BEFORE THE

INDEPENDENT CITIZENS' OVERSIGHT COMMITTEE
TO THE
CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE
ORGANIZED PURSUANT TO THE
CALIFORNIA STEM CELL RESEARCH AND CURES ACT

REGULAR MEETING

LOCATION:	HYATT REGENCY SAN FRANCISCO AIRPORT 1333 BAYSHORE HIGHWAY BURLINGAME, CALIFORNIA
DATE:	JANUARY 29, 2015 9 A.M.
REPORTER:	BETH C. DRAIN, CSR CSR. NO. 7152
BRS FILE NO.:	97151

I N D E X

160 S. OLD SPRINGS ROAD, SUITE 270, ANAHEIM, CALIFORNIA 92808
1-800-622-6092 1-714-444-4100 EMAIL: DEPO@DEPO1.COM

INDEX (CONT'D.)

BURLINGAME, CALIFORNIA; JANUARY 29, 2015

9 A.M.

CHAIRMAN THOMAS: OKAY. WE'RE BROADCASTING LIVE FROM BEAUTIFUL BURLINGAME, CALIFORNIA. LIKE TO WELCOME EVERYBODY TO THE JANUARY MEETING OF THE ICOC. MARIA, WILL YOU PLEASE LEAD US IN THE PLEDGE OF ALLEGIANCE.

(THE PLEDGE OF ALLEGIANCE.)

CHAIRMAN THOMAS: MARIA, WILL YOU PLEASE CALL THE ROLL.

MS. BONNEVILLE: DAVID BRENNER. KEN BURTIS.

DR. BURTIS: PRESENT.

MS. BONNEVILLE: ANNE-MARIE DULIEGE.

DR. DULIEGE: PRESENT.

MS. BONNEVILLE: ELIZABETH FINI.

DR. FINI: PRESENT.

MS. BONNEVILLE: MICHAEL FRIEDMAN.

DR. FRIEDMAN: HERE.

MS. BONNEVILLE: JUDY GASSON.

DR. GASSON: HERE.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: PRESENT.

MS. BONNEVILLE: STEPHEN JUELSGAARD.

SHERRY LANSING. KATHY LAPORTE.

DR. LAPORTE: HERE.

MS. BONNEVILLE: JACOB LEVIN. BERT LUBIN. SHLOMO MELMED.

DR. MELMED: HERE.

MS. BONNEVILLE: LAUREN MILLER.

MS. MILLER: HERE.

MS. BONNEVILLE: LLOYD MINER.

DR. MINOR: HERE.

MS. BONNEVILLE: JOE PANETTA.

MR. PANETTA: HERE.

MS. BONNEVILLE: FRANCISCO PRIETO.

DR. PRIETO: HERE.

MS. BONNEVILLE: ROBERT QUINT. AL ROWLETT.

DR. ROWLETT: HERE.

MS. BONNEVILLE: JEFF SHEEHY.

MR. SHEEHY: HERE.

MS. BONNEVILLE: OSWALD STEWARD. JONATHAN THOMAS.

CHAIRMAN THOMAS: HERE.

MS. BONNEVILLE: ART TORRES.

MR. TORRES: HERE.

MS. BONNEVILLE: CARL WARE.

DR. WARE: HERE.

MS. BONNEVILLE: DONNA WESTON. DIANE WINOKUR.

MS. WINOKUR: HERE.

MS. BONNEVILLE: BRUCE WINTROUB.

CHAIRMAN THOMAS: THANK YOU, MARIA. I'VE CHANGED VENUES OVER HERE. THANK YOU. I'VE CHANGED VENUES. GOING TO HAVE A SLIDE PRESENTATION HERE AS PART OF MY CHAIR'S REPORT.

BEFORE WE GET TO THAT, WE HAVE A COUPLE OF NEW MEMBERS, ONE WHO IS HERE AND ONE WHO'S COMING MOMENTARILY. SO PLEASE WELCOME KATHY LAPORTE. KATHY, WOULD YOU SAY A FEW WORDS ABOUT YOUR BACKGROUND FOR EVERYBODY?

DR. LAPORTE: HI, EVERYBODY. I'M KATHY LAPORTE. I'M REALLY HONORED TO BE HERE. MY BACKGROUND IS BACHELOR'S DEGREE IN BIOLOGY FROM YALE, A DECISION NOT TO GO TO MEDICAL SCHOOL AND A DECISION TO GO TO BUSINESS SCHOOL AT STANFORD ALONG THE WAY, AND MOST OF MY CAREER, ABOUT 25 YEARS, HAS BEEN IN VENTURE CAPITAL, FUNDING MOSTLY EARLY STAGE AND THEN DEVELOPING COMPANIES LARGELY IN -- ALL IN HEALTHCARE, BIOPHARMACEUTICALS, MEDICAL DEVICES, AND DIAGNOSTICS, AND NOW A LITTLE BIT OF DIGITAL HEALTH. AND I ALSO CURRENTLY HAVE AN OPERATING ROLE AS CHIEF BUSINESS OFFICER OF A BIOTECH COMPANY CALLED

NODALITY JUST UP THE STREET.

CHAIRMAN THOMAS: THANK YOU VERY MUCH. WHEN DR. BRUCE WINTROUB ARRIVES, WE'LL HAVE HIM SAY A BIT ON HIMSELF AS WELL. SO EVERYBODY PLEASE WELCOME KATHY.

(APPLAUSE.)

CHAIRMAN THOMAS: SO IT WAS AN INTERESTING AND EVENTFUL KICKOFF TO THE NEW YEAR UP IN SACRAMENTO. MR. SENATOR AND DR. MILLS AND I WERE UP FOR THE SWEARING IN CEREMONIES OF THE CONSTITUTIONAL OFFICERS. I'D LIKE TO HAVE ART SAY A FEW WORDS ABOUT THAT AND ABOUT SORT OF THE STATE OF THINGS UP THERE.

MR. TORRES: THANK YOU, MR. CHAIRMAN. THAT JANUARY 5TH IS A VERY BUSY DAY WHEN EVERY CONSTITUTIONAL OFFICER GETS SWORN IN. IT STARTED AT 9 A.M. WITH OUR CONTROLLER, BETTY YEE, WHO'S A VERY CLOSE FRIEND AND WILL BE VERY HELPFUL TO US AND VERY SUPPORTIVE OF CIRM. AND HER NEW HEALTH POLICY DIRECTOR, ALAN LOFASO, WHO I'VE KNOWN FOR MANY YEARS AS WELL.

OUR NEW STATE TREASURER IS JOHN CHIANG, VERY FAMILIAR TO ALL OF US. HE ASKED ME TO OFFICIATE AT HIS SWEARING IN. I DID GLADLY. AND IT WAS A VERY, VERY GOOD EVENT WITH A LOT OF FOLKS FROM

ALL OVER THE STATE WHO ATTENDED.

AND, AGAIN, I HAD THE OPPORTUNITY INTRODUCE DR. MILLS AND J.T. TO THE CROWD AT THE TIME, AND THAT WAS VERY IMPORTANT. AND EVEN JOHN MENTIONED IN HIS REMARKS HOW GRATEFUL HE WAS FOR THE WORK THAT WE'RE DOING IN THE STEM CELL ARENA. SO FOR SOMEONE WHO'S GOING TO ISSUE OUR BONDS, I THINK IT'S IMPORTANT TO HAVE THAT GOOD RELATIONSHIP.

AND THE GOVERNOR GAVE HIS USUAL TEN-MINUTE STATE OF THE UNION AND INAUGURAL SPEECH ALL IN ONE, WHICH WE WERE ALL VERY GRATEFUL FOR. IT WAS BRIEF AND TO THE POINT.

AND, OF COURSE, OUR OWN LIEUTENANT GOVERNOR AND ATTORNEY GENERAL WERE SWORN IN. LITTLE DID WE KNOW THAT THEY HAD A PACT ALREADY GOING AS TO WHO WOULD RUN FOR THE U.S. SENATE AND WHO WOULD RUN FOR GOVERNOR DOWN THE ROAD. BUT IT TURNED OUT TO BE A VERY EVENTFUL EVENT AND ALSO FOR THE LEADERSHIP OF BOTH HOUSES OF THE LEGISLATURE, WHICH WE'RE GOING TO COUNT ON FOR SUPPORT AS WE MOVE FORWARD.

CHAIRMAN THOMAS: THANK YOU, ART.

THE BIG EVENT IN BIOTECHNOLOGY THAT TAKES PLACE EVERY JANUARY IS THE J.P. MORGAN CONFERENCE IN SAN FRANCISCO WHERE THE INDUSTRY LITERALLY TAKES OVER THE ENTIRE CITY. AND THERE ARE LOTS OF VERY

INTERESTING MEETINGS, LOTS OF VERY INTERESTING PANELS. IT'S ALWAYS A PLACE TO GAUGE THE PULSE OF WHAT'S HAPPENING IN BIOTECH AND TO GET A FEEL FOR PEOPLE'S LEVELS OF OPTIMISM, GET A FEEL FOR THE ACTIVITY GOING ON IN THE INVESTMENT SIDE.

AND ONE OF THE PRESENTATIONS THAT NOW IS AN ANNUAL EVENT IS DONE BY THE ALLIANCE FOR REGENERATIVE MEDICINE WHICH HAS A COUPLE-HOUR SESSION WHICH FEATURES TWO ELEMENTS. ONE IS A SORT OF STATE-OF-THE-INDUSTRY PRESENTATION IN OUR FIELD AND THE OTHER IS A PANEL OR TWO, THIS TIME TWO, ONE OF WHICH WAS EXPERTLY CHAIRED BY DR. MILLS WITH CUSTOMARY HUMOR. AND NOT SURE IF ALL THE PANELISTS HAVE THE SAME, BUT YOU CAN COMMENT ON THAT IF YOU CARE TO IN YOUR REMARKS, DR. MILLS.

THE PRESENTATION WHICH WAS GIVEN, ED LANPHIER, WHO, AS YOU KNOW, IS ONE OF OUR AWARDEES AT SANGAMO, THE CEO OF SANGAMO, IS NOW THE HEAD OF THE ALLIANCE FOR REGENERATIVE MEDICINE, AND HE GAVE THE STATE-OF-THE-INDUSTRY PRESENTATION, WHICH I WANTED TO BRIEFLY TAKE YOU THROUGH BECAUSE I THINK IT'S GOOD FOR EVERYBODY TO KNOW SORT OF THE LATEST ON HOW THINGS STAND.

SO UP ON THE SCREEN THERE IS THAT PRESENTATION. JUST GOING TO GO THROUGH IT VERY

BRIEFLY, BUT IT WILL BOTH GIVE YOU A SENSE OF THE STATE OF PLAY AND WILL ARM YOU FOR ALL OF YOUR COCKTAIL CONVERSATIONS WHEN YOU'RE SPEAKING ON WHAT'S THE LATEST IN THE AREA OF REGENERATIVE MEDICINE.

SO I'M JUST GOING TO GO THROUGH THIS HERE. SO THESE EARLY SLIDES ARE JUST TALKING ABOUT THE DIFFERENT AREAS THAT HE WAS GOING TO BE SPEAKING ON. OBVIOUSLY REGENERATIVE MEDICINE IS DEFINED VARIOUSLY TO ENCOMPASS THINGS LIKE CELL THERAPY, TISSUE ENGINEERING, BIOMATERIALS, GENE AND GENE MODIFIED CELL THERAPIES, AND GENOME EDITING. SO IT'S MORE THAN JUST STEM CELL RESEARCH, AS WE ALL KNOW. MAJOR AREAS THAT HAVE BEEN FOCUSED ON BY THE COMPANIES IN THE FIELD INCLUDE CANCER, IMMUNOTHERAPY, CARDIOVASCULAR, GENETIC DISORDERS, HIV/AIDS, NEURODEGENERATIVE DISEASES, OPHTHALMOLOGY, AND WOUND HEALING.

IF YOU LOOK AT THE NEXT SLIDE, IT GIVES YOU SORT OF A BIT OF A BREAKDOWN ON THE APPLICATION OF THOSE DIFFERENT CATEGORIES, WHICH I JUST INVITE YOU TO TAKE A LOOK AT THERE. YOU CAN SEE THAT, AS WE ALL KNOW FROM OUR PORTFOLIO, THAT THE DIFFERENT APPLICATIONS IN REGENERATIVE MEDICINE ARE MANY AND VARIED, USING DIFFERENT TYPES OF STEM CELLS AND A

VARIETY OF OTHER THINGS THAT FACTOR INTO THE WORK THAT WE ARE FUNDING AND THAT THE INDUSTRY IS UNDERTAKING.

HERE'S KIND OF AN INTERESTING SLIDE. THE WORLD MAP SHOWING WHERE THE MOST COMPANIES ARE IN THE REGENERATIVE MEDICINE SPACE. YOU CAN SEE NORTH AMERICA LEADS WITH 302, EUROPE AND ISRAEL SECOND AT 147, AND THEN QUITE A FEW IN ASIA, 53, A NUMBER IN AUSTRALIA AND NEW ZEALAND, 12, AND 3 IN SOUTH AMERICA. THREE HUNDRED FORTY TOTAL CELL THERAPY COMPANIES, 180 TISSUE ENGINEERING COMPANIES, AND 140 PLUS TOTAL GENE THERAPY COMPANIES. YOU WILL SEE THAT AS YOU FOLLOW IN THE NEWS THAT GENE THERAPY, WHICH HAD, AS WE ALL KNOW, A MAJOR SETBACK A NUMBER OF YEARS AGO, IS REALLY MAKING A VERY SIGNIFICANT COMEBACK AND FEATURES INDEED PROMINENTLY IN A NUMBER OF THE PROJECTS THAT WE'RE FUNDING AS WELL.

FIVE HUNDRED PLUS TOTAL THERAPEUTIC COMPANIES. THERE'S A LOT OF ACTION OUT THERE. SIXTY PLUS APPROVED PRODUCTS, AND 375 PLUS TOTAL CLINICAL TRIALS ACROSS THE BOARD IN THE REGENERATIVE MEDICINE SPACE, WHICH IS A NUMBER THAT MIGHT SURPRISE FOLKS, BUT IT'S JUST INDICATIVE OF THE FACT THAT THERE IS A LOT OF ACTIVITY GOING ON.

BREAKDOWN ON CLINICAL TRIALS BY STAGE.

YOU CAN SEE 133 FOR PHASE I, 206 FOR PHASE II, 39 IN PHASE III, 378 IN CLINICAL DEVELOPMENT, AND THERE HAVE ACTUALLY BEEN 66 APPROVED PRODUCTS. VERY INTERESTING.

THEN I WON'T GO THROUGH THIS SLIDE, JUST SUFFICE IT TO SAY, IF YOU LOOK AT ALL THE DIFFERENT DISEASES AND INDICATIONS, THIS SLIDE IS A BREAKDOWN OF WHERE ALL THE PROJECTS ARE FOCUSING. AND YOU WILL NOTE AS YOU READ DOWN THIS LIST THAT OUR PORTFOLIO IS REPRESENTING A GREAT MANY OF THESE AS YOU WOULD ANTICIPATE.

NUMBER OF MAJOR FINANCIAL EVENTS TOOK PLACE. I CAN JUST READ DOWN HERE A LIST OF THE NUMBER OF COMPANIES THAT RAISED CONSIDERABLE AMOUNT OF MONEY IN THE LAST 12 CALENDAR MONTHS. I DON'T KNOW HOW MANY OF YOU SAW THERE WAS AN ARTICLE LAST COUPLE DAYS WHICH I THOUGHT WAS QUITE INTERESTING WHICH SAID THAT FDA HAS DRAMATICALLY INCREASED THE RATE OF ITS APPROVAL PROCESS, NOT JUST IN THIS FIELD, BUT SORT OF ACROSS THE BOARD. AND AS A RESULT, IN BIOTECHNOLOGY, VENTURE COMPANIES ARE DRAMATICALLY INCREASING THE AMOUNT OF MONEY THAT THEY ARE PUTTING IN AS INVESTMENT. AND THE YEAR-TO-YEAR INCREASE WAS QUITE STRIKING. AS I RECALL, IT'S LIKE 30 PERCENT MORE THAN IT WAS IN

CALENDAR '13. AND AS YOU KNOW, THE SECTOR IS A VERY HOT SECTOR. SO THAT IS NOT PARTICULARLY SURPRISING.

THERE WERE LOTS OF MAJOR PARTNERSHIPS AND ACQUISITIONS. I WON'T GO THROUGH THIS IN ANY DETAIL, BUT IT LISTS -- ED WAS ABLE TO COMMENT ON SANGAMO BIOSCIENCES AND BIOGEN IDEC ANNOUNCING A COLLABORATION TO DEVELOP TREATMENTS FOR HEMOGLOBIN-OPATHIES. YOU SEE UP TOP, AS YOU RECALL, CAPRICOR AND JANSSEN ENTERED INTO A COLLABORATION WITH RESPECT TO OUR FUNDED PROJECT. AND YOU JUST SORT OF GO DOWN THE LIST, I THINK VERY INTERESTING DATA.

A NUMBER OF MAJOR REGULATORY MILESTONES. THE POINT OF THIS SLIDE IS TO SAY THAT THE PACE OF GETTING THROUGH THE REGULATORY PROCESS IN THE REGENERATIVE MEDICINE SPACE IS PICKING UP, WHICH IT WAS BOUND TO DO AS THE FIELD MATURES.

AND THEN NEXT SLIDE, WE'LL NOT GO INTO IN DETAIL AGAIN, BUT EXAMPLES OF MAJOR DATA AND TECHNOLOGY EVENTS. DATA OBVIOUSLY IS AN INCREASING PART OF THE PROJECT NOW WITH HEAVY EMPHASIS ON GENOMICS AND DATA COLLECTION.

FINANCING, $6.3 BILLION WORTH OF FINANCINGS IN 2014, 3 BILLION IN THE GENE AND GENE THERAPY SPACE, 687 MILLION IN TISSUE ENGINEERING,

AND 2.6 BILLION IN CELL THERAPY, WHICH IS OBVIOUSLY THE BULK OF WHAT WE FUND. LARGE NUMBER. TOTAL FINANCINGS, VENTURE, IPO'S, FOLLOW-ON FINANCINGS, PARTNERSHIP PAYMENTS, MILESTONE PAYMENTS, ETC., YOU CAN SEE THERE'S QUITE A BIT OF FUNDING GOING ON ONE WAY OR ANOTHER.

JUST GOING TO SORT OF SKIP OVER THAT ONE. THAT'S A BIT OF A REITERATION.

YOU CAN SEE HOW THE PUBLIC COMPANIES HAVE BEEN PERFORMING OVER TIME. STARTING AT THE END OF '13 TO THE END OF '14, YOU NOTICE THE UPWARD TREND, WHICH IS SYMPTOMATIC OF THE PERFORMANCE IN BIOTECH IN GENERAL WHICH, AS YOU KNOW, HAS LAST COUPLE YEARS OUTPERFORMED THE MAJOR STOCK MARKET INDICES.

DEFINITELY NOT GOING TO GO THROUGH THIS, LIST OF THE IPO'S AND FOLLOW-ONS, LONG LIST YOU CAN SEE THERE. BY THE WAY, WE'LL DISTRIBUTE THIS TO ANYBODY WHO'S INTERESTED SO YOU CAN LOOK AT THIS IN ANY MORE DETAIL. LOTS OF MAJOR PHARMA AND BIOTECH ACTIVE IN THE SPACE. THIS IS AN INCREASING TREND. IF YOU WOULD HAVE GONE BACK SEVERAL YEARS, THIS LIST WOULD HAVE BEEN MUCH PARED BACK. I THINK THIS SHOWS THE EVOLVING LEGITIMACY OF THE FIELD AS IT MATURES AND THE NEED FOR BIG PHARMA AND BIG BIOTECH TO GET INTO THE GAME LEST THEY BE LEFT BEHIND AND LEST THEY

NOT AVAIL THEMSELVES OF THE OPPORTUNITY TO DEVELOP RELATIONSHIPS THAT CAN STOCK THEIR PIPELINE.

MAJOR CORPORATE PARTNERSHIPS, LENGTHY GRAPHIC. WON'T GO INTO THAT. YOU CAN JUST SEE IT'S A LONG LIST.

THIS IS PREDICTING 2015, MAJOR CLINICAL DATA THAT'S EXPECTED IN THIS YEAR, WHICH IS SOME PRETTY COOL STUFF. YOU CAN SEE SANGAMO ON THE HIV/AIDS PROJECT EXPECTING CLINICAL RESULTS PHASE II, WHICH IS OBVIOUSLY VERY EXCITING FOR US AND FOR ED.

ANOTHER PAGE ON MAJOR CLINICAL DATA EVENTS.

THEN WE GET TO THIS SORT OF INTERESTING ISSUE WHICH IS, OKAY, SO LET'S SAY WE ACTUALLY HAVE A DISCOVERY AND IT MAKES IT ALL THE WAY THROUGH. HOW MUCH IS IT GOING TO COST? AND WHAT ARE THE ISSUES SURROUNDING REIMBURSEMENT, PRICING, ETC.? AND THAT'S A QUESTION THAT LOOMS OFF IN THE DISTANCE BECAUSE THE THERAPIES ARE BOUND TO BE EXPENSIVE THOUGH OBVIOUSLY FUNDAMENTALLY LIFE ALTERING, BUT THAT IS SOMETHING THAT WE'RE CONTINUING TO MONITOR AND HAVE INPUT TO. I KNOW IT'S CERTAINLY A MAJOR ISSUE FOR DR. MILLS GOING DOWN THE ROAD.

ARM, AS YOU KNOW, THIS IS JUST A LITTLE

ADVERTISEMENT FOR THEM. THEY'RE SORT OF THE MAJOR TRADE ASSOCIATION IN OUR SPACE, VERY ACTIVE IN WASHINGTON. AND WE ARE A MEMBER OF THEM AND FULLY SUPPORTIVE OF THE WORK THEY DO IN GETTING ACROSS THE SINGULAR IMPORTANCE OF THE FIELD OF REGENERATIVE MEDICINE IN THE MEDICAL RESEARCH ARENA.

THERE'S PICTURES OF ARM LEADERSHIP. THERE'S ED ON THE LEFT, NUMBER OF THE OTHER FOLKS WHO I'M SURE YOU KNOW, AND THAT'S THAT. SO I JUST THOUGHT THAT THIS WAS IMPORTANT TO GIVE CONTEXT. AND I THINK IN JANUARY, GOING FORWARD, WE'LL GIVE THIS TO FOLKS SO YOU CAN SEE WHERE WE STAND, BUT THE GENERAL TAKEAWAY FROM THE J.P. MORGAN CONFERENCE WAS THINGS ARE REALLY HAPPENING AND HOPPING, AND THE MOMENTUM FROM YEAR TO YEAR WAS PALATABLE. I THINK, DR. MILLS, IF YOU COULD SAY A COUPLE WORDS ON THAT IN YOUR REPORT AS WELL BECAUSE YOU WERE IN MEETING AFTER MEETING DURING THAT SESSION AS WELL.

SO THAT CONCLUDES OUR CHAIR'S REPORT. DR. MILLS, I NOW TURN IT OVER TO YOU FOR THE PRESIDENT'S REPORT.

DR. MILLS: THANK YOU VERY MUCH, MEMBERS OF THE BOARD. I APPRECIATE THE OPPORTUNITY TO SPEAK TO YOU TODAY ABOUT, I THINK, A VERY EXCITING TIME IN CIRM AND WHAT'S GOING ON. AS J.T. MENTIONED, THE

MOST RECENT J.P. MORGAN CONFERENCE THAT WE HAD, IF YOU LIVE IN THE BIOTECH WORLD, IT'S A PILGRIMAGE YOU HAVE TO MAKE AFTER THE NEW YEAR OUT TO SAN FRANCISCO, AND I'VE DONE IT FOR A LONG, LONG TIME. I HAVE NEVER SEEN ONE AS WELL ATTENDED AS THIS YEAR'S. IT WAS BY FAR THE BIGGEST J.P. MORGAN CONFERENCE THAT THEY'VE HAD OUT HERE. AND I THINK THAT IS AN INTERESTING SIGN OF COMING INVESTMENT INTO THE SPACE, WHICH IS, I THINK, A GOOD THING.

JUST BRIEFLY ON THE TOPICS I WANT TO SPEAK ON TODAY. FIRST, JUST A BRIEF OVERVIEW OF CIRM, VERY BRIEF ON THAT, I PROMISE. I'D LIKE TO TALK A LITTLE BIT ABOUT THE FIRST HALF BUDGET RESULTS THAT WE HAVE SO FAR, GIVE A BRIEF UPDATE ON CERTAIN PROGRAMS. THEN I WANT TO SPEND A LITTLE BIT OF TIME TALKING ABOUT WHAT'S TO COME BECAUSE I WANT TO MAKE SURE THE BOARD UNDERSTANDS. WE HAVE AN INCREDIBLY JAM-PACKED FIRST HALF OF 2016. AND SO IT'S GOING -- EVERY BOARD MEETING IT'S GOING TO BE COMING LIKE A WAVE AFTER ANOTHER WAVE AFTER ANOTHER WAVE, AND SO I WANT TO MAKE SURE THAT THAT'S UP THERE FOR EVERYONE TO SEE. AND IF THERE ARE QUESTIONS ABOUT ANY OF IT, PLEASE ASK.

AS I ALWAYS DO, START WITH THE REASON THAT WE ARE HERE TODAY. OUR MISSION AT CIRM IS FOR US TO

BE ACCELERATING STEM CELL TREATMENTS TO PATIENTS WITH UNMET MEDICAL NEEDS. WE WERE ASKED TO DO THIS BY THE VOTERS OF THE STATE OF CALIFORNIA IN 2004, AND THIS IS SOMETHING I THINK INTERNALLY WE ALWAYS KEEP A VERY, VERY SHARP FOCUS ON.

JUST A LOOK AT AN UPDATED VERSION OF HOW WE HAVE SPENT OUR FUNDING SINCE INCEPTION. SO WE'VE ISSUED A TOTAL OF 671 AWARDS, TOTALING ABOUT $2.1 BILLION INTO THESE FIVE MAJOR CATEGORIES: DISCOVERY, WHICH IS EARLY STAGE RESEARCH, TRANSLATIONAL RESEARCH, CLINICAL, EDUCATION, AND INFRASTRUCTURE. ONE THING THAT I WILL POINT OUT ABOUT THIS SLIDE IS THAT THESE ARE THE NUMBER AND DOLLAR VALUE OF AWARDS ISSUED. IT DIFFERS, AND THE REASON I SAY THAT IT DIFFERS FROM EXPECTATIONS PERHAPS IN THAT THIS IS NOT NET AWARDS THAT HAVE BEEN SPENT.

JUST TO GIVE YOU AN EXAMPLE, WHERE THIS PHENOMENA SKEWS THESE NUMBERS TO THE GREATEST AMOUNT IS IN CLINICAL WHERE WE SHOW $589 MILLION AWARDED IN CLINICAL. IN FACT, THE BOARD HAS APPROVED $589 MILLION OF FUNDING, BUT NOT ALL $589 MILLION OF FUNDING WAS ACCEPTED. JUST AS AN EXAMPLE, BLUEBIRD BIO DID NOT ACCEPT THEIR FUNDING. WE APPROVED $40 MILLION FOR STEM CELLS, INC. THEY ONLY TOOK 20,

GERON 25. THAT WAS WIPED OUT. SO THE AMOUNT OF INVESTMENT WE'VE ACTUALLY TRANSLATED ALL THE WAY THROUGH INTO CLINICAL IS SUBSTANTIALLY LESS THAN THIS $589 MILLION, BUT THE BOARD HAS APPROVED AWARDS UP TO THAT AMOUNT. AND THAT'S SOMETHING WE NEED TO BE LOOKING AT GOING FORWARD, WHY AN APPLICANT WOULD GO THROUGH THE ENTIRE PROCESS, GET THEIR AWARD APPROVED BY THE BOARD, AND THEN TURN THEIR AWARD DOWN. IT'S SOMETHING WE CERTAINLY NEED TO UNDERSTAND BETTER.

I'D LIKE TO BRIEFLY JUST TURN TO THE BUDGET REVIEW. WE HAVE FINISHED ANOTHER FINANCIAL QUARTER, AND SO I THINK IT'S IMPORTANT WE JUST KEEP A TIGHT VIEW ON OUR BUDGETS. AS I'VE MENTIONED BEFORE, WE BASICALLY HAVE TWO BUCKETS OF MONEY, AND BOTH OF THOSE BUCKETS ARE VERY IMPORTANT TO US. THE SMALLER BUCKET IS OUR ADMINISTRATIVE BUCKET. THAT'S HOW WE FUND THE ACTUAL OPERATIONS AT CIRM, THE AGENCY ITSELF. THAT'S $180 MILLION. THE LARGER BUCKET IS THE $2.75 BILLION THAT WE HAVE TO DISTRIBUTE OUT IN AWARDS THAT WE APPROVE. WHEN EITHER ONE OF THESE BUCKETS GOES TO ZERO, CIRM IS OVER. SO THAT'S WHY WE SHOULD PROBABLY KEEP A CLOSE EYE ON THEM.

WITH REGARDS TO THE SMALL BUCKET, SO WE

HAVE SPENT 95 MILLION OUT OF THAT BUCKET. WE HAVE $85 MILLION LEFT. AT OUR CURRENT SPEND RATE OF $13 MILLION PER YEAR, THAT WOULD GET US GOING FOR ANOTHER SIX AND A HALF YEARS OR ABOUT HALFWAY THROUGH 2021. I WILL TELL YOU THAT CURRENT BURN RATE OF $13 MILLION A YEAR, IF CIRM WERE NOT TO BE CONTINUED, WE WOULDN'T BE SPENDING AT THAT RATE THROUGH THE ENTIRE TIME. SO IT WOULD ACTUALLY TAPER OFF, SO THIS BUCKET IS IN GOOD SHAPE AS FAR AS THE AGENCY IS CONCERNED. IT HAS LIFE WELL PAST 2021.

THIS IS OUR AWARD BUCKET. SO FAR WE'VE HAD NET AWARDS NOW, SO THIS IS THE AWARDS WE'VE ISSUED MINUS WHAT'S BEEN TAKEN BACK, OF $1.9 BILLION OUT OF THE 2.75. WE ESTIMATE WE'LL GET PROBABLY ANOTHER HUNDRED MILLION BACK ON AWARDS THAT HAVE BEEN ISSUED. WE HAVE $850 MILLION THAT'S NOT BEEN AWARDED. SO WE HAVE SOMEWHERE BETWEEN 900 TO A BILLION DOLLARS LEFT TO AWARD.

AT OUR HISTORICAL RUN RATE, FUNDING $190 MILLION IN NEW PROJECTS A YEAR, THAT WOULD TAKE US TO 2020. ONE OF THE THINGS I WANT TO TALK ABOUT IS THAT CURRENTLY RIGHT NOW WE'RE NOT EVEN ON PACE TO DO THAT. WE'RE UNDER THAT. AND SO WE WOULD ACTUALLY GO LONGER. I DON'T NECESSARILY THINK THAT'S A GOOD THING. I WOULD ACTUALLY LIKE THAT OUR

FUNDING RATE COME UP WITH THE CAVEAT BEING I THINK WE SHOULD ONLY BE FUNDING OUTSTANDING PROGRAMS THAT HAVE THE BEST CHANCE ULTIMATELY TO HAVE A POSITIVE IMPACT ON PATIENTS.

I'M JUST GOING TO BREAK DOWN. SO THIS BUCKET HAS BASICALLY THREE SUB-BUCKETS INSIDE IT, AND I THINK IT'S INTERESTING TO SEE HOW MONEY MOVES. SO FOR THE SECOND QUARTER, WE HAVE BASICALLY THREE WAYS OF ACCOUNTING FOR MONEY. MONEY THAT'S FULLY UNCOMMITTED, WE HAVE $850 MILLION, AND THAT MONEY IS NOT COMMITTED. WE CAN COMMIT IT HOWEVER WE WANT. WE HAVE AWARDED MONEY, WHICH IS AWARDS THAT THE BOARD HAS APPROVED, BUT WE HAVE NOT PAID OUT ON THAT. JUST BECAUSE THE BOARD APPROVES IT, WE DON'T IMMEDIATELY WRITE A CHECK. OBVIOUSLY THERE'S MILESTONES AND PAYMENTS, AND THOSE GET PAID OUT OVER TIME. SO WE HAVE $437 MILLION THAT'S BEEN AWARDED, BUT WE HAVEN'T WRITTEN CHECKS FOR. AND LASTLY, WE HAVE $1.46 BILLION WE'VE FINISHED, WE'VE WRITTEN THE CHECKS. SO IT'S BEEN COMMITTED AND THEN THE MONEY HAS BEEN SPENT AND HAS GONE OUT THE DOOR.

