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2	NEW YORK CITY TEACHERS' RETIREMENT SYSTEM
3	BOARD MEETING
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б	Held on Thursday, November 16, 2017, at 55 Water
7	Street, New York, New York
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9	ATTENDEES:
10	JOHN ADLER, Chairman, Trustee
11	DAVID KAZANSKY, Trustee
12	THOMAS BROWN, Trustee
13	JOHN DORSA, Trustee
14	RAYMOND ORLANDO, Trustee
15	DEBRA PENNY, Trustee
16	PATRICIA REILLY, Teachers' Retirement System
17	SUSAN STANG, Teachers' Retirement System
18	VALERIE BUDZIK, Teachers' Retirement System
19	THAD McTIGUE, Teachers' Retirement System
20	
21	REPORTED BY:
22	YAFFA KAPLAN
23	JOB NO. 0611032
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25	

1 2 ATTENDEES (Continued):

3	KAVITA KANWAR, Teachers' Retirement System
4	PAUL RAUCCI, Teachers' Retirement System
5	ANNETTE HANHARAN, Teachers' Retirement System
б	ANTHONY MEZZACAPPA, Teachers' Retirement System
7	CARMELA CRIVELLI, Teachers' Retirement System
8	RENEE PEARCE, Teachers' Retirement System
9	MARTA ROSS, ESQ., Law Department
10	SHERRY CHAN, Office of the Actuary
11	ANDREW BRADFORD, Teachers' Retirement System
12	LIZ SANCHEZ, Teachers' Retirement System
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1	Proceedings
2	MR. ADLER: Okay, folks, good
3	afternoon. Welcome to the Teachers'
4	Retirement System board meeting for November
5	16, 2017.
6	Pat, could you please call the roll?
7	MS. REILLY: John Adler?
8	MR. ADLER: I am here.
9	MS. REILLY: Thomas Brown?
10	MR. BROWN: Present.
11	MS. REILLY: David Kazansky?
12	MR. KAZANSKY: Here.
13	MS. REILLY: Raymond Orlando?
14	MR. ORLANDO: I am here.
15	MS. REILLY: Debra Penny?
16	MS. PENNY: Here.
17	MS. REILLY: Susannah Vickers?
18	MR. DORSA: John Dorsa for the
19	Comptroller's Office.
20	MS. REILLY: John Dorsa for the
21	Comptroller's Office is present. We do have a
22	quorum.
23	MR. ADLER: Very good.
24	MS. REILLY: So next on the agenda, an
25	update of TRS operations. Kavita Kanwar will

- Proceedings
- 2 give us that update.

3 MS. KANWAR: The 2017 annual benefits statement mailing started in early November. 4 5 The mailings are expected to continue through б the month of November. Approximately 123,000 7 members with membership status of active and 8 on leave will receive a statement by mail. 9 The online version of the previous statements 10 were posted to the secure section of our 11 website earlier this week. Members can go 12 into their account to access an electronic 13 copy of this year's statement. We are 14 informing members that this year's statement 15 is the last one they will receive by mail. Future annual statements will be available 16 17 only on our secure website. This is the latest step in our strategic efforts towards 18 more people, less upkeep. 19

20 The first 2017 issue of our member 21 newsletter has been published. Inservice News 22 will be mailed to our nonretired members over 23 the next week, and benefit reports will be 24 mailed to our retirees. Thank you. 25 MS. REILLY: Thank you, Kavita.

1	Proceedings
2	Next is the executive director's report.
3	And the first item there is the next meeting,
4	and it's been suggested that the next regular
5	meeting of the Teachers' Retirement Board be
6	held on the third Thursday of the month,
7	December 21, 2017.
8	Next on the executive director's report,
9	the resolution of the approval of the
.0	amendment to rules of the Board of Education

10 11 Retirement System. "Whereas the Board of 12 Trustees of the Board of Education Retirement System adopted and submitted to the Teachers' 13 14 Retirement Board for approval as required by 15 New York Education Law, section 2575, an 16 amendment to Section 5a of the BERS Rules and 17 Regulations, to permit an employee-member's 18 elected alternate to act as a member of the 19 Retirement Board in the absence of such employee-member. Resolved, the TRS Board 20 21 approves the amendment to section 5a of the 22 BERS Rules and Regulations, to permit an 23 employee-member's elected alternate to act as 24 a member of the Retirement Board in the 25 absence of such employee-member."

