked to a lot of our agencies about the tool and being able to model some of this stuff. The finance directors and city managers like to know where they're headed within the next 3, 5, 10, 20, 30 years. They want to know what the annual changes in their funding requirement may be. They also want to be able to see the impact of potential ADPs that they might want to make in terms of lower my cost, short term, long term. And also, they want to make sure, if they need to, to make provision for, you know, steep increases that we know are coming, how much money do I need to set aside maybe in a 115 trust to meet those contributions.

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SUPERVISING PENSION ACTUARY WORGAN: So saying that, let's have a quick look through. We'll give you a live demo. Hopefully, things will work here.

Well, actually going to start off with -- the first thing you'll see when they open up the model is this disclaimer. And we want to make sure that they're aware that these are projections, forecasts looking far into the future. And it's stuff that they're inputting into the system. Their conjecture on what could happen may not mirror what we as actuaries may put into the system as what could happen. So we just want to make sure when they're opening the system, they understand what they're agreeing and accepting in terms of these are projections. They're not things that we're actually telling them are going to happen. These are just possible horizons. So they'll get that disclaimer when they open it up.

All right. So let's go to -- let's pull up an employer at random. Right now, we've got this preloaded for all our non-pooled plans in version 1. The expectation is that we will continue to work and build it in for our pooled plans in the future in version 2 or version 3 as we go along.

But let's start off with the non-pooled plan. I'm going to start with City of Orange. And they have the ability to open up their miscellaneous or safety plan. And we'll look at their safety plan -- or sorry, miscellaneous plan.

All right. And when you open it up, this is what they'll see. Effectively, the red line is their contribution rate. And you can see for the next 30 years, obviously, it's going up initially as we climb those amortization ramps. And then it plateaus. And then it starts to fall off as bases start to fall off as they get paid off and the impact of PEPRA. Because we know that the PEPRA costs are slowly decreasing as they transition from classic to PEPRA members.

The blue line you can see there is the funded status. And again, that's -- for this plan, they're at 71.2 on the valuation date. And if we earn 7 percent every year, you'll see that they make slow and steady progress as they climb the curves up to 100 percent.

Now, there's a lot of information on here for them and some of the assumptions. And maybe I'll walk through some of the assumptions that they can use. You can see -- starting on the top left, you can see they can project 10, 20, or 30 years, again depending on what their horizon is that they're looking out. We allow them to turn PEPRA on and off. So we get a lot of questions of what are the savings of the system due to PEPRA? And we have the ability now to do some estimates on actual savings due to PEPRA under not only an individual plan, but the whole system.

So we can transition. And they have a choice to transition over 10, 15, or 20 years. Typically, we see about a 5 percent, 6 percent a year turnover into -- through PEPRA. And if that's to continue, our expectation is about 15 or so years that most of the people in the system will be PEPRA members at that time.

Now, we're seeing slightly slower turnover in the safety plan, so they may want to transition to 20 years, when they're looking ag their safety plans through this tool. I also have some plans that are over 50 percent already into PEPRA. So they may want to say, no, we're seeing much quicker turnover in our agency, in our system, so I'm going to use 10 years to do the projection.

We've also introduced an additional discretionary payment field, so they can access -- they say I'm going to put extra money into my plan, I just click on the yes, and I'll be able to define how much I can put in and how many years I'd like to do that for.

Finally, there's a random investment scenario. What we've done here is we've pulled in all the -- or most of the simulations that we ran for the 2017 ALM workshop. And they're randomly picking a scenario that -- because we know that we're not going to earn 7 percent obviously every year. There's going to be ups and downs. And that better reflects what we expect the funded status and contributions to be.

If they don't want to introduce a random scenario, can actually choose in the far right column a specific rate or series of rates. Okay. We've built it in at 7 as our baseline, but they can choose any rate that they want or any combination of rates for the next 30 years to do their projections. And I'll walk through some scenarios that I think a lot of our finance directors are considering.

Okay. Looking down the right side of here, you'll see that we've got some funded status information, the current, a year projected into the future, and then for the next 3 years, 5 years, and 10 years we show the funded status. And then on the employer rates, which is I think their main concern obviously is the current fiscal year, which is based on the 17 valuation, the projected for the next fiscal year, which is based on the valuations we just did, 6/30/18. And then we also show for the period that they choose, the average rate and the maximum rate, because they know where they are today, but how high is that going to go? So that's a key field.

And then finally, we also show them the cost over the period that they choose, in this case 10 years. This agency is going to pay $300 million into their fund. So when we use -- we can look at that figure, the 300 million and say if we change our investment returns, if we change our discount rate, how much does that impact the overall cost of that plan?

Okay. So everything is done in comparison to the baseline, which is what we provide from the Actuarial Office. But let's do a quick calc here and say, well, we know that we actually earn 6.7 in 18-19, so let's submit that as an updated return.

And we wait.

(Laughter.)

SUPERVISING PENSION ACTUARY WORGAN: All right. And you can see that although on this graph, it didn't change a whole lot, and we don't expect it to change a whole lot, you can see that the rate slightly increases, and that the overall cost that 1 year 6.7 has added 1.63 million in terms of the cost for the next 30 years.