AND IT'S INTERESTING BECAUSE THERE'S A PRETTY GOOD DYNAMIC BETWEEN THESE THREE BUCKETS AT ANY GIVEN QUARTER. SO THIS QUARTER WE MADE $34 MILLION IN NEW AWARDS, BUT WE HAD $11 MILLION IN

AWARD REDUCTIONS OR CANCELLATIONS. SO WE ONLY NET COMMITTED $23 MILLION THIS QUARTER. WE SPENT, WE ACTUALLY WROTE CHECKS OUT FOR $46 MILLION. WE HAD NO REPAYMENTS OUT OF THAT COME BACK. THAT YELLOW BUCKET ISN'T, FOR ME, AS IMPORTANT. IN THE BUSINESS WORLD, YOU WOULD SAY THAT'S ACCOUNTS PAYABLE. THAT'S SOMETHING YOU'VE ALREADY BOUGHT AND YOU'RE JUST WAITING FOR THE CHECK BASICALLY TO CLEAR. SO THAT'S WHAT HAPPENED IN THE SECOND QUARTER.

WHEN WE LOOK AT THE ENTIRE FIRST HALF, WE SEE A SIMILAR STORY. SO WE MADE $51 MILLION IN NEW AWARDS IN THE FIRST HALF OF FISCAL YEAR '15, BUT WE HAD $25 MILLION IN AWARD REDUCTIONS AND CANCELLATIONS. THAT IS UNUSUALLY HIGH. I WILL BE REALLY SURPRISED TO SEE IF THAT LEVEL OF RETURN KEEPS COMING BACK.

WE ARE -- WHAT I WILL SAY ABOUT IT IS WE ARE AS AN AGENCY COMMITTED TO DOING EVERYTHING WE CAN TO MAKE AN AWARD ON A PROJECT THAT YOU HAVE ELECTED TO FUND BE AS SUCCESSFUL AS POSSIBLE. AND THAT IS FIRST AND FOREMOST WHAT WE WANT TO HAVE DONE. I WILL ALSO SAY, THOUGH, IF IT'S NOT SUCCESSFUL, WE TAKE VERY SERIOUSLY OUR OBLIGATIONS TO INSIST ON PERFORMANCE UNDER THE CONTRACTS WE HAVE AND WILL NOT LOOK THE OTHER WAY IF THERE ISN'T

PERFORMANCE UNDER THAT CONTRACT. AND SO WE HAVE SEEN SOME INSTANCES WHERE CERTAIN PROGRAMS JUST DON'T WORK. THAT'S BIOTECH. THAT'S THE WAY IT IS. NOT EVERYTHING WE FUND IS GOING TO WORK. IF IT ALL DID, IT WOULD MEAN SOMETHING IS WRONG, BUT WE DO HAVE TO BE VERY ATTENTIVE AND PROACTIVE WHEN WE SEE SOMETHING NOT WORKING, NOT CONTINUE TO FUND SOMETHING THAT'S JUST NEVER GOING TO WORK OUT.

THE NET HERE OF THIS SLIDE, THOUGH, IS DESPITE $51 MILLION IN NEW AWARDS, WE ACTUALLY ONLY HAVE A NET COMMITTED FOR THE FIRST HALF OF THIS YEAR OF $26 MILLION. AND SO THAT NUMBER COMPARES ROUGHLY AGAINST THE 190 I TALKED ABOUT IN TERMS OF FOR A FULL YEAR RATE. SO, AGAIN, THIS WOULD PUT US JUST OVER $50 MILLION ANNUALIZED IN COMMITTING NEW MONEY. SO I DON'T EVER ADVOCATE SPENDING MONEY JUST FOR THE SAKE OF SPENDING MONEY, BUT IT WOULD BE GOOD IF WE HAD NEW PROGRAMS COMING IN HERE THAT WERE OF SUFFICIENT QUALITY THAT THE BOARD WOULD ENTHUSIASTICALLY SUPPORT.

ANY QUESTIONS ABOUT THE BUDGET?

AND THEN I WANT TO TALK JUST A LITTLE BIT ABOUT PROGRAM UPDATES. AND ON JANUARY 1ST, ACTUALLY ON DECEMBER 31ST, NEW YEAR'S EVE, THE CIRM TEAM LAUNCHED CIRM 2.0 OFFICIALLY. AND THAT WAS A REALLY

GREAT EFFORT TO SEE. I PUT THIS SLIDE UP. IT'S GOT ALL KINDS OF TINY LITTLE WRITING ON IT. THE POINT OF THIS SLIDE IS THERE WERE SO MANY DIFFERENT THINGS AND SO MANY DIFFERENT PIECES THAT HAD TO ALL COME TOGETHER IN ORDER FOR US TO BE ABLE TO FORMALLY LAUNCH THE PROGRAM BY JANUARY 1ST, WHICH WAS OUR STATED GOAL. IT WASN'T JUST, HEY, LET'S JUST DO SOMETHING FASTER AT CIRM. WE HAD TO CHANGE I.T. STRUCTURES, CONTRACTING ISSUES, LEGAL ISSUES. OUR HR STRUCTURE LITERALLY CHANGED. FINANCIAL OVERSIGHT, THE APPLICATION PROCESS ITSELF, WHO ARE WE GOING TO GET TO REVIEW THESE THINGS? COULD WE FIELD THAT BIG OF A TEAM? AND I'LL LEAVE MARKETING AND EVERYTHING ELSE. I'M LEAVING MORE OUT THAN I PROBABLY SHOULD.

THE THING THAT I'M SO PLEASED WITH IS AT NO POINT DID THIS TEAM, AND THEY WOULD LOCK THEMSELVES IN THIS ROOM WE CALL THE CAVE, AND THEY WOULD LOCK THEMSELVES IN THIS ROOM AND THEY WOULD JUST SIT DOWN AND WORK THROUGH THIS LIST. AT NO POINT DID THIS TEAM SAY, "WE CAN'T MAKE JANUARY 1ST. JANUARY 1ST ISN'T THAT IMPORTANT. LET'S DO IT BY FEBRUARY 1ST." THEY WERE LIKE A DOG WITH A BONE. WE WERE NOT GOING TO MISS JANUARY 1ST.

AND I'LL TELL YOU WHY I HAVE SUCH A SMILE

ON MY FACE IS ON NEW YEAR'S EVE IN THE EVENING AT A STATE AGENCY THERE WERE A LOT OF PEOPLE AT CIRM DOING EVERYTHING THEY COULD TO MAKE SURE THIS THING WENT UP BY THE JANUARY 1ST DEADLINE. AND THEY DID A GREAT JOB. AND THE BOARD DID A GREAT JOB. I JUST WANT TO THANK YOU GUYS SO MUCH FOR ALL THE EFFORT THAT WENT INTO IT AND ALL THE RESPECT FOR THE SENSE OF URGENCY THAT THIS ORGANIZATION SHOULD HAVE BECAUSE ITS MISSION IS SO FUNDAMENTALLY IMPORTANT. AND WHILE IT MAY SEEM LIKE JUST A GESTURE THAT WE GOT SOMETHING DONE ON DECEMBER 31ST VERSUS JANUARY 1ST, I THINK IT SPEAKS VOLUMES TO THE LEVEL OF COMMITMENT AND RESPECT WE HAVE FOR THE TIME SENSITIVITY OF THE PATIENTS THAT WE TREAT.

I'LL STOP TALKING ABOUT THAT, BUT I WANT TO THANK YOU GUYS SO MUCH.

OTHER ACTIVITIES THAT WE HAVE GOING ON. SO IN ADDITION TO DOING ALL OF THIS STUFF, WHICH IS AMAZING AT CIRM, WE'RE DOING THIS TOTALLY RADICAL OVERHAUL OF THE WAY WE DO BUSINESS, WE STILL HAVE AN ORGANIZATION THAT HAS CONTINUED TO RUN INSIDE. AND SO WE HAVE KICKED OFF THE ALPHA CLINICS INITIATIVE, WHICH THE BOARD APPROVED. WE'VE HAD OUR LARGE ORGANIZATIONAL MEETING WHERE THE TOPIC OF DISCUSSION AND THE NO. 1 TOPIC OF DISCUSSION WAS WHAT WAS THE

VALUE ADDED THAT WAS GOING TO BE BETWEEN THESE THREE CENTERS COMING TOGETHER. THEY HAVE $24 MILLION OF OUR MONEY. WE WANT TO SEE $24 MILLION OF ADDED VALUE, AND I ACTUALLY AM VERY HOPEFUL THAT THAT IS GOING TO HAPPEN. WE'VE ALSO HAD INDIVIDUAL SITE VISITS WITH EACH OF THOSE CLINICS AS WELL.

AT THE LAST BOARD MEETING, THE BOARD APPROVED OUR ORGANIZATIONAL CHANGES. STRUCTURALLY THOSE CHANGES HAVE ALL BEEN PUT INTO PLACE AND HAVE TAKEN EFFECT. THERE WILL BE TRANSITIONS PARTICULARLY WITH REGARDS TO SHIFTING PROJECTS FROM CERTAIN SCIENCE OFFICERS TO OTHERS THAT WILL TAKE PLACE THROUGH APRIL. BUT WE'RE WELL UNDER WAY.

AS J.T. MENTIONED, J.P. MORGAN HEALTHCARE CONFERENCE, MY PERSPECTIVE WAS A LITTLE BIT INTERESTING. I HELD MULTIPLE MEETINGS WITH COMPANIES THAT WERE INTERESTED IN RELOCATING TO THE STATE OF CALIFORNIA BECAUSE OF THE POTENTIAL OF BEING ABLE TO WORK WITH CIRM. SOME OF THESE COMPANIES WERE INTERNATIONAL AND WANTED TO OPEN UP A SUBSIDIARY IN CALIFORNIA, SOME OF THEM WERE LOCATED IN OTHER STATES AND WERE INTERESTED IN MOVING HERE. BUT THERE IS CLEARLY INTEREST IN WHAT'S GOING ON IN CALIFORNIA WITH CIRM THAT'S SUFFICIENT ENOUGH TO AT LEAST SERIOUSLY CONSIDER A MOVE ON BEHALF OF THESE

COMPANIES.

WE GAVE -- AS J.T. TALKED ABOUT, I MODERATED A PANEL. HIS COMMENTS GO TO MY LOVE FOR MODERATING PANELS. IT'S LIKE IT'S BAD, BUT WE GOT THROUGH IT. AND THAT WAS 45 MINUTES I'LL NEVER GET BACK. WE WERE ABLE TO GET OUR MISSION OUT ABOUT CIRM, WHAT WE'RE DOING AT CIRM, THE CHANGES AT CIRM 2.0. AND THE GREAT THING ABOUT THIS CONFERENCE IS IT'S EXACTLY OUR TARGET AUDIENCE. AND SO THE ALLIANCE FOR REGENERATIVE MEDICINE HAS ROUGHLY 180 MEMBERS RIGHT NOW THAT ARE ALL COMPLETELY IN OUR WHEELHOUSE. I MEAN THEY'RE ALMOST ALL APPLICABLE TO WHAT WE DO AT CIRM. AND SO IT WAS A GREAT TARGETED AUDIENCE TO BE ABLE TO CONVEY THE CHANGES THAT WE WERE MAKING.

WE HELD A CIRM 2.0 WEBINAR, AND THAT WAS TO BE ABLE TO DESCRIBE TO PEOPLE THAT WERE INTERESTED IN LEARNING ABOUT CIRM 2.0 HOW THEY INTERACT WITH THE NEW SYSTEM, WHAT WAS ELIGIBLE, WHAT THEY NEEDED TO DO TO APPLY. WE HAD 300 REGISTRANTS FOR THAT PROGRAM. IT WAS INCREDIBLY SUCCESSFUL.

JUST YESTERDAY OR TWO DAYS AGO, I CAN'T REMEMBER, I DID THE PHACILITATE GENE AND CELL THERAPY CONFERENCE IN WASHINGTON, D.C., AGAIN

TALKING ABOUT WHAT WE'RE DOING AT CIRM, MAKING SURE PEOPLE KNOW THAT IF THEY HAVE TECHNOLOGY, WE WANT THAT TECHNOLOGY IN THE STATE OF CALIFORNIA AND WE'RE OPEN TO DO BUSINESS.

AND IN COMING UP FOR CIRM 2.0, THE FIRST REVIEW CYCLE CLOSES THIS FRIDAY, TOMORROW. WE KNOW WE HAVE MULTIPLE APPLICATIONS ALREADY IN. WE DON'T KNOW HOW MANY MORE WE'RE GOING TO BE GETTING THAT ARE ACTUALLY GOING TO PRESS THE COMPLETE BUTTON, BUT IT'S KIND OF REMARKABLE THAT WE HAVE MULTIPLE CLINICAL STAGE APPLICATIONS IN SINCE WE ONLY DESCRIBED THE PROGRAM IN TERMS OF THE PROGRAM ANNOUNCEMENT ON NEW YEAR'S EVE. SO WITHIN 30 DAYS THESE PEOPLE WERE ABLE TO REVIEW THIS PROGRAM ANNOUNCEMENT, PUT TOGETHER A FULL AND COMPLETE APPLICATION, AND GET IT SUBMITTED. SO WE'RE EXCITED, OPTIMISTIC, HOPEFUL ABOUT WHAT WE'RE SEEING COME INTO CIRM AS A RESULT OF CIRM 2.0.

AND THEN JUST AS A HEADS-UP. OUR PRECLINICAL DEVELOPMENT GRANTS WORKING GROUP MEETING IS NEXT WEEK. THIS IS PRECLINICAL DEVELOPMENT AWARDS WHICH WILL BE 20 SOMETHING APPLICATIONS THAT WE'RE EVALUATING, AND YOU GUYS WILL BE SEEING THE RESULTS OF THAT IN THE MARCH MEETING.

ONE MORE COMMENT ABOUT THE ROLLOUT OF CIRM

2.0 AND WHAT WE NEED TO DO GOING FORWARD. IT IS NOT JUST ENOUGH FOR US TO PUT OUT CIRM 2.0 WITH A PRETTY LOGO AND FLASHY SLIDES AND SAY, "OH, GREAT. THAT WAS GOOD." THE POINT OF GOING THROUGH THE EXERCISE OF CIRM 2.0 IS TO FUNDAMENTALLY PRODUCE A BETTER PRODUCT AND GET BETTER OUTCOMES. NOW, IT WOULD BE GREAT IF WE COULD MEASURE OUTCOMES WE WANT DIRECTLY, LIKE PATIENTS TREATED, PRODUCTS APPROVED, BUT THOSE ARE KIND OF LONG LEAD ITEMS. SO WE WOULDN'T GET A GREAT SENSE OF HOW WE WERE DOING IF WE JUST LOOKED AT THOSE.

SO WE HAVE DEVELOPED SURROGATE METHODS OR SHORTER TERM WAYS OF MEASURING OUR PROCESS TO SEE IF -- THAT SHOULD BE HIGHLY PREDICTIVE OF ULTIMATELY HOW THE PROGRAM WORKS. AND SO THESE ARE THINGS LIKE THE NUMBER OF APPLICATIONS WE BRING IN, THE CYCLE TIME, THE QUALITY OF APPLICATIONS, THE QUALITY OF AWARDS. THESE ARE ALL THINGS WE'LL BE MONITORING. THESE ARE ALL THINGS I WILL BE REPORTING BACK TO YOU AS SOON AS THAT DATA STARTS COMING IN SO WE CAN TAKE A LOOK AT IT.

AND THEN THE LAST THING IS WE'RE ALSO GOING TO BE LOOKING FOR UNINTENDED CONSEQUENCES OR UNINTENDED EFFECTS. IT IS TOO RADICAL OF AN OVERHAUL TO PUT IN PLACE TO ASSUME THERE WON'T BE

SOME BUMPS ALONG THE ROAD. IT'S TOO RADICAL OF AN OVERHAUL TO THINK THAT THERE WON'T BE A WHOOPS. WE DIDN'T REALIZE THAT BY DOING THIS, THAT WOULD DRIVE THAT BEHAVIOR. AND SO WE NEED TO BE VERY MINDFUL AND WE NEED TO BE VERY OPEN ABOUT THAT; AND WHEN WE SEE SOMETHING, TAKE CORRECTIVE ACTION. THAT'S THE LAST WORD ON THAT CIRM 2.0.

THE LAST THING I WANT TO TALK ABOUT IS JUST COMING ATTRACTIONS. WE HAVE, AS I SAID, AN INCREDIBLY BUSY FIRST HALF CALENDAR OF 2015 COMING UP STARTING WITH OUR MARCH MEETING. SO THERE WILL BE PROPOSED CHANGES TO THE GRANTS ADMINISTRATION AND LOAN ADMINISTRATION PROGRAMS COMING BEFORE THE BOARD. THE PRECLINICAL DEVELOPMENT REVIEW THAT'S GOING ON NEXT WEEK, THOSE PROGRAMS WILL COME BEFORE YOU FOR DECISION. IN APRIL IS ACTUALLY WHEN WE'LL START OUR BUDGET REVIEW PROCESS OR THE FINANCE SUBCOMMITTEE WILL BE GETTING THE FIRST PASS OF OUR 2016 BUDGET.

ALSO, THE APRIL 23D TELECONFERENCE WILL ACTUALLY BE OUR FIRST CONSIDERATION FOR AWARDS UNDER 2.0. SO THE ONES THAT GET IN BY FRIDAY WILL COME BEFORE THE BOARD ON APRIL 23D. THAT'S HOPEFULLY AN EXCITING DAY.

IN MAY WHAT I'D LIKE TO DO IS START THE

STRATEGIC PLANNING PROCESS WITH THE BOARD IN BOARD SESSION. I THINK IT'S IMPORTANT THAT WE TAKE A LOOK AT WHERE WE WANT TO GO, CHALLENGE ASSUMPTIONS, TAKE IN THE NEW DATA THAT WE HAVE, AND REALLY SET A PLAN THAT IS AGGRESSIVE, THAT STRETCHES THE AGENCY, AND GETS US TO THE BEST PLACE WE POSSIBLY CAN GO. SO WE'RE GOING TO START THAT PROCESS IN MAY. IN MAY WE ALSO WILL BRING BACK TO THE BOARD THE FULL BUDGET FOR ADOPTION FOR 2016.

AND THEN IN JULY WE REALLY ARE GOING TO HAVE A BUSY MEETING BECAUSE WE WILL BE HAVING THE CONCEPT PLANS FOR THE DISCOVERY AND TRANSLATIONAL STAGE PROGRAMS. THIS IS THE EARLIER STAGE RESEARCH FOR CIRM 2.0. WE WILL ALSO BE BRINGING BACK THE CONCEPT PLANS FOR CREATIVITY, WHICH IS THE HIGH SCHOOL EDUCATION PROGRAM, AND BRIDGES, WHICH IS THE UNDERGRAD EDUCATIONAL PROGRAM. AND THEN, LASTLY, FINALIZE THE STRATEGIC PLAN BY THAT MEETING.

AND SO AS I SAID, VERY BUSY TIME COMING UP HERE. THE ONE THING THAT I WILL OVERLAY ON TOP OF THIS THAT'S IMPORTANT TO KNOW IS DURING ALL OF THIS WE WILL ALSO BE MOVING. SO CIRM'S LOCATION IS -- OUR LEASE IS UP IN NOVEMBER OF THIS YEAR, AND SO WE WILL, IN ADDITION TO DOING ALL OF THESE DIFFERENT THINGS, WE WILL BE FINDING A NEW HOME AND IN THE

PROCESS OF RELOCATING. I WOULD SAY THERE PROBABLY WILL BE SOME DISRUPTION WITH THAT, AND WE WILL GET OVER IT. WE WILL FIND A WAY TO WORK THROUGH IT, BUT IT WILL BE IMPOSSIBLE FOR THERE NOT TO BE SOME DISRUPTION FROM THAT.

THAT IS ALL I HAVE. BE HAPPY TO ANSWER ANY QUESTIONS ANYONE MIGHT HAVE.

DR. JUELSGAARD: YES, RANDY, IF YOU COULD GO BACK TO SLIDE 10 AND JUST SPEAK A LITTLE MORE QUALITATIVELY. THAT'S THE ONE THAT SHOWS THE AMOUNT OF MONEY THAT SORT OF CYCLED BACK INTO, THAT WAS UNSPENT OUT OF THE AWARDS THAT HAVE BEEN DONE. IT AMOUNTS TO ROUGHLY HALF OF THE AMOUNT OF THE AWARDS THAT WERE MADE DURING THIS PERIOD OF TIME. SO I DON'T KNOW IF THIS IS ABERRATIONAL, THIS IS JUST A ONE-TIME OCCURRENCE, OR WHETHER THIS IS A FREQUENT OCCURRENCE, BUT QUALITATIVELY THE MONEY THAT'S COME BACK, JUST SOME EXAMPLES OF WHAT HAPPENED.

DR. MILLS: SURE. SO I THINK IT'S A LITTLE ABERRATIONAL. AGAIN, THE WAY WE MAKE AWARDS, IF WE HAVE A PROGRAM AND IT'S A $20 MILLION AWARD, WE DON'T WRITE THEM A $20 MILLION CHECK AND SAY WE HOPE THIS WORKS OUT WELL. WE LAY THE PAYMENTS OUT OVER TIME, AND THERE ARE CERTAIN MILESTONES AND THINGS THAT NEED TO BE ACHIEVED. AND AS THEY

ACHIEVE CERTAIN MILESTONES AND AS TIME GOES BY, WE CONTINUE TO WRITE MORE CHECKS OUT. AND SO MOSTLY WHAT YOU SEE HERE ARE SOME LARGE PROGRAMS REACHING DECISION POINTS WHERE IT DOESN'T MAKE SENSE FOR THE PROGRAM TO MOVE FORWARD AND THE PROGRAM IS TERMINATED.

THE MOST RECENT EXAMPLE WAS THE STEM CELLS, INC. AWARD WHICH WAS ABOUT $10 MILLION OR SO IN TERMINATION. SO THAT MONEY WOULD COME OUT OF THE AWARDED BUCKET AND CYCLE BACK UP. TO HAVE 25 MILLION OUT OF 51 MILLION IN NEW AWARDS COME BACK, I THINK THERE'S TWO THINGS THAT ARE ABERRATIONAL THERE. ONE IS $51 MILLION IS UNUSUALLY LOW. I'M HOPING THAT WITH CIRM 2.0 CLINICAL AND TRANSLATIONAL AND DISCOVERY UP AND RUNNING THAT WE'RE ACTUALLY MAKING AWARDS AT A HIGHER RATE THAN 51 MILLION. AND THEN THE 25 MILLION I'M HOPING IS ABERRATIONALLY HIGH IN RETURNS IN THAT OUR PROGRAMS WILL HAVE A HIGHER SUCCESS RATE GOING FORWARD. THAT'S CERTAINLY OUR INTENT, TO DO EVERYTHING WE CAN TO MAKE THEM SUCCESSFUL. WITH THAT SAID, IF A PROGRAM DOESN'T WORK, IT DOESN'T WORK. SO WE WILL TERMINATE IT.

DR. MELMED: FOLLOW UP ON THAT QUESTION. THE FIRST ONE WAS A TERRIFIC REPORT. THANK YOU. VERY NICE.

CAN YOU EXPLAIN TO THE BOARD THE MECHANISM FOR YOUR OFFICE TO GO BACK AND UNDERSTAND WHICH FUNDS WERE NOT SPENT AND TO ACTUALLY DO A CLAW-BACK BECAUSE ONE OF THE WEAKNESSES OF THE R01 SYSTEM IS IF A PERSON HAS A FIVE-YEAR GRANT AND THEY ACHIEVE THEIR GOALS IN THE FIRST TWO OR THREE YEARS, THEY USUALLY SPEND THE MONEY WELL IN THE FINAL TWO YEARS ON A DIFFERENT PROJECT. DO WE HAVE A MECHANISM BECAUSE THE PRIOR AWARDS IN THE EARLY YEARS WERE PRETTY BIG? SO JUST BECAUSE PEOPLE HAVE AN AWARD AND THEY'RE DOING WORK, THEY'RE GOING TO CONTINUE TO SPEND MONEY. DO WE HAVE A MECHANISM FOR GOING BACK AND ASSURING OURSELVES THAT THAT MONEY IS SPENT ONLY ON THE PROJECT WHICH WAS APPROVED? AND IF NOT, THAT THEY RETURN THAT MONEY AS A CLAW-BACK.

BASED ON THE NUMBERS THAT YOU'RE SHOWING US, THERE SEEMS TO BE AN EFFORT TO DO THAT, BUT THE BOARD ISN'T CLEAR ON HOW YOU'RE DOING IT, AND CAN YOU ASSURE US THAT THERE AREN'T MANY MORE MILLIONS LYING EITHER UNSPENT OR BEING SPENT INAPPROPRIATELY ON GOOD SCIENCE WHICH IS NOT RELEVANT TO US?

DR. MILLS: THE ONE PART -- I WANT TO HAVE JAMES TALK ABOUT THE MECHANISM STUFF BECAUSE THAT'S WHAT HE DOES. THE ONE THING I WANT TO TALK ABOUT IN THE 25 MILLION GOING FROM THE AWARDED BACK TO THE

UNCOMMITTED, THAT IS NOT US FINDING LITTLE POCKETS OF UNSPENT MONEY HERE OR THERE. THOSE ARE BIG PROGRAMS THAT HAD AS PART OF THE -- WHEN I WAS ON THE GRANTS REVIEW GROUP, ONE OF THE THINGS THAT WE WOULD ALWAYS TALK ABOUT IS THIS SEEMS LIKE A GOOD PROJECT; BUT IF AT STEP B WE DON'T SEE THIS RESULT, THERE'S NO SENSE IN GOING TO C, D, E, AND F, SO THE PROGRAM SHOULD BE STOPPED.

AND THE PEOPLE WHO -- THE SPONSORS OF THE PROGRAMS BELIEVE THAT TOO. SO THAT'S PART OF THE WRITTEN CONTRACT THAT WE HAVE, THAT EVERY STEP ALONG THE WAY THERE ARE GO/NO-GO DECISIONS. AND IF WE RUN INTO A NO-GO DECISION AND IT'S NOT CURABLE, THEN THE PROGRAM ENDS. IT MIGHT HAVE BEEN $20 MILLION, BUT WE'RE ONLY $6 MILLION INTO IT, IT'S $6 MILLION THAT WE'VE SPENT, AND THE REMAINING 14 MILLION COMES BACK. THAT'S THE VAST MAJORITY OF THE RETURN YOU SEE RIGHT THERE.

JAMES, CAN YOU TALK ABOUT MECHANISMS FOR NOT HAVING THEM SPEND MONEY ON INAPPROPRIATE USES?

MR. HARRISON: SURE. SO TWO MECHANISMS. ONE, IF THERE ARE UNSPENT FUNDS LEFT OVER AT THE END OF AN AWARD, THEY'RE REQUIRED TO BE RETURNED TO CIRM. TWO, WE DO CONDUCT FINANCIAL COMPLIANCE AUDITS TO ENSURE THAT THAT HAPPENS.

I DO WANT TO POINT OUT THAT UNDER CIRM 2.0 WE INTEND TO TAKE A SLIGHTLY DIFFERENT APPROACH. SO AS WE'VE DISCUSSED BEFORE, THERE WILL BE A BUDGET REVIEW THAT'S CONDUCTED OF EACH APPLICATION BEFORE IT ACTUALLY GOES TO THE GRANTS WORKING GROUP BY BUDGET EXPERTS WHO WILL PROVIDE INFORMATION TO CIRM PURSUANT TO WHICH WE'LL BE ABLE TO MAKE A DETERMINATION AS TO WHETHER THE BUDGET IS OUT OF WHACK BY SOME SUBSTANTIAL DEGREE.

IF IT IS, THAT APPLICATION WILL NOT PROCEED TO GWG REVIEW. IT WILL BE SENT BACK TO THE APPLICANT FOR ADDITIONAL WORK AND RESUBMISSION.

SECOND, TO THE EXTENT THAT A BUDGET THAT PASSES THAT REVIEW AND IS RECOMMENDED FOR FUNDING BY THE GWG AND APPROVED BY THE APPLICATION REVIEW SUBCOMMITTEE, IF THAT APPLICANT OR AWARDEE, RATHER, IS ABLE TO ACHIEVE THE MILESTONES MORE QUICKLY AND MORE EFFICIENTLY THAN EXPECTED AND THEREBY SAVE MONEY, WHICH WE WANT TO INCENTIVIZE, OF COURSE, THEN THAT APPLICANT WILL HAVE THE ABILITY TO COME BACK TO CIRM AND REQUEST THE OPPORTUNITY TO USE THE REMAINING FUNDS TO ADVANCE CIRM'S MISSION AND CIRM WILL HAVE APPROVAL OF THAT REQUEST. AND IT WILL HAVE TO BE, OF COURSE, CONSISTENT WITH OUR RULES AND REGULATIONS.

MR. PANETTA: THANKS, RANDY. I'LL ECHO SHLOMO'S COMMENT. THAT WAS A GREAT PRESENTATION. YOU WOULD HAVE DONE WELL TO BE ON STAGE AT J.P. MORGAN YOURSELF ALONG WITH THE OTHERS.

DR. MILLS: THAT WAS AWHILE AGO. I DON'T HAVE TO DO THAT ANYMORE.

MR. PANETTA: ONE OF THE THINGS THAT I'M ASKED A LOT IS THAT WE'VE SPENT TEN YEARS NOW MAKING AN INVESTMENT IN RESEARCH THROUGH THE GRANTS THAT CIRM HAS PUT OUT. AND ONE OF THE THINGS EARLY ON THAT WAS TALKED ABOUT WAS THE POSITIVE ECONOMIC IMPACT THAT THIS WOULD HAVE IN THE FIELD AND IN CALIFORNIA. I KNOW OUR MISSION IS TO DEVELOP CURES FOR PATIENTS. THAT'S WHY WE'RE HERE. BUT THAT QUESTION COMES UP ONCE IN A WHILE. I'M WONDERING IF WE COLLECT ANY DATA IN THAT REGARD OR IF THERE'S ANY REFERENCE THAT WE CAN GO TO NOW TO BE ABLE TO REPORT BACK ON THAT IMPACT.

DR. MILLS: J.T. HAS MORE OF THAT TYPE OF DATA. DO YOU WANT TO JUST SPEAK TO THE ECONOMIC IMPACT OUTSIDE OF --

CHAIRMAN THOMAS: WE HAD A REPORT DONE THREE YEARS AGO WHICH LOOKED EXACTLY AT THAT TOPIC, WHICH IS MORE THE IMPACT IN INDUSTRY NOT IN TERMS OF ROYALTIES TO THE STATE FOR PRODUCT THAT'S GOING TO

COME DOWN THE ROAD. THAT WILL BE IN DUE COURSE. BUT IN TERMS OF THINGS LIKE NEW JOBS, INCOME TAX TO THE STATE, SALES TAX REPRESENTED BY PEOPLE WHO ARE IN THE INDUSTRY THAT WE'RE FUNDING, ETC. AND THAT REPORT AT THE TIME SHOWED THAT BY CALENDAR 2014 WE WOULD HAVE GENERATED, MR. SENATOR, CORRECT ME IF I'M WRONG, $214 MILLION IN NEW REVENUE TO THE STATE, 38,000 NEW JOBS.

WE'RE IN THE PROCESS, ARE WE NOT, OF HAVING THAT UPDATED. THAT'S IN PROCESS AT THE MOMENT. AND AT SUCH TIME AS WE GET THAT REPORT BACK, WE WILL BRING IT AND DISTRIBUTE TO THE BOARD.

MR. TORRES: ALSO IF ANYONE HAS ANY QUESTIONS, PLEASE FEEL FREE TO E-MAIL ME OR TEXT AND I'LL GET ANY INFORMATION, OR SPECIFIC QUESTIONS YOU MIGHT HAVE ON SOME OF THOSE ISSUES, I'LL BE HAPPY TO SEND THAT REPORT TO THE MEMBERS OF THE BOARD, THE LAST REPORT THAT WE DID.

DR. DULIEGE: CLEARLY ONE OF THE IMPORTANT OBJECTIVES OF CIRM IS TO MOVE AS MANY CANDIDATES THROUGH PHASE II AND POSSIBLY PHASE II TRIALS. IN THAT REGARD, CONGRATULATIONS TO THE CIRM FOR LAUNCHING THE ALPHA CLINICS. MY QUESTION IS WHEN DO YOU EXPECT TO REPORT ON THEIR ACTIVITIES TO THE BOARD? WHAT DO YOU EXPECT FOR THEM TO DO RAPIDLY TO

CHANGE THE WAY CLINICAL TRIALS ARE BEING DONE IN STEM CELLS?

