0001 1 2 NEW YORK CITY TEACHERS' RETIREMENT SYSTEM 3 BOARD MEETING 4 5 6 Held on Thursday, April 28, 2022 via 7 Videoconference 8 3:33 p.m. 9 10 ATTENDEES: 11 DEBRA PENNY, Chairperson, Trustee 12 DAVID KAZANSKY, Trustee 13 ALISON HIRSH, Trustee, Comptroller's Office THOMAS BROWN, Trustee 14 15 PHIL DUKES, Trustee, Mayor's Office RUSSELL BUCKLEY, Trustee 16 VALERIE BUDZIK, Teachers' Retirement System 17 PATRICIA REILLY, Teachers' Retirement System 18 19 JOHN DORSA, Bureau of Asset Management 20 21 REPORTED BY: 22 YAFFA KAPLAN 23 JOB NO. 7321275 24 25 0002 1 2 ATTENDEES (Continued): THAD McTIGUE, Teachers' Retirement System 3 4 LIZ SANCHEZ, Teachers' Retirement System 5 ISAAC GLOVINSKY, Teachers' Retirement System TATIANA PEZZOULI, Teachers' Retirement System 6 7 SUSAN STANG, Teachers' Retirement System 8 ANDREW BRADFORD, Teachers' Retirement System RENEE PEARCE, Teachers' Retirement System 9 10 MARTA ROSS, ESQ., Law Department MICHAEL SAMET, Office of the Actuary 11 12 KATE CHEN, Teachers' Retirement System KAVITA KANWAR, Teachers' Retirement System 13 MATT LASKOWSKI, Teachers' Retirement System 14 15 NATARAJAN KRISHNAMOORTHY, Teachers' Retirement 16 System 17 JIM BROWN, Teachers' Retirement System ANNETTE HANRAHAN, Teachers' Retirement System 18 DEVON ALEXANDER, Rocaton 19 20 ROBIN PELLISH, Rocaton 21 DAN HAAS, Bureau of Asset Management 22 MICHAEL HADDAD, Bureau of Asset Management 23 JIMMY YAN, Bureau of Asset Management 24 JAMES TRESMOND 25 JOE EBISA 0003 1

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    ATTENDEES (Continued):
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       JOSEPH LEBEL
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       MUGWENA JOHN MALULEKE, SADTU
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       JONAVON KEITH RUSTIN, SADTU
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       ANTHONY HARMON, American Federation of Teachers
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       ERIC DUNCAN, American Federation of Teachers
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           MS. PENNY: Good afternoon, everyone.
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    Welcome to the New York City Teachers'
    Retirement System meeting. Today is April 28,
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 5
     2022. Before we call the roll, we have some
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    very special visitors from South Africa who
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     joined us today along with a guest of the
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     American Federation of Teachers. So Eric
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     Duncan, would you like to introduce our
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     quests?
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           MR. DUNCAN: Yes, thank you. My name is
     Eric Duncan. I am from the American
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     Federation of Teachers' International Affairs
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     Department in Washington, and with the
     invitation from UFT we have two of our
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     colleagues from South Africa who are at the
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    moment actually very much considering some of
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    the things that you all are working with, and
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    there is a possibility in South Africa that
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    they may install a defined benefit program
    bonus which allows the members to borrow from
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    their pension funds. We heard today that you
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    have that and it's a very helpful possibility
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     for the members and we are delighted to hear
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     that it's also being considered in South
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     Africa, so happy for the very timely
 3
     invitation to meet you all.
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4 I will introduce my colleague Mugwena 5 who is the secretary-general of the South African Democratic Teachers Union. It's the 6 7 largest teachers' union in South Africa and 8 the long-time friend and colleague of the AFT 9 for many years and many, many different kinds 10 of purposes. 11 MR. MALULEKE: Thank you for having us 12 today. Thank you and good afternoon. Yes. 13 My name is Mugwena. I am with Jonavon Rustin. 14 He says that he met some of the members here 15 in the United States, and we are together with 16 the other four colleagues who are still 17 concluding some business. They were supposed 18 to be here, but because we have got a 19 collaboration program with the, you know, New 20 Jersey, we are waiting on that. So they are 21 going to complete that so we want to 22 apologize. 23 On behalf of South African Teachers and 24 all our members, we want to thank you for this 25 opportunity for us to be coming to the 0006 1 Proceedings 2 building of the TRS. It's just been a great 3 experience that we have had, and thank you for 4 the hospitality at that time and the kindness 5 to just afford us this opportunity to learn 6 and be part of this esteemed board. 7 MS. PENNY: Patricia, can you call the 8 roll, please? 9 MS. REILLY: Thomas Brown? MR. BROWN: Here. 10 MS. REILLY: Russell Buckley? 11 12 Present. MR. BUCKLEY: Good afternoon. 13 MS. REILLY: Alison Hirsh? 14 MS. HIRSH: Present. 15 MS. REILLY: David Kazansky? 16 MR. KAZANSKY: Present. 17 MS. REILLY: Phil Dukes? 18 MR. DUKES: Present. 19 MS. REILLY: And Debra Penny? 20 MS. PENNY: I am present. 21 MS. REILLY: We have a quorum. Next is 22 an update on TRS operations, and Kavita Kanwar 23 is going to give you a quick update. 24 MS. KANWAR: Thank you, Patricia. Good 25 afternoon. TRS has calculated the required 0007 1 Proceedings 2 minimum distribution amounts for nearly 36,000 3 TDA participants who must receive a distribution for 2022. These members will 4 5 receive a letter in the mail and are now able