All right. In addition under here, we also provide them with a look at their assets and liabilities, if they want to compare the modeling of the assets and liabilities, again over the period they choose. And then again, there's our budget tab. And I'll get back to that slightly that they can look at some of the budgeting.

So that's our plan A, if you will. A city director can say here's our expected cost at this point based on again investment returns only. We don't know the demographics yet for 18-19.

But let's go back, play with our modeling a little bit, and say, what if a random return was generated? So here we click on random. We want to generate a new random scenario, and we've given them the ability to pick a percentile. We want to say a low random investment return, a low moderate, a higher moderate, and then a very good obviously random return. Most of our finance directors are going to be concerned with the low ball. So they're going to throw a 25 to 50 or even a 0 to 25 to say, you know, how bad could rates possibly get?

So we click on submit. We run our random scenario. And this gives us a much better indication of what we believe is going to happen in terms of volatility. So you can see there -- slide this down a little bit.

Come on.

Oh, well, it's not going to move down. Obviously, you can see under this scenario rates jump up quite a bit. We've got some poor investment returns in the short-term. We have a good investment return obviously. Looks about 10 years into the future where rates drop. So again, we get some of that volatility that we expect. We don't assume a nice smooth line. We expect jagged ups and downs in terms of both rates and funded status. We just don't know exactly when and where those jags -- jagged lines are going to happen.

Okay. So that's a random. Let's go back. And again, we see Plan A, which was based on the 6.7. But maybe that agency is more concerned with sort of the downside risk. And they are proposing that what happens if we only earn, let's say, 6 percent for the next 5 years?

So they're more worried about downside risk. So they put in 5 years -- oh, we've got a 9 in there. Let's put a 1 in here. So this might -- they might call their plan B. You know, we know plan A is what CalPERS is telling us. But we want to protect a little bit on the downside. We think that the rates might be a little bit lower. And again, you get a nice graph of the slightly higher contribution rates going forward, the drop in the funded status, because we've got lower returns for the next 5 years. It means when you look at the diagnostics here, it adds about 10 percent to their overall cost over the next 30 years.

And you can see that the average contribution rate is now up to 28.93. So that's an increase of 2.6 percent. And the new maximum is now at 45.84, which is up almost 2 percent from the prior maximum.

So again, they have some idea of what this could do to our budgets looking forward. And again, that's the key is everyone should be looking forward into their planning.

So at this point, they would probably want to go and say that's our plan B. Let's look at our budget. So all the information that we see there is downloadable into an Excel spreadsheet, so they can take that information for both of their plans. You'll see there's a miscellaneous plan, a safety plan, and a combined plan, and they can download this information and develop their own presentations for city council. The information is all there. They can see the impact not only on annual increase in contribution rates, but also relative increase.

So you can see, for example, under this plan, we're seeing under our baseline 9.36 percent and a 7.4. With the new scenarios, obviously, because there's the two-career lag, 9 percent, 7 percent, and then 6 percent you start to get these increases as we ramp into these investment losses. Okay. So that's for Plan B.

Let's take a quick look, if we said what if we changed our discount rate? So let's go over to the discount rate and let's make this a 6.75, not 7.75. 6.75. We're also going to change our investment returns, because we should be consistent.

All right. So let's go back here and we'll pull up our funded ratio. Oh, yeah, they can also toggle on and off different bases if they want to see the comparisons. But let's go back to the summary here. Okay. So this is if we were to drop the discount rate to 6.75. Plan C for this agency, they want to know what is the impact? What does that do to my maximum rate? And my new maximum rate would go up the 49, 4.5 -- or, sorry, 4.86 over the baseline.

The average over 30 years is now 28.98. An increase of 2.65 over the baseline. So they have some measures, some metrics to compare the impacts of potential changes under the system to what their current baseline would be.

And again, they could bounce into their budget tool, take that information, and have their plan C for presentation purposes.

And then finally, we talked a little bit about the additional discretionary payment. We can reset our modeling. They say what if we want to make an additional payment, it shows them what 1 percent of the UAL is for their plan at the moment. For this plan, it's about a million dollars.

So let's go and put $2 million and see what kind of an impact that makes. And let's do that over say 3 years. They have a plan to pay down some of that UAL. We submit that.

And again, you can see that now the contribution rate has dropped as we expect. The funded status has improved and saving them, in this case, 7 and a half million dollars over the next 30 years. So again, they get some instant feedback over potential.

And they may call that plan D, right? They want to take some of that extra money, put it in the plan, or put it in a 115 trust. How does that impact our contributions going forward?

Okay. Any questions on the employer view?

CHAIRPERSON TAYLOR: So, yes. I want to thank you for the presentation. I have several questions.

Ms. Brown.

COMMITTEE MEMBER BROWN: Thank you. Can we go back to the original City of Orange?

SUPERVISING PENSION ACTUARY WORGAN: The original city, sure.

COMMITTEE MEMBER BROWN: So for those of us who have worked in budgets our whole career, you know, you know, public agencies live and die by their budget assumptions. You can have either inexperienced or people who have rose-colored glasses on, and project some really good numbers in to make their numbers look great, and almost mislead their city council, or their school board, or whoever.

So I have concerns about that. I love this that they can put this in. But I'm hoping that when we give this to the employers is that we kind of give them an idea of what the budget assumptions should be. Like, we have assumptions of what the PERF is going to return over the next 10 years, right? We know it's going to be less than 7. And then we know it's going to be -- for the next 30, it's going to be greater than 7.