DR. MILLS: THE ALPHA CLINICS? SO WE JUST HAD THE KICKOFF, THE LARGE KICKOFF MEETING WITH ALL OF THE GROUPS TOGETHER AND THEN THEIR INDIVIDUAL SITE VISITS. THEY ARE COMING ONLINE QUICKLY. THEY ALL HAVE A SENSE OF URGENCY TO PERFORM.

THE ONE I ATTENDED WAS AT UCSD, WHICH WAS VERY EXCITING. THEY'RE LOOKING AT TWO PROGRAMS, BRINGING TWO PROGRAMS ON, I BELIEVE, THIS YEAR. AND I THINK BASICALLY THEY'RE ALL LOOKING AT BRINGING THEIR FIRST TWO PROGRAMS ON THIS YEAR. WE WILL BE REPORTING BACK ON IT AS THESE THINGS OCCUR BASICALLY EVERY TIME SOMETHING HAPPENS THAT WARRANTS OR WHEN SOMETHING SHOULD HAVE HAPPENED AND IT DIDN'T IF THAT'S THE CASE.

MR. SHEEHY: SO I WAS STRUCK BY YOUR COMMENTS OF THE TEAM WORKING ON NEW YEAR'S EVE TO GET THIS DONE. AND IT JUST REMINDS ME THAT IT'S ALMOST EXACTLY TEN YEARS SINCE THE VERY FIRST TEAM MEMBER CAME TO CIRM. AND I SEE DR. ARLENE CHIU IN THE AUDIENCE WHO WAS ONE OF THE FIRST. AND I THINK THAT THAT'S BEEN A CHARACTERISTIC OF THE CIRM TEAM FROM THE VERY BEGINNING IS THE WILLINGNESS TO WORK INCREDIBLY HARD WITH WHAT IS ACTUALLY A TINY STAFF,

A TINY GROUP OF INDIVIDUALS, WITH INCREDIBLE DEDICATION AND PASSION AND A SENSE OF URGENCY.

AND I KNOW I'M PERSONALLY EXTRAORDINARILY GRATEFUL TO THE WORK OF THE TEAM MEMBERS WHO HAVE PARTICIPATED AND DONE SO MUCH TO ADVANCE THE CAUSE OF CURES FOR THE PEOPLE OF CALIFORNIA. AND I AM VERY, VERY GRATEFUL. THANK YOU.

(APPLAUSE.)

DR. MILLS: I AM TOO.

MR. TORRES: AND NOW THEY DESERVE A BONUS.

DR. MILLS: REMEMBER THE LITTLE BUCKET THING?

ANY OTHER QUESTIONS? THAT'S ALL I HAD.

CHAIRMAN THOMAS: DR. MILLS, THANK YOU VERY MUCH. I JUST WANT TO ECHO WHAT MR. SHEEHY SAID. THIS IS AN EXTRAORDINARY FRENETIC YET COMPREHENSIVE EFFORT TO MATERIALLY OVERHAUL AND IMPROVE WHAT HAD ALREADY BEEN A VERY GOOD PROCESS TO MAKE IT EVEN BETTER. I WANT TO CONGRATULATE YOU FOR YOUR VISION, FOR YOUR LEADERSHIP. CONGRATULATE THE TEAM FOR EVERYTHING IT DID TO MAKE THIS HAPPEN. CIRM 2.0 AS A BRAND IS ALREADY OUT THERE IN THE ETHER.

CERTAINLY AT J.P. MORGAN I HAD COUNTLESS PEOPLE MENTION 2.0 TO ME AND WHAT A GREAT

DEVELOPMENT THIS WAS AND HOW IT WAS GOING TO ACCELERATE EVEN FURTHER THE PROCESS OF GETTING FUNDING TO INVESTIGATORS AND ULTIMATELY THERAPIES TO PATIENTS. SO I JUST WANTED TO THANK YOU FOR ALL THAT YOU'VE DONE. THIS IS A TERRIFIC NEW GAME PLAN, AND WE'RE EXCITED TO SEE WHAT COMES OF IT STARTING THIS FRIDAY. SO THANK YOU VERY MUCH.

DR. MILLS: THANK YOU. AND I VERY MUCH APPRECIATE THAT. I WANT TO THANK THE TEAM. I THINK THEY'RE A REMARKABLE GROUP OF PEOPLE AND PROBABLY THE MOST TALENTED TEAM I'VE EVER WORKED WITH. WHAT I WILL TELL YOU IS WE HAVE NOT ACCOMPLISHED IT. WE JUST STARTED IT. AND I WILL NOT BE AND THEY WILL NOT BE HAPPY WITH ANYTHING OTHER THAN SUCCESS WHICH IS UNQUALIFIED. SO WE HAVE JUST TAKEN THE FIRST STEPS HERE. WE HAVE NOT ARRIVED. THAT'S FOR SURE. THANK YOU.

CHAIRMAN THOMAS: THANK YOU.

ONE OTHER THING THAT HAPPENED OVER THE COURSE OF THIS LAST MONTH THAT I WANTED TO COMMENT ON BRIEFLY, PART 2 OF THE GENOMICS REVIEW TOOK PLACE DOWN IN SAN DIEGO LAST WEEK. AND THIS IS THE PART OF THE INDIVIDUAL PROJECTS FROM VARIOUS APPLICANTS FROM AROUND THE STATE. I AND DAVID HIGGINS WERE THERE REPRESENTING THE CIRM BOARD. AND I WAS

WONDERING IF MR. HIGGINS COULD COMMENT BRIEFLY ON THAT EVENT.

MR. HIGGINS: CERTAINLY. FOR THOSE OF YOU WHO DON'T KNOW WHAT THIS IS, THIS IS STEM CELLS MEETS GENOMICS. AND IT'S ACTUALLY A FANTASTIC PROGRAM THAT GIVES STEM CELL LABS ACCESS TO THE TOPNOTCH GENOMICS FACILITIES IN THE STATE. IT'S RUN JUST LIKE A GRANTS WORKING GROUP REVIEW. LAST FRIDAY I THINK THERE WERE ABOUT 30 GRANTS THAT WERE REVIEWED AND A PANEL OF SIX EXPERT JUDGES.

AS USUAL, THE CASE IN ALL THE GRANT WORKING GROUP MEETINGS I'VE BEEN TO, THE EXCEPTIONAL DEDICATION ON THE PART OF THE REVIEWERS TO EXTRACTING VALUE WHERE SOMETIMES THE VALUE IS HIDDEN BUT IS THERE, UNDERSTANDING WHAT THE RESEARCHERS ARE TRYING TO DO, AND ACTUALLY CAPTURING THE BEST POSSIBLE OUTCOME FOR CIRM, I WAS VERY IMPRESSED WITH THE PROCESS AND THE SCIENCE THAT WAS GOING ON.

CHAIRMAN THOMAS: THANK YOU, DAVID. AND THANK YOU FOR YOUR PARTICIPATION. I THINK, AS ALWAYS, IT'S CRITICAL THAT WE HAVE PATIENT ADVOCATE REPRESENTATION AT ALL OF THESE GRANTS WORKING GROUP EVENTS TO DRIVE HOME THAT IT IS ALL ABOUT THE PATIENTS THAT THE SESSIONS ARE, AND THAT IT'S VERY HELPFUL FOR THEM TO INTERACT WITH THE PATIENT

ADVOCATES, TO TALK TO THEM, TO HEAR WHAT'S IMPORTANT, TO GET THEIR FEEDBACK. SO THANK YOU VERY MUCH FOR BEING THERE TO REPRESENT THE BOARD AND PATIENTS EVERYWHERE. SO THANK YOU.

OKAY. WE ARE NOW GOING TO PROCEED TO THE FINANCIAL UPDATE. CHILA.

MS. SILVA-MARTIN: GOOD MORNING, MR. CHAIR, MEMBERS OF THE BOARD, CIRM TEAM, AND MEMBERS OF THE PUBLIC. THIS MORNING I WILL BE PROVIDING YOU WITH COVERING THE FOLLOWING TOPICS ON THE UPDATE. I WILL TALK TO YOU ABOUT OUR GRANT DISBURSEMENTS AND OUR AVAILABLE CASH. I WILL SHARE WITH YOU EXPENDITURES FOR THE FIRST SIX MONTHS OF THE FISCAL YEAR AGAINST WHAT WAS BUDGETED BY BOTH CATEGORY OF EXPENDITURE AS WELL AS COST CENTER. I WILL TALK A LITTLE BIT ABOUT CIRM 2.0, THE REORGANIZATION AND THE IMPACT OF THE FINANCIALS. AND THEN, BELIEVE IT OR NOT, THE DEVELOPMENT OF A '15-'16 BUDGET THAT'S NOW UNDER WAY.

SO FIRST, LOOKING AT OUR GRANT DISBURSEMENTS, REALLY NOT A LOT OF CHANGE YEAR OVER YEAR. FOR THE FIRST HALF OF THIS FISCAL YEAR, WE'VE DISBURSED JUST UNDER $112 MILLION, WHICH IS ABOUT $9 MILLION MORE THAN WE DISBURSED DURING THE SAME PERIOD IN THE '13-'14 FISCAL YEAR. WE CONTINUE TO

MAINTAIN A VERY HEALTHY CASH RESERVE. WE HAVE JUST UNDER $97 MILLION TO MEET OUR GRANT PAYMENTS AND OUR OPERATIONAL NEEDS FOR SEVERAL MONTHS.

I DO WANT TO SAY THAT AMY LEWIS FROM THE OFFICE OF THE CHAIR HAS SPENT A SIGNIFICANT AMOUNT OF TIME THIS MONTH WORKING WITH THE DEPARTMENT OF FINANCE PREPARING SPREADSHEETS AND DATA FOR THEM AS THEY MOVE FORWARD TO SECURE MORE FUNDS FOR THE SPRING BOND SALE. AS A RESULT OF AMY'S EFFORTS, WE HAVE PUT IN A REQUEST FOR $133 MILLION FOR THE SPRING BOND SALE THAT WILL PROBABLY TAKE PLACE IN APRIL. AND AS ALWAYS, WE CONTINUE TO HAVE AVAILABLE TO US, SHOULD WE NEED IT, COMMERCIAL PAPER.

NOW, THIS NEXT CHART PROVIDES YOU EXPENDITURES FOR THE FIRST TWO QUARTERS OF THE FISCAL YEAR BY CATEGORIES. AS YOU CAN SEE, WE WERE ALLOCATED APPROXIMATELY $8.3 MILLION FOR THE FIRST SIX MONTHS OF THE FISCAL YEAR, AND WE SPENT ABOUT $7.5 MILLION. SO WE ARE UNDERRUNNING THE BUDGET JUST BY UNDER $800,000. AS YOU CAN SEE BY THE CATEGORIES, THE MAJORITY OF THOSE THAT UNDERRUN IS IN EMPLOYEE EXPENSES. WE'VE HAD SOME UNDERRUNS AS WELL IN REVIEWS, MEETINGS, AND WORKSHOPS AS WELL AS TRAVEL.

WHEN I GO OVER THE NEXT CHART, I WILL SHOW

YOU -- I WILL TALK A LITTLE BIT MORE ABOUT THOSE ACTUAL UNDERRUNS. SO JUST IN GENERAL, WE ARE WITHIN BUDGET AND UNDERRUNNING IT A BIT.

SO NOW LOOKING AT THE SAME EXPENDITURES, BUT LOOKING AT THEM BY COST CENTERS, AS YOU CAN SEE, THERE ARE SEVERAL COST CENTERS THAT ARE PRETTY MUCH WITHIN THEIR BUDGET: PUBLIC COMMUNICATIONS, I.T., FINANCE, AND BUSINESS DEVELOPMENT. WHILE WE DO HAVE A LITTLE BIT OF AN UNDERRUN, IT'S NOT MAJOR. WHERE YOU ARE GOING TO SEE THE BIGGEST UNDERRUNS ARE IN THE SCIENCE OFFICE RESEARCH, AND THAT'S BECAUSE THEY HAVE EXPERIENCED SOME SAVINGS FROM VACANCIES BUT --

MR. TORRES: COULD ONE OF THE STAFFERS SEND AN E-MAIL TO US --

MS. BONNEVILLE: GO ONTO THE WEBSITE.

MS. SILVA-MARTIN: WE'RE ON THE SLIDE BY COST CENTERS, AMY.

SO AS YOU CAN SEE, IN OUR SCIENCE OFFICE RESEARCH, WE ARE UNDERRUNNING THE BUDGET A BIT. AGAIN, THAT'S ATTRIBUTABLE TO SOME SALARY SAVINGS AND THE ASSOCIATED BENEFITS, BUT ALSO IN THIS COST CENTER WE'VE HAD SOME SAVINGS FROM REVIEWS, MEETINGS, AND WORKSHOPS. ONE THAT DID NOT MATERIALIZE, BUT, MORE IMPORTANTLY, THE EFFORTS OF OUR ADMIN STAFF. SO THEY'RE RESPONSIBLE. WE HAVE A

GROUP OF ADMIN, A TEAM, THAT ARE RESPONSIBLE FOR PUTTING TOGETHER THESE MEETINGS, OUR GRANT REVIEW MEETINGS, AND THEY HAVE BEEN WORKING DILIGENTLY TO REDUCE OUR COST, AND THAT'S REALLY REFLECTED IN OUR OVERALL EXPENDITURES.

IN OUR SCIENCE OFFICE DEVELOPMENT, WE ARE SEEING AN UNDERRUN DUE MAINLY TO CDAP MEETINGS THAT DID NOT MATERIALIZE, BUT ALSO SALARIES AND ASSOCIATED BENEFITS FROM VACANCIES IN THAT AREA.

IN OUR OFFICE OF THE PRESIDENT, THE SAVINGS THERE IS REALLY ATTRIBUTABLE TO TWO REASONS. AS YOU MAY RECALL, AT THE BEGINNING OF THE FISCAL YEAR, WE HAD TWO VACANCIES THAT OCCURRED IN THE OFFICE OF THE PRESIDENT. DR. MILLS EVALUATED THOSE POSITIONS AND MADE A DETERMINATION THAT THEY WERE NOT NEEDED AND, THEREFORE, WERE ELIMINATED. SO THE MAJORITY OF THE SAVINGS THERE IS FROM THOSE TWO POSITION VACANCIES. BUT WE ALSO ARE SEEING SAVINGS IN DR. MILLS' OFFICE FROM TRAVEL. WE HAD PUT TOGETHER A TRAVEL PLAN, AND DR. MILLS IS NOT EXERCISING THAT TRAVEL AS WE HAD IN THE PAST. SO THAT'S WHERE WE'RE GETTING SOME SAVINGS.

AND THEN IN THE OFFICE OF LEGAL, THE SAVINGS THERE, A POSITION THAT BECAME VACANT AND WAS NOT FILLED AND THEN ALSO TRAVEL AS WELL.

SO NOW LOOKING AT CIRM 2.0 AND THE REORGANIZATION, WHAT I WANT TO SAY ABOUT THAT, AS YOU RECALL, AT THE LAST BOARD MEETING DR. MILLS INTRODUCED AND THIS BOARD APPROVED THE REORGANIZATION THAT TOOK EFFECT JANUARY 1ST. THIS IS GOING TO REQUIRE THAT WE ESTABLISH NEW COST CENTERS IN OUR FINANCIAL SYSTEM TO ACCOMMODATE THE NEW STRUCTURE. THIS IS GOING TO INVOLVE BRINGING OVER AND REALLOCATING THE BALANCE OF THE '14-'15 BUDGET AS WELL AS PLACING OUR TEAM IN THEIR APPROPRIATE COST CENTERS. SO OUR ADMIN AND FINANCE TEAM IS CURRENTLY WORKING WITH THE DEPARTMENT OF GENERAL SERVICES THAT PERFORMS OUR ACCOUNTING FUNCTION FOR US AND THE PUBLIC UTILITY COMMISSIONS THAT PERFORMS OUR PAYROLL TO GET THIS ACCOMPLISHED AS QUICKLY AND EFFICIENTLY AS POSSIBLE. ONCE THIS IS ALL ACCOMPLISHED, ALL FUTURE FINANCIAL REPORTING WILL REFLECT THIS NEW REORGANIZATION.

AND THEN FINALLY, IT'S HARD TO BELIEVE. IT JUST SEEMS LIKE WE JUST FINISHED NOT TOO LONG AGO THE DEVELOPMENT AND IMPLEMENTATION OF THE '14-'15 BUDGET, BUT WE'RE NOW READY TO MOVE ON TO DEVELOPING THE '15-'16 BUDGET. SO THIS CHART SHOWS YOU THE TIMELINE. WE'LL BE DISTRIBUTING DATA TO THE COST CENTER MANAGERS AS WELL AS THE DOCUMENTS THAT THEY

NEED TO SUBMIT TO REQUEST THEIR '15-'16 BUDGET. WE'LL CONDUCT AN INTERNAL REVIEW WITH THE PRESIDENT AND THE CHAIR. AS DR. MILLS INDICATED IN HIS REPORT, WE'LL BE BRINGING THE INITIAL BUDGET TO THE FINANCE SUBCOMMITTEE -- WE'LL BRING IT TO THE CHAIRS FIRST IN MARCH AND THEN WE'LL BRING IT TO THE FINANCE SUBCOMMITTEE IN APRIL AND THEN FOR FINAL REVIEW TO THIS BOARD IN MAY.

THAT CONCLUDES MY PRESENTATION. ARE THERE ANY QUESTIONS? THANK YOU.

CHAIRMAN THOMAS: SO, CHILA, THANK YOU. LIKE A ROCK SINGER, MR. JUELSGAARD. SO THANK YOU, CHILA, VERY MUCH FOR THAT PRESENTATION AND FOR YOUR EXPERT GUIDANCE ON THESE MATTERS. THANK YOU, AMY, FOR YOUR INTERFACING WITH THE DEPARTMENT OF FINANCE AND THE TREASURER'S OFFICE. IT'S A, VERY OBVIOUSLY, CRITICAL FUNCTION -- AMY LEWIS -- TO THE SUCCESS OF THE ORGANIZATION. SO WE'VE GOT OUR FINANCIAL ISSUES IN VERY GOOD HANDS WITH THE TWO OF YOU. SO THANK YOU.

ON TO ACTION ITEMS. WE'RE NOW GOING TO GO TO ITEM NO. 7, CONSIDERATION OF APPLICATIONS IN THE TOOLS AND TECHNOLOGY III ROUND. DR. COLLINS IS GOING TO LEAD THIS DISCUSSION.

DR. COLLINS: THANK YOU, MR. CHAIR. I'D

LIKE TO SAY GOOD MORNING TO EVERYONE HERE IN THE BOARD AS WELL AS TO MEMBERS OF THE PUBLIC. TODAY I WOULD LIKE TO PRESENT TO YOU THE APPLICATIONS TO RFA 13-05, TOOLS AND TECHNOLOGIES III. AND AS JUST MENTIONED, THIS IS AGENDA ITEM NO. 7.

SO I'LL FIRST REVIEW THE RFA AND THEN DISCUSS THE GRANTS WORKING GROUP RECOMMENDATIONS. WE'LL HAVE SOME PROGRAMMATIC REVIEW, AND THEN I WILL PRESENT TO YOU THE CIRM TEAM RECOMMENDATIONS.

THE TOOLS AND TECHNOLOGY PROGRAM HAS BEEN ONGOING FOR A WHILE AT CIRM. THIS IS ACTUALLY OUR THIRD CALL OF THE PROGRAM. AND THE FOCUS OF THE RFA HAS EVOLVED WITH THE FIELD. WE'VE MOVED FROM TARGETING MORE BASIC BOTTLENECKS TO OUR CURRENT TRANSLATIONAL FOCUS THAT WE'LL DISCUSS TODAY. AND THE GOAL OF THIS PARTICULAR CALL, STEM CELL THERAPIES FACE SOME SPECIAL CHALLENGES. AND THESE INCLUDE ACHIEVING DURABLE REPLACEMENT OF DAMAGED TISSUES AS WELL AS SOME SAFETY CONCERNS BECAUSE WE ARE NOW GENERATING THERAPIES THAT COULD POTENTIALLY STAY IN THE BODY INDEFINITELY. IN ADDITION, THERE'S SOME CHALLENGES WITH PRECLINICAL MODELING AND PROCESS DEVELOPMENT.

SO THIS RFA SEEKS TO ADDRESS THESE CHALLENGES EITHER THROUGH THE GENERATION OF NOVEL

TOOLS AND TECHNOLOGY OR BY ADAPTING THESE EXISTING TOOLS AND TECHNOLOGIES FOR USE IN OUR FIELD.

I'D LIKE TO JUST HIGHLIGHT THAT THIS IS A COLLABORATIVE RFA. WE SOUGHT TO BRING TOGETHER BOTH STEM CELL BIOLOGISTS AS WELL AS DEVELOPERS OF OTHER TECHNOLOGIES SUCH AS TISSUE ENGINEERS, PEOPLE WITH IMAGING EXPERTISE, PROCESS DEVELOPMENT EXPERTISE. THAT TYPE OF TECHNOLOGY EXPERTISE WE WANTED TO BRING INTO THE RFA. SO IT IS OPEN TO BOTH CO-PI'S AND OTHER PARTNERS.

YOU WILL RECALL THAT YOU APPROVED A BUDGET OF $35 MILLION FOR THIS PROGRAM TO FUND APPROXIMATELY 20 AWARDS. AND THE ELIGIBILITY CRITERIA ARE OTHERWISE FAIRLY STANDARD AND SPELLED OUT IN FULL IN THE RFA.

SO I'D LIKE TO JUST SUMMARIZE THE REVIEW CRITERIA WE ASKED THE GRANTS WORKING GROUP TO USE AS THEY SCORED THESE APPLICATIONS. AND REALLY TO BOIL IT DOWN, DOES THE PROJECT MAKE SCIENTIFIC SENSE? WILL IT HELP US BRING THERAPIES TO PATIENTS? THAT'S OUR GOAL. AND DOES THE TEAM HAVE EVERYTHING THEY NEED TO EXECUTE THE PROJECT? AND, OF COURSE, IS THIS THE IDEAL TEAM TO PERFORM THE WORK?

WE'RE LOOKING FOR THE BEST QUALITY APPLICATIONS. AND WE USE THE HUNDRED POINT

DETERMINATIVE THREE-TIER SCORING SYSTEM TO EVALUATE THE APPLICATIONS. AND BY DETERMINATIVE WE MEAN THAT THE SCORE THAT IS GIVEN FORMS THE RECOMMENDATION FOR ANY GIVEN REVIEWER. AND WE INSTRUCTED THE GRANTS WORKING GROUP THAT IF THEY FELT AN APPLICATION WAS MERITORIOUS AND SHOULD BE FUNDED, THEY SHOULD GIVE IT A SCORE OF 75 OR ABOVE. IF AN APPLICATION WAS NOT FOUND TO BE MERITORIOUS, IT SHOULD BE SCORED 64 OR BELOW. AND THE WORKING GROUP WAS INSTRUCTED TO ONLY PUT AN APPLICATION IN TIER II BY ASSIGNING A SCORE OF 65 TO 74 IF THEY WERE UNABLE TO DECIDE AN APPLICATION'S MERIT OR COULD NOT ACHIEVE CONSENSUS ON THE MERIT OF AN APPLICATION.

THE NEXT TWO SLIDES ARE THE RFA PRIORITIES. I'D LIKE TO MENTION THAT WE IDENTIFIED THESE PRIORITIES BY REVIEWING OUR CIRM PORTFOLIO, AND THEY ADDRESSED SOME OF THE RECURRING CHALLENGES THAT WE'VE IDENTIFIED IN OUR TRANSLATIONAL AND DEVELOPMENT PROGRAMS. WE ALSO RECEIVED SOME CONFIRMATORY INPUT FROM OUR TISSUE ENGINEERING WORKSHOP AND OUR MANUFACTURING WORKSHOP THAT WE HELD LAST SUMMER.

SO THIS FIRST BULLET, TISSUE ENGINEERING OR NICHE ENGINEERING STRATEGIES, COULD HELP ADDRESS THE ENGRAFTMENT AND SURVIVAL BOTTLENECK THAT WE'VE

OBSERVED FOR CELL THERAPIES FOR A NUMBER OF ORGAN SYSTEMS. MODELING OF THE EFFECTS OF HUMAN CELL THERAPIES IN IMMUNE COMPETENT LARGE ANIMALS WHICH THE FDA REQUIRES FOR CERTAIN INDICATIONS PRESENT SOME IMMUNOLOGY PROBLEMS, AND THIS COULD BE IMPROVED BY EITHER MODULATING THE IMMUNE SYSTEM USING IMMUNODEFICIENT ANIMALS OR TAKING SOME OF THE APPROACHES SHOWN HERE.

FINALLY, IMAGING IS REALLY HOW WE TRACK THE BEHAVIOR OF CELLS -- TRACK THE LOCATION OF CELLS IN THE BODY. SO THIS IS OUR BIODISTRIBUTION TOOL. AND WE NEED SENSITIVE WAYS TO SEE WHERE CELLS ARE GOING AND POTENTIALLY ASSESS WHAT THEY'RE DOING IN VIVO.

THIS NEXT SLIDE IS SOME CONTINUED PRIORITIES. PROCESS IMPROVEMENTS COULD HELP MAKE STEM CELL THERAPIES MORE ECONOMICALLY FEASIBLE. SO WE WERE LOOKING FOR MORE EFFICIENT PROCESSES. OF COURSE, EXPANDING AND GENERATING HEMATOPOETIC STEM CELLS FROM PLURIPOTENT STEM CELLS COULD HAVE A BROAD IMPACT.

AND FINALLY, I'D LIKE TO JUST HIGHLIGHT THIS LAST BULLET. WHERE IT INCREASES THE LIKELIHOOD OF PROJECT SUCCESS, IF A COLLABORATION MAKES FOR A SUPERIOR APPLICATION AND A BETTER FUNCTIONING

PROJECT, WE ASK THAT THOSE APPLICATIONS BE PRIORITIZED AS WELL.

I THINK WE HAVE A BREAK HERE.

DR. SAMBRANO: SO WHAT I JUST WANT TO DO IS ORIENT YOU A LITTLE BIT ON THE TABLE THAT WE PROVIDED THAT HAS THE LIST OF GRANT APPLICATIONS IN THEIR RESPECTIVE TIERS. AND THESE YOU HAVE, I THINK, AS A HARD COPY. SO THAT SHOULD BE IN FRONT OF YOU, AND YOU CAN REFERENCE IT THERE.

I ALSO WANT TO POINT OUT THERE IS A MEMO THAT I PROVIDED, AND THERE'S AN UPDATE TO THAT MEMO RELATED TO APPEAL REQUESTS THAT WERE SUBMITTED BY APPLICANTS FOR THIS SPECIFIC RFA. SO THERE ARE THREE APPEAL REQUESTS THAT WERE MADE FOR APPLICATIONS 7678, THAT'S THE NUMBER OF THE APPLICATION, WHICH HAD A SCORE OF 74, SO THAT WAS RIGHT ON THE BORDER, AND APPLICATION 7836, AND THAT ONE WAS NEAR THE BORDER BETWEEN TIER III AND TIER II. THOSE TWO ARE BEING DEFERRED SO THAT WE CAN -- THESE WERE BASED ON AN APPEAL FILED ON A MATERIAL DISPUTE OF FACT. SO WE ARE GOING TO INVESTIGATE THOSE FURTHER, AND THOSE WILL BE DEFERRED, THEREFORE, TO THE NEXT BOARD MEETING, AND THEY WILL NOT BE CONSIDERED AT THIS MEETING.

THERE WAS A THIRD APPEAL REQUEST MADE FOR

APPLICATION 7805, AND THERE THE APPLICANT CONSULTED WITH US AND WE REVIEWED THEIR APPEAL REQUEST, BUT THAT ONE WAS DENIED BECAUSE IT DID NOT MEET THE CRITERIA FOR A MATERIAL DISPUTE OF FACT.

SO JUST WANTED TO HIGHLIGHT THOSE POINTS.

MR. SHEEHY: DR. SAMBRANO, WHAT WAS THE FIRST ONE?

DR. SAMBRANO: THE FIRST ONE WAS 7678. IT'S ON THE BORDER RIGHT AT THE TOP OF TIER II.

MR. SHEEHY: GREAT. THANK YOU.

SO NOW WE'RE GOING TO START THE REVIEW BY THE APPLICATION REVIEW SUBCOMMITTEE. AND SO JUST A COUPLE OF COMMENTS ABOUT THE REVIEW. AS ALWAYS, THE DILIGENCE OF OUR REVIEWERS IS EXTRAORDINARY, AND THE COMMITMENT OF THE TEAM TO MAKING A SUCCESSFUL REVIEW WAS ALSO EXTRAORDINARY.

JUST PERSONALLY A COUPLE OF THINGS THAT I NOTED THAT I FOUND A BIT INTERESTING IS WE HAD A LARGER PERCENTAGE OF INDUSTRY REVIEWERS, WHICH MAKES SENSE SINCE WE'RE LOOKING AT TOOLS. AND THE OTHER THING THAT WAS NICE TO SEE IS THIS IS WHERE WE'RE STARTING TO SEE SOME PATENTABLE INVENTIONS. SO THERE WERE SOME APPLICATIONS THAT CAME THROUGH THAT WERE CONTINUATIONS OF EARLIER PROJECTS WHERE PATENTS HAVE BEEN OBTAINED. SO IT IS NICE THAT CIRM IS

SUCCEEDING IN GETTING PATENTS AND PRODUCTS OUT INTO THE MARKETPLACE THAT OTHER SCIENTISTS AND RESEARCHERS ARE USING TO ADVANCE THE FIELD OF REGENERATIVE MEDICINE.

SO I WILL GO INTO THE REVIEW NOW. AND BASICALLY THE PROCESS WE'LL GO THROUGH IS I'LL TAKE MOTIONS TO MOVE APPLICATIONS FROM TIER III TO TIER I. AND THEN FOLLOWING THAT, I'LL TAKE MOTIONS TO MOVE APPLICATIONS FROM TIER I TO TIER III. AND THEN WE'LL GET THE TEAM'S RECOMMENDATIONS ON THE APPLICATIONS IN TIER II, AND WE CAN DISCUSS THOSE APPLICATIONS THAT KIND OF FELL BETWEEN NOT RECOMMENDED FOR FUNDING AND RECOMMENDED FOR FUNDING. SO THAT'S THE GENERAL PROCESS.

SO TO KICK IT OFF, AGAIN, WE'RE LOOKING AT THE WHITE. IF YOU HAVE YOUR PAGE IN FRONT OF YOU IN YOUR BOOKLET, THE APPLICATIONS IN WHITE THAT WERE NOT RECOMMENDED FOR FUNDING, IS THERE A MOTION TO MOVE ANY OF THOSE APPLICATIONS FROM TIER III TO TIER I? AND TO REMIND, WE'LL ONLY END UP WITH TWO TIERS AT THE END. THEY'LL EITHER BE TIER I, APPROVED FOR FUNDING, OR TIER III, NOT APPROVED FOR FUNDING.

NOW, ARE THERE ANY MOTIONS TO MOVE ANY APPLICATION FROM TIER I, WHICH IS THE TIER IN GREEN, AND THOSE ARE THE RECOMMENDED FOR FUNDING, TO TIER

III? OKAY. SEEING NONE, NOW COULD I PERHAPS GET THE TEAM'S RECOMMENDATIONS CONCERNING APPLICATIONS IN TIER II? I THINK THAT THEY HAVE LOOKED AT THEM, AND THEY HAVE COME, AT LEAST ON A HANDFUL OF THEM -- DO WE HAVE A RECOMMENDATION ON EVERY ONE OF THEM THAT ARE STILL REMAINING OR JUST THOSE THREE -- THERE'S 1, 2, 3, 4, 5, 6 LEFT. YOU GOT IT FOR FOUR OF THE SIX AND THE OTHER TWO --

DR. COLLINS: SO WE ACTUALLY HAVE TWO TODAY FOR THE REASON THAT GIL JUST HIGHLIGHTED. SO IN REVIEWING THE APPLICATIONS, THE TEAM DID NOTICE A CLUSTER OF TIER II APPLICATIONS WITH SCORES ON THE BORDER OF THE FUNDING RANGE. THEY HAD SCORES RANGING FROM 72 TO 74 WITH A MEDIAN SCORE OF 75. THESE APPLICATIONS DID RECEIVE FUNDING RECOMMENDATIONS FROM 9 OUT OF THE 15 GRANTS WORKING GROUP REVIEWERS. AND THE RECOMMENDATIONS AND SCORES ARE POSTED IN OUR MEMO, BUT I'D LIKE TO JUST PRESENT THESE APPLICATIONS FOR YOUR CONSIDERATION.