to make their RMD elections online. 6 7 Member account statements for the first quarter of 2022 are now being produced. 8 9 Statements will be available for online 10 viewing in early May for inservice members, 11 on-leave members, and retirees with deferred 12 TDA accounts. Quarterly statements for TDA 13 beneficiary participants will be mailed in 14 early May. Thank you. 15 MS. REILLY: Thank you, Kavita. Next on 16 the agenda is a report from the Actuary. 17 Mike? 18 MR. SAMET: Good afternoon, everybody. 19 I am going to just give a quick summary of the 20 fiscal notes that we have produced since the 21 last Board meeting. In fact, it's been a busy 22 month and will continue to be busy over the 23 next month and a half or so. We actually 24 issued 12 fiscal notes since the last Board 25 meeting. I am not going to go into a lot of 8000 1 Proceedings In fact, the first seven of the 12 2 details. are all related to improvements of Tier 6, and 3 4 there are different variations on that. 5 The first one was going to make quite a 6 few changes to Tier 6, quite a few 7 improvements to Tier 6 and then there were 8 other variations, but the important thing is 9 that eventually two were adopted as part of 10 the state budgets. The first one, which was our fiscal note 2022-16, eliminates overtime 11 12 for the last couple of years when determining 13 the contribution rate for Tier 6 members. We 14 had estimated that the increase in the 15 employer contribution for TRS would be about 16 400,000 dollars a year. 17 The other change that was made as part 18 of the state budget when the state budget was 19 adopted will have a bigger impact on a number 20 of members, and what that does is that piece 21 of legislation reduces the vesting 22 requirements for certain Tier 4 and for all 23 Tier 6 members from 10 years down to 5 years 24 of service, and with respect to TRS, we have 25 estimated that will increase the annual 0009 1 Proceedings 2 contribution by slightly less than 8 million 3 dollars a year. So if anybody has any further questions on the various Tier 6 fiscal notes 4 5 that we introduced, I am always around and 6 available for questions, but those are the 7 first seven, all Tier 6 related.