And so maybe we could start with helping these agencies with what we think are the baseline budget assumptions, so that they're not being too rosy in their expectations, and then the cities get excited. I don't know. I'm just telling -- just a little help, because otherwise, you could end up with too rosy a situation.

Just like PEPRA, do you give them trend lines or are they tracking the trend lines of how many of their employees are in PEPRA? And it also depends which employees, right? If it's all the low-paid employees that are in PEPRA, that -- even if it's 50 percent. But if it's all the new workers that come in at a lower rate of pay, it won't -- it will skew that number as well.

So just wondering how we're going to help agencies and -- train them, because not all budget managers and city managers are created equal, as you've probably learned, right?

SUPERVISING PENSION ACTUARY WORGAN: Yes, definitely.

COMMITTEE MEMBER BROWN: Okay.

SUPERVISING PENSION ACTUARY WORGAN: That's a great question. You know, we do spend a lot of time with finance doctors. They've requested, on a regular basis, a tool that they can use to kind of do some more projections. There are limitations obviously. And that's why we want to make sure that disclaimer is this. Because as you said, if you're putting in bad assumptions, you're going to get some bad results.

We do provide the baseline, and that's our projection from the valuation reports. But we also want to educate them and use this as an educational tool to see the impacts of, yeah, what if we put in a 6.1 CMA for 10 years, what does that do to projected funding. That might be your plan B, or -- and I've talked to agencies already that have looked at this tool a little bit and they're saying, well, you know, maybe I want to put in a 5 percent as my plan C.

So all that they're trying to do is educate both their city council and their city managers as here's range of possible outcomes. We don't know which exact scenario we'll be on, but there's a range. And we have to be able to plan not only a baseline, but some contingencies. We need to have some reserves set aside.

And a lot of agencies and cities are doing that is put some money on contingency and into reserves for these potentials that may pop up. I think what they really want to know is how much do I need to have in my reserve? Is it a $20 million hit in that third year and fourth year, or is it a $10 million hit?

If we had a really bad year -- say I put in a minus 10, and all of a sudden those costs are driving up, how much of that do we need to put aside to make sure that we are able to meet the contributions of the plan? So again, we don't really know. There's a lot of talk about a recession, and then there's a lot of talk of no recession. So we're just not sure when it may happen or when it may not happen, but a lot of it is planning.

And like anybody setting up a budget, you need to have a plan A, a plan B, and a plan C, and maybe some of these agencies need a D, an E, and an F as well as to what could happen. Because although we're only looking at one piece of their budget, that's their pension, it is a big chunk, but they've got a whole range of other issues in terms of their revenue side that we don't even see and we don't really want to see what's going on on the revenue side. But that's a very good question.

COMMITTEE MEMBER BROWN: I forgot -- I forgot to start out by saying this is a very cool tool. Sorry. I just -- I'm a glass half empty kind of gal, probably because I've dealt with school budgets my whole career. But -- so I think it's very -- it's very awesome. It's going to be a great planning tool. And if it's not necessarily CalPERS who's helping our local agencies with budget assumptions, then maybe it's through their associations, like maybe League of Cities or the county consortiums, or something like that.

But I just wouldn't want them to -- I would just make sure that we maybe say don't be overly aggressive with your assumptions because -- or -- because you could end up in much bigger trouble. I just don't want them to mislead anybody.

But I think this is a very great tool for planning, especially for cities who are looking at making some one-time payments, and how will that help, and to convince maybe their city council to put the money into the -- to pay off the unfunded liability. I think that's a great. So good job.

SUPERVISING PENSION ACTUARY WORGAN: Okay. Thank you.

CHAIRPERSON TAYLOR: Thank you.

Mr. Jones

COMMITTEE MEMBER JONES: Yeah. Thank you, Madam Chair. Outstanding. This is an -- I wish I had this when I was CFO. You know, and like you said, it's just one piece of the puzzle for developing a budget, but it's a big piece, and it's a complicated piece that I think this tool is going to be very helpful in the path forward, as you mentioned, because school districts are now even required to have multi-year planning strategies adopted by the board. So this tool fits in right with that requirement.

On the disclaimer though, how -- is there a way that that is communicated to the policy board, or the board, or the city council, because Ms. Brown is right, that depending on what your goal is you may start using unrealistic numbers. And the first response is, oh, that's CalPERS' number. So is there a way to communicate to the policymakers when they use this tool, because -- oh, by the way, they will be able to use a similar tool with their governing body, just like you did with us? They will be able to do that?

SUPERVISING PENSION ACTUARY WORGAN: Yeah. They'll have access through my|CalPERS.

COMMITTEE MEMBER JONES: Right. And so they'll be able to present that. So somehow if we could just require that the governing body understands that when those numbers change, that it's an internal number. I don't know how you do that, but I think it's important that the governing body understands that, because otherwise it's going to be CalPERS told me. You know, and --

(Laughter.)

CHIEF EXECUTIVE OFFICER FROST: It's a good point. We may be able to put additional language into the disclaimer --

COMMITTEE MEMBER JONES: Okay.