AND TODAY WE WILL BE RECOMMENDING SUPPORTING TWO OF THESE APPLICATIONS. AND I'D LIKE TO NOTE THAT COMBINED WITH WHAT YOU JUST DISCUSSED IN TIER I, THIS WOULD BRING US TO A TOTAL BUDGET OF 29.2 OF THE 35 MILLION THAT WAS APPROVED FOR THE PROGRAM AT CONCEPT. AND IT WOULD PUT US AT AN

OVERALL FUNDING LINE OF 9 PERCENT.

SO I'LL PROVIDE THE REASONS FOR THE TEAM RECOMMENDATION, AND WE'RE ALSO HERE TO PROVIDE YOU ANY ADDITIONAL INFORMATION ABOUT THE INDIVIDUAL APPLICATIONS SHOULD THAT BE HELPFUL TO YOU IN YOUR DECISION-MAKING.

SO I'M GOING TO START WITH NO. 7899, ENTITLED "DEVELOPMENT OF 3D BIOPRINTING USING HUMAN EMBRYONIC STEM CELL-DERIVED CARDIOMYOCYTES FOR CARDIAC TISSUE ENGINEERING." THIS APPLICATION ADDRESSES THAT ENGRAFTMENT BOTTLENECK. IT ACTUALLY SEEKS TO ALSO GENERATE A FUNCTIONAL TISSUE FOR TRANSPLANT. AND THE CORE REASON FOR THE RECOMMENDATION IS THAT 3D PRINTING TECHNOLOGY, WE'VE ALL HEARD ABOUT IT, IT'S ALREADY IMPACTED OTHER FIELDS SUCH AS MANUFACTURING, AND ACTUALLY IN MAN IS BEING USED IN DENTISTRY AND ACTUALLY HAS BEEN USED TO PRINT A BRONCHIAL STENT THAT WAS ACTUALLY TRANSPLANTED IN A CHILD. IT COULD BE POTENTIALLY TRANSFORMATIVE IN REGENERATIVE MEDICINE, AND THE PI IS A LEADER IN THE FIELD.

SO THOSE WERE THE REASONS FOR THE RECOMMENDATION. AND IF YOU'D LIKE TO HEAR ANY MORE ABOUT THE APPLICATION.

MR. SHEEHY: DR. COLLINS, MAYBE YOU CAN

MAKE ALL THE CIRM TEAM RECOMMENDATIONS, AND THEN WE CAN TAKE MOTIONS ON ANY OF THOSE RECOMMENDATIONS.

DR. COLLINS: ABSOLUTELY. SO I'D LIKE TO MOVE TO THE NEXT RECOMMENDATION. THIS IS ARGUABLY THE MOST DIRECTLY APPLICABLE TO OUR EXISTING PORTFOLIO. IT'S ENTITLED "DEVELOPMENT OF A SCALABLE, PRACTICAL, AND TRANSFERRABLE GMP COMPLIANT SUSPENSION CULTURE-BASED DIFFERENTIATION PROCESS FOR CARDIOMYOCYTE PRODUCTION FROM HUMAN EMBRYONIC STEM CELLS," WHICH IS WHY THE TITLE IS ABBREVIATED THERE.

THIS APPLICATION, REALLY THE CORE REASON THAT WE'RE RECOMMENDING THIS, IT ACTUALLY BUILDS UPON PRIOR SUCCESS THAT WAS FUNDED UNDER TOOLS AND TECHNOLOGY BY THE SAME PI. AND I SHOULD NOTE THAT, IN ADDITION, THERE'S ALREADY DEMAND FOR THE CELLS THAT WOULD BE GENERATED BY THIS PROCESS IN CIRM'S EXISTING DEVELOPMENT AND TRANSLATIONAL PORTFOLIO. AND THE APPLICATION DOES ADDRESS A KEY MANUFACTURING BOTTLENECK.

AND THE THIRD APPLICATION IN THIS CLUSTER I'D LIKE TO DISCUSS TODAY IS ENTITLED "AN IMAGING TOOL COMBINING LIGHT AND ULTRASOUND METHODS THAT WILL ENABLE IMAGING OF INTACT TISSUE-ENGINEERED CONSTRUCTS." NOW, THE CIRM TEAM RECOMMENDATION FOR THIS APPLICATION IS ACTUALLY DO NOT FUND. THERE IS

A TIER I APPLICATION, NUMBER 7879, THAT RECEIVED A HIGHER SCORE THAT INVOLVES FULLY OVERLAPPING LEADERSHIP AND WILL DEVELOP THE SAME IMAGING TECHNOLOGY. SO THAT'S THE REASON. IT'S JUST A DIFFERENT TEST ARTICLE, BUT THE SAME TECHNOLOGY WOULD BE CAPTURED IN OUR PORTFOLIO. SO THOSE ARE THE THREE.

MR. SHEEHY: AT THIS POINT I WOULD LIKE TO HAND THE CHAIR OVER TO DR. PRIETO BECAUSE I INTEND TO MAKE A MOTION ON ONE OF THESE APPLICATIONS AND MAKE AN ARGUMENT IN SUPPORT OF MY MOTION.

I'LL START WITH THAT. I WOULD LIKE TO MOVE 7838, TO ACCEPT THE TEAM'S RECOMMENDATION AND MOVE THAT TO TIER I. AND LARGELY, IT'S DUE TO THE CONSIDERATIONS THAT THE TEAM HIGHLIGHTED, THAT THIS PARTICULAR APPLICATION NOT ONLY BUILDS ON A PRIOR AWARD, BUT ACTUALLY WILL CONTRIBUTE TO THE SUCCESS OF A DISEASE TEAM THAT CIRM IS TRYING TO GET INTO THE CLINIC. THAT WAS NOT ONE OF THE CONSIDERATIONS BY WHICH THESE GRANTS WERE REVIEWED, BUT I THINK THIS VERY EASILY COULD HAVE COME IN THROUGH OUR ACCELERATED PATHWAY. AND WE PROBABLY WOULD HAVE BEEN ASKED TO PAY TWICE AS MUCH FOR IT, GIVEN THE BUDGETS THAT ARE COMING IN THERE, BUT I THINK THIS IS A VERY EFFICIENT WAY NOT ONLY TO PROPEL ONE OF

OUR KEY PROJECTS FORWARD, BUT I ALSO THINK -- IN THE CARDIOVASCULAR SPACE, BUT I ALSO THINK BECAUSE IT TAKES PLACE AT ONE OF THE KEY MANUFACTURING CENTERS THAT CIRM DISEASE TEAMS AND OTHER LATE STAGE CLINICAL PROJECTS ARE USING TO PRODUCE CELLS FOR CLINICAL TRIALS. I THINK THAT THAT WILL BE AN INVESTMENT THAT WILL PAY OFF ACROSS THE ENTIRETY -- A SUBSTANTIAL PORTION OF THE CIRM PORTFOLIO.

DR. PRIETO: CAN I HAVE A SECOND FOR THAT MOTION?

DR. DULIEGE: I SECOND. SORRY. I CANNOT.

DR. PRIETO: A SECOND WHO'S NOT CONFLICTED. WHO'S ELIGIBLE TO MAKE THAT MOTION?

MR. PANETTA: SECOND.

DR. PRIETO: HAVING A SECOND, ANY BOARD QUESTIONS OR DISCUSSION ON THIS ITEM?

MS. WINOKUR: WERE THERE ANY OF THE COMMENTS OF THE GRANTS WORKING GROUP THAT WOULD ARGUE AGAINST THIS MOVING OF THE PROJECT?

DR. COLLINS: SO THE GRANTS WORKING GROUP WAS LARGELY SUPPORTIVE OF THIS AWARD. THE ONLY CRITICISM THAT I RECALL WAS THERE WAS -- SO THEY FOUND THE POSITIVES WERE THAT THE APPLICATION ADDRESSED A CRITICAL BOTTLENECK. THEY FOUND THE EXPERIMENTS TO BE CAREFULLY DESIGNED WITH STRONG

PRECLINICAL DATA AND A LOGICAL PLAN. THE ONLY NEGATIVE COMMENT HAD TO DO WITH THEY WERE REALLY PLANNING -- THEY HAD ALREADY DECIDED UPON THE BIOREACTOR, THE VESSEL THAT THEY WERE GOING TO USE FOR THE SCALE-UP, AND IT WAS RAISED THAT THEY MIGHT CONSIDER OTHER BIOREACTOR SYSTEMS.

AT THE SAME TIME, THIS BIOREACTOR SYSTEM WAS ONE THAT THE PI HAS EXPERTISE WITH AND HAS BEEN HIGHLIGHTED ACTUALLY IN OUR MANUFACTURING WORKSHOP AS A KEY SCALE-UP TECHNOLOGY.

MS. WINOKUR: SO THE NEGATIVE COMMENTS HAD TO DO WITH PROGRAMMATIC, WHAT OUR PORTFOLIO --

DR. COLLINS: THE NEGATIVE, IT WAS REALLY MORE OF A TECHNICAL COMMENT, HAD TO DO WITH SELECTION OF THE TOOL THAT THEY WERE GOING TO USE. AND I DON'T BELIEVE THAT THE MAJORITY OF THE WORKING GROUP FELT THAT WAY, BUT I CAN'T READ MINDS. THAT'S THE ONLY NEGATIVE COMMENT THAT STOOD OUT.

MS. WINOKUR: THANK YOU.

DR. PRIETO: SO ANY OTHER COMMENTS FROM THE BOARD OR QUESTIONS PARTICULARLY REGARDING PROGRAMMATIC ISSUES THAT MR. SHEEHY RAISED? IS IT APPROPRIATE TO ASK FOR PUBLIC COMMENT, IF THERE'S ANY MEMBERS OF THE PUBLIC?

DR. CHIU: MORNING. I'M ARLENE CHIU FROM

THE CITY OF HOPE, AND I'D LIKE TO, IN HAVING GLANCED THROUGH THIS PARTICULAR APPLICATION, I UNDERSTAND THAT BIOREACTORS ARE THE MODE OF OPERATION OF MANY COMPANIES NOW. THEIR LARGE INFRASTRUCTURE IS EXPENSIVE. AND MY UNDERSTANDING, IN READING THIS REVIEW, IS THAT THEY'RE PROPOSING A NEW TECHNOLOGY OF USING BAGS WHICH WOULD BE MUCH MORE EFFICIENT, MUCH CHEAPER, BUT NOBODY IS FUNDING INVESTIGATION INTO THIS METHODOLOGY. AND SINCE THIS GROUP HAS HAD GOOD EXPERIENCE WITH BIOREACTORS, IF THIS SHOULD WORK, IT WOULD BE A GREAT BOON TO NOT ONLY EXPANDING CARDIOMYOCYTES, BUT ANY OTHER PRODUCT COMING FROM HUMAN EMBRYONIC STEM CELLS. THANK YOU.

DR. PRIETO: THANK YOU, DR. CHIU. ANY OTHER COMMENTS OR QUESTIONS?

DR. LEACH: I JUST WANTED TO OFFER A COMMENT ON A SEPARATE -- ACTUALLY ON THIS GRANT THAT'S UP ON THE SCREEN NOW. IS THAT -- SHOULD I OFFER THAT NOW OR THE 7981, I BELIEVE. IS PUBLIC COMMENT ONLY FOR 7838 AT THIS TIME?

DR. PRIETO: AT THIS TIME, YES. ANY OTHER COMMENTS OR QUESTIONS? YOU WANT TO CALL THE QUESTION.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: STEVE JUELSGAARD.
MR. JUELSGAARD: YES.
MS. BONNEVILLE: SHERRY LANSING. KATHY LAPORTE.
DR. LAPORTE: YES.
MS. BONNEVILLE: LAUREN MILLER.
MS. MILLER: YES.
MS. BONNEVILLE: JOE PANETTA.
MR. PANETTA: YES.
MS. BONNEVILLE: FRANCISCO PRIETO.
DR. PRIETO: AYE.
MS. BONNEVILLE: ROBERT QUINT.
DR. QUINT: YES.
MS. BONNEVILLE: AL ROWLETT.
MR. ROWLETT: YES.
MS. BONNEVILLE: JEFF SHEEHY.
MR. SHEEHY: YES.
MS. BONNEVILLE: OS STEWARD. JONATHAN THOMAS.
CHAIRMAN THOMAS: YES.
MS. BONNEVILLE: ART TORRES.
MR. TORRES: AYE.
MS. BONNEVILLE: DIANE WINOKUR.
MS. WINOKUR: AYE.
MR. HARRISON: THE MOTION CARRIES.

DR. PRIETO: IS THERE ANY OTHER MOTION TO MOVE AN APPLICATION FROM TIER II INTO TIER I?

MR. SHEEHY: I WOULD MOVE TO -- I WOULD SUPPORT THE TEAM'S RECOMMENDATION ON 7899. SO I WOULD MAKE A MOTION TO MOVE THAT INTO TIER I.

DR. PRIETO: SECOND?

MR. HIGGINS: SECOND.

DR. PRIETO: QUESTIONS OR DISCUSSION FROM THE BOARD?

MS. WINOKUR: I WOULD ASK THE SAME QUESTION ABOUT THIS ONE.

DR. COLLINS: SO THIS ONE, THE GRANTS WORKING GROUP REVIEWERS FOUND THE POSITIVES WERE THE TEAM -- THIS TEAM HAS QUITE A BIT OF EXPERTISE IN THE TECHNOLOGY, AND THEY PROVIDED IMPRESSIVE PRELIMINARY DATA FOR THE ABILITY TO PERFORM THE BIOPRINTING OF BOTH THE CARDIOMYOCYTES AS WELL AS 3D PRINTING OF VESSEL FORMATIONS. AND SO THE CONSTRUCT THAT THEY WANT TO MAKE IS A VASCULARIZED CARDIOMYOCYTE GRAFT FOR HEART DISEASE. SO THEY SHOWED SOME SOLID PRELIMINARY DATA THAT THEY COULD ACHIEVE THIS.

AND THERE WERE SOME RISKY TECHNICAL ELEMENTS NOTED. ONE REVIEWER WOULD HAVE LIKED FOR THEM TO CONSIDER MORE THAN ONE SCAFFOLD. THAT'S

KIND OF THE GLUE THAT THEY'RE PUTTING IN WITH THE CELLS WHEN THEY PRINT. THEY ALSO NOTICED THAT THE APPLICATION WOULD BENEFIT FROM SOME FOCUS. THERE WERE SOME EXPERIMENTS IN THE LAST AIM THAT THEY FOUND TO BE A BIT OF A DISTRACTION, BUT THEY DID FEEL LIKE ON THE WHOLE IT WAS A GOOD APPLICATION AND THE BENEFITS OUTWEIGHED THOSE DISTRACTIONS.

AND THEY ALSO NOTED THAT IN VIVO PROOF OF PRINCIPLE HAS YET TO BE ACHIEVED, BUT THIS IS PLANNED TO BE PERFORMED IN THE AWARD AND THEY DID PROVIDE SOME IN VITRO PROOF OF PRINCIPLE. SO THOSE ARE THE CORE COMMENTS.

DR. PRIETO: ANY OTHER BOARD QUESTIONS OR COMMENTS? COMMENTS FROM THE PUBLIC?

DR. MELMED: I'M SENSITIVE TO THE MOTION, AND I JUST HAVE ONE CONCERN. THAT'S ABOUT EQUITY. BASICALLY ON ONE POINT FOR 678, WE'RE DENYING $1.3 MILLION, AND WE'RE MOVING DOWN -- AND WE'RE SKIPPING THAT AND MOVING ON -- GOT PULLED. CANCEL THAT.

DR. PRIETO: I'D ALSO POINT OUT THAT THESE ARE ESSENTIALLY IDENTICAL SCORES.

MR. SHEEHY: I THINK ONE OF THE THINGS THAT WAS A CONSIDERATION BY THE CIRM TEAM IN ADVANCING IT IS THAT A MAJORITY, 9 OUT OF THE 15 REVIEWERS, HAD ACTUALLY PLACED THIS APPLICATION IN

TIER I. SO BOTH OF THE RECOMMENDATIONS TO MOVE INTO TIER I WERE BASED ON THE FACT THAT THE MAJORITY OF THE REVIEWERS HAD ACTUALLY THOUGHT THAT THIS WAS A MERITORIOUS APPLICATION.

DR. PRIETO: PUBLIC COMMENT OR QUESTIONS ON THIS APPLICATION? OKAY. IF NONE, SHALL WE CALL THE ROLL?

MS. BONNEVILLE: ANNE-MARIE DULIEGE.

DR. DULIEGE: YES.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: STEVE JUELSGAARD.

MR. JUELSGAARD: YES.

MS. BONNEVILLE: SHERRY LANSING. KATHY LAPORTE.

DR. LAPORTE: YES.

MS. BONNEVILLE: LAUREN MILLER.

MS. MILLER: YES.

MS. BONNEVILLE: JOE PANETTA.

MR. PANETTA: YES.

MS. BONNEVILLE: FRANCISCO PRIETO.

DR. PRIETO: AYE.

MS. BONNEVILLE: ROBERT QUINT.

DR. QUINT: YES.

MS. BONNEVILLE: AL ROWLETT.

MR. ROWLETT: YES.
MS. BONNEVILLE: JEFF SHEEHY.
MR. SHEEHY: YES.
MS. BONNEVILLE: OS STEWARD. JONATHAN THOMAS.
CHAIRMAN THOMAS: YES.
MS. BONNEVILLE: ART TORRES.
MR. TORRES: AYE.
MS. BONNEVILLE: DIANE WINOKUR.
MS. WINOKUR: YES.
MR. SHEEHY: SO I THINK, DR. PRIETO, I NEED TO TAKE BACK THE CHAIR. I THINK YOU MAY BE IN CONFLICT ON THE OTHER CIRM TEAM RECOMMENDATION.
DR. PRIETO: I AM.
MR. SHEEHY: SO I WILL ACCEPT A MOTION TO EITHER ACCEPT OR NOT ACCEPT THE TEAM RECOMMENDATIONS, SO THAT'S EITHER TO ADVANCE IT INTO TIER I OR TO SEND IT TO TIER III. THIS IS -- I'M SORRY -- 7981. MR. JUELSGAARD.
DR. JUELSGAARD: I'LL MOVE THAT WE MOVE 7981 INTO TIER I.
MR. SHEEHY: TIER I. DO I HAVE A SECOND?
MR. TORRES: SECOND.
MR. SHEEHY: DR. MILLS.
MR. HARRISON: I'M SORRY. COULD YOU

PLEASE REPEAT THE MOTION FOR US?

DR. JUELSGAARD: YES. I'M MOVING TO MOVE 7981 FROM TIER II INTO TIER I. THIS IS THE ONE THAT THE STAFF RECOMMENDED NOT TO FUND.

MR. HARRISON: THANK YOU. APPRECIATE IT.

MR. SHEEHY: AND WE HAVE A SECOND FROM SENATOR TORRES. YOU KNOW, IT WOULD BE HELPFUL FOR ME, UNLESS THERE'S SOME DISCUSSION, I WOULD ACTUALLY LIKE TO HEAR FROM THE APPLICANT WHO, I THINK, WAS PLANNING ON SPEAKING ABOUT THIS BECAUSE I'M A BIT CONFUSED BY THIS ONE MYSELF. SEEMED LIKE VERY IMPORTANT, EXCITING TECHNOLOGY. IT SEEMED LIKE THAT IT'S BEING DEVELOPED FOR TWO SEPARATE INDICATIONS. THAT'S JUST MY READ ON THAT. AND SO I WOULD LOVE TO SEE THE TECHNOLOGY USED IN TWO SEPARATE INDICATIONS.

I DON'T KNOW. IT'S HARD FOR ME TO UNDERSTAND HOW WE WOULD PAY ROUGHLY THE SAME AMOUNT TO DO IT TWICE, SO THAT'S WHERE I'M A LITTLE OFF. IF YOU HAVE A COMMENT.

DR. JUELSGAARD: I THINK, AS A MATTER OF ORDER, JEFF, FROM MY POINT OF VIEW, IT WOULD BE BETTER FIRST TO HEAR THE STAFF'S RECOMMENDATION AS TO NOT TO FUND. SO WHAT'S THEIR RATIONALE? BECAUSE THAT THEN GIVES THE APPLICANT A CHANCE TO RESPOND TO THOSE COMMENTS AS WELL AS DESCRIBE MORE GENERALLY

THIS TECHNOLOGY AND THE VALUE IN IT.

MR. SHEEHY: THAT SOUNDS GREAT.

DR. COLLINS.

DR. COLLINS: I CAN DESCRIBE TO YOU THE KEY REASON. IT'S NOT THAT WE DON'T FEEL THAT IT'S A VALUABLE TECHNOLOGY. IT'S PREDOMINANTLY BECAUSE THERE'S JUST SO MUCH OVERLAP. THEY WOULD BE DEVELOPING THE SAME IMAGING TOOL, BUT AROUND A DIFFERENT TEST ARTICLE. AND IT WAS THE TEAM'S FEELING THAT WE WOULD CAPTURE THE TOOL WITH THE FUNDED TIER I APPLICATION AND THAT WE WOULD ALSO BE FUNDING THE SAME PI. SO IF WE FUNDED BOTH OF THEM, IT WOULD BE A CONSIDERABLE OVERLAP.

NOW, AS FAR AS THE TECHNOLOGY, A NONINVASIVE IMAGING TOOL WOULD ENABLE ASSESSMENT OF THESE INTACT TISSUE-ENGINEERED CONSTRUCTS WHICH IS DIFFICULT TO DO. AND IF SUCCESSFUL, THE TECHNOLOGY COULD BE ACCELERATING. IT WAS JUST PREDOMINANTLY THOSE REASONS FOR FUNDING THE SAME FOLKS TWICE.

MR. SHEEHY: SO IF THE MEMBERS OF THE COMMITTEE ARE COMFORTABLE, PERHAPS WE COULD HEAR FROM THE APPLICANT. I THINK THAT SEEMS LIKE A SUBSTANTIAL ISSUE AND REASONABLE.

COULD YOU PLEASE TELL US WHO YOU ARE AND WHERE YOU ARE FROM AND ALL THOSE GOOD THINGS?

DR. LEACH: YES. MY NAME IS KENT LEACH. I'M A PROFESSOR OF BIOMEDICAL ENGINEERING IN ORTHOPEDIC SURGERY AT UNIVERSITY OF CALIFORNIA AT DAVIS. I AM THE PI OF THIS PROPOSAL, 7981, WHICH SEEKS TO ACHIEVE THE GOAL PUT FORTH BY THIS COMMITTEE AND DISCUSSED MOMENTARILY AGO, WHICH IS BRINGING TOGETHER TISSUE ENGINEERS, IMAGING SPECIALISTS, AND STEM CELL BIOLOGISTS.

AND I WOULD EMPHASIZE THAT I'M NOT PRIVY TO THE DETAILS OF MY CO-PI'S OTHER PROPOSAL. WE DIDN'T WORK ON THAT TOGETHER. BUT I CAN CERTAINLY EMPHASIZE THAT THIS PARTICULAR PROPOSAL TRULY IS THE UNION OF THOSE THREE FIELDS.

THE PURPOSE OF THIS PROPOSAL IS TO DEVELOP A NONINVASIVE IMAGING MODALITY TO ASSESS THE MATURATION OF ENGINEERED BONE AND CARTILAGE FOR THE REPLACEMENT OF LOST TISSUES FOLLOWING TRAUMA, SURGERY, AND AGE. THERE ARE NO OTHER PROPOSALS IN CONSIDERATION TODAY THAT SEEK TO USE STEM CELLS FOR THE DEVELOPMENT OF A TOOL IN MUSCULOSKELETAL TISSUE ENGINEERING, WHICH WE KNOW HAS AN ENORMOUS IMPACT ON THE SOCIOECONOMIC QUALITY OF LIFE IN THE STATE OF CALIFORNIA FOR OUR AGING POPULATION.

NOW, FOR THIS PARTICULAR PROPOSAL, I AM THE PI. DR. MARCU AS CO-PI BRINGS THE IMAGING

EXPERTISE, BUT I HAVE TO EMPHASIZE THAT THE APPLICATION OF THIS TECHNOLOGY TOWARD MUSCULOSKELETAL TISSUES IS VASTLY DIFFERENT. AND THE CHALLENGES INHERENT IN APPLYING IT TO MUSCULOSKELETAL TISSUES IS VERY DIFFERENT.

THE STRUGGLES AND THE BOTTLENECK THAT WE SEE WITH STEM CELL VARIABILITY TO GENERATE THESE TISSUES IS ENORMOUS. AND WITHOUT TAKING SEGMENTS OF THESE TISSUES, WE REALLY CAN'T TELL HOW MATURE THESE TISSUES ARE AND READY FOR IMPLANTATION.

IF YOU FUND THIS PROPOSAL TODAY, NOT ONLY WILL IT BENEFIT THE DEVELOPMENT OF THIS TECHNOLOGY, WHICH HAS ENORMOUS POTENTIAL, BUT IT WILL PROMOTE THE SUCCESS OF PREVIOUS CIRM-FUNDED APPLICATIONS IN THE PORTFOLIO AS WELL AS NUMEROUS BIOTECHNOLOGY COMPANIES IN OUR STATE. AND THAT ALLOWS CIRM TO LAY CLAIM TO A BIGGER IMPACT FOR ITS INVESTMENT.

SPECIFICALLY FOR THIS PROPOSAL, I HAVE TO SPEAK TO A COUPLE OF PRACTICAL MATTERS. THE APPLICATION OF AN IMAGING MODALITY TO CARDIOVASCULAR DISEASE IS VASTLY IMPORTANT, BUT THERE'S NO REASON TO THINK THAT JUST BECAUSE IT WORKS IN CARDIOVASCULAR DISEASE THAT IT WOULD WORK FOR MUSCULOSKELETAL TISSUES. IT'S A VERY DIFFERENT MATRIX, A VERY DIFFERENT COMBINATION OF CELLS, AND

VERY DIFFERENT FLOW ENVIRONMENT IN THESE ISSUES.

THIS PROPOSAL, AS WE HEARD FROM MR. SHEEHY ABOUT THE PREVIOUS PROPOSAL, WAS ALSO RANKED MERITORIOUS BY 9 OF 15 REVIEWERS ON THE GRANTS WORKING GROUP. AND AS WE HEARD FROM THE CHAIR'S REPORT WHICH WAS SO WELL DONE THIS MORNING, THERE'S MONEY ON THE TABLE TO FUND THIS PROPOSAL, NOT ONLY IN THE RFA, BUT IN CIRM.

SO JUST REAL QUICKLY, I'LL CLOSE BY SAYING A COUPLE OF YEARS AGO I HAD THE OPPORTUNITY TO ADDRESS THIS BODY IN SACRAMENTO FOR A CIRM SPOTLIGHT ON DISEASE FOR BONE REPAIR. AT THE END OF THE TALK, ONE OF THE MEMBERS ASKED WHAT PORTION OF THE WORK WAS FUNDED BY CIRM. AND AT THE TIME IT WAS NONE. AND SHE SAID, "WE'VE GOT TO CHANGE THAT." SO I'M ASKING YOU TODAY. LET'S CHANGE IT.

MR. SHEEHY: THANK YOU. DO YOU HAVE A QUESTION?

MR. PANETTA: THANK YOU FOR THE CLARIFICATION. MY QUESTION, FIRST OF ALL, I THINK I'M A LITTLE UNCLEAR ABOUT THE OTHER APPLICATION. AM I TO UNDERSTAND THAT THAT'S ALSO A UC DAVIS APPLICATION BY ANOTHER PI AT UC DAVIS?

DR. LEACH: YES, IT IS.

MR. PANETTA: SO JUST I'M JUST CURIOUS.

WOULDN'T IT HAVE MADE SENSE TO COMBINE THESE TWO TECHNOLOGIES INTO ONE APPLICATION AND THEN TO LOOK AT THE APPLICATION OF THE TECHNOLOGY IN CARDIOVASCULAR TISSUE AND MUSCULOSKELETAL TISSUE IN THE SAME, OR DOES THAT NOT MAKE SENSE?

DR. LEACH: I CAN'T SPEAK AT LENGTH ABOUT HER APPLICATION. I WILL SAY THAT THE RESEARCH TEAM FOR THIS APPLICATION, MYSELF AS PI, SHE AS CO-PI, AND KYRIACOS ATHANASIOU, WHO'S A CIRM-FUNDED INVESTIGATOR IN CARTILAGE TISSUE ENGINEERING, THIS TEAM HAS BEEN WORKING TOGETHER FOR FOUR YEARS ON THIS TYPE OF PROJECT, DIFFERENT ELEMENTS OF THIS PROJECT. AND WE ARE AT THE POINT WHERE WE'VE SHOWN EFFICACY FOR INDIVIDUAL COMPONENTS OF THIS MODALITY. BUT IN ORDER TO TAKE IT TO THE NEXT LEVEL TO MAKE IT TRANSLATIONAL AND TRANSFORMATIVE AND ECONOMICALLY IMPACTFUL FOR THE STATE, WE NEED FURTHER INVESTMENT TO BRING THESE TECHNOLOGIES TOGETHER AND INVESTIGATE IT IN LARGE ANIMAL MODELS.

NOW, I KNOW THAT DR. MARCU IS VERY EAGER, AS MANY SCIENTISTS ARE, TO TEST THE TECHNOLOGY IN EVERY REALM THAT IT CAN BE BECAUSE IT FURTHER VALIDATES THE IMPORTANCE AND THE RELIABILITY AND THE MAGNITUDE OF THAT TECHNOLOGY. AND SHE WORKS CLOSELY WITH A NUMBER OF INVESTIGATORS IN THE SCHOOL OF

MEDICINE AND VETERINARY MEDICINE. AND SHE'S A HIGHLY COLLABORATIVE INDIVIDUAL. SO IT SORT OF MAKES SENSE, AT LEAST AS SOMEBODY WHO WRITES A LOT OF GRANTS AND REVIEWS GRANTS, THAT YOU'RE ALWAYS LOOKING FOR OPPORTUNITIES TO FOLD IN YOUR TECHNOLOGY IN OTHER APPLICATIONS.

MR. PANETTA: IF WE WERE TO GRANT THIS APPLICATION, THEN YOU'RE SAYING THAT THERE IS THE POTENTIAL FOR YOU TO COLLABORATE IN TERMS OF THE RESULTS IN BOTH EXPERIMENTS DOWN THE ROAD?

DR. LEACH: ABSOLUTELY. I THINK -- SO THE INVESTMENT IN JUST THE CARDIOVASCULAR SIDE DOES NOT GUARANTEE SUCCESS WHEN APPLIED TOWARD MUSCULOSKELETAL, BUT I DO BELIEVE THAT THE KNOWLEDGE GAINED FROM EACH AREA COULD BE VASTLY BENEFICIAL TO RAPIDLY ADVANCE THE TOOL INTO USE, WHICH IS WHAT WE ALL WANT TO SEE.

MR. SHEEHY: MR. JUELSGAARD.

DR. JUELSGAARD: SO A LITTLE DIFFERENT QUESTION, A SERIAL QUESTION. SO THE STUDY IN THE CARDIOVASCULAR SYSTEM, LET'S SAY THAT IT GETS COMPLETED. WOULD THAT INFORM YOU ON A STUDY OF THE MUSCULOSKELETAL SYSTEM THAT WOULD BE A BETTER DESIGNED STUDY, AVOIDING THINGS THAT APPEAR NOT TO WORK AND BEING POINTED IN THE DIRECTION OF THINGS

THAT APPEAR MORE LIKELY TO WORK BY USING THE CARDIOVASCULAR DATA TO PROVIDE A NEW APPLICATION?

DR. LEACH: WHEN YOU SAY TO PROVIDE A NEW APPLICATION, HOW DO YOU MEAN?

DR. JUELSGAARD: LET'S JUST SAY THAT WE DENY YOUR APPLICATION TODAY, BUT WE APPROVE THE CARDIOVASCULAR ONE. MY QUESTION TO YOU IS WHEN THAT STUDY IS FINISHED, WOULD THE RESULTS OF THAT STUDY INFORM YOU SIGNIFICANTLY IN TERMS OF A POTENTIAL NEW APPLICATION DOWN THE ROAD FOR THE AREA YOU'D LIKE TO STUDY? WILL THERE BE BENEFITS COMING FROM THIS? THE QUESTION, AND THIS IS ALWAYS THE QUESTION WHEN YOU'RE LOOKING AT TECHNOLOGIES THAT ARE NEARLY IDENTICAL, BUT APPLYING THEM IN DIFFERENT AREAS, IS DO YOU DO THEM AT THE SAME TIME OR DO YOU DO THEM STEPWISE? AND MY QUESTION IS MORE ISN'T THIS BETTER OFF BEING DONE IN A STEPWISE FASHION BECAUSE YOU'LL LEARN A LOT FROM THE CARDIOVASCULAR SIDE TO INFORM THE MUSCULOSKELETAL SIDE?