Just to briefly describe the other ones. 8 9 Fiscal Note 2022-18. This would permit 10 members to purchase military service if they 11 were not necessarily honorably discharged. So 12 currently you can only purchase military 13 service if they were honorably discharged. 14 This would cover certain other situations, for 15 example, if someone was not honorably 16 discharged due to PTSD, sexual orientation, 17 some other causes. And we have estimated the 18 increase in employer contribution be 19 approximately 5,000 dollars on average for 20 each military buyback that's -- that's done. 21 The next fiscal note we produced as you 22 may remember, Chapter 41 of 2016 allowed 23 members to purchase military service for 24 periods that previously were not covered by 25 the RSSL. What this proposed legislation 0010 1 Proceedings 2 would do would allow those that are retired at 3 that time back in 2016 to get credit for 4 military service that is now covered for 5 active members but is not covered for retired 6 members and they would -- if a retiree does 7 purchase his past service, they would get an 8 increase of their pension. We have estimated 9 with respect to TRS it would be a one-time 10 increase of about slightly under a million dollars a year -- I'm sorry. Slightly less 11 12 than 1 million dollars. 13 The next one, as you know, a couple of 14 years ago there was a COVID accidental death 15 benefit adopted so that if someone had come to 16 work, they contracted COVID and died, in 17 certain situations they would be eligible for 18 an accidental death benefit. That was -- that 19 was extended once to the end of 2022. This 20 legislation would extend it two more years to 21 2024. And we have estimated the cost for that 22 to be approximately 30,000 dollars, 37,000 dollars an average per year for each 23 24 occurrence of death due to COVID. 25 The next one would reduce the age of 0011 1 Proceedings 2 eligibility for Cost of Living Adjustment. 3 Currently to be eligible for COLA, you have to 4 be age 55 and retired for ten years or age 62 5 and retired for five years. This would reduce the eligibility so that if you were 55 and had 6 7 retired for five years, you would be eligible 8 for COLA, and we have estimated the first 9 annual employer contribution would be about 30

10 million dollars for TRS. 11 Finally, there was a fiscal note 12 produced for an individual who would like to 13 have his retirement -- it's a pensioner who 14 has been receiving pension for a while, would 15 like to have his final average salary revised 16 to include his lump sum payment for 17 accumulated vacation in the calculation of his 18 final average salary. We have estimated the 19 cost for this to be approximately 270,000 20 dollars. 21 So again, the only two that have been 22 adopted to date are the two COVID Tier 4 ones 23 that I mentioned, and I am available again if 24 there are any other question on these either 25 now or any other time and that's -- that's my 0012 1 Proceedings 2 presentation for today. 3 MS. PENNY: Mike, I just want to thank you and your team for the amazing job you are 4 5 all doing. All those fiscal notes in record 6 time. Just wonderful. Thank you so much for 7 the work that you do. 8 MR. SAMET: Very welcome. Thanks, 9 Debra. 10 MS. REILLY: Thank you. Next is the executive director's report. And the first 11 12 topic is the next meeting. It has been 13 suggested that the next regular meeting of the 14 Teachers' Retirement Board be held on the 15 third Thursday of the month, May 19, 2022. 16 Next on the EDR is a resolution, 17 Variable Annuity Program Investment Policy 18 Statement. After careful consideration and 19 discussion with Rocaton Investment Advisors, 20 the finance committee of the Board of Trustees 21 of the Teachers' Retirement System of the City 22 of New York recommends the following resolution for adoption by the Board of 23 24 Trustees: Whereas, TRS maintains an 25 Investment Policy Statement for the Variable 0013 1 Proceedings 2 Annuity Program, which documents the Variable 3 Program's investment philosophy and objectives 4 and outlines key governance and investment 5 policies and procedures of its investment 6 program; and whereas, as part of the routine 7 review of IPS, Rocaton and TRS Investment 8 Staff has reviewed the IPS for form and 9 content and have drafted an amended IPS 10 incorporating their recommendations. 11 Therefore, be it resolved that the amended

12 Investment Policy Statement for the Variable 13 Annuity Program of the Teachers' Retirement 14 System of the City of New York is hereby 15 adopted. 16 MS. PENNY: Thank you, Patricia. Do I 17 hear a motion? 18 MR. BROWN: So moved. 19 MS. PENNY: Thank you, Mr. Brown. Do I 20 have a second? 21 MS. HIRSH: Second. 22 MS. PENNY: Thank you, Ms. Hirsh. Is 23 there any discussion? 24 MR. BUCKLEY: Would it be possible just 25 to summarize the changes briefly? 0014 1 Proceedings 2 MS. STANG: I can try. Okay. This is 3 Susan. I can try and Robin, please jump in. 4 The changes -- I mean, two and a half years 5 ago we did a full-scale redo of the variable fund IPS. So this was more of a cleanup job 6 7 of little things that had changed or whatever. 8 I would say the biggest change was we took 9 away any reference to the defensive composite 10 because obviously we don't have that anymore, 11 right? There were some -- I mean, I don't 12 know if you would want to call them extensive but not small changes to the benchmarks and 13 14 the details of the benchmarks. And other than 15 that, it was mostly little details that had 16 changed over the year and a half. I don't 17 know, does Robin -- do you have anything --18 did I miss anything of significance? MS. PELLISH: No. I would agree that 19 20 the two significant changes to the IPS were 21 reflections of actions that the Board approved 22 over the past year and a half as Susan said. 23 We eliminated the defensive composite from the 24 variable fund A or the diversified equity 25 option and we also changed the total fund 0015 1 Proceedings 2 benchmark in the diversified equity option to 3 reflect the fact it's a mix of US and non-US equities, not just US equities. The rest of 4 5 the changes are fairly minor. Reflecting 6 minor changes and cleanup or clarification of 7 the language. 8 MR. BUCKLEY: Thank you, both. 9 Appreciate that. 10 MS. PENNY: Any further questions? 11 Okay. Seeing none, all those in favor, please 12 say aye. Aye. 13 MR. KAZANSKY: Aye.