CHIEF EXECUTIVE OFFICER FROST: -- that says, you know, the default scenarios come directly from the valuation reports for your -- for you. But if you run you're own scenarios, that you're responsible.

COMMITTEE MEMBER JONES: Yeah, something like that.

CHIEF EXECUTIVE OFFICER FROST: But we might be able to put something in the disclaimer.

COMMITTEE MEMBER JONES: Just something to just nudge them so that -- and then the other thing I wanted to ask you to just comment on is that the funded status, because it comes through very clear with this tool, that you don't need -- 71 percent funded doesn't mean that you need 100 percent today.

SUPERVISING PENSION ACTUARY WORGAN: Correct.

COMMITTEE MEMBER JONES: Because you're talking about 30 years later.

SUPERVISING PENSION ACTUARY WORGAN: Um-hmm.

COMMITTEE MEMBER JONES: So could you expand on that, so people understand that we got 1.9 million members and we have 600,000 retirees, and you need 100 percent for those 600,000 today. But the person that just started to work today, we don't need the funded status for that person until 40 years from now.

SUPERVISING PENSION ACTUARY WORGAN: Correct.

COMMITTEE MEMBER JONES: So it's the long term.

SUPERVISING PENSION ACTUARY WORGAN: And that's why I used the analogy of the long voyage --

COMMITTEE MEMBER JONES: Yeah.

SUPERVISING PENSION ACTUARY WORGAN: -- because it does -- it is a 30-year path or longer, right? We have people that join the system today. We expect they'll get benefits 60 years from now. So it's beyond 30 years. We kind of have a 30-year mindset. But we've also heard that agencies are worried about the next five years as well.

So it's the whole path forward. It's 5 years, it's 10 years, it's 20. They want to make sure. But at least with the tool, they have an idea of saying, okay, we can follow that contribution line. When does it start to come down for us, right?

We have 8 years of high rates and then it slowly -- the PEPRA starts to kick in and we can afford the stuff after 8 years. But we really have to focus on the next 8 to get through that period. And if there's a shock to the system, if we have a bad investment return, how much higher does that go?

So funded status is important. Obviously, at 70 percent today roughly, I'd feel more comfortable if it was at 80 percent, even better if it was 90, but it's a lot better than 60. You know, one advantage of this tool is we can run the whole system and say what if we had left it at 7 and a half, right? We dropped the discount rate from 7 and half to 7, how much does that hurt the funded status? And we'd be up over 75 percent if we'd stayed at 7 and a half.

COMMITTEE MEMBER JONES: Sure.

SUPERVISING PENSION ACTUARY WORGAN: So it's just an ongoing long trip that we're slowly navigating through. This tool allows them at least to project at their level what their cost would be and that they're making progress on their funded status. I think that's -- that's the key is that people kind of want to know when do these rates come down, when does my funded status get to 80 or 90, you know, so -- and now they have some actual information and an analytical tool that allows them to do some what if stuff, so...

COMMITTEE MEMBER JONES: Good. Good. Well, again, I just want to applaud you for your vision and your foresight to come up with this tool. That's not going to only help the individual agencies, but also help CalPERS --

SUPERVISING PENSION ACTUARY WORGAN: Exactly.

COMMITTEE MEMBER JONES: -- manager better. So I appreciate the effort. Thank you.

SUPERVISING PENSION ACTUARY WORGAN: Thank you.

CHAIRPERSON TAYLOR: Yeah. Thank you for the tool. I'm really impressed with it. I had a question. I think Henry was asking the question, but I'm not sure. So this live demo that you're doing, I assume if they bring a computer in and hook it up to their screen, they can do this in front of their members, and their board, and stuff, right?

SUPERVISING PENSION ACTUARY WORGAN: I would assume they could do it. Yeah, if they have access to my|CalPERS.

CHAIRPERSON TAYLOR: Okay. So they -- well, they can actually do it live if the Board asks for them to -- hey, I don't trust your figures that you're saying. Hey, bring this tool in so we can all see.

SUPERVISING PENSION ACTUARY WORGAN: Right. Right.

CHAIRPERSON TAYLOR: Okay.

SUPERVISING PENSION ACTUARY WORGAN: Yeah, because anyone on the Board could say, well, hypothetically what if we only earn 5.

CHAIRPERSON TAYLOR: Right. Well, then let me pull this up and I'll show you.

SUPERVISING PENSION ACTUARY WORGAN: Right.

CHAIRPERSON TAYLOR: Yeah. Okay.

Mr. Perez.

COMMITTEE MEMBER PEREZ: Strong work guys. Thank you.

You asked if this was for the employer side. Is there going to be an employee piece to this, because I have a couple question on the employee piece?

SUPERVISING PENSION ACTUARY WORGAN: On the employee side, no. I don't think we have -- I mean, my guess is that if the agencies wanted to show the employees, you know, do groups. Call in the employees and say, you know, here's the plan, here's the path we're on, they could demonstrate some of the stuff for them. But the employees obligations are to make their contribution, whatever that may be, if they're PEPRA classic.

COMMITTEE MEMBER PEREZ: Sure. I was hoping for something that the labor groups could use to do the same thing. So when CalPERS --

CHIEF ACTUARY TERANDO: Well, like Kerry mentioned, there's an employer view. This is the employer view. There's also, what we call, say a Board view for -- that looks at the PERF overall instead of the specific rate plans. And that just gives a view of basically running through these types of scenarios at the PERF level.