1	Proceedings
2	MR. ADLER: Is there a motion to approve
3	this resolution?
4	MR. ORLANDO: So moved. Help a guy out.
5	MR. ADLER: Is there a second?
6	MR. BROWN: Second.
7	MR. ORLANDO: Thank you, Tom.
8	MR. ADLER: I don't know if you want to
9	say anything more about it.
10	MR. ORLANDO: Happy to. So as co-chair
11	of the Board of Education Retirement System,
12	we are bringing this resolution requesting
13	your approval because we frequently run into
14	times where we don't actually manage to have a
15	quorum. Part of the quorum requirement is
16	that at least one of the two union side folks
17	on our board be present. Each union side guy
18	has an alternate but the alternates are not
19	authorized at this point to actually take over
20	in the event that one of the union side guys
21	can't make it. So allowing them this
22	resolution, you will allow the alternates to
23	actually serve in place of in the absence of
24	the union guys will help us to actually better
25	manage the System's needs so and I hope for

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1	Proceedings
2	your approval.
3	MR. ADLER: Just to be clear, so this
4	change was approved by the BERS Board?
5	MR. ORLANDO: Yes.
6	MR. ADLER: But again, under the laws
7	stated in the resolution, it must be submitted
8	to the Teachers' Retirement System Board in
9	order to be approved?
10	MR. ORLANDO: Yes, to happen.
11	MR. ADLER: Any further questions or
12	discussion? Okay. Motion made and seconded.
13	All in favor of the resolution to approve the
14	amendment to the rules of the Board of
15	Education Retirement System, please say aye.
16	Aye.
17	MR. DORSA: Aye.
18	MR. KAZANSKY: Aye.
19	MR. BROWN: Aye.
20	MR. ORLANDO: Aye.
21	MS. PENNY: Aye.
22	MR. ADLER: All opposed, please say nay.
23	Any abstensions? Motion carries.
24	MS. REILLY: Next is attendance at a
25	conference. The following resolution is

1	Proceedings
2	presented for consideration and possible
3	adoption. "Resolved, that the Trustees of the
4	Teachers' Retirement Board hereby approve the
5	attendance and participation of the Executive
6	Director and/or her designees, and any
7	interested trustee, at the 2018 National
8	Conference on Public Employee Retirement
9	Systems' Legislative Conference, from January
10	28th through January 30, 2018."
11	MR. ADLER: Okay. Is there a motion to
12	approve this resolution?
13	MS. PENNY: So moved.
14	MR. ADLER: Is there a second?
15	MR. KAZANSKY: Second.
16	MR. ADLER: Motion made and seconded.
17	Any discussion? All in favor of the motion to
18	approve the resolution regarding attendance at
19	the 2018 NCPERS Legislative Conference, please
20	say aye. Aye.
21	MR. DORSA: Aye.
22	MR. KAZANSKY: Aye.
23	MR. BROWN: Aye.
24	MR. ORLANDO: Aye.
25	MS. PENNY: Aye.

1	Proceedings
2	MR. ADLER: All opposed, please say nay.
3	Any abstentions? Okay. Motion carries.
4	MS. REILLY: Next on the agenda is the
5	calendar and the matter of the approval of the
6	minutes for June 21, 2017.
7	MR. ADLER: So I think we are going to
8	lay those over, the June 21, 2017 TRS CIM
9	minutes because they are being revised.
10	MS. REILLY: Okay. And then the
11	September 7, 2017 TRS investment meeting
12	minutes, the September 20th TRS CIM minutes,
13	October 5, 2017 TRS investment meeting
14	minutes, October 18th TRS CIM minutes, and the
15	October 19th regular board meeting minutes.
16	MR. ADLER: Okay. So is there a motion
17	to approve these minutes?
18	MR. BROWN: So moved.
19	MR. ADLER: Is there a second?
20	MR. DORSA: Second.
21	MR. ADLER: Any discussion? All in
22	favor of the motion to approve the minutes
23	listed by Patricia for the dates listed,
24	please say aye. Aye.
25	MR. DORSA: Aye.