14 MR. BROWN: Aye. 15 MR. DUKES: Aye. 16 MS. HIRSH: Aye. 17 MR. BUCKLEY: Aye. 18 MS. PENNY: Any opposed? Any 19 abstentions? Okay. Motion carries. 20 MS. REILLY: Next on the agenda is the 21 calendar, and the first item is the approval 22 of the following minutes: The March 3, 2022 23 investment meeting minutes, and the March 17, 24 2022 board meeting minutes. 25 MS. PENNY: Thank you. Do I hear a 0016 1 Proceedings 2 motion to approve the minutes? 3 MR. KAZANSKY: So moved. MS. PENNY: Thank you, Mr. Kazansky. Do 4 5 I hear a second? 6 MR. BROWN: Second. 7 MS. PENNY: Thank you, Mr. Brown. Any questions? All those in favor, please say 8 9 aye. 10 Aye. 11 MR. KAZANSKY: Aye. 12 MR. BROWN: Aye. 13 MR. DUKES: Aye. 14 MS. HIRSH: Aye. MR. BUCKLEY: Aye. 15 16 MS. PENNY: Any opposed? Any 17 abstentions? Minutes are approved. 18 MS. REILLY: Next are the calendar 19 items. You all received an electronic copy of 20 the calendar, and I am sure you reviewed it. 21 MR. KAZANSKY: Please waive the reading 22 of the calendar. MS. REILLY: Thank you. 23 24 MS. PENNY: Do I hear a motion to 25 approve the calendar? 0017 1 Proceedings 2 MR. BROWN: So moved. 3 MS. PENNY: Do I hear a second? 4 MS. HIRSH: Second. 5 MS. PENNY: Thank you, Ms. Hirsh. Any questions? All those in favor, please say 6 7 aye. 8 Aye. 9 MR. KAZANSKY: Aye. 10 MR. BROWN: Aye. 11 MR. DUKES: Aye. 12 MS. HIRSH: Aye. 13 MR. BUCKLEY: Aye. 14 MS. PENNY: Any opposed? Any 15 abstentions? Calendar is approved.

16 MS. REILLY: Next is other business. 17 Valerie, you were going to have a discussion 18 on spousal option legislation. 19 MS. BUDZIK: Yes. So Marta Ross from 20 the Law Department is here, and she'll provide 21 kind of the background on this item. 22 MS. ROSS: Yes. Hi, everybody. I am 23 going to share information that the Law 24 Department received actually back in the fall 25 about a proposal emerging out of the New York 0018 1 Proceedings 2 State Bar Association. Specifically the trust 3 and estates section in connection with 4 proposed state legislation. This has not been 5 introduced. It's proposed and it's at the State Bar Association level at the moment. 6 7 The legislation is called the Equity For 8 Surviving Spouses Act or the ESSA. And we 9 were provided this proposal specifically by Spencer Fisher who is deputy chief of the 10 11 legal counsel division. He sits on the 12 committee for local and state government, so 13 he was provided this proposal by Albert Feuer, 14 F-E-U-E-R, who is the chair of the life 15 insurance and employee benefits committee of 16 the trust and estates section and he was 17 provided this proposal for informational 18 purposes, for comments, et cetera. 19 As soon as we received the proposal, we 20 then circulated it to all of the GCs of the 21 pension funds for comment, for review, to get 22 feedback, et cetera and so we have been 23 periodically meeting with the GCs of the funds 24 to gauge a sense of if the funds -- what they 25 think about the proposal, what the general 0019 1 Proceedings 2 sense is but on a high-level basis what this proposal does is that it would require all of 3 the New York State and the New York City 4 5 defined benefit plans to change the default 6 retirement benefit from a single-life annuity 7 to a joint and 50 percent survivor annuity with the member's spouse having the survivor 8 9 annuity. It would also require that at least 10 50 percent of the preretirement death benefit, 11 which is generally a lump sum payment be paid 12 to the member's spouse, and it would require 13 that a member's spouse consent in writing to 14 any reduction in either of these mandated 15 spouse survivor benefits. 16 So that is the nuts and bolts of the 17 proposal. It's essentially a default to the