And then I think the eventual goal will be -- we are going to be rolling this out in stages. The goal is to roll it out to the Insight Tool and have it available to Board members. And in the next couple weeks by Ed Forum have it available to employers. And I think the eventual goal is to have it available on our website, so anyone can run it, employer, employees, as well.

COMMITTEE MEMBER PEREZ: Okay.

CHIEF ACTUARY TERANDO: Because as you mentioned, the employees will be interested in running this analysis as well. You'll have, you know, a number of stakeholders that want to run scenarios as well. So the goal will be to have this out there available. I mean, when you think about it, a lot of this information is in the annual valuation report. Charts and tables in the back of the report that no one ever reads, but it's there.

(Laughter.)

CHIEF ACTUARY TERANDO: And this just kind of makes it a little bit more available to people and a little bit more --

COMMITTEE MEMBER PEREZ: Dumbs it down.

CHIEF ACTUARY TERANDO: -- interesting seeing colored graphs instead of reading a report.

COMMITTEE MEMBER PEREZ: Right. Then with the direction -- or at the -- with Ms. Taylor's consent, then that would -- that's a goal that I would like to see.

CHIEF ACTUARY TERANDO: Oh, no, no. When I say it's a goal is --

COMMITTEE MEMBER PEREZ: It's going to happen?

CHIEF ACTUARY TERANDO: Yes. I mean, it's just a matter of getting everything implemented.

COMMITTEE MEMBER PEREZ: Okay. Thank you.

CHAIRPERSON TAYLOR: I just want to clarify. So the goal is to have this out on the Insight Tool and we can look at employee contributions, is that what you're asking?

COMMITTEE MEMBER PEREZ: I want the employees to be able to log on -- ong on whenever.

CHIEF ACTUARY TERANDO: He wants the employee to be able to do what we just did.

CHAIRPERSON TAYLOR: So when they sign into their My|CalPERS, is that what you're saying?

COMMITTEE MEMBER BROWN: No, as an employee group, as an employer group, like negotiations.

CHIEF ACTUARY TERANDO: Yes.

CHAIRPERSON TAYLOR: So you're saying labor groups can sign on?

CHIEF ACTUARY TERANDO: Yes. Correct.

CHAIRPERSON TAYLOR: Okay.

CHIEF ACTUARY TERANDO: And they don't have to sign on. It will be available on the CalPERS web.

COMMITTEE MEMBER PEREZ: That's our job to keep the city honest or the organization honest.

CHIEF ACTUARY TERANDO: Yeah. I mean, it wouldn't be -- if you think about it, it wouldn't be fair to give it to the employers and not --

CHAIRPERSON TAYLOR: Right. Right. Right.

CHIEF ACTUARY TERANDO: -- labor groups --

CHAIRPERSON TAYLOR: Okay. So they're going to get to sign on.

CHIEF ACTUARY TERANDO: -- or just any stakeholders in general. So the plan is to make it available to everyone.

CHAIRPERSON TAYLOR: Okay. Great

COMMITTEE MEMBER PEREZ: Excellent.

So if we're going to make it available to everybody, is there a way to -- oh, man, I know this will take a lot of work, but maybe you guys already have it. So for Orange, you have miscellaneous and safety. And let's say I'm a negotiator for miscellaneous, am I able to go in and say, okay, for miscellaneous, I'm going to give this class of an employee a 5 percent bump, and this class of an employee a 2 percent bump, and what's my -- what's my cost going to be for that?

SUPERVISING PENSION ACTUARY WORGAN: That's definitely not in version 1. It may not show up until version 3 or 4. But it gets back into our valuation system to be able to drill down into these different groups. And that's the problem we have. You'll see that the assumptions we allow you to play with right now is just discount rate.

But things like payroll and inflation, we're hoping to get into version 2 based on some of the sensitivity work we do. But it gets a little more complicated to start drilling down into specific groups to say, hey, these guys are going to get a 4 percent pay increase, what is that going to do to my accrued liability? But --

COMMITTEE MEMBER PEREZ: That would be -- that would be helpful to both sides --

SUPERVISING PENSION ACTUARY WORGAN: Yes.

COMMITTEE MEMBER PEREZ: -- because -- well, just fact -- just strictly factual numbers. And then --

CHIEF ACTUARY TERANDO: Right. Well, part of the goal is, as we roll it out to employers and individuals, we'll get their feedback and suggestions. And as Kerry mentioned, this is an ongoing. It's not like it comes out and then we don't change it, that we -- I'll say enhancements, additional changes, as this -- as we go forward. So any suggestions, comments, or changes, we'll take and we'll process them and see if we can include those in future versions.

COMMITTEE MEMBER PEREZ: Yeah. I think this kind of information would streamline negotiations for both sides.

CHAIRPERSON TAYLOR: Maybe.

COMMITTEE MEMBER PEREZ: Will it -- so in versions 6, 3, whatever, will that include the employee contribution?

SUPERVISING PENSION ACTUARY WORGAN: You mean in terms of cost sharing, things like that?

COMMITTEE MEMBER PEREZ: Um-hmm.