1	Proceedings
2	MR. KAZANSKY: Aye.
3	MR. BROWN: Aye.
4	MR. ORLANDO: Aye.
5	MS. PENNY: Aye.
6	MR. ADLER: All opposed, please say nay.
7	Any abstentions? Okay. Motion carries.
8	MS. REILLY: Next are the items on the
9	calendar. You all should have received an
10	electronic version of the calendar for your
11	review prior to the meeting.
12	MR. KAZANSKY: Please waive the reading
13	of the calendar.
14	MR. ADLER: Okay. So we have all
15	received the calendar. Is there a motion to
16	approve the calendar?
17	MR. KAZANSKY: So moved.
18	MR. ADLER: Thank you, Dave. Is there a
19	second?
20	MR. BROWN: Second.
21	MR. ADLER: Motion made and seconded.
22	Any discussion of the calendar? All right.
23	All in favor of approving the calendar, please
24	say aye. Aye.
25	MR. DORSA: Aye.

- Proceedings
- 2 MR. KAZANSKY: Aye.
- 3 MR. BROWN: Aye.

- 4 MR. ORLANDO: Aye.
- 5 MS. PENNY: Aye.

6 MR. ADLER: All opposed, please say nay. 7 Any abstentions? Okay. The motion to approve 8 the calendar passes. Under other business we 9 have a presentation by Andrew Bradford on 10 enterprise risk management.

11 MR. BRADFORD: So we are just getting 12 the presentation up. So I thought today I 13 would give you a presentation on what we are 14 doing with enterprise risk management within 15 TRS. And I just want to go through very briefly -- it's a very high level kind of 16 17 summary of what we are doing. So what I am going to do today is go through what is 18 enterprise risk management, what we do here. 19 20 I am going to go through a heat map and then show you a very high level heat map for TRS 21 22 and then talk a bit about our risk awareness 23 program that we are putting together for rollout early next year. So I know a lot of 24 diagrams here and not easy to read, but 25

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2 basically we have a program relating to risk 3 showing three columns here. The first one is 4 developing the program, the steps in 5 implementing a risk management program, and б then how we monitor, review, and communicate 7 and report in there. So in order to do that, 8 we do need four steps. There is the high 9 level I just read on the left with 10 establishing the program, having risk 11 awareness training, and also having risk 12 champions. They are kind of not here today, 13 but within each department we have one person 14 that represents risks and they work with us 15 and coordinate with us. We are looking at operational risk. I 16 17 am going to go through the agency heat map. That's what I am going to show you today 18 basically, but there are two other levels that 19 20 we do as well. One is kind of a roll-up with a business unit level where we share risk 21 profiles, mitigation, ways to fix things that 22 23 we see, and analysis of emerging risks, and at the very bottom level we also have risk 24 identified by process basically. So whether 25

1	Proceedings
2	there is an enrollment or retirements, all
3	those types of processes, we have a risk
4	registered for all of them.
5	So what is a risk heat map? I am pretty
6	sure you have seen something like this before.
7	It's a visual representation showing
8	probability and impact of high level risks.
9	So what we do, we put this actually what
10	you are seeing is the very first version that
11	we have come up with. This is brand-new for
12	us actually, this level. It's been reviewed
13	with the directors and executive management in
14	determining what the risks are and where to
15	put them on the diagram. So what we do is we
16	basically have a diagram. And we measure by
17	probability from low to high and by impact.
18	MS. REILLY: Probability that the risk
19	will occur?
20	MR. BRADFORD: Will occur, yes. So
21	risks inherently have not occurred yet. So
22	here we go. We have four quadrants, and as
23	you probably figured, you have seen these
24	types of charts before. The low risks are in

25 the bottom left-hand side, and the top risks

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2 are in the top right-hand side. So that tends 3 to be where you focus your time, on the top 4 risk on the top right-hand side. And the 5 other two are more medium risks that we follow б and monitor when things happen. So the action 7 there, monitoring things, accepting risks or 8 reviewing them when they arrive, but in the 9 high quadrant, you are remediating those 10 risks.