DR. LEACH: I THINK THE BASE TECHNOLOGY, TO BE SUCCESSFUL IN EITHER APPLICATION, WHETHER CARDIOVASCULAR OR MUSCULOSKELETAL, IS LARGELY SET. THE CHALLENGE IS, AND THIS IS ONLY READING THE ABSTRACT OF DR. MARCU'S TIER I PROPOSAL, IN WHICH SHE'S TRYING TO UNDERSTAND HOW CIRCULATING STEM

CELLS WOULD REMODEL A VASCULAR GRAFT. THIS IMAGING TECHNOLOGY IS TRULY VALUABLE TO UNDERSTAND REMODELING AT A LEVEL BEFORE TRADITIONAL IMAGING TECHNOLOGIES CAN DETECT, BEFORE X RAY, BEFORE DOPPLER FLOW, BEFORE CT, BEFORE EVEN PET. THIS TECHNOLOGY IS USEFUL BECAUSE IT DETECTS CHANGES IN EXTRACELLULAR MATRIX CONTENT PRODUCED BY RESIDENT CELLS.

WHERE I THINK WE RUN INTO PROBLEMS AND WHY THIS IS SO BENEFICIAL TO FUND IN PARALLEL IS THE POPULATION OF CELLS IN EACH SITE IS COMPLETELY DIFFERENT. THEREFORE, THE EXTRACELLULAR MATRIX IS COMPLETELY DIFFERENT, AND THE TOOLS REQUIRED TO DETECT THOSE INDIVIDUAL COMPONENTS VARIES SIGNIFICANTLY. WHILE THERE ARE ELEMENTS THAT COULD BE INFORMATIVE, FOR EXAMPLE, THE PRESENCE OF HEMOGLOBIN, CAN BE A CONFOUNDING PARAMETER IN OPTICAL IMAGING, AND OBVIOUSLY THERE'S PLENTY OF HEMOGLOBIN IN THE CARDIOVASCULAR SYSTEM, THAT COULD BE INFORMATIVE TO HELP IN MEASURING THE REMODELING OF BONE TISSUE IN VIVO, BUT I DON'T SEE THAT AS AN INSURMOUNTABLE HURDLE IN OUR PROPOSAL.

I THINK THAT WORKING IN PARALLEL IN THESE TWO FORMS WILL ALLOW US TO DISCOVER NEW APPROACHES TO TREAT THE DEVELOPMENT OF CANCER AND THE TREATMENT

OF CANCER IN MUSCULOSKELETAL TISSUES, HOW WELL TISSUES REMODEL AND HOLD UP UPON IMPLANTATION, AS WELL AS PERHAPS THE DETECTION OF VULNERABLE PLAQUES IN CARDIOVASCULAR DISEASE. I CAN SEE THESE PROJECTS EXPANDING AND BLOSSOMING BECAUSE CIRM CHOOSES TO INVEST IN THEM SIMULTANEOUSLY.

DR. JUELSGAARD: SO I WOULD ASK THE STAFF IS THERE A COUNTERPOINT TO THE ARGUMENT THAT WAS JUST MADE?

DR. MILLS: SO I THINK IT'S IMPORTANT TO UNDERSTAND A COUPLE THINGS. ONE, THIS IS ALMOST EXCLUSIVELY A PROGRAMMATIC DECISION AND DOESN'T SPEAK TO THE QUALITY OF DR. LEACH'S APPLICATION. SO HIS AVERAGE SCORE OF THIS WAS A 72. NINE OF THE GWG MEMBERS SCORED IT WITH A SCORE THAT WOULD INDICATE TO FUND. SO A MAJORITY VOTED TO FUND.

I ALSO WANT TO JUST MAKE A POINT, THAT GENERALLY 75 OR ABOVE IS OUR CRITERIA FOR WHEN SOMETHING REACHES AN AVERAGE SCORE THAT'S APPROVABLE BY THE BOARD. FOR THIS RFA THERE WERE ABOUT 212 APPLICATIONS RECEIVED. SO THIS LINE THAT WE'VE DRAWN HERE WOULD PUT IT IN THE TOP 10 PERCENT OF APPLICATIONS RECEIVED. SO WE WOULD ONLY HAVE ABOUT 9 PERCENT.

SO OUR COMMENTS HERE AREN'T TO THE QUALITY

OF THE PROPOSAL THAT DR. LEACH HAS SUBMITTED TO CIRM. THEY INSTEAD GO TO A PROGRAMMATIC ISSUE OF HOW MUCH OF THIS DO WE WANT WITHIN THE CIRM PORTFOLIO. AND SO THAT'S REALLY -- THAT'S WHERE OUR RECOMMENDATION COMES FROM.

MR. SHEEHY: SO I WONDER IF A FRIENDLY AMENDMENT MIGHT BE IN ORDER.

DR. JUELSGAARD: COULD I JUST ASK ONE MORE QUESTION? DO WE HAVE ANY PRECLINICAL OR CLINICAL STUDIES USING REGENERATIVE MEDICINE TECHNOLOGY IN MUSCULOSKELETAL DISEASES AT THIS POINT?

DR. MILLS: DO WE HAVE TECHNOLOGIES IN MUSCULOSKELETAL?

DR. JUELSGAARD: PRECLINICAL OR CLINICAL STUDIES IN THE MUSCULOSKELETAL AREA?

DR. MILLS: ABSOLUTELY.

MR. JUELSGAARD: THANK YOU.

MR. SHEEHY: SO PERHAPS ONE WAY -- MR. HIGGINS.

MR. HIGGINS: CAN I ASK ONE LAST QUESTION OF THE STAFF? IS THERE A FORM OF THIS GRANT OR A COMBINATION OF THIS GRANT IN THE TIER I GRANT THAT WOULD BE ACCEPTABLE THAT YOU WOULD PROPOSE THIS GET MODIFIED INTO BUDGETWISE OR --

DR. MILLS: IT'S NOT REALLY AN OPTION

UNDER THIS STRUCTURE. SO I'M NOT SURE. I JUST WANT TO JUST REITERATE THE ISSUE ISN'T A FLAW OF THE GRANT AS MUCH AS IT'S OVERLAPPING.

MR. SHEEHY: I WAS KIND OF THINKING ALONG THOSE LINES, SO I HATE TO HAVE YOU JUMPING UP AND DOWN, DR. MILLS. THE FRIENDLY AMENDMENT I WAS GOING TO SUGGEST TO THE MAKER AND THE SECOND WAS THAT THE CIRM TEAM LOOK AT OVERLAP, REDUNDANCIES, AND SYNERGIES ACROSS THE TWO APPLICATIONS AND IDENTIFY ANY SAVINGS THAT MIGHT BE APPROPRIATE. WOULD THAT BE ONE WAY? WOULD YOU BE COMFORTABLE WITH THAT, DR. MILLS?

DR. MILLS: SO JUST SO I'M CLEAR, IT WOULD BE -- THERE WOULD BE A MOTION TO FUND, BUT A MODIFIED FORM OF IT THAT WOULD CARVE OUT GIVING PRECEDENT TO THE TIER I AWARD BEFORE IT?

MR. SHEEHY: I WOULD ACTUALLY LOOK AT BOTH AWARDS, IN MY VIEW. I'D TAKE OTHER COMMENTS FROM OTHER MEMBERS. LOOK AT BOTH AWARDS AND SEE IF YOU CAN IDENTIFY OVERLAPS AND REDUNDANCIES SINCE WE'RE FUNDING BASICALLY THE SAME --

DR. MILLS: THE ONLY THING I WOULD SAY IS SPEAKING ON BEHALF OF THE OTHER PI, WHO'S NOT HERE, WHOSE GRANT IS BEING CUT AND WHO HAD A REALLY, REALLY GREAT SCORE, I DON'T KNOW HOW FAIR THAT WOULD

BE TO DR. MARCU.

MR. SHEEHY: I'LL WITHDRAW THAT AMENDMENT.

DR. MILLS: WE COULD DEFINITELY, THOUGH, DO BASICALLY WHAT THAT GRANT DIDN'T COVER AND THIS GRANT PICKED UP CONTRACT NEGOTIATION TO MODIFY THIS GRANT TO PERFORM THOSE ACTIVITIES THAT WEREN'T OVERLAPPING. BUT I WOULD SUGGEST THAT THAT SHOULD GIVE PRIORITY TO THE HIGHER SCORING GRANT.

DR. DULIEGE: CAN THIS BE TURNED INTO SOME FORM OF A MOTION WHERE WE WOULD MOTION THAT CIRM STAFF CONTINUES TO WORK WITH THE PI TO EVALUATE WHAT IS NOT OVERLAPPING. AND PENDING THAT, THAT THIS WOULD BE MOVED TO TIER I, OR WOULD THAT HAVE TO COME BACK TO US AFTER THAT? I DON'T NEED TO SEE IT AGAIN. IT'S ENOUGH FOR ME TO KNOW THAT THE CIRM STAFF WOULD WORK WITH YOU TO REEVALUATE WHAT IS EXCLUSIVELY NECESSARY IN THIS GRANT AND NOT REDUNDANT, AND THEN IT SHOULD BE FUNDED TO MY OPINION.

DR. JUELSGAARD: I THINK WE HAVE TO BE CAREFUL ABOUT OVERENGINEERING AT THIS POINT. SO I WOULD LIKE TO BRING US BACK JUST TO A VERY SIMPLE QUESTION. ARE WE WILLING TO FUND THIS OR NOT WITHOUT HAVING A LOT OF MICROMANAGEMENT GOING ON AS TO WHAT SHOULD OR SHOULDN'T BE IN THIS PARTICULAR

PROPOSAL FROM OUR POINT OF VIEW. I DO BELIEVE IN MY OWN MIND AND I MADE THE MOTION THAT THIS IS A PROJECT WORTHY OF FUNDING. IF WE GET TO THE ULTIMATE QUESTION, I WILL VOTE IN FAVOR OF IT.

MR. SHEEHY: OKAY. UNLESS THERE'S ANY OTHER DISCUSSION FROM MEMBERS OF THE BOARD, ANY COMMENTS, QUESTIONS? I'LL TAKE ANY COMMENTS, ANYTHING FROM THE CIRM TEAM. THEN IS THERE ANY OTHER PUBLIC COMMENT ON THIS APPLICATION? IF NOT, MS. BONNEVILLE, COULD YOU CALL THE ROLL PLEASE.

MR. HARRISON: JUST TO BE CLEAR THEN, THE MOTION THAT'S ON THE TABLE IS TO MOVE APPLICATION RT3-07981 INTO TIER I.

MS. BONNEVILLE: ANNE-MARIE DULIEGE.

DR. DULIEGE: YES.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: NO.

MS. BONNEVILLE: STEVE JUELSGAARD.

MR. JUELSGAARD: YES.

MS. BONNEVILLE: KATHY LAPORTE.

DR. LAPORTE: NO.

MS. BONNEVILLE: LAUREN MILLER.

MS. MILLER: YES.

MS. BONNEVILLE: JOE PANETTA.

MR. PANETTA: YES.

MS. BONNEVILLE: ROBERT QUINT.
DR. QUINT: YES.
MS. BONNEVILLE: JEFF SHEEHY.
MR. SHEEHY: YES.
MS. BONNEVILLE: JONATHAN THOMAS.
CHAIRMAN THOMAS: YES.
MS. BONNEVILLE: ART TORRES.
MR. TORRES: AYE.
MS. BONNEVILLE: DIANE WINOKUR.
MS. WINOKUR: YES.
MR. HARRISON: MOTION CARRIES NINE TO TWO.
MR. SHEEHY: OKAY. THE NEXT STEP WE'RE AT IS THAT THERE'S STILL, I BELIEVE, THREE REMAINING APPLICATIONS IN TIER II. AND IS THERE A MOTION TO MOVE ANY OF THOSE APPLICATIONS THAT HAVE NOT BEEN DISCUSSED FROM TIER II INTO TIER I? AND IF THERE IS, THE CIRM TEAM WILL BE HAPPY, I'M SURE, TO MAKE A PRESENTATION ON ANY APPLICATION.
DR. DULIEGE: JUST TO BE SURE, THESE ARE THE THREE AT THE BOTTOM OF TIER II THAT HAD A SCORE LESS THAN 70; IS THAT RIGHT?
MR. SHEEHY: I BELIEVE THE ONES THAT REMAIN, I THINK THAT'S CORRECT.
DR. DULIEGE: SO IS THERE ONE THAT HAD A SCORE ABOVE 70 THAT WE HAVE NOT DISCUSSED YET AND

THAT THE CIRM RECOMMENDED, OR HAVE WE DISCUSSED EVERY RECOMMENDATION FROM CIRM? OKAY. THANK YOU.

MR. SHEEHY: WE'VE DISCUSSED ALL THE CIRM RECOMMENDATIONS.

SO SEEING NO MOTIONS, THEN I'LL TAKE A MOTION TO FUND THE APPLICATIONS IN TIER I AND NOT FUND ANY OF THE REMAINING APPLICATIONS.

DR. JUELSGAARD: SO MOVED.

MR. HARRISON: JEFF, JUST ONE CLARIFICATION, WITH THE EXCEPTION OF THE TWO THAT HAVE BEEN DEFERRED.

MR. SHEEHY: THAT MOTION WITH THE EXCEPTION OF THE TWO THAT HAVE BEEN DEFERRED. I THINK THAT NEEDS TO COME FROM MEMBERS WITHOUT A CONFLICT. MR. JUELSGAARD HAS MADE THE MOTION. AND SECOND?

MR. PANETTA: SECOND.

MR. SHEEHY: MR. PANETTA. SO ANY COMMITTEE DISCUSSION ON THAT MOTION? IS THERE ANY PUBLIC COMMENT ON THAT MOTION? THEN, MS. BONNEVILLE, COULD YOU CALL THE ROLL. I THINK IN THIS INSTANCE COUNSEL SHOULD GIVE US FORM FOR RESPONSE.

MR. HARRISON: JUST AS A REMINDER, FOR THOSE OF YOU WHO HAVE AN APPLICATION NUMBER LISTED

ON YOUR CONFLICTS SHEET, PLEASE VOTE YES OR NO EXCEPT WITH RESPECT TO THOSE APPLICATIONS IN WHICH YOU HAVE A CONFLICT.

MS. BONNEVILLE: ANNE-MARIE DULIEGE.

DR. DULIEGE: YES, EXCEPT FOR THOSE WITH WHICH I HAVE A CONFLICT.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: STEVE JUELSGAARD.

MR. JUELSGAARD: YES.

MS. BONNEVILLE: KATHY LAPORTE.

DR. LAPORTE: YES.

MS. BONNEVILLE: LAUREN MILLER.

MS. MILLER: YES.

MS. BONNEVILLE: JOE PANETTA.

MR. PANETTA: YES.

MS. BONNEVILLE: FRANCISCO PRIETO.

DR. PRIETO: YES, EXCEPT FOR THOSE WITH WHICH I HAVE A CONFLICT.

MS. BONNEVILLE: ROBERT QUINT.

DR. QUINT: YES.

MS. BONNEVILLE: AL ROWLETT.

MR. ROWLETT: YES, EXCEPT FOR THOSE WITH WHICH I HAVE A CONFLICT.

MS. BONNEVILLE: JEFF SHEEHY.

MR. SHEEHY: YES, EXCEPT FOR THOSE WITH WHICH I HAVE A CONFLICT.

MS. BONNEVILLE: JONATHAN THOMAS.

CHAIRMAN THOMAS: YES, EXCEPT FOR THOSE WITH WHICH I HAVE A CONFLICT.

MS. BONNEVILLE: ART TORRES.

MR. TORRES: AYE.

MS. BONNEVILLE: DIANE WINOKUR.

MS. WINOKUR: YES, EXCEPT FOR THOSE WITH WHICH I HAVE A CONFLICT.

MS. BONNEVILLE: MOTION CARRIES.

MR. SHEEHY: DR. THOMAS, THAT CONCLUDES THE APPLICATION REVIEW SUBCOMMITTEE. COULD I MAKE A REQUEST?

CHAIRMAN THOMAS: CERTAINLY.

MR. SHEEHY: MAYBE A BREAK MIGHT BE APPROPRIATE AT THIS TIME.

DR. SAMBRANO: JUST VERY BRIEF. SINCE I WASN'T REALLY SHOWING THE SPREADSHEET THAT I NORMALLY SHOW, THE TOTAL AMOUNT THAT WAS APPROVED IS 29.75 MILLION. THAT'S STILL PENDING THE TWO THAT WERE DEFERRED THAT ARE 1.3 MILLION EACH.

CHAIRMAN THOMAS: THANK YOU, DR. SAMBRANO. THANK YOU VERY MUCH, MR. SHEEHY. EXPERTLY RUN AS USUAL.

MR. TORRES: WE NEED A BIO BREAK.

MR. REED: THIS IS NOT IN REGARDS TO THE PREVIOUS ONE, BUT IT IS IN REGARD TO THE PROCEDURE THAT'S INVOLVED NOW. I WOULD LIKE TO FORMALLY REQUEST THE REINVOLVEMENT OF PATIENT ADVOCATES IN THE GRANT CONSIDERATION PROCESS BEFORE THE DECISION IS MADE WHICH PROJECTS TO BE CONSIDERED OR NOT. I APPRECIATE BEING ASKED ONCE THE DECISION WAS BEING MADE, BUT THAT'S TOO LATE.

MY SUGGESTION IS WHEN ITS TIME TO CONSIDER GRANTS, BEFORE THE BOARD DELIBERATION BEGINS, LET THE CHAIR MAKE A PROCEDURAL POINT TO SAY IS THERE ANY MEMBER OF THE PUBLIC WHO WOULD LIKE TO SUGGEST MOVING A GRANT REQUEST UP OR DOWN. THEN GIVE US OUR THREE MINUTES INPUT, THAT PUBLIC COMMENT PERIOD TO WHICH WE ARE OFFICIALLY ENTITLED. AFTER WE SPEAK, THE CHAIR ASKED DOES ANY MEMBER OF THE BOARD WISH TO HEAR MORE OF THESE REQUESTED PROJECTS THAT THE PATIENT ADVOCATES AND PUBLIC RAISED? IF TWO OR MORE BOARD MEMBERS WISH TO RECONSIDER, THEN IT WILL BE DISCUSSED.

AT PRESENT THE PATIENT ADVOCATES AND GENERAL PUBLIC ARE EFFECTIVELY LARGELY EXCLUDED FROM MEANINGFUL PARTICIPATION IN THIS DECISION-MAKING PROCESS. MUCH HAS BEEN MADE ABOUT THE IMPORTANCE OF

PATIENTS TO CIRM, BUT WE HAVE A SAYING IN THE DISABILITY COMMUNITY, "NOTHING ABOUT US WITHOUT US." IF DECISIONS ARE MADE CONCERNING US WITHOUT OUR INPUT, THAT IS LIKE PATTING US ON THIS HEAD AND SENDING US OUT OF THE ROOM WHILE THE GROWNUPS DECIDE.

WE IN THE PATIENT ADVOCATE COMMUNITY HAVE VERY SPECIFIC INFORMATION TO WHICH YOU MOSTLY DO NOT HAVE ACCESS. SPINAL CORD INJURY, IN 2010 A RESEARCH PROJECT WAS DENIED. IT HAD TO DO WITH BOWEL AND BLADDER PROGRAMS FOR THE PARALYZED. AS A PATIENT ADVOCATE, I KNOW WHAT THAT MEANS. BOWEL PROGRAMS CAN TAKE TWO TO THREE HOURS AND REQUIRE AN ATTENDANT, MOSTLY FAMILY MEMBERS. THEREFORE, WE CAN NEVER BE MORE THAN A DAY AWAY FROM OUR LOVED ONES. WE ARE THE PRISONERS OF THEIR BATHROOM NEEDS. THERE'S NO WAY YOU CAN KNOW THIS. DR. OSWALD STEWARD DOES, BUT HE CANNOT PARTICIPATE BECAUSE OF CONFLICT OF INTEREST POLICIES. HIS INFORMATION IS CUT OFF.

IN THIS PARTICULAR PROJECT BACK THEN, PATIENT ADVOCATES WERE ALLOWED TO SPEAK AND WE DID. OUR THREE-MINUTE PRESENTATIONS LED TO BOARD QUESTIONS TO STAFF AND A ROBUST BOARD DEBATE. WE SPOKE AS DID THE CIRM STAFF, AND THE SCIENTISTS WERE

ALLOWED TO ANSWER QUESTIONS, AND THE ICOC VOTED TO ALLOW THE RESEARCH TO GO FORWARD.

CAN WE RELY EXCLUSIVELY ON THE OUT-OF-STATE REVIEW BOARD? NO, NEVER. REMEMBER, YOU DO NOT EVEN GET MINORITY REPORTS FOR THE MOST TIME. YOU HAVE NO WAY OF KNOWING IF SOME REVIEWERS ARE STUCK IN OLD HABITS, OLD PATTERNS, OR MAY EVEN COME FROM STATES WHERE RESEARCH IS ILLEGAL. FOR THE ICOC TO MAKE AN INFORMED DECISION, INPUT FROM A VARIETY OF SOURCES MUST BE SOUGHT.

ALSO, EXCLUDING PATIENT ADVOCATES FROM GIVING INPUT IS DENYING YOURSELF THE HELP OF YOUR STRONGEST SUPPORTERS AND YOUR GREATEST FRIENDS. WHO BUILT THE CIRM? PATIENT ADVOCATES. WHO RAISED THE MONEY, GATHERED THE SIGNATURES, SACRIFICING OUR OWN PERSONAL LIVES VOLUNTEERING FOR A NEARLY TWO-YEAR CAMPAIGN? WITHOUT PATIENT ADVOCATES NONE OF THIS WOULD BE HERE. AND IF THERE COMES A TIME WHEN FURTHER FUNDING IS REQUIRED, IT WILL BE PATIENT ADVOCATES FIGHTING FOR IT AGAIN.

IF CIRM 2.0 IS INTENDED TO TRULY FOCUS ON THE PATIENT, THEN DO NOT EXCLUDE US FROM MEANINGFUL PARTICIPATION. GIVE EACH OF US OUR THREE MINUTES BEFORE A DECISION IS MADE. THE BOARD CAN DECIDE IF THERE'S MERIT IN OUR ARGUMENTS. I WOULD FORMALLY

REQUEST THIS MATTER BE CONSIDERED AND, IF APPROVED, BECOME A MATTER OF STANDARD POLICY. THANK YOU.

CHAIRMAN THOMAS: THANK YOU, MR. REED. TAKE THIS MATTER UNDER ADVISEMENT. THANK YOU VERY MUCH FOR YOUR COMMENTS AS ALWAYS.

MR. SHEEHY: CHAIRMAN THOMAS, COULD I RESPOND?

I JUST WANTED TO NOTE A COUPLE OF POINTS. NO. 1, PATIENT ADVOCATES FROM THE VERY BEGINNING HAVE BEEN INVOLVED IN THE PEER REVIEW PROCESS. AS PATIENT ADVOCATES HAVE BEEN ON THE BOARD, 12 OF THE MEMBERS OF THE ICOC HAVE PATIENT ADVOCATE CREDENTIALS. SO I HAVE TO SAY I DON'T THINK IT'S VERY FAIR TO SUGGEST THAT PATIENT ADVOCATES -- DON, PLEASE, I DON'T WANT TO DEBATE, BUT IT'S NOT FAIR TO SAY THAT THEY DON'T PLAY A ROLE IN THE INSTITUTION.

AND I WOULD ALSO NOTE THAT A SIGNIFICANT INNOVATION COMING INTO CIRM 2.0 IS TO ACTUALLY HAVE PATIENT ADVOCATES THROUGH THE CLINICAL ADVISORY PANELS PARTICIPATE IN MAKING SURE THE GRANTS WE HAVE FUNDED IN THE CLINICAL SPACE DO SUCCEED. SO I JUST WANTED TO PUT THAT ON THE RECORD. THANK YOU.

MR. REED: FOR A CLARIFICATION, I'M TALKING ABOUT PUBLIC PATIENT ADVOCATES. I'M NOT TALKING ABOUT PEOPLE WHO ARE SITTING ON THE BOARD

AND WHO ARE, BY THE WAY, NOT ALLOWED TO SPECIFICALLY COMMENT ON AREAS OF EXPERTISE LIKE SPINAL CORD INJURY. DR. STEWARD IS NOT ALLOWED TO SPEAK ON THAT. I'M TALKING ABOUT PEOPLE OUTSIDE HERE WHO ARE PUBLIC ADVOCATES, AND THAT'S WHO I'M SPEAKING ABOUT.

MS. DEKOZAN: MY NAME IS SUZANNE DEKOZAN. I AM A RETIRED PUBLIC ATTORNEY. I ADVISE MANY BOARDS, COMMISSIONS, DIRECT POWERS AGENCIES, COMMITTEES, AND SUBCOMMITTEES SUCH AS YOURS. I AM ALSO, INCIDENTALLY, A PERSON WITH PARKINSON'S DISEASE, WHICH GIVES ME SPECIAL INTEREST IN YOUR PROCEEDINGS. AND I ALSO SERVE ON A COMMITTEE OF THE BUCK INSTITUTE ON AGING THAT REVIEWS PROPOSALS FOR STEM CELL RESEARCH.

THIS IS THE FIRST TIME I HAVE BEEN TO ANY OF YOUR MEETINGS, AND I'M STILL LEARNING ABOUT YOUR PROCESS. I LISTENED TO DR. COLE'S COMMENTS, AND I WOULD SAY THAT IF YOU ARE SIMPLY A COMMITTEE ADVISING ANOTHER COMMITTEE THAT WILL MAKE A FINAL DECISION, IT'S NOT SO IMPORTANT THAT YOU HAVE A PUBLIC PROCESS HERE. BUT IF YOU ARE THE FINAL DECISION MAKER, I WOULD AGREE WITH MR. COLE. THIS WOULD BE THE BEST POINT TO HAVE THE PUBLIC INVOLVEMENT AND HAVE A PERIOD FOR PUBLIC COMMENT. THANK YOU.

CHAIRMAN THOMAS: THANK YOU. OKAY. THANK YOU FOR YOUR COMMENTS. WE'RE GOING TO TAKE A TEN-MINUTE BREAK TO GIVE BETH A BREAK AND ALL THE REST OF US A BREAK. AND WE WILL RESUME WHEN WE COME BACK WITH ITEM NO. 12. WE'RE GOING TO TAKE THIS A LITTLE OUT OF ORDER. THANK YOU.

(A RECESS WAS TAKEN.)

CHAIRMAN THOMAS: OKAY. WE'RE GOING TO PROCEED NOW TO AGENDA ITEM 12 ON THE CIRM TRAINING GRANT PROGRAM. DR. YAFFE IS GOING TO PRESENT. BEFORE WE GET TO THAT, MR. HARRISON, THERE'S A BIT OF CONFUSION AMONGST BOARD MEMBERS ABOUT WHO IS ABLE TO TALK AND VOTE ON THIS. COULD YOU JUST GIVE INSTRUCTION ON THAT POINT, PLEASE.

MR. HARRISON: YES. ALL BOARD MEMBERS ARE ENTITLED TO PARTICIPATE IN THE DEBATE, DISCUSSION, AND VOTE ON THIS MATTER. JUST FOR CONTEXT, A PROPOSED EXTENSION OF THE EXISTING TRAINING GRANT PROGRAM WAS BROUGHT TO THE BOARD IN DECEMBER 2013 AND WAS NOT APPROVED. INSTEAD, THE CIRM TEAM WAS DIRECTED TO GO BACK AND CONSIDER A CONCEPT PROPOSAL FOR A NEW TRAINING GRANT PROGRAM.

SO THE PURPOSE OF THE DISCUSSION TODAY IS TO TALK ABOUT THE CIRM TEAM'S CONSIDERATION OF THAT REQUEST.

CHAIRMAN THOMAS: THANK YOU, MR. HARRISON. DR. YAFFE.

DR. YAFFE: MR. CHAIRMAN, MEMBERS OF THE BOARD, MEMBERS OF THE PUBLIC, AND TEAM CIRM, THE CIRM TRAINING GRANT PROGRAM HAS HAD AS ITS GOALS TO SUPPORT THE TRAINING AND DEVELOPMENT OF GRADUATE AND POSTGRADUATE LEVEL STEM CELL SCIENTISTS IN CALIFORNIA AND TO EXPAND STEM CELL RESEARCH IN CALIFORNIA BY CREATING A CADRE OF YOUNG SCIENTISTS WITH APPROPRIATE KNOWLEDGE AND SKILLS.

THE TRAINING GRANT, CIRM TRAINING GRANTS WERE THE FIRST GRANT PROGRAM OF CIRM INITIATED IN 2005, AND IT HAS OPERATED FOR NINE CONSECUTIVE YEARS. THESE PROGRAMS HAVE SUPPORTED TRAINING PROGRAMS, DISTINCT TRAINING PROGRAMS, AT 17 DIFFERENT CALIFORNIA INSTITUTIONS. THEY'VE SUPPORTED TRAINEES WHICH WE CALL CIRM SCHOLARS INVOLVED IN RESEARCH PROJECTS ACROSS A BROAD SPECTRUM OF CIRM'S PORTFOLIO, AND THE MAJORITY OF PROJECTS HAVE FOCUSED ON TOPICS IN BASIC RESEARCH. CIRM SCHOLARS HAVE BEEN INCREDIBLY PRODUCTIVE, AUTHORING OVER 887 PUBLICATIONS.

THE TOTAL FUNDS COMMITTED TO THE CIRM TRAINING GRANTS HAS BEEN $131 MILLION. THIS FUNDING HAS OCCURRED IN THREE PHASES. FIRST TRAINING I IN

2005 FOR $39 MILLION, TRAINING II, A SECOND RFA, IN 2009 FOR $45 MILLION, AND A THREE-YEAR EXTENSION OF TRAINING II IN 2011 FOR APPROXIMATELY $47 MILLION.

THESE PROGRAMS HAVE TRAINED 859 SCHOLARS DIVIDED ABOUT A THIRD AS GRADUATE STUDENTS, PREDOCTORAL STUDENTS, ABOUT A HALF AS POSTDOCTORAL STUDENTS, AND THE REMAINDER AS CLINICAL FELLOWS.

AS MR. HARRISON MENTIONED, AT THE DECEMBER 2013 ICOC MEETING, YOU VOTED NOT TO EXTEND FUNDING OF THE CURRENT TRAINING GRANT PROGRAM AND REQUESTED THAT THE CIRM TEAM CONSIDER THE DEVELOPMENT OF A NEW CONCEPT PROPOSAL. FOLLOWING EXTENSIVE INTERNAL DISCUSSION, CONSIDERING THE CURRENT ENVIRONMENT, AND HOW BEST TO ENSURE PROGRAM ALIGNMENT WITH CIRM'S MISSION, THE TEAM DETERMINED THAT THE ENVIRONMENT HAS CHANGED SUBSTANTIALLY SINCE 2005, THAT THE TRAINING GRANT PROGRAM IS NO LONGER AN OPTIMAL METHOD FOR THE FURTHERANCE OF TRAINING AND SHOULD NOT BE CONTINUED, AND THAT CIRM SHOULD CONTINUE TO SUPPORT THE TRAINING OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS IN THE CONTEXT OF THE RESEARCH GRANTS.

HERE ARE TWO KEY POINTS OF RATIONALE FOR THIS RECOMMENDATION NOT TO CONTINUE THE TRAINING GRANT PROGRAM. AND THE FIRST IS THAT THE CIRM

TRAINING GRANT PROGRAM GOALS HAVE BEEN ACHIEVED. CIRM HAS ENABLED THE TRAINING OF A LARGE CADRE OF STEM CELL RESEARCHERS. CALIFORNIA NOW HAS A CRITICAL MASS OF RESEARCHERS AND LABS WITH EXPERTISE IN STEM CELL BIOLOGY AND, I MIGHT ADD, FACILITIES APPROPRIATE TO BOTH THE TRAINING AND THE PERFORMANCE OF STEM CELL RESEARCH. AND STEM CELL COURSES ARE NOW AN ESTABLISHED FEATURE OF MANY BIOMEDICAL GRADUATE PROGRAM CURRICULA.