SUPERVISING PENSION ACTUARY WORGAN: Again, there's things that we can put on the table in terms of what possible enhancements can we make and how can we do it effectively, given that there's, you know, 3,000 plans out there? I think that's the challenge as we start to pool them.

COMMITTEE MEMBER PEREZ: I know it's a lot of work, but you guys opened the -- you guys opened Pandora's Box.

(Laughter.)

COMMITTEE MEMBER PEREZ: And is there a way in the -- for the employee -- for everybody then to show -- maybe do some free marketing for us to show what the pre-funded -- pre-funded trust would be -- if we were to put money into the pre-funded trust as opposed to paying it down, could we do another line saying, hey, if you guys did this, and that meant this kind of return, what would that look like?

SUPERVISING PENSION ACTUARY WORGAN: I think that's a possibility. Again, there's all kinds of enhancements that we can make to the system. And we started with the ADP, because it goes directly into the plan. The 115 trust we know sits outside the plan and those are assets that it can use to fund contributions. It's possible that we can model some of that stuff as well and we can work with Arnita's group to incorporate some of that into the model as well. But again, version 2 or 3.

COMMITTEE MEMBER PEREZ: And then for -- to answer the earlier questions, when we -- when the system spits out the plan A, B, C, whatever, can we always have a default that there will always be the actual PERS numbers first, and then, you know, their plans?

SUPERVISING PENSION ACTUARY WORGAN: Yeah. When they open up the tool, it defaults to our baseline. And when you reset it anything, it defaults back to baseline. So the baseline is always there. And again, we keep reinforcing that the baseline is our best expectation based on the valuation report and that's our plan A.

COMMITTEE MEMBER PEREZ: Yeah, but you guys are the best, so that's the numbers that we want.

(Laughter.)

COMMITTEE MEMBER PEREZ: So even when they spit out the numbers for the spreadsheets for their presentations, if we could make them get that information, and then they have to make a conscious choice to say we're not going to --

SUPERVISING PENSION ACTUARY WORGAN: Yeah. It's already on the budget tool right now. The baseline is always there. So they'll see the baseline numbers and then the scenario that they've chosen.

COMMITTEE MEMBER PEREZ: Okay.

SUPERVISING PENSION ACTUARY WORGAN: So they'll always, from the budget page, get the comparison, so everything is kind of compared to both baseline and whatever they've modeled.

COMMITTEE MEMBER PEREZ: Perfect. Thank you.

And then lastly, maybe on each of those little spreadsheets that they spit out, we can do that disclaimer, that warning.

SUPERVISING PENSION ACTUARY WORGAN: That's a good point. Definitely wouldn't -- when we download the information, we want to make sure that these are projections based on input that you've put into the system. The baseline is based on the valuation reports as of 6/30/18, and that would be a good point to do for the download.

COMMITTEE MEMBER PEREZ: I never would have thought that this kind of stuff makes me excited.

(Laughter.)

COMMITTEE MEMBER PEREZ: But you boys did a good job. Thank you very much.

(Laughter.)

CHAIRPERSON TAYLOR: Thank you.

Ms. Paquin.

ACTING COMMITTEE MEMBER PAQUIN: Thank you, Madam Chair.

This is a wonderful tool. And I think it's going to be so useful for a lot of different groups. And I do like the concept of putting the disclaimer on the Excel sheet when you have out the results.

I'm just curious. I know that this hasn't been broadly released to employers, but did you have a core group that was helping you test this along the way?

SUPERVISING PENSION ACTUARY WORGAN: We did. We introduced 10 agencies with -- working with the League of Cities. We sat down and did the demo, listened to their feedback, listened to things that they requested that -- a lot from the budgeting side actually that they wanted to see a lot more. We had provided I think 5 years initially. They wanted go at least 7. So whatever ramps were in place were fully vetted.

And took a lot of their feedback. It was a good discussion. And a lot of the things that they introduced had been reflected as part of the -- I mean, I'm not going to say it's the final, but it's final version 1.

But again, we're always listening, and we want to know what more can we do to make this a better tool? So we're looking for enhancements both from agencies and yourselves as Board members as what more do you want to see from this? What kind of metrics are you concerned about? What kind of planning should we, you know, help you -- help you do?

ACTING COMMITTEE MEMBER PAQUIN: And I appreciate the back and forth, and the feedback, and your willingness to Incorporate that. I'm just curious going forward, will there be a formal process for users to give you feedback or are you just expecting them to email you, call you?

SUPERVISING PENSION ACTUARY WORGAN: Well, we are running a session at the Ed Forum, introducing it again to all the agencies. Just as a caution, it's only available right now to non-pool plans. So we're already getting some pushback from these pooled agencies that, you know, we want to have a tool as well.

So we are still working on getting a possible pooled version of this plan. We will do some demonstrations. We will also be encouraging them to give us feedback, yeah, if they want to see more information, enhancements, fine-tune things.

I mean, we've given them certain parameters. You'll notice that the discount rate goes from 6 to 8 percent and we feel comfortable showing those kind of ranges. But the PEPRA, maybe they want to lower the PEPRA or make it a number that they want to introduce. Maybe they want to use 12 years. Things like that that we can possibly change and incorporate. We're willing to work with them to make this again a better tool for everybody to use.