11 So what are our risks? So this is our 12 current dashboard of our heat map. We have 13 nine categories, very high level, ranging from 14 over on the left-hand side, statutory changes 15 like changes in law. Over to the right-hand side with information security. So just very 16 17 briefly, I am going to go through each quadrant, left to right, top to bottom, so you 18 can see a bit more detail. So these are the 19 20 three micro levels that we look at. It's the medium quantity quadrant basically. 21

22 MS. REILLY: So this means there is a 23 high impact if the risk occurs, but there is a 24 low probability it will occur.

25 MR. BRADFORD: Absolutely. High impact

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2 if it occurs, but there is a low probability that it will occur. Now, over to the big one. 3 This is where you need to pay attention and 4 5 start managing the risks more proactively, and б as you can see, this is the high impact and 7 high probability. Down in the left-hand 8 corner, which is the low risk area, we have 9 financial reporting and legacy systems, and 10 then over on the right-hand side we have 11 reputational risk. And that's where there is 12 a low impact. You know, there is a higher probability. These -- you see it's all the 13 14 way over to the left. So that's the high 15 level risk register that we have. MS. REILLY: Now, under each one -- I 16 17 know you are staying high level, but under each one we draw down and we --18 MR. BRADFORD: Yes. So that's exactly 19 20 the point. I am glad you reminded me. So those are the two levels. Then -- so we have 21 22 the bottom level where we are looking at the 23 process level risk but goes up to the functional, business level, and then this also 24 can go up to the macro level as well. So 25

- Proceedings
- 2 everything is kind of connected all the way3 through.

4 MR. ADLER: Can I ask a question? So 5 you have reputational in the lower right б quadrant but it strikes me -- and maybe I am 7 wrong; wouldn't be the first time -- that you 8 know, reputational risk can run the gamut of 9 impact. So you could have, you know, some 10 reputational event that takes place that has a 11 high impact or you know, could have stuff that 12 has a low impact that doesn't touch that many 13 members or whatever. So how do you place that in that lower right-hand quadrant? 14

15 MR. BRADFORD: I am glad you asked because we do this with all of them basically. 16 17 So we go around with all the directors in the organization, we talked to Patricia and Thad. 18 We went to some other people as well that were 19 20 key people to interview them and get their perspective on that particular risk, and then 21 22 based on that we place it.

MS. REILLY: So why -- why do we believe
that a reputational risk would have a low
impact? If -- let's say that reputational

1	Proceedings
2	risk was not just member specific but would be
3	a broader reputational risk.
4	MR. BRADFORD: We can also look at what
5	happened in the past as well, right, where
6	there has been a reputational issue and see
7	what the impact is from historical
8	perspective.
9	MS. REILLY: So we are saying the type
10	of reputational risk we may have is probably
11	member-to-member level, not board-agency
12	level.
13	MR. BRADFORD: Yes.
14	MR. ORLANDO: And Andrew, don't all of
15	the other boxes have associated reputational
16	risk in some way? There is a very specific
17	reputational definition you are using, but any
18	one of those others can also be a
19	reputational.
20	MR. BRADFORD: If you think about it,
21	you can actually link those.
22	MR. ORLANDO: That process or that
23	story?
24	MS. REILLY: A massive security breach
25	he is saying. He is saying that would be the

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2 reputational risk.

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3 MR. BRADFORD: Slight. So one of the 4 things -- I know it's kind of serious looking 5 at macro level risks, but one of the things we 6 are doing is ways to increase risk awareness 7 in the organization for everyone. So I want 8 to show you a couple of things.

9 So while we have interns here, if you 10 look at these pictures, you will notice they 11 are all superheroes. They all live in 12 New York. So we put an R on their chests for 13 risk, so this is one of the competitions going 14 out. We place these posters strategically 15 around the organization, and we have a competition for people to tell you what the 16 17 answer is to the question, report back, and there is a prize at the end. So that's all 18 great. I am actually very happy that this 19 20 year that we have begun an intern that knew how to do all of this. It's way beyond my 21 22 ability to do this kind of graphical stuff. 23 We really made some progress.