A SECOND KEY POINT IS THAT CIRM CONTINUES TO PROVIDE SUBSTANTIAL SUPPORT FOR TRAINING OF GRADUATE STUDENTS, POSTDOCTORAL FELLOWS, AND CLINICAL FELLOWS THROUGH RESEARCH GRANTS. AND THIS POINT IS ILLUSTRATED IN THE FOLLOWING GRAPH WHICH SHOWS THE TOTAL NUMBER OF TRAINEES SUPPORTED PER YEAR IN BLUE ON CIRM TRAINING GRANTS AND IN RED ON CIRM RESEARCH GRANTS. SO WE ARE SUPPORTING A SUBSTANTIAL NUMBER OF TRAINEES THROUGH OUR RESEARCH PROGRAM, AND THERE HAS BEEN FROM THE BEGINNING THE OPPORTUNITY AND PROVISION TO SUPPORT TRAINEES, GRADUATE STUDENTS, POSTDOCTORAL FELLOWS, AND CLINICAL FELLOWS ON OUR RESEARCH GRANTS.

THE CIRM TEAM RECOMMENDS CONTINUED AND ROBUST SUPPORT OF SCIENTIST TRAINING IN REGENERATIVE MEDICINE AND STEM CELL BIOLOGY VIA TRAINING

OPPORTUNITIES ON RESEARCH GRANTS. TRAINING ACTIVITIES WILL BE ENCOMPASSED IN CONCEPT PLANS FOR DISCOVERY AND TRANSLATIONAL RESEARCH PHASES OF CIRM 2.0 TO BE PRESENTED LATER THIS YEAR TO YOU, THE ICOC.

THIS FORM OF SUPPORT FOR TRAINING WILL ALLOW THE CONSIDERATION OF INDIVIDUAL PROJECTS WHICH WILL BE EVALUATED BY THE GRANTS WORKING GROUP AND APPROVED BY THE ICOC TO ENSURE ALIGNMENT WITH CIRM'S MISSION. OUR RECOMMENDATION TO YOU IS TO APPROVE THE CIRM TEAM'S DETERMINATION NOT TO PRESENT A CONCEPT PROPOSAL FOR A DISTINCT GRADUATE/POSTGRADUATE TRAINING GRANT PROGRAM.

THANK YOU FOR YOUR ATTENTION. I'LL BE HAPPY TO TAKE QUESTIONS.

MR. HIGGINS: I SAW THE MATH SOMEWHERE THAT UNDER THIS PROGRAM IT'S $152,000 PER TRAINEE IS THE AVERAGE COST. IF YOU ROLL THIS INTO SORT OF STANDARD GRANTS AND FUNDING STUDENTS THROUGH OTHER GRANTS, DOES THAT EFFICIENCY -- DOES THE EFFICIENCY BECOME ANY BETTER? DO YOU KNOW THE ECONOMIC EFFICIENCY OF THAT? IS THERE ANY WAY TO DETERMINE THAT?

DR. YAFFE: 152,000 PER TRAINEE IS A COMPLICATED NUMBER BECAUSE THERE'S A LOT OF COSTS

FOLDED INTO THAT, COST OF PROGRAM ADMINISTRATION, COSTS OF OVERHEAD GOING TO INSTITUTIONS, COST OF -- SO EACH STUDENT IS NOT GETTING $152,000. YOU UNDERSTAND THAT.

THE COSTS ARE DIFFERENT AND THE COST EQUATIONS ARE DIFFERENT WHEN WE LOOK AT TRAINEES ON RESEARCH GRANTS. I THINK THE BOTTOM LINE IS THOSE TRAINEES STILL HAVE THE OPPORTUNITY ON RESEARCH GRANTS TO RECEIVE MONEY FOR TUITION AND EDUCATIONAL FEES, STIPENDS, SUPPLY MONEY, TRAVEL MONEY. THOSE ARE THE COSTS THAT ACTUALLY GO TO THE INDIVIDUAL TRAINEES. ACTUALLY THAT AMOUNT IS MORE. WE'RE PROBABLY UNDERESTIMATING THE COST OF A TRAINEE'S ACTIVITIES IN THE LABORATORY.

SO ON OUR TRAINING GRANTS, FOR EXAMPLE, A POST-DOC WOULD RECEIVE $10,000 TOWARDS SUPPLIES AND TRAVEL. THE ACTUAL COST OF SUPPLIES FOR A PARTICULAR PROJECT COULD BE MUCH MORE THAN THAT. SO I DON'T KNOW THAT, IN TERMS OF THE NUMBER, HOW THE NUMBER IS GOING TO DIFFER.

DR. MILLS: DAVID, THE BEST I CAN SORT OUT AND FIGURE OUT, AND IT'S NOT PERFECT, IS THE NUMBERS AREN'T RADICALLY DIFFERENT ON HOW YOU TRAIN UNDER THE TWO PROGRAMS. THE REAL DIFFERENCE AND MOTIVATION FOR US IS, ONE, WE APPROVE A BLOCK OF

MONEY AND WE DON'T HAVE REALLY A LOT OF OVERSIGHT OF HOW THAT MONEY GETS SPENT AND CAN BE SPENT LITERALLY ON EVERYTHING FROM MARINE BIOLOGY AND LIZARDS TO THE KIND OF WORK THAT WE REALLY ARE INTERESTED IN DOING VERSUS TRAINING THE STUDENTS, POSTGRADUATES, AND CLINICAL FELLOWS UNDER PROGRAMS THAT WE HAVE FULLY VETTED AND THAT WE KNOW ARE COMPLETELY ALIGNED WITH CIRM'S MISSION.

THE COST BETWEEN HOW WE TREAT PER STUDENT, I DON'T THINK, COMES DOWN DRAMATICALLY ON A TRAINING GRANT, BUT THE FOCUS ON ALIGNMENT WITH THE MISSIONS, I THINK, IS WHAT IS FOR US THE MOST IMPORTANT.

DR. MINOR: ARE YOU CONCERNED ABOUT THE GRANULARITY WITH WHICH YOU SEEK TO SPECIFY THE TRAINING OPPORTUNITIES? BECAUSE ONE GOAL IN TRAINING YOUNG SCIENTISTS IS TO GIVE THEM EXPOSURE TO A VARIETY OF DIFFERENT PROJECTS, NOT NECESSARILY TO ENCUMBER THEM TO BE TIED TO ONE PROJECT AT THE ONSET OF THEIR TRAINING EXPERIENCE. WERE THE BROADER TRAINING GRANTS TO GO AWAY, WOULDN'T THAT ALSO LIMIT THE OPPORTUNITY TO ATTRACT THE VERY BEST STUDENTS WHO MAY WANT TO HAVE THE LEEWAY TO CHANGE PROJECTS OR TO DO THINGS WITH SLIGHTLY DIFFERENT INTENT THAN IS THE INTENT OF THE SPECIFIC GRANTS THAT WOULD THEN BE FUNDED AND HAVE TRAINING SLOTS

ASSOCIATED WITH THEM?

AND IT DOESN'T HAVE TO BE EITHER/OR AS IT ISN'T EITHER/OR NOW BECAUSE, AS YOU POINTED OUT, THERE ARE TRAINING SLOTS ASSOCIATED WITH GRANTS AND THERE ARE THESE BROADER TRAINING GRANTS THAT GIVE STUDENTS, THEN, A BROADER RANGE OF OPTIONS THAT LATER CAN COME BACK TO REALLY BENEFIT STEM CELL BIOLOGY AND STEM CELL MEDICINE.

DR. MILLS: I THINK, IN GENERAL, THE QUESTION IS JUST FOCUSING THE TRAINING THAT WE DO ON SPECIFIC AREAS OF STEM CELL RESEARCH THAT INTEREST THE AGENCY CONCERN ME. MY ANSWER TO THAT WOULD BE NO. WE ARE NOT THE ONLY FUNDING SOURCE FOR TRAINING SCIENTISTS. THE NIH IS AGGRESSIVELY INVOLVED IN TRAINING THESE SCIENTISTS AS WELL AND THERE'S OTHER AREAS OF SUPPORT.

WE ARE THE STATE'S STEM CELL AGENCY. WE HAVE A MISSION, AND THAT MISSION IS TO ACCELERATE STEM CELL TREATMENTS TO PATIENTS WITH UNMET MEDICAL NEEDS. AND SO WHILE OUR FOCUS ON TRAINING MIGHT BE MORE NOW, IT'S NOT THE EXCLUSIVE OPPORTUNITY FOR TRAINING FUNDS TO BE RECEIVED. AND SO I ACTUALLY THINK IT'S WHOLLY APPROPRIATE THAT WE HAVE THAT LEVEL OF FOCUS AT CIRM; AND THAT IF WE TRAIN A SCIENTIST, WE'RE TRAINING A SCIENTIST TO SERVE OUR

MISSION AND NOT SOMETHING ELSE.

DR. YAFFE: I COULD JUST ADD TO THAT. I THINK IT'S AN IMPORTANT POINT YOU'VE MADE, DR. MINOR. MOST OF THE TRAINEES ON OUR TRAINING GRANTS ARE NOT FIRST-YEAR GRADUATE STUDENTS, FOR EXAMPLE. DURING A FIRST YEAR OF MOST GRADUATE PROGRAMS, THE STUDENTS HAVE AN OPPORTUNITY TO SAMPLE A NUMBER OF DIFFERENT LABORATORIES, TO EXPLORE WHAT'S AVAILABLE IN THEIR INSTITUTION FOR TRAINING OPPORTUNITIES IN DIFFERENT AREAS OF SCIENCE. ALMOST ALL OF THE TRAINEES ACTUALLY ON OUR TRAINING GRANT PROGRAMS ARE STUDENTS IN MORE ADVANCED YEARS WHO HAVE ALREADY SELECTED TOPICS, SELECTED A COURSE OF STUDY, AND ARE COMMITTED ALREADY TO STEM CELL BIOLOGY OR REGENERATIVE MEDICINE.

DR. MINOR: I WOULD THEN ASK THE NEXT QUESTION, WHICH IS THAT IF THE TRAINING GRANTS ARE STRICTLY LIMITED TO AND RESTRICTED TO PROJECTS, THEN AS THOSE PROJECTS TRANSITION FROM ONE TO THE NEXT, AND ONE THING THAT YOU'VE EMPHASIZED, DR. MILLS, IS THE NEED TO HAVE ACCOUNTABILITY AND TO CLOSELY REVIEW PROJECTS, TRAINING GRANTS GO ON FOR A MORE LONGITUDINAL PERIOD OF TIME, FREQUENTLY REFLECTING THE LENGTH OF TIME THAT A STUDENT NEEDS TO TRAIN TO COMPLETE HIS OR HER TRAINING. IF ALL TRAINING

OPPORTUNITIES ARE RESTRICTED TO FUNDED RESEARCH GRANTS, AND ONE WOULD EXPECT AGAIN, DR. MILLS, BASED UPON THE STRATEGY THAT YOU'VE DEFINED HERE, THAT SOME OF THOSE TRAINING GRANTS WILL BE ENDING AND TRANSITIONING. THIS PLACES IN LIMBO A GROUP OF STUDENTS WHO MAY, THEREFORE, NOT BE ABLE TO FINISH UNDER A TRAINING PERIOD AS DEFINED BY THE INITIAL LENGTH OF THE FUNDING OF THE RESEARCH GRANT.

AND, AGAIN, THAT'S WHERE TRAINING GRANTS FOR THE SAKE OF TRAINING HAVE THE ADVANTAGE OF MAKING SURE THAT THE STUDENTS ARE TRANSITIONED AND CAN FINISH THEIR TRAINING EXPERIENCES AND FURTHER THE SCIENCE THAT THEY BEGAN AT THE ONSET.

DR. MILLS: I APPRECIATE WHAT YOU'RE SAYING, BUT ACTUALLY I THINK THE ACTUAL CIRCUMSTANCES ARE A LITTLE DIFFERENT THAN PERHAPS YOU THINK. THE AVERAGE LENGTH OF A TRAINING GRANT IS JUST UNDER TWO YEARS. THE AVERAGE LENGTH OF A RESEARCH GRANT IS BETWEEN THREE AND FOUR YEARS. SO WE ACTUALLY HAVE A GREATER TRANSFER DURABILITY IN TRAINING THESE FROM BEGINNING TO END ON A PROJECT UNDER THE RESEARCH GRANTS THAN WE DO UNDER THE TRAINING GRANTS.

DR. GASSON: FOR THE $131 MILLION THAT WE'VE INVESTED IN THE TRAINING GRANT PROGRAMS, DO

YOU HAVE DATA ON WHAT THE STUDENTS, POST-DOCS, AND CLINICAL FELLOWS, AT LEAST FROM THE EARLY YEARS TEN YEARS AGO, GO ON TO DO, WHETHER THEY STAYED IN CALIFORNIA, WHETHER THEY STAYED IN BIOMEDICAL RESEARCH, THOSE TYPES OF THINGS?

DR. YAFFE: WE DO HAVE DATA. WE'VE TRACKED STUDENTS. I DON'T HAVE A REPORT TO PROVIDE FOR YOU TODAY, BUT WE COULD CERTAINLY GET YOU THAT INFORMATION AND MAKE THAT INFORMATION PUBLIC.

DR. GASSON: THANK YOU.

MR. TORRES: I THINK THAT'S AN EXCELLENT POINT, JUDY, BECAUSE THE AUDIT, NOT AUDIT, BUT THE REVIEW OF WHERE OUR MONEY HAS BEEN INVESTED AND WHAT'S BEEN THE RESULT ON THAT INVESTMENT, I THINK, IS VERY, VERY EXEMPLARY. AND SOME OF IT I'VE SHARED WITH MEMBERS OF THE LEGISLATURE AND CERTAIN POLICY COMMITTEES AS TO WHERE THIS MONEY FOR THE TRAINING OF THESE YOUNG PEOPLE HAVE DONE. AND MANY OF THEM HAVE ASSUMED POSITIONS WITHIN MAJOR INSTITUTIONS IN CALIFORNIA FOR THE MOST PART. SOME HAVE GONE ON TO HARVARD, OTHER INSTITUTIONS, AND THE PUBLICATIONS ARE STILL OVER 600 PUBLICATIONS FROM THE STUDENTS THAT WE'VE PROVIDED THE FUNDING FOR.

I THINK IT IS AN EXCELLENT PROGRAM, BUT I'M ALSO CONCERNED ABOUT HOW TO ENSURE ALIGNMENT. I

THINK DR. MILLS TALKED ABOUT THAT POINT. SO THE MONEY IS BEING USED TO ALIGN WITH THE MISSION OF CIRM SO THAT WE'RE FULFILLING OUR FIDUCIARY DUTY IN THAT RESPECT.

NO. 2, THE 130 MILLION, HOW WILL THAT BE SAVED? WILL THAT BE INCORPORATED IN THE TRAINING ACTIVITIES ENCOMPASSED ON CONCEPT PLANS FOR TRANSLATIONAL DISCOVERY RESEARCH GRANTS?

DR. MILLS: THE 131 MILLION IS SPENT. THAT'S GONE. SO BASICALLY --

MR. TORRES: AND WAS NOT REAPPROPRIATED.

DR. MILLS: IT CAME BEFORE THE BOARD IN DECEMBER OF '13, NOW BEFORE MY TIME, BUT IT CAME BEFORE THE BOARD DECEMBER OF '13 TO BE REUPPED FOR ABOUT ANOTHER $47 MILLION FOR ANOTHER THREE YEARS OF THAT PROGRAM AT THAT TIME. THE BOARD DECLINED TO REUP, AND THEN THE IDEA WAS IT WOULD BE BROUGHT BACK. SO THE $131 MILLION IS ALREADY SPENT. THIS WOULD BE ANOTHER ROUGHLY $47 MILLION NEW ALLOCATION TO START ANOTHER SERIES OF TRAINING.

MR. TORRES: AND YOU ENVISION THAT AMOUNT OF MONEY TO BE PUT INTO CONCEPT PLANS AND OTHER PROPOSED GRANTS?

DR. MILLS: YEAH. ONE OF THE THINGS I WOULD POINT OUT IS WE HAVE NO SHORTAGE OF DEMAND FOR

BASIC RESEARCH, WHAT WE CALL DISCOVERY AND TRANSLATIONAL STAGE PROJECTS, WHICH IS THE ONES IN WHICH WE TRAIN THE MOST AND WE TRAIN MORE POSTGRADUATE STUDENT, POST-DOC, AND CLINICAL FELLOWS UNDER THAT THAN WE DO UNDER THE TRAINING PROGRAM. WE HAVE NO SHORTAGE OF DEMAND. WE CAP HOW MUCH MONEY WE SPEND ON THOSE PROGRAMS.

AND SO I THINK CIRM WOULD VERY MUCH APPRECIATE THE INPUT FROM THE BOARD IN PREPARATION, AND WE HAVE TWO OF THEM THAT ARE COMING UP, THE DISCOVERY AND THE TRANSLATIONAL CONCEPT PLANS THAT WILL BE COMING. IF THOSE CONCEPT PLANS WANT TO BE BOLSTERED SPECIFICALLY FOR THE PURPOSES OF INCREASING THE AMOUNT OF FUNDS THAT ARE GOING TOWARDS TRAINING STUDENTS IS ABSOLUTELY SOMETHING WE CAN DO AND WE THINK IS THE MORE APPROPRIATE MECHANISM FOR THIS.

DR. FRIEDMAN: THANK YOU. IF I MAY, J.T., I WILL TRANSITION A LITTLE BIT FROM QUESTIONS TO BOARD COMMENTS AND WOULD LIKE TO OFFER ONE AT THIS MOMENT IF I MAY. I WANT TO BE STRONGLY ENDORSING THE RECOMMENDATION MADE BY THE STAFF. I FEEL THAT THE VALUE OF TRAINING GRANTS IS SIMPLY ENORMOUS. AND I AM REALLY PROUD AND PLEASED THAT WE HAVE FOR THE LAST DECADE INVESTED IN WHAT I THINK IS A VERY

IMPORTANT INFRASTRUCTURE, AND THE RIPPLE EFFECT, I THINK, WITHOUT EXAGGERATING, WILL BE PROFOUND OF WHAT WE'VE DONE.

I ALSO WANT TO MAKE THE POINT THAT THERE'S GREAT VALUE IN TRAINING GRANTS. AND THE PROBLEM THAT WE FACE AS AN ORGANIZATION TODAY IS BEING INUNDATED BY TOO MANY GOOD OPPORTUNITIES. AND THIS IS A VALID, GOOD THING TO INVEST IN, BUT AT THIS MOMENT I DON'T THINK IT'S THE HIGHEST AND BEST USE OF THE LIMITED MONEY THAT WE HAVE LEFT. THAT ISN'T TO DIMINISH IT OR TO DENIGRATE THE REAL ACCOMPLISHMENTS. AND I'M SURE THERE WILL BE PEOPLE WHO ARE ABLE TO SAY THESE ARE ALL THE GOOD STUDENTS, THIS IS ALL THE GOOD WORK THAT'S DONE, THESE ARE ALL THE IMPORTANT PAPERS. I THINK THAT'S ABSOLUTELY TRUE AND I CONGRATULATE EVERYONE WHO'S BEEN INVOLVED IN THAT.

THE POINT TODAY IS THAT, GIVEN THE VAST OPPORTUNITIES THAT WE HAVE AND THE LIMITED MONEY, I THINK THAT THE STAFF HAS MADE THE PROPER RECOMMENDATION TO FOCUS AT THIS MOMENT. IT'S A HARD DECISION BECAUSE THESE ARE GOOD OPTIONS THAT WE'RE FORECLOSING, BUT I THINK THE PRESENTATION WAS A RESPONSIBLE ONE. I THINK THEY HAVE DONE WHAT WE AS A BOARD ASKED THEM TO DO, WHICH IS TO CONSIDER A

NUMBER OF DIFFERENT OPTIONS, AND SO I FEEL VERY SUPPORTIVE OF THAT. THANK YOU.

CHAIRMAN THOMAS: THANK YOU, DR. FRIEDMAN. MR. MINOR.

DR. MINOR: SO I DISAGREE WITH THE RECOMMENDATION OF THE CIRM STAFF. SINCE 2007 CIRM TRAINING GRANTS HAVE PROVIDED CRITICAL SUPPORT FOR GRADUATE STUDENTS AND LABORATORIES ACROSS THE STATE OF CALIFORNIA THAT ARE DOING STEM CELL RESEARCH. CIRM CHOSE TO FUND TRAINING GRANTS IN THEIR FIRST ROUND OF FUNDING SPECIFICALLY TO ENCOURAGE YOUNG PEOPLE TO ENTER THE FIELD AND RECEIVE TRAINING NECESSARY FOR THEM TO EVENTUALLY START THEIR OWN STEM CELL RESEARCH LABORATORIES AND TO WORK IN BIOTECHNOLOGY AND THE OTHER THINGS THAT ARE VERY MUCH A PART OF CIRM'S MISSION.

I THINK THAT NEED FOR TRAINING GRANTS AND FOR TRAINING GRANT PROGRAMS STILL EXISTS. THE STUDENTS WHO WILL BECOME THE NEXT LEADERS IN STEM CELL BIOLOGY AND MEDICINE ARE OFTENTIMES ATTRACTED TO THE FIELD BECAUSE OF THE AMOUNT OF FOCUS, AND THAT FOCUS EXTENDS TO THE ABILITY TO GET TRAINING FUNDING, FUNDING FOR TRAINING, AND FUNDING FOR THE TYPES OF OPPORTUNITIES THAT FALL WITHIN STEM CELL BIOLOGY AND MEDICINE. AND I DON'T THINK THAT NEED

TO HAVE TRAINING GRANTS THAT DEMONSTRATE THAT VERY TANGIBLY HAS GONE AWAY. THAT'S ENABLED US AT INSTITUTIONS ACROSS CALIFORNIA TO ATTRACT THE BEST AND THE BRIGHTEST STUDENTS TO COME HERE AND TRAIN IN STEM CELL MEDICINE AND BIOLOGY.

WE JUST HEARD ABOUT THE PUBLICATIONS THAT HAVE RESULTED FROM TRAINEES. AND AS SENATOR TORRES POINTED OUT, WE CAN AND SHOULD GET ADDITIONAL DATA ABOUT WHAT THEY'VE GONE ON TO DO. THE AMOUNT OF FUNDS THAT CIRM HAS DEVOTED HAS FOCUSED ON TRAINEES, AND TRAINING GRANTS IS ACTUALLY SMALL RELATIVE TO THE OVERALL CIRM BUDGET. I'M VERY SENSITIVE TO WHAT DR. FRIEDMAN SAID, BUT WE'RE NOT TALKING ABOUT WHAT HAS BEEN IN THE PAST OR WOULD BE IN THE FUTURE A LARGE PART OF THE CIRM BUDGET. AND IN YEARS TO COME, I THINK WE'RE GOING TO LOOK BACK AT TRAINING GRANTS AS ONE OF THE SIGNIFICANT FOUNDATIONAL STEPS THAT LED TO DISCOVERIES AND TREATMENTS FOR PATIENTS HERE IN CALIFORNIA AND AROUND THE WORLD. AND THE INCREASE IN INTELLECTUAL CAPITAL AND SCIENTIFIC PROGRESS DUE TO THE TRAINING GRANT PROGRAM HAS COME, AS I SAID, AT A SMALL COST, AT A FRACTION OF THE TOTAL OVERALL CIRM SPENDING.

AND SO I HOPE THAT WE CAN ASK THE CIRM STAFF TO RECONSIDER THIS AND COME BACK TO US WITH A

TRAINING GRANT PROPOSAL FOR CONTINUATION OF THESE GRANTS IN THE FUTURE.

MS. WINOKUR: IT SEEMS TO ME THAT WE'RE DEALING WITH HISTORY. AND AS WE LOOK AT THE CHANGES WE'RE MAKING IN TERMS OF CIRM 2.0, THIS IS LEGITIMATELY ONE OF THEM. WHEN CIRM WAS STARTED TEN YEARS AGO, THERE WERE VERY LITTLE TRAINING OPPORTUNITIES FOR STEM CELL SCIENTISTS. WE DIDN'T HAVE ENOUGH. AND AS WE FUNDED MORE RESEARCH, IT BECAME MORE OBVIOUS THAT WE NEEDED MORE PEOPLE TO BE INVOLVED IN IT. WELL, THAT PICTURE HAS CHANGED, AND THE OPPORTUNITIES FOR TRAINING IN STEM CELL LAB WORK ETC. HAVE INCREASED EXPONENTIALLY.

AND SO I WANT TO SUPPORT THE STAFF'S RECOMMENDATION AND LOOK AT THE PROJECTS THAT WE'RE FUNDING TO BE SURE THAT IT'S HAPPENING WITHIN THOSE PROJECTS AS WE THINK IT WILL BE.

DR. BURTIS: I HAVE A QUESTION TO FOLLOW UP. IF YOU COULD GO TO YOUR PREVIOUS SLIDE, WE MUST HAVE DATA FOR 2014. THE NUMBER OF TRAINEES ON RESEARCH GRANTS THAT MS. WINOKUR JUST MENTIONED SEEMS TO HAVE DROPPED ABOUT 10 PERCENT FROM '11 TO '12 AND ANOTHER 10 PERCENT FROM '12 TO '13 IS ON THE DOWNWARD PROJECTION. WE MUST HAVE DATA FOR '14. IS THIS JUST AN ABERRATION, OR IS THERE A DOWNWARD

TREND IN THE NUMBER OF GRADUATE STUDENTS FUNDED ON RESEARCH GRANTS?

DR. YAFFE: I DON'T KNOW. WE DON'T HAVE COMPLETE DATA FOR 2014. THAT'S THE REASON IT WASN'T INCLUDED BECAUSE THIS DATA IS BASED IN THE PROGRESS REPORTS FOR WORK DURING THOSE YEARS, AND NOT ALL THE PROGRESS REPORTS FOR THE WORK DURING 2014 HAVE BEEN RECEIVED YET BECAUSE THE GRANT YEAR DOES NOT NECESSARILY CORRELATE WITH THE CALENDAR YEAR. SO I COULDN'T TELL YOU WHETHER THAT'S --

DR. BURTIS: IS THERE ANY REASON TO THINK THIS IS A TREND?

DR. MILLS: SO BASICALLY THE NUMBER OF STUDENTS WE HAVE TRAINED IN ANY OF THESE BASIC DISCOVERY OR TRANSLATIONAL GRANTS IS SORT OF A LAGGING INDICATOR OF WHAT THE BOARD APPROVED THE YEAR BEFORE AND THE YEAR BEFORE THAT. AND SO IN 2012 THERE WAS A DECLINE COMPARED TO 2011 ON WHAT THE BOARD HAD APPROVED AND, THEREFORE, THE AMOUNT OF STUDENTS THAT SHOW UP.

I THINK THE MORE IMPORTANT ISSUE HERE IS IT'S A COMPLETELY CONTROLLABLE NUMBER. WE CAN HAVE THE RED BARS GO UP IF WE WANT BY SIMPLY ALLOCATING MORE FUNDING TOWARDS RESEARCH GRANTS. WE CAN HAVE THAT NUMBER. TODAY, JUST AS AN EXAMPLE, WITH THE 20

PROGRAMS THAT WERE FUNDED UNDER TOOLS AND TECHNOLOGIES, OUT OF THAT PROGRAM THERE ARE 22 PEOPLE THAT WILL BE TRAINED UNDER THAT AT A COST TO CIRM OF ABOUT $2.3 MILLION.

CHAIRMAN THOMAS: DR. MELMED.

DR. MELMED: WERE THE PROJECTED NUMBERS THAT YOU SHOWED US IN YOUR BUDGET PROJECTIONS, DID THEY ASSUME THAT THIS WOULD BE PASSED TODAY OR WAS THAT IRRESPECTIVE?

DR. MILLS: NONE OF THE NUMBERS I SHOWED IN MY BUDGET REPORT WERE END OF FISCAL SECOND QUARTER.

DR. MELMED: YOUR PROJECTION FOR 2020, DOES THAT ASSUME THAT WE WOULD OR WOULD NOT BE CONTINUING TRAINING GRANTS?

DR. MILLS: IT DOESN'T ASSUME ANY PROJECT-SPECIFIC SPENDING, ONLY A SPEND RATE OF A HUNDRED NINETY MILLION.

CHAIRMAN THOMAS: MR. JUELSGAARD.

DR. JUELSGAARD: THIS QUESTION IS A COROLLARY TO DR. BURTIS' QUESTION. SO MY QUESTION IS OBVIOUSLY PEOPLE ARE STILL SPENDING MONEY ON TRAINING GRANTS AT INSTITUTIONS. HOW MUCH MONEY DO WE KNOW OR DO WE KNOW HOW MUCH MONEY IS YET UNSPENT IN ALL THE TRAINING GRANTS THAT HAVE BEEN MADE? DO

WE KNOW HOW MUCH YET TO BE USED FUNDING THERE IS?

DR. YAFFE: I DON'T THINK WE KNOW THAT, BUT THERE'S GENERALLY VERY LITTLE MONEY LEFT OVER. MOST OF THE TRAINING GRANTS WILL END THIS YEAR IN 2015, ALMOST ALL OF THEM, I THINK. AND I'M LOOKING OVER TOWARDS SOME OF OUR FINANCIAL PEOPLE WHETHER THERE'S SOME KNOWLEDGE OF MONEY THAT'S GOING TO BE CARRIED OVER.

IN GENERAL, WHEN PROGRAMS IN THE TRAINING GRANTS HAVE HAD EXCESS FUNDS, WE'VE ALLOWED THEM TO ADD TRAINING SLOTS TO USE THOSE FUNDS FOR THE PURPOSE THEY WERE ORIGINALLY ENVISIONED TO TRAIN ADDITIONAL SCIENTISTS. SO THEY SHOULD BE USING THOSE YEAR TO YEAR.

CHAIRMAN THOMAS: YES. GABE, DO YOU HAVE A POINT TO MAKE ON THIS ONE?

MR. THOMPSON: YES. GABRIEL THOMPSON, DIRECTOR OF GRANTS MANAGEMENT. SO THE LAST TRAINEES ARE BEING APPOINTED THIS YEAR, AND THEIR APPOINTMENT PERIODS COULD LAST UP TO THROUGH EARLY NEXT YEAR. SO WE'RE IN THE FINAL YEAR-ISH OF THE TRAINING PROGRAM.

DR. JUELSGAARD: WITH THAT ANSWER, THEN, I'M GIVEN TO UNDERSTAND THAT THESE LAST TRAINEES WILL USE UP ALL THE MONEY THAT WE HAVE APPROPRIATED

FOR THESE PROGRAMS; IS THAT RIGHT?

MR. THOMPSON: THAT'S RIGHT UNLESS THERE'S ANY APPOINTMENTS THAT HAVE NOT BEEN FILLED, WE'LL GET SOME MONEY BACK, BUT, GENERALLY, YES, THEY'LL SPEND ALL THE MONEY.

CHAIRMAN THOMAS: OTHER COMMENTS OR QUESTIONS FROM MEMBERS OF THE BOARD? WE'LL GET TO THE PUBLIC IN ONE SECOND. I THINK WE NEED TO HAVE, MR. HARRISON, BEFORE WE GET TO THAT, WE NEED TO HAVE A MOTION? SO I THINK THE MOTION WOULD BE TO ACCEPT STAFF'S RECOMMENDATION NOT TO PRESENT A CONCEPT PLAN. MR. HARRISON, IS THAT THE CORRECT WAY OF PHRASING? SO DO I HEAR A MOTION TO THAT EFFECT?

DR. JUELSGAARD: SO MOVED.

CHAIRMAN THOMAS: MR. JUELSGAARD. IS THERE A SECOND?

DR. LAPORTE: SECOND.

CHAIRMAN THOMAS: SECONDED BY DR. LAPORTE. OKAY. NOW COMMENTS FROM MEMBERS OF THE PUBLIC.

DR. LORING: HELLO, MY NAME IS JEANNE LORING. I'M FROM SCRIPPS RESEARCH INSTITUTE IN LA JOLLA. AND I WANTED TO TALK ABOUT THE DIFFERENCE BETWEEN A POST-DOC WHO'S FUNDED ON A TRAINING GRANT AND A POST-DOC WHO'S FUNDED ON A RESEARCH GRANT.

I'VE HAD A COUPLE OF PEOPLE IN MY LAB, TWO

POST-DOCS, WHO WOULD NOT HAVE BEEN IN MY LAB OTHERWISE. AND ONE OF THEM IN PARTICULAR, I THINK, IS INTERESTING. HER NAME IS INBAR BIN NUNN (PHONETIC). SHE CAME FROM ISRAEL. I COULD GET FUNDING FOR HER THROUGH A TRAINING GRANT. HER PROJECT IN MY LAB, ALONG WITH HELPING WITH A LOT OF THE HUMAN REPROGRAMMING EXPERIMENTS, WAS TO REPROGRAM THE FIRST ENDANGERED SPECIES IN A COLLABORATION WITH THE ZOO. AND USING THE MONEY THAT SHE HAD FOR HER TRAINING GRANT, SHE WAS ABLE TO STEP OUTSIDE OF THE MAINSTREAM AND SHOW THAT WE COULD MAKE IPS CELLS FROM THE NORTHERN WHITE RHINO, OF WHICH THERE ARE ONLY FIVE LEFT IN THE WORLD. SO THIS IS AN EXAMPLE OF WHAT A TRAINING GRANT CAN DO TO STEP SLIGHTLY OUTSIDE THE MAINSTREAM.