18 spouse unless the spouse consents in writing 19 otherwise. Just as a general matter, these 20 are requirements that are applicable to 21 private defined benefit plans that are under 22 ERISA, and it's also to some governmental 23 employee defined benefit plans outside of the 24 New York State. There is a handful of states 25 that have adopted this type of legislation. 0020 1 Proceedings 2 So I believe that Valerie has circulated this 3 proposal, the reports which explains specifically how it's set up. It's changed in 4 5 little ways here and there since we received 6 the original version in November, but the 7 fundamentals are still the same which is what I described in terms of how the benefit is set 8 9 up. 10 So again, we are just a conduit. We 11 wanted to alert the systems to this proposal 12 for comments to -- to express any concerns 13 about it that -- and we had relayed certain 14 concerns to Mr. Feuer at the Bar Association, 15 but he has asked for final comments by 16 June 1st. So we kind of wanted to gauge from the Board, you know, what the Board was 17 18 thinking. I will ask Valerie now to express 19 some concerns that she and other GCs have 20 expressed about it, and I think the thought 21 was to formulate a letter to the Bar 22 Association to kind of condense any concerns 23 or general thoughts about the proposal. So we 24 just -- again, this is not the Law 25 Department's proposal. We just wanted to 0021 1 Proceedings 2 alert the systems as soon as we received it to 3 this proposal that is out there and for 4 comments and input. 5 So Valerie, if you wanted to go through some of the concerns that were delineated. 6 7 MS. BUDZIK: I will address kind of the 8 highest level concerns. So this could be 9 administratively burdensome for TRS, and we 10 would have to implement a new options 11 structure that does not exist today. There is 12 some concern that it could potentially 13 increase the overall pension costs, and I mean 14 it clearly takes away, you know, flexibility 15 that our members have now been selecting their 16 options. As Marta mentioned, this is based 17 off on ERISA provisions that were adopted I 18 believe in 1984. 19 MS. ROSS: Yes.

20 MS. BUDZIK: Many years ago. It may be 21 a little anachronistic back when fewer women 22 worked and it was protecting women when their 23 working husbands passed away. As you know, 24 the majority of our membership actually is 25 female. So that would just be -- that's 0022 1 Proceedings 2 another concern for TRS, and if you accept the 3 original premise, maybe it's a little past its 4 time, also not as relevant for TRS. So in 5 putting together, it may be some comments and concerns on the legislation, we wanted to just 6 7 be able to convey the sense of the Board. Τf 8 the Board was supportive of this, we would 9 reflect that. If the Board is not supportive 10 of this, we need to know that too so when we 11 follow up with the State Bar Association, we 12 are speaking for the Board and not ourselves. 13 MS. PENNY: So I would just like to say 14 that our members work long and they work hard, 15 and I think the option should be up to them if 16 they provide for someone else when they 17 retire. I think it should be up to them. 18 MR. KAZANSKY: If you look at the 19 information in the CAFR about what our members 20 actually do select as an option for 21 retirement, I think the number is around two-thirds, just the maximum, without an 22 23 option for anyone whether it be a spouse or 24 anyone else. So it would seem that if we went 25 -- if there is something like that came along, 0023 1 Proceedings 2 it would be going against the wishes of the 3 majority of the members of the system. 4 MR. BROWN: I believe our members like 5 the ability to choose whom they are going to 6 leave a benefit to. That's their personal 7 choice. Why are we getting involved in 8 someone's personal choice whether to leave a 9 benefit or not to leave a benefit? Whether to 10 take maximum or not take maximum? Whether to 11 take a 50 percent option or 25 percent option? 12 To take a 5-year certificate or 10-year 13 certificate? You give them the choices. Ι 14 believe our members are smart and savvy enough 15 to choose whatever suits them. 16 MS. HIRSH: I would also say -- Marta 17 heard me say this at four other boards -- the 18 idea of giving the spouse the authority to 19 have to sign off on any change the member 20 wants is sort of offensive. Like imagine you