ACTING COMMITTEE MEMBER PAQUIN: And last question is will you have the capability to track which agencies are actually using this tool. And I ask that, because if you start to see that maybe there's a group that someplace is not using it, would you consider doing outreach to them and explaining what they could benefit by using this?

SUPERVISING PENSION ACTUARY WORGAN: That's a good question. I don't think we're actually tracking who's going to be using it. My expectation is that we'd probably -- I mean, and we always encourage -- as actuaries we encourage our finance directors to reach out to us at least once a year to talk about what's going on.

This is another tool that we can say, hey, if you have any questions using the tool, you know, you can reach out to us, and we can help you, and do some planning.

Make sure that you are putting reasonable scenarios in play, and to have more of a dialogue around, you know, the path forward.

Because ultimately that's our concern is to make the system sustainable, is the path forward. Are you guys going to run into issues and troubles? You need to know sooner rather than later. So I think anything that we can do to encourage some dialogue with our agencies is a good thing.

ACTING COMMITTEE MEMBER PAQUIN: Okay. Great. Thank you

CHAIRPERSON TAYLOR: Thank you.

Ms. Middleton.

BOARD MEMBER MIDDLETON: Okay. Thank you.

Again, this is a fabulous tool. I wish we had had it every year that we've done budgets. So I know that in every city this is going to be enthusiastically appreciated.

A couple of questions. You're going to roll this out at the Educational Forum in October to all of the cities. We won't have absolutely everyone there. Is it live now or is there a date you're going to turn this on to any city?

SUPERVISING PENSION ACTUARY WORGAN: Well, you can see that it's still in a test environment, so we are still doing a little bit of testing. There's still some little bugs and tweaks that we're trying to make sure it's 100 percent solid by the time it goes out in October.

As Scott said, there is an Insight version -- the Board view of this --

BOARD MEMBER MIDDLETON: Um-hmm.

SUPERVISING PENSION ACTUARY WORGAN: -- that we expect is probably going to be ready in a week or two. And you guys will be able to play with it and look at some of the numbers.

Not only can you look at any plan, but you can look at any of the State plans, which -- or schools that are the big plans. So the expectation again is to make it available once it's fully vetted, and checked, and 100 percent ready, for -- and again we think comfortably that we can reach the Ed Forum and have this ready to go.

BOARD MEMBER MIDDLETON: So we're looking at next week or so that those of us on the Board will have an opportunity to go live with it. Is it approximately November 1 that all of the municipalities will have it, is that reasonable?

SUPERVISING PENSION ACTUARY WORGAN: I think that's the goal, yeah.

BOARD MEMBER MIDDLETON: Okay. And I want to applaud you for making a decision to post this to the website, which is -- am I understanding it correctly, anyone then would be able to go to the website, plug in a city, and start coming up with a calculation.

SUPERVISING PENSION ACTUARY WORGAN: Yes.

BOARD MEMBER MIDDLETON: And that includes all of the media, all of the labor organizations, everyone?

SUPERVISING PENSION ACTUARY WORGAN: For better or for worse.

BOARD MEMBER MIDDLETON: You know, if we can get agreement as to what the actual numbers are, it makes all of the other discussions go so much easier, so I think this is a fabulous tool.

When do you expect to be live on the website?

CHIEF ACTUARY TERANDO: I don't have a firm date on that. I think it really depends on how quickly we can get it finalized. As you can see, it's a test environment. It's taking a little bit longer than we would prefer it to take. Once we get the speed up, we want to give it out to employers, roll it out to them, and then very soon afterwards make it available to everyone at that point.

CHIEF EXECUTIVE OFFICER FROST: Yeah. And, Ms. Middleton, one of the factors that we would look at is what's the level of support needed from the actuaries to support the employers and others who are using it sooner.

BOARD MEMBER MIDDLETON: Okay.

CHIEF EXECUTIVE OFFICER FROST: And then once they have good handle on that, that would then determine the rollout.

BOARD MEMBER MIDDLETON: That makes perfect sense. How much time and work has gone into doing this?

SUPERVISING PENSION ACTUARY WORGAN: Well, it's an interesting story, because this started with one question from an agency probably about 9 years ago now. And a good friend from Newport Beach asked, you know, what's the projected UAL in 30 years?

So that kind of started the ball rolling and then we were projecting 30 years for an agency and other questions that evolved. So it's -- it has -- a spreadsheet has evolved over basically the ast 9 years.

This model itself was then put together over a couple weekends to take all that information and blow it up for the whole system, which is I think the key is to be able to show -- model the whole PERF. And you'll see that in the Board view is that we can now model the whole system to see the impacts, but -- so there's a bunch of time, but it's little bits and pieces along the way based on questions from the agencies.

BOARD MEMBER MIDDLETON: All right. I have one question. I see the -- on the report, cost over 30 years.

Does the report break down those costs for each year, so that if I'm looking at I'm going to be out $300 million over the course of the next 30 years, can I track how many -- how much money each year you are projecting to be due?

SUPERVISING PENSION ACTUARY WORGAN: That's a good question. I mean all that -- all those numbers are there.

BOARD MEMBER MIDDLETON: Um-hmm.

SUPERVISING PENSION ACTUARY WORGAN: And within the budget, you can see the next 7. But I think when I was talking to Tim's crew is that they could download all 30 years when they're doing the download, so you get year by year for the next 30 years for both plans.