AND THEN MY OTHER POST-DOC -- AND SHE IS NOW, HOWEVER, SHE IS NOT DOING THAT ANYMORE. SHE'S NOW THE HEAD OF IPS CELL TECHNOLOGY AT LANZA.

MY OTHER POST-DOC WHO CAME FROM SPAIN WORKED ON A VERY CLASSIC HUMAN EMBRYONIC STEM CELL PROJECT, AND HE IS NOW THE HEAD OF INTERNATIONAL STEM CELLS PARKINSON'S DISEASE THERAPY PROGRAM.

SO THE DIFFERENCE BETWEEN A POST-DOC FROM A GRANT AND A POST-DOC ON A TRAINING GRANT IS THAT THERE'S A VERY PRACTICAL ONE AS WELL. THE FREEDOM,

OF COURSE, WAS VERY VALUABLE TO ME BECAUSE I WAS ON A TRAINING GRANT THAT ALLOWED ME TO CHANGE ADVISORS IF I NEEDED TO BECAUSE I HAD MY OWN FUNDING. AND THAT WAS SOMETHING THAT I DON'T THINK I COULD HAVE POSSIBLY DONE UNDER OTHER CIRCUMSTANCES.

A POST-DOC ON A TRAINING GRANT IS MORE LIKE A TECHNICIAN. THEY'RE REQUIRED TO DO WHAT IT IS THAT THEY'RE ASKED TO DO BY THEIR PI. THEY ALSO COST IN MY LAB TWICE AS MUCH. THERE IS NO OVERHEAD ON TRAINING GRANTS. THERE IS, HOWEVER, AT SCRIPPS, SALK, AND SOME OTHER INSTITUTIONS APPROXIMATELY 90 PERCENT OVERHEAD ON OUR RESEARCH GRANTS. THAT MEANS THAT THE $250,000 THAT WAS USED TO TRAIN EACH INDIVIDUAL, IF WE HAD TRAINED THEM ON RESEARCH GRANTS, THEY WOULD HAVE COST $400,000 OR MORE.

SO JUST FROM A PRACTICAL PERSPECTIVE, I WOULD LIKE TO ARGUE THAT FOR CIRM TO GET THE MOST OUT OF THE REMAINING FUNDS, THAT THEY SHOULD CONTINUE TO FUND SOME KIND OF TRAINING PROGRAM. THANK YOU.

DR. CHIU: ARLENE CHIU, CITY OF HOPE. AFTER I MAKE MY COMMENT, I'M SURE I'M NOT GOING TO BE VERY POPULAR WITH MY FRIENDS ON THIS SIDE. BUT I JUST WANT TO SAY THAT THE TRAINING PROGRAM IS A VICTIM OF ITS GREAT SUCCESS. HOWEVER, I DO AGREE

THAT IT'S TIME TO RETHINK. AND I AGREE WITH CIRM STAFF, THAT THE SUCCESS OF THE TRAINING PROGRAM HAS NOW REMOVED ITS NECESSITY FROM THE TIME TEN YEARS AGO WHEN NOBODY WANTED TO PUT THEIR BEST POST-DOC ON A STEM CELL GRANT BECAUSE THEY SAW NO FUTURE IN THE FIELD. AND IN TEN YEARS THIS HAS BECOME VERY DIFFERENT.

I DO NOTICE THAT THERE ARE STILL SOME AREAS WHERE TRAINING, PARTICULARLY FOR THE WORKFORCE IN CALIFORNIA, HAS SOME GAPS. AND IT MAY BE SOMETHING THAT CIRM MIGHT WANT TO CONSIDER IN PROVIDING THIS TYPE OF TRAINING FOR THEIR POST-DOCS AND MEDICAL FELLOWS. AND THAT'S IN THE AREA OF TRANSLATIONAL RESEARCH WHERE THEY LEARN ABOUT WHAT IT TAKES TO GET TO THE FDA, WHERE THEY UNDERSTAND ABOUT WRITING A CLINICAL PROTOCOL, WHERE THEY UNDERSTAND WHAT IT TAKES TO BRING A PRODUCT TO THE MARKET, WHERE THEY UNDERSTAND MANUFACTURING AND THE IMPORTANCE OF THESE PIECES FROM DISCOVERY RESEARCH, WHICH IS NOW FUNDED VERY WELL BY THE RESEARCH GRANTS, INTO A CLINICAL PRODUCT.

I DON'T HAVE ANY IDEAS TO OFFER, BUT I JUST WONDER IF THERE COULD BE A DIFFERENT FOCUS OF A TRAINING PROGRAM THAT WOULD ALLOW OUR YOUNG PEOPLE TO LEARN THESE ASPECTS ALONG THE TRANSLATIONAL

PIPELINE THAT WILL SERVE THEM WELL IN GROWING THE WORKFORCE IN THE STATE OF CALIFORNIA. I CAN SEE IN TODAY'S AGENDA THAT YOU WILL BE RECONSIDERING AND PERHAPS PROMOTING THE CREATIVITY AWARDS AND THE BRIDGES AWARDS, AND THOSE HAVE QUITE DIFFERENT GOALS. FOR THE TRAINING PROGRAM, YOU HAVE NOW GROWN A WONDERFUL CADRE OF YOUNG STEM CELL SCIENTISTS THAT MOVE FORWARD WITHIN THE STATE OR ELSEWHERE, BUT THEY STILL LACK WITHIN THEIR TRAINING PROGRAM HOW TO DO THESE OTHER ELEMENTS, HOW TO ACQUIRE THESE SKILL SETS. SO I WOULD LIKE TO SUGGEST THAT FOR YOUR CONSIDERATION. THANK YOU.

MR. REED: I INTERVIEWED THE FIRST RECIPIENT OF A CIRM GRANT, AND HER NAME SLIPS MY MIND RIGHT NOW, BUT SHE IS GAINFULLY EMPLOYED TODAY. SHE IS WORKING FOR ONE OF THE MAIN BIOMEDICAL CONCERNS IN CALIFORNIA. AND SHE SAYS THAT THE PIVOTAL GRANT IN HER LIFE WAS THE TRAINING GRANT. IF YOU TAKE CARE OF THE BASE, THE TOP WILL TAKE CARE OF ITSELF.

IT'S BEEN SAID THERE'S A CONCERN THERE MIGHT NOT BE ENOUGH GOOD RESEARCH OUT THERE TO JUSTIFY CONTINUING THE CURRENT LEVEL OF SPENDING. WELL, IF WE CUT OFF THE TRAINING, WE MAY BE MAKING A SELF-FULFILLING PROPHESY, THAT WE HAVE TO PROVIDE

GOOD TRAINING GRANTS. RESTRUCTURE, FINE. BUT IF WE TAKE CARE OF THE BASE, THE TOP WILL TAKE CARE OF ITSELF. THANK YOU.

CHAIRMAN THOMAS: THANK YOU, ALL THREE SPEAKERS. ANY OTHER COMMENTS FROM MEMBERS OF THE PUBLIC? HEARING NONE, ANY FURTHER COMMENTARY BY MEMBERS OF THE BOARD?

DR. JUELSGAARD: JUST A POINT OF CLARIFICATION FOR MR. HARRISON. SO AS I UNDERSTOOD THESE DISCUSSIONS, ALL BOARD MEMBERS CAN VOTE ON WHETHER WE PROCEED WITH THE RECOMMENDATION OF THE STAFF OR NOT. BUT LET'S ASSUME FOR A MOMENT THAT THE DECISION WAS NOT TO PURSUE WHAT THE STAFF RECOMMENDS, BUT RATHER TO AGREE TO HAVE ANOTHER TRAINING PROGRAM ROUND. AND WHEN IT COMES, THEN, TO SPECIFIC VOTES ON TRAINING PROGRAM FUNDING, THEN THE GROUP GETS NARROWED TO A MUCH SMALLER GROUP, WHICH MAKES FOR AN INTERESTING SITUATION BECAUSE THERE MAY WELL BE PEOPLE IN THIS ROOM, MYSELF INCLUDED, WHO WOULD VOTE FOR NO MORE TRAINING GRANTS, PERIOD, EVEN THOUGH WE WOULD HAVE A DIFFERENT VOTE IN THE LARGER SEGMENT.

SO ANYWAY, IT'S JUST A VERY ODD SITUATION WHERE THE GROUP COULD AGREE TO DO SOMETHING, BUT A SMALLER GROUP OF PEOPLE WHO REALLY HAVE THE

DECISION-MAKING POWER WHEN IT COMES DOWN TO THE SPECIFIC PROPOSAL MAY SEE IT QUITE DIFFERENTLY. I KNOW WE HAD THIS HAPPEN ONCE BEFORE, AND I JUST WANT TO REMIND PEOPLE. THE ARGUMENT WAS, WELL, WE AGREED -- WE APPROVED THE CONCEPT. WELL, THAT'S FINE; BUT WHEN IT COMES DOWN TO ACTUALLY SPENDING THE MONEY, IT'S A LITTLE DIFFERENT SITUATION.

MR. HARRISON: YOU ARE CORRECT. IT WOULD ULTIMATELY BE TWO DIFFERENT POOLS OF VOTERS. IF THE BOARD WERE TO REJECT THE CIRM TEAM RECOMMENDATION, WE WOULD COME BACK TO YOU WITH A CONCEPT PROPOSAL FOR A TRAINING GRANT PROGRAM. ALL OF YOU COULD PARTICIPATE IN THE VOTE ON THAT PROPOSAL; BUT WITH RESPECT TO THE INDIVIDUAL APPLICATIONS THAT THEN ARE SUBMITTED IN RESPONSE TO THE RFA, THE GWG'S RECOMMENDATIONS WOULD GO TO THE APPLICATION REVIEW SUBCOMMITTEE FOR CONSIDERATION.

CHAIRMAN THOMAS: ANY OTHER COMMENTS FROM MEMBERS OF THE BOARD? MR. HARRISON, CAN YOU PLEASE RESTATE THE MOTION?

MR. HARRISON: THE MOTION IS TO ACCEPT THE CIRM TEAM RECOMMENDATION NOT TO PRESENT A CONCEPT PROPOSAL FOR A NEW GRADUATE/POSTGRADUATE TRAINING GRANT PROGRAM.

CHAIRMAN THOMAS: MARIA, WILL YOU PLEASE

CALL THE ROLL.

MS. BONNEVILLE: DAVID BRENNER. KEN BURTIS.

DR. BURTIS: YES.

MS. BONNEVILLE: ANNE-MARIE DULIEGE.

DR. DULIEGE: YES.

MS. BONNEVILLE: ELIZABETH FINI.

DR. FINI: YES.

MS. BONNEVILLE: MICHAEL FRIEDMAN. JUDY GASSON.

DR. GASSON: YES.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: STEPHEN JUELSGAARD.

MR. JUELSGAARD: YES.

MS. BONNEVILLE: KATHY LAPORTE.

DR. LAPORTE: YES.

MS. BONNEVILLE: JACOB LEVIN. BERT LUBIN. SHLOMO MELMED.

DR. MELMED: YES.

MS. BONNEVILLE: LAUREN MILLER.

MS. MILLER: NO.

MS. BONNEVILLE: LLOYD MINOR.

DR. MINOR: NO.

MS. BONNEVILLE: JOE PANETTA.

MR. PANETTA: NO.
MS. BONNEVILLE: FRANCISCO PRIETO.
DR. PRIETO: AYE.
MS. BONNEVILLE: ROBERT QUINT.
DR. QUINT: YES.
MS. BONNEVILLE: AL ROWLETT. JEFF SHEEHY.
MR. SHEEHY: NO.
MS. BONNEVILLE: OSWALD STEWARD. JONATHAN THOMAS.
CHAIRMAN THOMAS: YES.
MS. BONNEVILLE: ART TORRES.
MR. TORRES: AYE.
MS. BONNEVILLE: CARL WARE.
DR. WARE: NO.
MS. BONNEVILLE: DONNA WESTON. DIANE WINOKUR.
MS. WINOKUR: YES.
MS. BONNEVILLE: BRUCE WINTROUB.
DR. WINTROUB: YES.
MR. HARRISON: MOTION CARRIES 14 TO 5.
CHAIRMAN THOMAS: THANK YOU, MR. HARRISON. I BELIEVE, MARIA, SHALL WE GRAB LUNCH RIGHT NOW?
MS. BONNEVILLE: YES. AND YOU HAVE THE SPOTLIGHT AS WELL. SO IF EVERYONE COULD GRAB THEIR LUNCH AND COME BACK TO THEIR SEATS.

CHAIRMAN THOMAS: SO WE SHOULD DO THE SPOTLIGHT FIRST AND THEN --

MS. BONNEVILLE: GRAB LUNCH, COME BACK FOR THE SPOTLIGHT, AND THEN WE CAN DO ANYTHING YOU'D LIKE.

CHAIRMAN THOMAS: THANK YOU. ALL RIGHT. EVERYBODY PLEASE BRING YOUR LUNCH BACK TO YOUR SEAT AND WE WILL PROCEED WITH THE SPOTLIGHT FORTHWITH. THANK YOU.

(A RECESS WAS TAKEN.)

(DURING LUNCH THE SPOTLIGHT WAS HEARD, BUT NOT REPORTED NOR HEREIN TRANSCRIBED.)

CHAIRMAN THOMAS: WE ARE NOW GOING TO PROCEED TO LET'S START WITH ITEM 11, CONSIDERATION OF AUGMENTATION OF THE CREATIVITY AWARDS. GABE.

MR. THOMPSON: HELLO, CHAIRMAN THOMAS, MEMBERS OF THE BOARD, CIRM TEAM, AND MEMBERS OF THE PUBLIC. I'M GABRIEL THOMPSON, DIRECTOR OF GRANTS MANAGEMENT AT CIRM, AND I'M HERE TO DISCUSS THE AGENDA ITEM BEFORE YOU. THERE'S NO SLIDES ON THIS. IT'S JUST A MEMO HERE.

IN THE OCTOBER BOARD MEETING, THE BOARD APPROVED FUNDING FOR AN ADDITIONAL YEAR FOR THE CREATIVITY PROGRAMS. AT THAT TIME THE BOARD AUTHORIZED $550,000 FOR THE PROGRAM. UPON FURTHER

REVIEWING THOSE NUMBERS, WE REALIZE THAT TO FULLY FUND THE CREATIVITY PROGRAM FOR AN ADDITIONAL YEAR, IT WOULD REQUIRE AN ADDITIONAL $20,000 IN BOARD AUTHORIZATION FOR THAT PROGRAM.

SO WE ARE ASKING FOR THAT AUTHORIZATION AT THIS TIME SO THAT WE CAN THEN ISSUE AMENDMENTS TO THOSE AWARDS TO PROVIDE ADDITIONAL FUNDING.

CHAIRMAN THOMAS: DO I HEAR A MOTION TO THAT EFFECT?

MR. SHEEHY: SO MOVED.

CHAIRMAN THOMAS: MR. SHEEHY. SECONDED BY --

MR. HARRISON: I'M SORRY TO INTERRUPT. BECAUSE THESE RELATE TO EXISTING AWARDS, WE HAVE A LIMITED POOL OF MEMBERS WHO CAN PARTICIPATE. IF YOU HAVE AN ASSOCIATION WITH AN INSTITUTION THAT HAS A CREATIVITY AWARD, YOU MAY NOT PARTICIPATE.

CHAIRMAN THOMAS: OKAY.

DR. DULIEGE: ASK A CLARIFICATION QUESTION. ARE WE VOTING FOR A TOTAL AMOUNT OF APPROXIMATELY $20,000, OR WILL THAT APPLY TO SEVERAL GROUPS AND, HENCE, IT WOULD BE A LARGER AMOUNT?

MR. THOMPSON: IT'S AN ADDITIONAL $20,000 THAT WILL BRING THE TOTAL TO ABOUT 570,000 FOR THE NINE PROGRAMS.

DR. DULIEGE: THE TOTAL FOR THE NINE PROGRAMS?

CHAIRMAN THOMAS: OKAY. SO IT WAS MOVED BY MR. SHEEHY, WHO IS NOT ELIGIBLE. MR. JUELSGAARD MOVES. SENATOR TORRES SECONDED. OKAY.

IS THERE ANY DISCUSSION ON THIS TOPIC, FURTHER DISCUSSION? ANY COMMENTS FROM MEMBERS OF THE PUBLIC? MR. HARRISON, DO WE NEED A ROLL CALL VOTE ON THIS?

MR. HARRISON: YES.

CHAIRMAN THOMAS: MARIA, PLEASE CALL THE ROLL.

MS. BONNEVILLE: LAUREN IS ALLOWED TO VOTE ON THIS. I JUST WANT TO GRAB HER FROM OUTSIDE SO SHE CAN BE HERE FOR THE VOTE.

(PAUSE IN PROCEEDINGS.)

MS. BONNEVILLE: JONATHAN THOMAS.

CHAIRMAN THOMAS: YES.

MS. BONNEVILLE: ART TORRES.

MR. TORRES: AYE.

MS. BONNEVILLE: STEVE JUELSGAARD.

MR. JUELSGAARD: YES.

MS. BONNEVILLE: ROBERT QUINT.

DR. QUINT: YES.

MS. BONNEVILLE: DIANE WINOKUR.

MS. WINOKUR: YES.

MS. BONNEVILLE: CARL WARE.

DR. WARE: YES.

MS. BONNEVILLE: KATHY LAPORTE.

DR. LAPORTE: YES.

MS. BONNEVILLE: DAVID HIGGINS.

DR. HIGGINS: YES.

MS. BONNEVILLE: JOE PANETTA.

MR. PANETTA: YES.

MR. HARRISON: WE CAN MOVE ON TO THE NEXT ITEM, CHAIR. WE'LL HOLD THE ROLL OPEN UNTIL MS. MILLER RETURNS.

CHAIRMAN THOMAS: THANK YOU, MR. HARRISON. WE WILL GO TO -- GABE, WHY DON'T YOU STAY UP THERE -- ITEM NO. 8, CONSIDERATION OF ADOPTION OF THE INTERIM GRANTS ADMINISTRATION POLICIES OR GAP FOR CLINICAL LEVEL PROJECTS.

MR. THOMPSON: THANK YOU. SO I'M HERE TO PRESENT THE INTERIM GRANTS ADMINISTRATION POLICY FOR OUR CLINICAL STAGE PROJECTS. AS A CLARIFICATION TO THE AGENDA ITEM, WE ARE NOT ASKING THE BOARD TO ADOPT THESE REGULATIONS AT THIS TIME. WE WILL PROVIDE AN OVERVIEW TODAY AND CAN TAKE QUESTIONS NOW, BUT OUR INTENTIONS ARE TO FURTHER REFINE THE REGULATION AND THEN BRING IT BACK TO THE SCIENCE

SUBCOMMITTEE AND THEN BACK TO THE BOARD FOR FULL ADOPTION IN MARCH. SO, AGAIN, THESE WILL BE INTERIM REGULATIONS.

GIVEN THE TIME IT TAKES TO GET REGULATIONS ADOPTED FORMALLY BY THE OFFICE OF ADMINISTRATIVE LAW, AND OUR NEED TO HAVE REGULATIONS IN PLACE TO FUND OUR NEW AWARDS UNDER CIRM 2.0, WE'RE ASKING TO ADOPT INTERIM REGULATIONS. WHAT THAT WILL DO IS ONCE THESE REGULATIONS ARE FULLY ADOPTED, IT WILL PROVIDE CIRM 270 DAYS TO THEN TAKE THE REGULATIONS THROUGH THE FORMAL OAL PROCESS TO GET FORMALLY ADOPTED.

SO GENERALLY OUR APPROACH IN ADOPTING THESE INTERIM REGULATIONS ARE TO TAKE ONLY THOSE PARTS OF THE CURRENT GRANTS ADMINISTRATION POLICY THAT ARE ALIGNED WITH OUR NEW PROCESS. SO WE LOOKED AT WHAT OUR CURRENT GAP SAYS AND ONLY BROUGHT THOSE REGULATIONS OVER WHICH MAKE SENSE WITH OUR NEW WAY OF DOING BUSINESS.

AND THEN ON TOP OF THAT WE'VE ADDED NEW COMPONENTS THAT SUPPORT THE NEW WAY OF APPLYING, REVIEWING, AND CONTRACTING UNDER CIRM 2.0.

NEXT, WE WANTED TO INCLUDE LANGUAGE PREVIOUSLY DEFINED ONLY IN OUR NOTICE OF GRANT AWARDS AND PUT ALL OF THOSE TERMS AND CONDITIONS IN

THE GRANTS ADMINISTRATION POLICY THAT ARE NOT SPECIFIC TO ANY ONE PROJECT AND GET THEM INTO THE GAP SO THAT APPLICANTS KNOW WHAT THEY'RE SIGNING UP FOR WHEN THEY APPLY TO CIRM FOR FUNDING. AND THIS WILL ALSO HELP US THEN CONTRACT QUICKER. ONCE THE BOARD APPROVES, WE'LL HAVE 45 DAYS TO START THESE PROJECTS. WE WANT TO HAVE ALL THOSE TERMS AND CONDITIONS LAID OUT UP FRONT SO THAT WE CAN VERY EFFICIENTLY GET IN CONTRACT WITH OUR APPROVED PROJECTS.

FINALLY, WE'RE EDITING ALL THE LANGUAGE FOR CLARITY AND SIMPLICITY.

SO TO GO OVER A FEW OF THE MAIN FEATURES OF THE NEW INTERIM REGULATIONS, THE REGULATIONS NOW DEFINE OPERATIONAL MILESTONES. THOSE ARE SIMPLY DEFINED AS AN OBJECTIVE MEASURE OF PROJECT PROGRESS. AND THEN THE REGULATIONS DESCRIBE THE IMPACT ON DISBURSEMENTS AND CONSEQUENCES FOR DELAYS WHEN OPERATIONAL MILESTONES ARE EITHER MET OR NOT MET. SO OUR PLAN IS TO, AS THE PRESIDENT HAS STATED PREVIOUSLY, TO PROVIDE FUNDING, TO PROVIDE A DISBURSEMENT TO ACHIEVE EACH OPERATIONAL MILESTONE; AND THEN UPON ACHIEVEMENT OF THAT OPERATIONAL MILESTONE, TO PROVIDE THE NEXT DISBURSEMENT ALL THE WAY THROUGH THE END OF THE PROJECT.

NEXT, WE DEFINE WHAT A SUSPENSION EVENT IS AND THE CONSEQUENCES FOR THOSE EVENTS OCCURRING. WE ALSO DESCRIBE THE NEW BUDGET REVIEW PROCESS. SO WE DESCRIBE HOW THE APPLICATIONS WILL BE REVIEWED BY EXTERNAL BUDGET PROFESSIONALS AND DESCRIBE WHAT THAT PROCESS IS AND WHAT HAPPENS DURING THAT BUDGET REVIEW PROCESS. IF THOSE APPLICATIONS DON'T PASS THAT BUDGET REVIEW PROCESS, THEY WILL BE ASKED TO RESUBMIT THEIR APPLICATION WITH AN APPROPRIATE BUDGET.

NEXT WE DESCRIBE THE 45 DAYS TO INITIATE THE PROJECT. THIS IS ACTUALLY A REQUIREMENT OF SUBMITTING THE APPLICATION TO CIRM. THEY HAVE TO ACTUALLY CONFIRM THAT THEY'RE ABLE TO INITIATE WORK ON THE PROJECT WITHIN 45 DAYS OF BOARD APPROVAL. SO WE WANT TO HAVE THAT SPELLED OUT UP FRONT.

NEXT WE DESCRIBE THE CLINICAL ADVISORY PANELS. SO WE WANT THE PROJECT TEAMS TO KNOW THAT WE'LL BE ASSIGNING CLINICAL ADVISORY PANELS TO THEIR PROJECTS TO MONITOR HOW THE PROJECTS ARE GOING.

NEXT WE ARE REMOVING PRIOR APPROVAL REQUIREMENTS FOR CARRY-FORWARD, REBUDGETING, AND NO-COST EXTENSIONS. SO THIS IS ACTUALLY A LOT OF WHAT CIRM HAS DETERMINED IS VERY LOW VALUE, VERY TIME-CONSUMING WORK THAT IS ACTUALLY NOT NECESSARY

IN THE NEW WAY OF CONTRACTING. GIVEN HOW WE'RE ACTUALLY DISBURSING FUNDS, WE ACTUALLY DON'T NEED TO ACTUALLY SEE PRIOR APPROVAL REQUESTS FOR CARRY-FORWARD AND REBUDGETING. WE ARE ONLY PROVIDING DISBURSEMENTS TO GET TO THE OPERATIONAL MILESTONES.

I JUST WANT TO POINT OUT WE ARE RETAINING PRIOR APPROVAL REQUESTS FOR CHANGE OF RESEARCH SCOPE OR RESEARCH ACTIVITIES. SO ANY SUBSTANTIAL ADDITION OF NEW ACTIVITIES, SUBSTANTIAL DELETIONS, ANY CHANGES IN THE PROTOCOL AMENDMENTS, THOSE KIND OF THINGS WILL STILL ACTUALLY REQUIRE CIRM'S PRIOR APPROVAL.

FINALLY, WE DESCRIBE, AS I THINK WAS PREVIOUSLY DISCUSSED THIS MORNING, HOW POSTPROJECT SAVINGS COULD BE USED IN CASES WHERE THEY HAPPEN. WE DON'T EXPECT TOO MANY PROJECTS TO HAVE SAVINGS, BUT WE DO PROVIDE A PROVISION THAT ALLOWS THEM, WITH CIRM'S PRIOR APPROVAL, TO USE ANY POSTPROJECT SAVINGS FOR CIRM MISSION-RELATED ACTIVITIES AND CERTIFY THAT THEY WOULD USE THOSE FUNDS ACCORDING TO OUR REGULATIONS.

SO THOSE ARE GENERALLY OUR MAJOR FEATURES. I CAN TAKE QUESTIONS NOW. AGAIN, THESE WILL BE INTERIM REGULATIONS. SO WE CAN CONTINUE TO GET

FEEDBACK, BUT OUR INTENTIONS ARE TO FURTHER REFINE AND BRING BACK TO THE BOARD IN MARCH.

CHAIRMAN THOMAS: ANY QUESTIONS OR COMMENTS FROM MEMBERS OF THE BOARD?

DR. JUELSGAARD: A COUPLE QUESTIONS. SO IN THE BUDGETING PROCESS WHICH WAS GOING TO BE DONE UP FRONT, YOU TALK ABOUT USING MARKET-BASED DETERMINATIONS OF WHAT'S AN APPROPRIATE PAYMENT FOR ANY PARTICULAR ASPECT OF A PRECLINICAL OR CLINICAL TRIAL. TALK TO ME A LITTLE BIT ABOUT THIS NOTION OF MARKET BASED. AND IN PARTICULAR, GIVEN THAT A LOT OF THIS ACTIVITY IS GOING TO TAKE PLACE IN CALIFORNIA AS OPPOSED TO, LET'S SAY, SOME OTHER STATE WITH A LOT LOWER COST OF LIVING AND LOWER OVERHEAD, ETC., WHAT ARE GOING TO BE -- HOW ARE YOU GOING TO FIGURE OUT WHAT THE MARKET IS THAT YOU ARE GOING TO USE TO DETERMINE MARKET-BASED RATES?

MR. THOMPSON: RIGHT. SO WE WILL USE MARKET-BASED RATES WHEN THERE ARE ESTABLISHED MARKET-BASED RATES. WE UNDERSTAND THAT THERE MIGHT BE ACTIVITIES WHERE THERE ISN'T AN ESTABLISHED MARKET-BASED RATE. IN THOSE CASES WE'RE ASKING THE APPLICANT TO PROVIDE AS STRONG JUSTIFICATION AS THEY CAN TO PROVIDE ANY DATA THEY HAVE, INCLUDING QUOTES AND MAYBE OTHER KINDS OF DATA FROM WITHIN THEIR

ORGANIZATIONS THAT SUPPORT THE COSTS THEY'RE ASKING FOR, SO IN THE ABSENCE OF MARKET-BASED RATES.

DR. JUELSGAARD: MY QUESTION IS NOT REALLY HOW YOU APPLY THAT STUFF, BUT HOW DO YOU COME UP WITH IT IN THE FIRST INSTANCE. WHAT IS THE MARKET THAT YOU'RE LOOKING AT? FOR ME THAT'S ALWAYS THE FIRST QUESTION. IF WE'RE GOING TO DO SOMETHING BASED ON THE MARKET, WHAT IS THE MARKET?

DR. MILLS: SO WHAT WE'VE DONE IS THIS IS SOMETHING WE'VE EXPORTED EXTERNALLY. WHAT WE'VE DONE IS LOOK AT LARGE RESEARCH ORGANIZATIONS THAT HAVE AS PART OF THEIR PRACTICE, THERE'S A CONSULTING PORTION OF THEIR PRACTICE THAT EVALUATES THE SPEND DIFFERENT COMPANIES AND INSTITUTIONS HAVE ON CERTAIN THINGS AND HAVE DATABASES FOR ROUGHLY WHAT THOSE ACTIVITIES ARE. AND SO WE HAVE MULTIPLE VENDORS THAT ARE ABLE TO DO THAT PER PROJECT.

SO BASICALLY THE MARKET-BASED RATE AS THEY CONSTRUCT IT IS WHAT CAN THEY GET IT DONE FOR WITHIN THE SAME CONSTRAINTS? SO IF IT HAS TO BE DONE IN CALIFORNIA, WHAT COULD THEY GET IT DONE FOR IN CALIFORNIA? IF WE HAVE TO USE THIS PLACE OR THAT PLACE, WHAT DO THEY DO?

I THINK THE IMPORTANT PART OF THIS HERE IS THIS IS -- THE KIND OF REFINEMENT WE'RE TALKING

ABOUT IS WE DON'T WANT TO HAVE A $20 MILLION APPLICATION FOR A $13 MILLION PROJECT. WE'RE LOOKING AT BIG STUFF, NOT IS IT 13.1 OR IS IT 13.2. WE'RE REALLY LOOKING AT LARGE-SCALE ITEMS WHERE IN THE PAST WE MAY HAVE BEEN VERY OFF ON NUMBERS.

DR. JUELSGAARD: I UNDERSTAND THE GOAL. I JUST THINK IT'S GOING TO BE VERY IMPORTANT THAT THIS ORGANIZATION OR THESE ORGANIZATIONS THAT YOU UTILIZE REALLY DEFINE THE MARKET BECAUSE THE MARKET FOR DOING STUFF IN CALIFORNIA IS DIFFERENT THAN THE MARKET FOR DOING STUFF IN THE UNITED STATES, IS DIFFERENT THAN THE MARKET FOR DOING STUFF GLOBALLY. AND SO IT'S GOT TO BE REALLY TAILORED.

DR. MILLS: WE ACTUALLY BROUGHT THEM INTO THE CIRM 2.0 DEVELOPMENT PROCESS VERY EARLY ON. SO THEY'VE BEEN WORKING WITH US AS THEY'VE WATCHED THE ENTIRETY OF IT UNFOLD. SO THEY UNDERSTAND THE ROLE THEY PLAY AND WHERE THEY PLAY IN THE ENTIRE BASICALLY DANCE-OUT OF THIS. SO THEY KNOW THAT A GRANTEE MIGHT NOT HAVE THE OPTION TO GET THE WORK DONE AT THE CHEAPEST PLACE IN THE WORLD OR IN THE UNITED STATES AND MAY HAVE TO USE THE CONSTRAINTS AND OPERATE UNDER THOSE.

DR. JUELSGAARD: ANOTHER QUESTION. SO UNDER ALLOWABLE PROJECT COSTS AND ACTIVITIES, THE

SECOND PARAGRAPH STARTS, SALARIES FOR ALL PERSONNEL SHALL NOT EXCEED AN ANNUAL RATE OF $230,000. IS THAT A CURRENT REQUIREMENT THAT WE HAVE?

MR. THOMPSON: THAT IS. THAT'S THE SALARY CAP THAT WE HAVE FOR ALL OF OUR AWARDS.