21 have kids from a prior marriage and you want

to leave your retirement to your children. 22 23 You would need your current spouse to sign 24 off. If you are in an abusive relationship, 25 it's just really problematic. 0024 1 Proceedings 2 MR. BROWN: Totally agree. 3 MS. PENNY: I think you have our 4 feeling. 5 MS. ROSS: I will work with Valerie then 6 to formulate a response along with the other 7 systems. Thank you. 8 MS. PENNY: Thank you, Marta. 9 MR. BROWN: Thank you. 10 MS. REILLY: So next on the agenda is 11 TRS presentation for key security control, and Tatiana Pezzouli is going to give us that 12 13 presentation. Tatiana? 14 MS. PEZZOULI: Hi, everyone. I am 15 Tatiana Pezzouli and I am the chief 16 maintenance security officer. Today I will be 17 talking about very important information: 18 Security control. So what is it? 19 You probably notice that the title of 20 the presentation is not complete. Key 21 security control is -- let's find an answer 22 together. As you know, businesses are 23 prioritizing information security now more 24 than ever, and unfortunately the tactic most 25 companies have relied on to date was investing 0025 1 Proceedings 2 heavily in security technologies. Infosec 3 measures limited to IT-only mitigation 4 overlooks the top cybersecurity risk: People. 5 Several years ago, cybercriminals were 6 focusing on infrastructure or application gaps 7 to get into company's network. And then the 8 attackers realized that instead of using 9 expensive tools and penetration techniques, 10 they can get in much easier by targeting people. There is a special term for that now: 11 12 Hacking a human. Like a technical firewall 13 digitally arbitrates network traffic and 14 blocks potential threats, a human layer of 15 protection has to do the same: Recognize the 16 attack and react appropriately. Worldwide, 17 thousands of breaches occur every minute at 18 all types of companies and every one of them 19 in data entry. Data breaches exposes and 20 leads to enormous financial losses. 21 Cyberattacks aren't just getting more 22 expensive; they are growing in sophistication. 23 And this attack targets specific employees,

24 job titles and types of information, and they 25 are often cleverly disguised so people 0026 1 Proceedings 2 unintentionally reveal sensitive information 3 as they both go about their jobs. So cybersecurity is a big people problem and 4 5 employees' missteps leads to disastrous 6 results. 7 IBM Cybersecurity Intelligence Index 8 reveals that 95 percent of cyber breaches 9 occurred because of human error. Faced with these numbers, companies offer training 10 11 designed to make employees become more cyber 12 aware. Typical training includes requiring 13 employees to watch a video or complete a quiz 14 and certify they understood the material. But 15 given the sophistication of today's attacks 16 and the associated risks, this approach is no 17 longer sustainable to guard against 18 cyberattacks. And here is why: One click on a malicious ad or e-mail, one weak password, 19 20 one unsecured wifi connection by any one 21 person in an organization can expose sensitive 22 information to cybercriminals. Preventing 23 such mistakes require behavioral change. 24 Would the typical training be enough for that? 25 Typical training teaches material by 0027 1 Proceedings 2 cramming. A lot goes in, but it's gone 3 shortly thereafter. Memory studies estimate we lose over half of the material we take in 4 5 within days if it's not used or enforced, and that type of approach can't achieve the 6 7 day-to-day behavioral change needed to 8 strengthen cybersecurity. Change in behavior 9 and by extension creating a culture of cyber 10 awareness can be achieved by incorporating 11 specific proven techniques, in particular 12 training and education. That's what we are 13 doing here at TRS, and by doing so we are 14 building a human firewall, most effective line 15 of defense against cyberattacks. 16 Now we can complete the title of the 17 presentation. Key security control is a human 18 firewall. Every employee consultant and temp 19 at TRS are part of this firewall. They are 20 trained, equipped, and empowered. 21 Let's take a look at TRS' awareness and 22 training program components to get a better 23 understanding what we are doing to develop a 24 security-minded workforce. There are five 25 major areas. Let's start with awareness