And then we also have some of thematerial as well. So in the top left-hand

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2 corner, you will see small snippets of a 3 12-minute video that we looked over together, put together. We are going to use that for 4 5 employee onboarding. We also have a video in б the bottom left-hand corner that tells you 7 about five tips relating to risk as to how we 8 should look for them and think about them. We 9 have three series of three pension 10 presentations that we have that we have given 11 to managers before that are going to roll out 12 more. And on the bottom in the middle, we 13 also have a risk workshop that we are putting 14 together. Again, we are going to try it out 15 by doing it with, you know, onboarding when people come into the organization, and it's 16 17 one of those things where you take something that's not TRS related, ask them what the 18 risks are, what they do, what kind of controls 19 20 they put in place, and then you associate it over to TRS and analyze ways to work. 21 22 So this is our program. Onboarding, 23 training workshop, and an awareness competition. So that's my presentation. Any 24 25 questions?

1	Proceedings
2	MR. ADLER: What are all those letters
3	after your name?
4	MR. BRADFORD: There are more letters
5	after my name than in my name. Project
6	management professional and others relate to
7	information for security auditing, risk, and
8	governance.
9	MR. ADLER: I wish I had a letter after
10	my name.
11	MS. REILLY: All right. Thank you,
12	Andrew.
13	MS. REILLY: Next on the agenda is
14	questions or comments from the public.
15	MR. ADLER: Don't see any members of the
16	public.
17	MS. REILLY: And that concludes the
18	agenda.
19	MR. ADLER: That concludes the public
20	session, so I think that concludes the public
21	session. We do have an executive session on
22	tap, so I think a motion to go into executive
23	session would be in order if someone would
24	like to offer one.
25	MS. PENNY: I move, pursuant to Public

1	Proceedings
2	Officers Law Section 105, to go into executive
3	session for discussion regarding specific
4	investment matters.
5	MR. ADLER: Is there a second?
6	MR. DORSA: Second.
7	MR. ADLER: Thank you. Any discussion?
8	All in favor of the motion to enter executive
9	session, please say aye.
10	MR. DORSA: Aye.
11	MR. KAZANSKY: Aye.
12	MR. BROWN: Aye.
13	MR. ORLANDO: Aye.
14	MS. PENNY: Aye.
15	MR. ADLER: All opposed, please say nay.
16	Any abstentions? Okay. Motion carries. We
17	will now go into executive session.
18	(Whereupon, the meeting went into Executive Session)
19	MR. ADLER: Okay. We are back in public
20	session.
21	Susan, would you please report out of
22	executive session?
23	MS. STANG: Certainly. In executive
24	session, certain proxy voting issues were
25	discussed. Consensus was reached, which will

1	Proceedings
2	be announced at the appropriate time.
3	MR. ADLER: Thank you very much. I
4	believe that concludes our business for the
5	board meeting today. Is there a motion to
6	adjourn?
7	MS. PENNY: So moved.
8	MR. ADLER: Is there a second?
9	MR. BROWN: Second.
10	MR. ADLER: Motion made and seconded.
11	MR. KAZANSKY: One thing before we say
12	goodbye. Teacher trustees wish everyone and
13	their families a lovely Thanksgiving next
14	week. We are thankful for all of you.
15	MR. DORSA: As does the Comptroller's
16	Office.
17	MR. ORLANDO: Right back atcha.
18	MR. ADLER: With that, we have a motion
19	on the floor. All in favor of the motion to
20	adjourn, please say aye. Aye.
21	MR. DORSA: Aye.
22	MR. KAZANSKY: Aye.
23	MR. BROWN: Aye.
24	MR. ORLANDO: Aye.
25	MS. PENNY: Aye.

1	Proceedings
2	MR. ADLER: All opposed, please say nay.
3	Any abstentions? Okay. The motion carries.
4	The meeting is adjourned.
5	(Time noted: 4:04 p.m.)
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CERTIFICATE STATE OF NEW YORK) : ss. COUNTY OF QUEENS) б I, YAFFA KAPLAN, a Notary Public within and for the State of New York, do hereby certify that the foregoing record of proceedings is a full and correct transcript of the stenographic notes taken by me therein. IN WITNESS WHEREOF, I have hereunto set my hand this 29th day of November, 2017. YAFFA KAPLAN