BOARD MEMBER MIDDLETON: I knew from a budgetary standpoint that's the data that we're going to be looking at, most particularly on a city council if we're trying to make a decision as to whether or not to make an additional discretionary payment, it is what's that impact going to be both in the near term and the long term that is going to be probably driving that decision.

SUPERVISING PENSION ACTUARY WORGAN: Well, that's a good comment to make. And I think we can incorporate that as part of our download.

CHIEF ACTUARY TERANDO: Yeah. And like I said, when we get it out to the Board view, you -- I'd encourage you to take a look at it. And if it's -- something is not there that we might be able to get before the employer version gets out, please let us know.

BOARD MEMBER MIDDLETON: All right. Last. For my colleagues, most municipalities have been spending a fair amount of money going to consultants to get the data that we're now going to be able to get here. And not only is this a tremendous tool for all of us, there's potentially some savings for all of us in terms of not requiring as much consultant work and having a much more standardized approach.

So congratulations and thank you.

SUPERVISING PENSION ACTUARY WORGAN: Thank you.

CHAIRPERSON TAYLOR: All right. Mr. Miller.

VICE CHAIRPERSON MILLER: Yeah. Thank you. I would echo everyone's comments about how exciting this is. And I think it really shows responsiveness to our stakeholders, to everyone's needs, but I think it also -- although it's going to require some support, I kind of almost view it as giving everyone access kind of to something of an expert system that can also reduce the internal need for us and for -- we have much more efficient and streamlined communications.

This capability and sharing this with stakeholders I think, rather than having all these one-off conversations, and calculations, and consultants, and all this, just moves everyone a step toward having their needs met in a much more systematic, effective way. So the efficiency factor is not lost on me either.

I did have a couple little things on the whole idea of the disclaimer. In my experience, the more comprehensive and bigger the disclaimer is, the more quickly -- and you can track it empirically, that people get to the bottom and click on it without reading it.

And so I would have -- a couple things that have helped in projects that I've been involved in with those kind of things, one, terms and conditions, not just a disclaimer, not just an acknowledgement that I realized this is, you know -- you know, not handed from the clouds with a loud voice and thunder. And so any terms or conditions related to reproduction or attribution, any kind of recapitulation of that within individual pieces, like the spreadsheet or something, so -- and if you have more than one thing in there, so if you have a little bit about reproduction, if you have a bit about acknowledging that these are projections, acknowledging sources, whatever, that if you have your disclaimer with a couple of those little check this, check this, check this before you can check this, it's slows people down. And then you don't have to reproduce the entire disclaimer on other pieces, if all that's important for a spreadsheet or something is the acknowledgement of the source material or whatever.

So just a couple things. And I'm sure you've probably already been thinking about, and that Legal is thinking about, but -- that I found helpful, because they've kept me from just going click. I want to get to the good stuff. I -- you know, everybody sees those on a lot of things. And more and more, people just look where's the box I click to get to the stuff I want to see.

But again, thank you. Just great stuff.

CHAIRPERSON TAYLOR: Thank you.

Ms. Olivares.

BOARD MEMBER OLIVARES: Thank you. This is an interesting tool. So I want to echo Mr. Miller and Ms. Pasquin's comments too. It would be great to have some type of disclaimer that says this is for informational purposes only, some type of active attestation, they're checking a box, and then when they're printing it out, it shows.

I wondered if we could get a product roadmap, which shows the features, and maybe on no more than like a quarterly basis, right, so 2019, Q4 this is what we expect, Q1 2020? Especially, as this goes out, again very exciting, I think there's going to be a lot of requests for additional features and functionality. And that takes time, right?

CHIEF ACTUARY TERANDO: Correct.

BOARD MEMBER OLIVARES: So that would help us manage expectations, and cost, and understand what resources are needed going forward.

SUPERVISING PENSION ACTUARY WORGAN: Good. Thanks. Good comments.

CHAIRPERSON TAYLOR: All right. Seeing no other requests to speak.

Let's move on -- thank you very much for your presentation. Let's move on, Mr. Cohen, to summary of committee direction.

CHIEF FINANCIAL OFFICER COHEN: Yes. Thank you, Chair. Two items. First is providing on the Social Security fee some follow-up analysis on the nexus.

And the second from the conversation we just had, the most immediate work will be on the disclaimer kind of discussion, and then obviously there's lots of long-term changes we'll be looking at. And we'll certainly keep the Board informed on the tools and look forward to your feedback. As you are out there talking to your stakeholder interest groups, I'm sure you'll get a lot of feedback as well. So we'll look forward to that.

CHAIRPERSON TAYLOR: All right. Thank you.

Thank you.

So I have no requests for public comment.

So this Committee is adjourned.

(Thereupon the California Public Employees' Retirement System, Board of Administration, Finance & Administration Committee meeting adjourned at 10:03 a.m.)

C E R T I F I C A T E O F R E P O R T E R

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, do hereby certify:

That I am a disinterested person herein; that the foregoing California Public Employees' Retirement System, Board of Administration, Finance & Administration Committee meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California;

That the said proceedings was taken before me, in shorthand writing, and was thereafter transcribed, under my direction, by computer-assisted transcription.

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 21st day of September, 2019.

JAMES F. PETERS, CSR
Certified Shorthand Reporter
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