0028 1 Proceedings 2 materials. Security awareness materials are a 3 great way to provide continual learning. 4 Graphic materials like posters, cartoons 5 provide a highly effective learning experience especially for visual learners. Some people 6 7 like to learn by listening to audio or 8 watching videos, and we provide this method of 9 education as well. Competitions, they are a 10 great way to engage users in solving problems 11 and to motivate them by by introducing 12 elements of competition and reward. Just to 13 name a few that we had over the years, a 14 poster competition, infosec logo competition, 15 phishing simulation, but probably the most 16 popular one is team competitions during 17 in-person training. 18 Infosec campaigns are awareness 19 campaigns that are aimed at truly anchoring 20 information security awareness in TRS's 21 culture. We communicate a specific message 22 through multiple channels. The one that I 23 mentioned to you earlier over a dedicated 24 period of time during this phase. The biggest 25 one that comes to mind were October 0029 1 Proceedings 2 Cybersecurity Awareness Month and Work From 3 Home Security Campaign. Phishing simulations, 4 they educate employees on how to spot and 5 report suspected phishing attempts. We are doing guarterly tests and providing refresher 6 7 training for those who fail those tests. And 8 the latest and greatest addition to that is awareness and training policy. Patricia 9 10 signed that policy last year that outlines 11 responsibility of everyone to participate in 12 training and be very careful with the phishing 13 e-mails that are coming their way. 14 Last but not least, training and 15 gamification. The meaning of "gamification" 16 is the process of adding games or game-like 17 elements to something to encourage 18 participation. Games, as you know, provide 19 rewards and this can come in the form of 20 in-games achievements, badges, and even 21 personal satisfaction of winning the game. 22 These awards make games competitive as well as 23 the way the players compare sports and 24 experiences with each other. 25 We do so many different types of 0030 1 Proceedings

trainings starting from onboarding, annual, 2 3 event- and topic-specific, and the latest 4 achievement in the gamification effort is a 5 TRS internally developed infosec game. That 6 is a special type of game. It's a 7 choose-your-own-adventure type of game that 8 lets learners play through various types of 9 security scenarios, make choices, and see the 10 rewards and consequences of their decision.

11 Let's take a very quick look inside of 12 the game. Imagine that once upon a time there 13 was an evil conglomerate that decided to take 14 over all New York City agencies, and one of 15 the evil magicians from that conglomerate 16 decided to start with TRS and he devised a 17 spell that can turn him into anybody at TRS. 18 Let's see if he can use the spell and with 19 this impersonation trick TRS people.

20 Everybody's day starts usually with 21 logging into their computers and checking 22 their e-mails. Let me quickly sign up and see 23 what I have. So the first e-mail that I have 24 in my e-mail box comes from Tatiana, and 25 Tatiana is asking you to accept her friend 0031

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2 request on the Fakebook so she can share with 3 you pictures from her vacation. You know 4 Tatiana, you know that she came back from 5 vacation, but would Tatiana ever send you that 6 kind of e-mail? So you have three choices 7 what to do with this e-mail, and of course, 8 the correct choice would be report this 9 phishing e-mail because it's not Tatiana; it's 10 someone else impersonating as Tatiana. And 11 then if you choose correctly, you have a sign 12 "great job".

13 Next what you have is a phone call, and 14 someone on the line is asking you to change 15 your beneficiary and this person is very nice 16 and knows so much about member, about 17 beneficiary, but we know that we don't do that 18 at TRS. What would you do? Of course, you 19 are not changing it over the phone, but what's 20 the next step? Would you just hang up, or 21 would you report it? Let's say if you choose 22 to not report it and just hang up in this 23 case, the evil magician has a chance to trick 24 other people. That's why the correct answer 25 would be not just not changing the beneficiary 0032

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2 but also reporting this incident to make

3 everybody aware of it.

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4 So the last e-mail that comes to today's 5 scenario is the e-mail from executive. There is an executive message invitation to the 6 7 holiday party. And this is a hypothetical 8 holiday party. There is no one coming in TRS 9 but you see that it comes from executive and 10 this is one of the most popular tricks that 11 criminals are using right now because people 12 are reacting to executive messages immediately 13 and sometimes not being careful with their 14 reactions. And let's say that you decided 15 that oh, that is coming from executive. I need to sign up for the party and provide my 16 17 user ID and password. And what happens then? 18 The magician will steal your credentials, and 19 so that would give him a key to TRS data. Of 20 course, that is not the correct answer. The 21 correct answer will bring you to TRS Hall of 22 Fame. So as a result, as a reward for your 23 diligence, you will be put on the TRS Hall of 24 Fame, and of course, win the game. 25 This is not only to make security 0033 1 Proceedings awareness fun and engaging, but it also makes 2 3 learning experiential so employees are 4 prepared if there is a real security threat. 5 And that's what we do at TRS. That's what 6 interesting elements of the information 7 security program are and you agree with me 8 that no program could be successful without 9 executive support and we are very lucky to 10 have a very strong executive support. Our 11 executives, Patricia and Thad, they lead by 12 example. They never clicked on phishing 13 simulation links that we send out. They are 14 always by our side in all cybersecurity 15 efforts, helping us to reenforce security, and 16 that's why I would like to conclude today's 17 presentation by playing a very quick minute 18 from the executive interview that we recorded 19 during one of our security campaigns during 20 COVID work-from-home time. 21 (Video playing.) 22 MS. PEZZOULI: I am very proud to 23 present today with our TRS information 24 security achievements. We are sharing our 25 success at the national and local conferences. 0034 1 Proceedings 2 As a matter of fact, only last week I was 3 invited to two conferences, to speak at two 4 conferences. One local CT conference this 5 summer and another one, national CISO forum in

Miami in November this year and we are sharing 6 7 our experience with other local retirement systems as well as our retirement systems 8 9 nationwide and we are happy to answer any 10 questions of our partners and help them to 11 succeed in their infosec efforts. So thank 12 you for listening to me, and now I am ready to 13 answer your questions if you have any. 14 MS. REILLY: Any questions? 15 MR. BROWN: Thank you, Tatiana. 16 MS. HIRSH: No but Tatiana should make 17 every presentation. 18 MS. PEZZOULI: Thank you. I appreciate 19 it. 20 MS. REILLY: That's all for our agenda. 21 MS. PENNY: Do we have any questions or 22 comments from the public? All right. So 23 before we go into executive session, I want to 24 thank our guests from the AFT and from the 25 national -- let me -- so the South African 0035 1 Proceedings 2 Democratic Teachers Union. We thank you so 3 much for joining us. It was a pleasure, and 4 TRS, you made them feel welcome. I thank you 5 for that as well. 6 Do I hear a motion to go into executive 7 session? MR. BROWN: So moved. 8 9 MS. PENNY: Thank you, Mr. Brown. Do T 10 hear a second? 11 MS. HIRSH: Second. 12 MS. PENNY: Thank you, Ms. Hirsh. Anv 13 questions? All those in favor, say aye. 14 Aye. 15 MR. KAZANSKY: Aye. 16 MR. BROWN: Aye. 17 MR. DUKES: Aye. 18 MS. HIRSH: Aye. 19 MR. BUCKLEY: Aye. 20 MS. PENNY: Any opposed? Any 21 abstentions? Okay. We are going over to 22 executive session. 23 (Discussion off the record.) 24 MS. PENNY: Okay. We are back in public 25 session. Susan, would you like to report out? 0036 1 Proceedings 1 MS. STANG: In executive session an 2 investment related resolution was approved. 3 MS. PENNY: Thank you. Is there 4 anything else? MS. REILLY: That's it. 5 6 MS. PENNY: Okay. Then let's try that

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     again. Do I hear a motion to adjourn?
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          MR. KAZANSKY: So moved.
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          MS. PENNY: Thank you, Mr. Kazansky. Do
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    I hear a second?
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          MS. HIRSH: Second.
          MS. PENNY: Thank you, Ms. Hirsh. Any
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    discussion? All those in favor, please say
14
    aye.
15
          Aye.
16
          MR. KAZANSKY: Aye.
17
          MR. BROWN: Aye.
18
          MR. DUKES: Aye.
          MS. HIRSH: Aye.
19
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          MR. BUCKLEY: Aye.
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          MS. PENNY: Any opposed? Abstentions?
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   We are adjourned.
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           (Time noted: 4:28 p.m.)
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