DR. JUELSGAARD: WOW. SO IF YOU WERE GOING TO HAVE SOMEBODY WHO WAS REALLY A FIRST-RATE PI, PRINCIPAL INVESTIGATOR, TO BE THE PRINCIPAL INVESTIGATOR FOR A TRIAL, AND THEY WERE ONLY GOING TO SPEND 10 PERCENT OF THEIR TIME ON IT, BUT IF THAT PERSON MADE ANNUALLY MORE THAN $230,000, THEY WOULDN'T BE ELIGIBLE TO BE A PI. IS THAT HOW I UNDERSTAND THAT?

MR. THOMPSON: NO. THEY'RE ELIGIBLE. THEY COULD ONLY CHARGE CIRM FUNDS FOR 10 PERCENT OF UP TO $230,000 PER YEAR.

DR. JUELSGAARD: OKAY.

MR. THOMPSON: IT'S GENERALLY ADOPTED FROM AN NIH SALARY CAP. IT STARTED AT $200,000 MANY YEARS AGO.

DR. JUELSGAARD: I GUESS IT'S THE WAY THAT IT'S WORDED IN THERE. IT LOOKED LIKE A LIMITATION ON THE AMOUNT OF SALARY THEY CAN EARN AS OPPOSED TO HOW IT GETS CHARGED.

AND THEN LASTLY, THE NOTION OF CO-FUNDING.

SO HAVING PROJECTS CO-FUNDED WHICH IS PART OF THIS PROCESS, DO WE CURRENTLY REQUIRE THAT?

MR. THOMPSON: WE REQUIRE CO-FUNDING FOR CERTAIN ANNOUNCEMENTS.

DR. JUELSGAARD: SO YOU'RE PROPOSING THAT IT HAPPEN FOR EVERYBODY, RIGHT?

MR. THOMPSON: NO.

DR. MILLS: WE'RE TALKING ABOUT PA 1, 2, AND 3. SO THE THREE THAT THIS APPLIES TO, STEVE, ARE THE THREE MOST RECENT PROGRAM ANNOUNCEMENTS WE PUT OUT. THOSE PROGRAM ANNOUNCEMENTS, DEPENDING ON THE STAGE OF DEVELOPMENT, HAVE A SLIDING SCALE OF CO-FUNDING. THEY ALSO DIFFERENTIATE ON WHETHER IT'S INDUSTRY OR NONPROFIT ACADEMIC INSTITUTION. SO NONPROFIT ACADEMIC INSTITUTIONS HAVE NO CO-FUNDING REQUIREMENTS FOR THE PRECLINICAL AWARD AND ANYTHING IN PHASE I. IN PHASE II THEY HAVE TO CO-FUND 40 PERCENT, IN PHASE III 50 PERCENT, AND FOR SUPPLEMENTAL ACTIVITIES, 40 PERCENT.

INDUSTRY IS A CO-FUNDING REQUIREMENT OF 20 PERCENT FOR PRECLINICAL, 30 PERCENT FOR PHASE I, 40 PERCENT, AGAIN, FOR PHASE II. THEY LINE UP THERE AND THERE'S INTENT. AND 50 PERCENT OF PHASE III. BOTH OF THE PHASE IIIS HAVE THE RESTRICTION ON IT THAT OUR PORTION WILL NOT EXCEED $20 MILLION, ADD

THEN 49 PERCENT, AGAIN, FOR SUPPLEMENTAL ACTIVITIES.

DR. JUELSGAARD: JUST A QUESTION RELATED TO THAT, MY FINAL QUESTION. SO THE CO-FUNDING BY ACADEMIC INSTITUTIONS, WHICH MAY SHOW UP A LITTLE LATER IN THE PROCESS, IS THAT SOMETHING NEW, OR HAS THAT ALWAYS BEEN AROUND?

DR. MILLS: SO THE CO-FUNDING OF VARIOUS KINDS OF REQUIREMENTS COMES AND GOES BASED ON THE SPECIFIC RFA THAT HAPPENS TO BE OUT. WE HAVEN'T HAD A THIS-IS-WHAT-IT-IS-STANDARD AT CIRM. ON THESE THREE PA'S, AGAIN, THESE ARE UP AND OUT AND AWARDED. WE'VE ALREADY TAKEN THIS ACTION. THESE WILL BE WHAT THEY ARE UNTIL THAT PA IS RESCINDED.

DR. JUELSGAARD: SO I UNDERSTAND THE PROCESS. THIS DOCUMENT THAT WE WERE PROVIDED PRIOR TO THIS MEETING, WHAT PURPOSE IS IT TO SERVE?

MR. HARRISON: SO, STEVE, WE CURRENTLY HAVE AN EXISTING GRANTS ADMINISTRATION POLICY THAT COVERS ALL OF OUR AWARDS. WHEN WE WERE DISCUSSING CIRM 2.0, WE CAME TO THE CONCLUSION THAT WE REALLY NEEDED TO OVERHAUL THE GRANTS ADMINISTRATION POLICY FOR THE PURPOSES OF THE 2.0 AWARDS, THE THREE PROGRAM ANNOUNCEMENTS THAT RANDY MENTIONED AND THAT THE BOARD HAS APPROVED IN CONCEPT. AS A RESULT, WE HAVE TAKEN PIECES OF THE EXISTING GRANTS

ADMINISTRATION POLICY, ADDED NEW COMPONENTS IN ORDER TO IMPLEMENT 2.0, AND PRESENTED IT TO YOU TODAY IN DRAFT FORM AS THE POLICY THAT WILL GOVERN AWARDS ISSUED PURSUANT TO THE THREE 2.0 PROGRAM ANNOUNCEMENTS. AND WE WILL BRING THIS BACK TO YOU, AFTER FINE-TUNING IT SOME MORE AND TALKING TO THE SCIENCE SUBCOMMITTEE, AT THE BOARD'S MARCH MEETING.

DR. JUELSGAARD: SO IT'S LARGELY INFORMATIONAL AT THIS POINT?

MR. HARRISON: CORRECT. SO WE'RE HAPPY TO RECEIVE ANY AND ALL COMMENTS YOU HAVE.

CHAIRMAN THOMAS: ANY OTHER QUESTIONS OR COMMENTS FROM MEMBERS OF THE BOARD? OKAY. SINCE THIS IS INFORMATIONAL, IT DOES NOT REQUIRE A VOTE.

WE DO NEED TO GET BACK TO THE PREVIOUS ITEM. MARIA, COULD YOU CALL THE ROLL FOR LAUREN, PLEASE.

MS. BONNEVILLE: LAUREN, HOW DO YOU FEEL, LAUREN?

MS. MILLER: I'M GREAT. YES.

MS. BONNEVILLE: THANK YOU.

MR. HARRISON: SO THAT MOTION CARRIES.

CHAIRMAN THOMAS: THANK YOU.

MR. TORRES: ON BEHALF OF ALL OF US AT CIRM, I'D LIKE TO CONGRATULATE THE VERY PROUD PAPA

JON THOMAS. HIS SON HAS JUST BEEN RECRUITED FOR THE FALL BASEBALL SEASON AT USC IN 2016, ELIZABETH. CONGRATULATIONS.

(APPLAUSE.)

CHAIRMAN THOMAS: THANK YOU VERY MUCH. I'LL PASS THAT ALONG. HE'S EXCEEDINGLY HAPPY, AS ARE HIS PARENTS. THANK YOU VERY MUCH.

WE'LL GO ON TO ITEM NO. 10, CONSIDERATION OF APPROVAL OF NEW APPOINTMENTS TO THE GRANTS WORKING GROUP. DR. SAMBRANO.

DR. SAMBRANO: THANK YOU, MR. CHAIRMAN, MEMBERS OF THE BOARD. WE'RE BRINGING FOR YOUR CONSIDERATION TWO NOMINEES FOR INDUCTION INTO THE GRANTS WORKING GROUP. THEIR BRIEF BIOS ARE IN YOUR MATERIALS. THEY ARE DR. WILLARD DERE AND DR. MALIN PARMAR.

CHAIRMAN THOMAS: DO I HEAR A MOTION TO APPOINT?

MR. TORRES: MOVED.

CHAIRMAN THOMAS: MOVED BY SENATOR TORRES. SECONDED BY --

DR. JUELSGAARD: SECOND.

CHAIRMAN THOMAS: -- MR. JUELSGAARD. ANY DISCUSSION ON THIS?

DR. SAMBRANO, JUST OUT OF CURIOSITY, WHAT

IS THE SIZE OF OUR GWG POOL THESE DAYS?

DR. SAMBRANO: SO IT'S ABOUT 215.

CHAIRMAN THOMAS: THESE ARE EXPERTS FROM ALL OVER THE WORLD OUTSIDE OF CALIFORNIA.

DR. SAMBRANO: THEY ARE. AND THEY COVER A VERY BROAD SPECTRUM OF EXPERTISE BECAUSE, AS YOU KNOW, WE'VE GROWN TO HAVE REVIEWS THAT COVER ANYTHING FROM TRAINING, BASIC BIOLOGY, TRANSLATIONAL WORK, CLINICAL WORK, AND EVEN WITHIN THOSE THERE ARE EXPERTISE REQUIREMENTS SUCH AS REGULATORY AFFAIRS, CLINICAL EXPERTISE, AND SO FORTH. AND BEYOND THAT, THERE'S THE SPECIFIC FIELDS, SUCH AS NEUROBIOLOGY, CARDIOVASCULAR DISEASE, ALL THE DIFFERENT TOPICS. SO THAT'S GENERALLY WHAT THESE TRY TO COVER.

CHAIRMAN THOMAS: AND PROCESSWISE DO WE SEEK THEM OUT? DO THEY SEEK US OUT? LITTLE BIT OF BOTH?

DR. SAMBRANO: TYPICALLY WE SEEK THEM OUT. THERE HAVE BEEN SOME CASES WHERE THEY COME TO US, BUT USUALLY WE ENCOUNTER THEM THROUGH MEETINGS, RECOMMENDATIONS FROM OTHERS, THEIR PUBLICATION RECORDS. AND SO WE LOOK FOR PEOPLE WHO HAVE THE APPROPRIATE EXPERTISE THAT WE THINK WOULD BE IDEAL TO SERVE ON A GRANTS WORKING GROUP.

CHAIRMAN THOMAS: FOR THOSE MEMBERS OF THE

BOARD WHO HAVE NOT HAD THE PRIVILEGE OF SITTING IN ON THE GRANTS WORKING GROUP MEETINGS, IT IS SOMETHING TO BEHOLD HOW INCREDIBLY DEDICATED, HARDWORKING, AND FLAT OUT SMART ALL THESE PEOPLE ARE WHO COME TO WORK ON OUR BEHALF AND THE BEHALF OF THE CITIZENS OF CALIFORNIA. IT'S QUITE A PROCESS. AND, OF COURSE, THROUGH THAT PROCESS, AMONG OTHERS, WE FOUND OUR OWN DR. MILLS, WHO WOULD HAVE ALL OF THE QUALITIES I JUST MENTIONED AND THEN SOME. VERY, VERY IMPRESSIVE WITHOUT WHICH WE COULDN'T OPERATE AS AN ENTITY.

SO, DR. SAMBRANO, THANK YOU FOR IDENTIFYING THEM. WE KIND OF SKIP THROUGH THIS ITEM WHEN IT COMES TO THE BOARD, BUT IT IS NONTRIVIAL, VERY, VERY IMPORTANT, AND LEADS TO DRAMATIC RESULTS.

ANY COMMENTS BY MEMBERS OF THE BOARD? COMMENTS BY MEMBERS OF THE PUBLIC? HEARING NONE, JAMES, WE DON'T NEED A ROLL CALL ON THIS ONE, DO WE? ALL THOSE IN FAVOR PLEASE SAY AYE. OPPOSED? ANYBODY ON THE PHONE?

DR. WESTON: AYE.

CHAIRMAN THOMAS: THE MOTION PASSES. THANK YOU.

SO THAT CONCLUDES THE ACTION ITEM AGENDA.

MS. BONNEVILLE: WE SHOULD MOVE INTO

EXECUTIVE SESSION.

CHAIRMAN THOMAS: SO WE'RE NOW GOING TO PROCEED TO EXECUTIVE SESSION. JAMES, COULD YOU READ THE APPROPRIATE LANGUAGE? I WILL NOTE THAT WE ARE GOING TO BE MOVING TO ANOTHER ROOM.

MS. BONNEVILLE: BAYSIDE ROOM.

CHAIRMAN THOMAS: WHICH IS?

MS. BONNEVILLE: AMY IS GOING TO LEAD YOU THERE.

CHAIRMAN THOMAS: EXCELLENT. JAMES, THE LANGUAGE PLEASE.

MR. HARRISON: SO THE BOARD WILL BE CONVENING IN CLOSED SESSION TO DISCUSS PERSONNEL PURSUANT TO GOVERNMENT CODE SECTION 11126(A), HEALTH AND SAFETY CODE SECTION 125290.30(F)(3)(D).

CHAIRMAN THOMAS: THAT WAS A PARTICULARLY GOOD ONE, MR. HARRISON. OKAY. WE ARE GOING TO ADJOURN FOR PURPOSES OF THIS CLOSED SESSION AND WE'LL BE BACK TO CONCLUDE OUR MEETING. THANK YOU.

(THE BOARD THEN ADJOURNED TO CLOSED SESSION, NOT HEREIN REPORTED NOR HEREIN TRANSCRIBED. AT THE CONCLUSION OF THE CLOSED SESSION, THE FOLLOWING WAS HEARD IN OPEN SESSION:)

CHAIRMAN THOMAS: WE'RE GOING TO RESUME. MEMBERS OF THE BOARD, AS YOU KNOW, ONE OF OUR OWN,

DEAN HAWGOOD, HAS ASCENDED TO THE CHANCELLOR POSITION AT UCSF, FOR WHICH WE ARE VERY PROUD. AND HE HAS NOW HIS COLLEAGUE WHO WILL BE ATTENDING THESE MEETINGS IN HIS STEAD DR. BRUCE WINTROUB WHO IS JOINING US TODAY TO MY RIGHT FOR HIS FIRST BOARD MEETING. AND, BRUCE, IF YOU COULD JUST SAY A WORD OR TWO ABOUT YOUR BACKGROUND TO THE FOLKS HERE.

DR. WINTROUB: THANK YOU VERY MUCH. THIS IS MY FIRST MEETING. IT'S BEEN INTERESTING. KNEW A LOT ABOUT THE AGENCY, BUT REALLY CERTAINLY HAD NEVER BEEN THIS CLOSE.

MY OWN BACKGROUND IS THAT I'M A KID FROM OMAHA, NEBRASKA, AND ENDED UP IN SAN FRANCISCO IN 1982. I'M A UCSF LIFER. I'VE BEEN IN MULTIPLE POSITIONS AT UCSF. I'VE BEEN THE CHAIR OF ONE OF THE CLINICAL DEPARTMENTS, DERMATOLOGY, WHICH IS NOT A NATURAL FOR GETTING INTO A POSITION LIKE THIS, SINCE 1985. AND I'VE BEEN AROUND THE DEAN'S OFFICE SINCE 1989 AND BEEN INVOLVED IN ALL OF OUR MERGERS AND VARIOUS ADVENTURES IN SAN FRANCISCO AND OUTSIDE OF SAN FRANCISCO.

MY SCIENCE WAS IN IMMUNOLOGY. IT'S BEEN A DECADE PLUS SINCE I'VE BEEN AN ACTIVE SCIENTIST, BUT THE GENES ARE STILL THERE AND THE INSTINCT IS STILL THERE. I FELT IT WAS A PRIVILEGE TO HELP SAM OUT AS

INTERIM DEAN. I'M A SEPTUAGENARIAN, WHICH IS JUST THE REALITY OF LIFE. SO I'LL BE HERE AS LONG AS IT TAKES FOR SAM TO FIND A YOUNGER INDIVIDUAL TO ASSUME THAT ROLE. THANK YOU VERY MUCH.

CHAIRMAN THOMAS: THANK YOU AND WELCOME.

WE HAVE ONE OTHER ITEM. BEFORE WE GET TO THAT, I KNOW WE HAVE SOME MEMBERS OF THE PUBLIC WHO HAVE TO LEAVE. SO WE'RE GOING TO TAKE A LITTLE OUT OF ORDER AND TAKE PUBLIC COMMENT NOW, IF WE MIGHT. AND THEN WE'LL PROCEED TO KEVIN'S COMMUNICATIONS REPORT FOLLOWING THAT.

MR. REDONSKY: GOOD AFTERNOON, ICOC MEMBERS. THANK YOU VERY MUCH FOR WORKING SO HARD FOR OUR BENEFIT. MY NAME IS MICHAEL REDONSKY AND I HAVE PARKINSON'S DISEASE. AND I AM A WANNA-BE PATIENT OF DR. JEANNE LORING WHO IS APPLYING FOR FUNDING WITH YOU. THERE'S A NUMBER OF US HERE TODAY, AND I'D LIKE TO ASK THEM TO STAND IF I COULD.

THIS RESEARCH GROUP HEADED BY DR. JEANNE LORING IS DOING SOME WORK WITH INDUCED PLURIPOTENT STEM CELL THERAPY FOR PARKINSON'S DISEASE. AND I HOPE TO RECEIVE THAT TREATMENT FOR THE NEURONS THAT ARE GOING TO HELP ALLEVIATE MY PARKINSON'S SYNDROME.

I'M HERE TO REMIND YOU FOLKS THAT WE HAVE A GRANT APPLICATION IN AND WE'RE HOPING THAT YOU'LL

LOOK FAVORABLE ON IT.

I ALSO HAVE SOMETHING TO OFFER TO YOU. I WAS LOOKING AT YOUR BROCHURE, AND IT TALKS ABOUT SOME OF YOUR GREAT SUCCESS STORIES, INCLUDING STROKE AND LEUKEMIA AND DIABETES. BUT I NOTICE THERE ISN'T A PARKINSON'S DISEASE SECTION, AND IT DOESN'T SEEM THAT YOU'RE FUNDING PARKINSON'S VERY MUCH. AND I'D LIKE TO OFFER TO YOU MY SERVICES. I WOULD BE GLAD TO STAND FOR A PHOTO OP TO GO INTO THE NEXT YEAR'S BROCHURE. MY FEES ARE REASONABLE. THEY'RE ONLY ABOUT $4 MILLION. SO ONE WAY OR THE OTHER WE HOPE TO GET THAT MONEY OUT OF YOU. THANK YOU VERY MUCH.

(APPLAUSE.)

CHAIRMAN THOMAS: THANK YOU FOR THAT COMMENT AND OFFER, GENEROUS AS IT WAS.

MS. DEKOZAN: I AM A PERSON WITH PARKINSON'S. I'M A LITTLE CLUMSY SOMETIMES. MY NAME IS SUZANNE DEKOZAN. I'M A RETIRED PUBLIC ATTORNEY. AND I AM HERE FOR THE FIRST TIME AND WOULD JUST LIKE TO COMPLIMENT YOU ON YOUR WORK. I'M VERY FAVORABLY IMPRESSED. I WAS VERY HAPPY TO HEAR ALL THE DIFFERENT POINTS OF VIEW THAT EMERGE FROM THIS BOARD. AND THAT SUGGESTS TO ME THAT THE SYSTEM IS GENERALLY WORKING.

AS A PERSON WITH PARKINSON'S, OF COURSE,

I'M VERY CONCERNED ABOUT YOUR ROLE IN MY DISEASE PROCESS AND MY OUTCOME. YOU CAN BE HELPFUL OR YOU CAN PLAY NO ROLE AT ALL, I SUPPOSE. I HOPE THE PRESENCE OF THESE PEOPLE WITH PARKINSON'S HERE TODAY WILL SHOW YOU THAT WE'RE A MAJOR FORCE. UNFORTUNATELY THERE ARE QUITE A LOT OF US, AND WE ARE HERE INDEPENDENTLY. THERE'S A CONTINGENT FROM SAN DIEGO THAT NEVER MET THE CONTINGENT FROM SANTA ROSA BEFORE. I THANK YOU FOR YOUR TIME AND YOUR AUDIENCE.

CHRISTINA: HI, I'M CHRISTINA. I'M A FRIEND OF SUZANNE'S, AND WE'RE IN A SUPPORT GROUP IN SANTA ROSA AREA. I MET DAVID HIGGINS, DR. HIGGINS, AND I'M VERY IMPRESSED BY HIM. HE INVITED ME HERE TODAY, AND I JUST WANTED TO SAY TO EVERYBODY HERE THAT I ECHO WHAT SUZANNE SAYS. AND I HOPE THAT WE CAN GET MORE OF OUR PEOPLE INVOLVED. I'M GOING TO GO TO WASHINGTON, D.C. WITH PARKINSON'S ACTION NETWORK TO GET TRAINED AT THE END OF MARCH TO BE LIKE A LOBBYIST-TYPE ADVOCATE PERSON.

SO I JUST -- WE LIVE WITH THIS EVERY DAY, AND WE TRY TO HAVE A SENSE OF HUMOR. AND I THINK THAT RIGHT NOW I'M SHAKING BECAUSE I'M NERVOUS, BUT, YOU KNOW, IT WAS ONE OF THOSE THINGS WHERE IT TOOK ME A LONG TIME TO ACCEPT THAT I HAD IT AND I WAS TOO

AFRAID TO GO TO THE DOCTOR. AND I THINK THERE'S A LOT OF PEOPLE OUT THERE WHO ARE UNDIAGNOSED. AND I REALLY HOPE THAT MORE OF US CAN HAVE A FACE HERE AND YOU CAN PUT A NAME TO US AND REALIZE THAT WE'RE VERY, VERY HELPFUL AND THAT PERHAPS OUR FUTURE LIES IN YOUR HANDS. THANK YOU.

CHAIRMAN THOMAS: THANK YOU FOR YOUR COMMENTS. ANY OTHER COMMENTS FROM MEMBERS OF THE PUBLIC? THANK YOU ALL VERY MUCH FOR COMING BACK THERE. WE APPRECIATE VERY MUCH.

WE'LL NOW PROCEED TO THE MAJORDOMO OF COMMUNICATIONS, MR. MCCORMACK.

MR. MC CORMACK: MAJORDOMO, THAT'S THE FIRST TIME I'VE HAD A MILITARY TITLE. SO THANK YOU, CHAIRMAN THOMAS, MEMBERS OF THE BOARD, MEMBERS OF THE PUBLIC, AND TEAM CIRM. I THINK WE SHOULD ACTUALLY GET T-SHIRTS WITH THAT ON THERE. I LIKE THAT IDEA.

COMING UP HERE LAST, I ALWAYS FEEL LIKE IT'S A BIT OF A BLESSING AND A CURSE. A BLESSING BECAUSE WHEN YOU SEE ME, YOU KNOW, GOOD, THIS IS ABOUT TO END AND WE ALL GET TO GO HOME. AND MR. JUELSGAARD IS NODDING VIGOROUSLY. BUT A CURSE BECAUSE ALL THE GOOD MATERIAL HAS ALREADY BEEN USED. I FEEL LIKE ONE OF THOSE LATE, LATE, LATE NIGHT TALK

SHOW HOSTS WHO COMES ON KNOWING THAT ALL THE GOOD JOKES HAVE BEEN USED IN THE MONOLOGUES ALL THE WAY EARLIER. BUT THAT'S NEVER STOPPED ME BEFORE. SO I'LL CARRY ON AND I'LL GIVE YOU MY COMMUNICATIONS UPDATE, ALTHOUGH THIS TIME IT'S MORE OF A MARKETING UPDATE BECAUSE LAST TIME I TALKED ABOUT HOW WE PLAN TO MARKET CIRM 2.0. SO I WANT TO TALK ABOUT A LOT OF THE THINGS THAT WE'VE BEEN DOING IN THE LAST MONTH.

AND AS CHAIRMAN THOMAS AND DR. MILLS SAID, IT'S BEEN A REALLY BUSY START TO THE YEAR. LAUNCHING CIRM 2.0 HAS BEEN A LOT OF WORK, BUT IT'S ALSO BEEN A LOT OF FUN. IT'S GREAT TO GO INTO A ROOM AND START TO TALK TO SOMEONE. WHEN YOU FIRST START TO TALK TO THEM, THEIR REACTION IS, "OH, REALLY?" AND THEN AS YOU TALK ABOUT THE CHANGES THAT CIRM 2.0 IS GOING TO INTRODUCE, HOW IT'S GOING TO MAKE THINGS FASTER AND EASIER, THEY START TO PERK UP, AND THEY GO, "REALLY." AND SO BY THE TIME YOU FINISH TALKING ABOUT ALL THE ADVANTAGES, BENEFITS, HOW IT CAN REALLY HELP SPEED UP WHAT WE'RE TRYING TO DO HERE AND ACCELERATE THE DEVELOPMENT OF THERAPIES FOR PATIENTS, THE REACTION IS, "WOW, REALLY?" SO IT'S FUN TO KIND OF BE ABLE TO GO OUT AND TALK ABOUT SOMETHING LIKE THAT PEOPLE REALLY GET EXCITED ABOUT

AND ARE INTERESTED IN AND GENUINELY FEEL THAT IT'S GOING TO MAKE A DIFFERENCE.

SO FOR THE LAST MONTH THAT'S PRETTY MUCH WHAT A LOT OF US HAVE BEEN DOING IS TALKING TO PEOPLE ABOUT CIRM 2.0. AS CHAIRMAN THOMAS AND DR. MILLS TALKED ABOUT, THEY'VE BEEN DOING IT AT EVERY OPPORTUNITY.

DR. MILLS GAVE A PRESENTATION, A PANEL DISCUSSION, AT THE ARM STATE OF THE INDUSTRY BRIEFING. AND ALTHOUGH THE SAID HE DOESN'T ENJOY DOING IT, HE'S ACTUALLY VERY GOOD AT DOING THAT. HE WAS REALLY AN INTERESTING PANEL DISCUSSION. AND HE COMMANDEERED THE FIRST 15 OR 20 MINUTES, MUCH TO THE SHOCK OF THE FOLKS AT ARM, JUST TO TALK ABOUT CIRM 2.0 AND WHAT IT MEANT. IT WAS A PERFECT AUDIENCE BECAUSE THIS IS THE BIOTECH INDUSTRY. THEY'RE REALLY INTERESTED IN WHAT WE HAVE. SO FOR THEM THIS WAS A MESSAGE, I THINK, THAT WAS WORTH HEARING.

AFTER THAT IT WAS THE BEGINNING OF J.P. MORGAN WEEK. AND, AGAIN, HE WENT AROUND AND TALKED TO AS MANY PEOPLE AS HE COULD COLLAR. AND LOTS OF PEOPLE WERE TRYING TO COLLAR HIM AS WELL BECAUSE WHENEVER YOU TALK ABOUT MAKING MILLIONS OF DOLLARS AVAILABLE IN A HURRY, THERE'S LOTS OF PEOPLE WHO ARE VERY INTERESTED AND PERKED UP A LOT OF EARS.

TO SPARE HIS VOICE A LITTLE AND HAVE HIM KIND OF SIT DOWN FOR A FEW MINUTES, WE HELD A WEBINAR SO HE COULD REACH OUT TO A MUCH WIDER AUDIENCE. WE HELD THIS IN MID-JANUARY WHERE HE WENT OVER IN SOME DETAIL WHAT CIRM 2.0 IS, WHO IT APPLIES TO, WHO CAN APPLY. AND WE HAD SOME 200 PEOPLE LISTENING IN ON THAT AND ASKING SOME GREAT QUESTIONS AFTERWARDS, INCLUDING JEANNE LORING. AND THAT WEBINAR IS NOW AVAILABLE ON OUR WEBSITE SO THAT PEOPLE WHO WEREN'T ABLE TO LISTEN TO IT WERE ABLE TO DO SO NOW.

FINALLY, IF YOU DIDN'T GET ENOUGH OF HEARING HIM TALKING, YOU COULD SEE HIM TALKING BECAUSE PARTNERING 360 TV DID AN INTERVIEW WITH HIM. AND IT'S AN ONLINE NETWORK OF SOME 14,000 EXECUTIVES IN THE LIFE SCIENCE INDUSTRY. SO, AGAIN, THIS IS A WONDERFUL AUDIENCE FOR WHAT WE'RE TALKING ABOUT.

NOT JUST FOR THIS CURRENT PHASE II OF 2.0 WHICH DEALS WITH CLINICAL AND LATE STAGE PRECLINICAL WORK, BUT ALSO FOR THE DISCOVERY AND TRANSLATIONAL PHASES WHICH WE'RE GOING TO BE ROLLING OUT LATER IN THE YEAR.

BECAUSE THERE'S ONLY SO MUCH THAT ONE MAN, EVEN DR. MILLS, CAN DO, WE'VE ALL BEEN KIND OF PITCHING IN. AND NEIL LITTMAN, OUR BUSINESS

DEVELOPMENT GURU, HAS BEEN DOING A GREAT JOB GOING AROUND. AT J.P. MORGAN HE HAD MEETINGS WITH MORE THAN 20 COMPANIES TALKING TO THEM ABOUT CIRM 2.0, AND THERE'S A LOT OF INTEREST THERE. HE'S BEEN DOING THAT. AFTER THAT NEIL WENT A WHOLE BUNCH OF CONFERENCES, SOME I'VE NEVER HEARD OF AND HAVE NO IDEA WHAT THEY ARE, INCLUDING THE REDEFINING EARLY STAGE INVESTOR CONFERENCE WHERE HE MODERATED A PANEL. AND THEN WENT TO THE PHACILITATE CONFERENCE IN WASHINGTON, D.C. -- AND, YES, THAT IS HOW YOU SPELL PHACILITATE -- WHERE HE BOTH CHAIRED THE SESSION AND TOOK PART IN ANOTHER PANEL DISCUSSION ABOUT CIRM 2.0.

AGAIN, THESE ARE WONDERFUL AUDIENCES FOR US TO BE ABLE TO REACH OUT TO BECAUSE THESE ARE THE PEOPLE WHO ARE GOING TO BE APPLYING OR INTERESTED IN APPLYING FOR FUNDING. SO THIS WAS KIND OF A GREAT WAY OF REACHING THEM AND TALKING TO THEM FIRSTHAND.

IN THE FUTURE, IN THE NEXT COMING MONTHS, WE'RE GOING TO BE DOING AN AWFUL LOT MORE OF THIS WHERE WE HAVE CONFERENCES WHERE BOTH NEIL AND/OR DR. MILLS ARE GOING TO BE GOING AND TALKING ABOUT WHAT WE'RE UP TO.

AND, FINALLY, WE'VE PITCHED SOME STORIES TO THE KIND OF TRADITIONAL MEDIA, BUT THIS IS MUCH

MORE OF A BUSINESS MEDIA EVENT, CIRM 2.0. THEY'RE MUCH MORE INTERESTED IN IT. SO WE'VE WORKING WITH THEM. BUT ANOTHER TOOL WE'VE BEEN USING IS THE WEBSITE. DR. HOLDEN, OUR WEBSITE MANAGER, IS BUSY WORKING ON A REFRESHED AND REDESIGNED WEBSITE, ONE THAT HAS A NEW, CLEANER LOOK. IT'S VISUALLY MORE APPEALING, WHICH IS OBVIOUSLY VERY IMPORTANT IN TERMS OF GETTING PEOPLE TO PAY ATTENTION TO IT AND STAY ON THE SITE, BUT IT'S ALSO EASIER TO NAVIGATE.

ONE OF THE THINGS WE HEARD WAS THAT COMPANIES WHO WERE INTERESTED IN FINDING OUT MORE ABOUT US FOUND IT A LITTLE DIFFICULT TO FIND THEIR WAY AROUND OUR CURRENT WEBSITE. SO THIS IS DESIGNED IN A WAY THAT IT'S REALLY EASY ONCE YOU GET TO THE LANDING PAGE TO GO EXACTLY WHERE YOU WANT TO GO, FIND WHAT YOU NEED, AND GET THE INFORMATION YOU NEED. AND THAT WILL APPLY TO WHETHER YOU'RE A RESEARCHER, A COMPANY, OR JUST A MEMBER OF THE PUBLIC INTERESTED IN FINDING OUT MORE ABOUT THESE DIFFERENT DISEASES OR FUNDING OPPORTUNITIES.

HOPEFULLY WE'LL BE ABLE TO ROLL THAT OUT AT THE NEXT MEETING. AND DR. HOLDEN WILL GIVE A PRESENTATION THEN. WITH THAT, I'M HAPPY TO TAKE ANY QUESTIONS.

CHAIRMAN THOMAS: QUESTIONS OR COMMENTS?

KEVIN, JUST WANT TO SAY I THINK YOU'VE DONE EXCELLENT WORK PUTTING TOGETHER THIS MATERIAL AND WORKING WITH RANDY AND OTHERS TO GET THE MESSAGE OUT IN ITS NEW, REFRESHING FORMAT, LITTLE BIT DIFFERENT, LITTLE BIT MORE EYE CATCHING. I THINK ALL THE WORK THAT'S GONE INTO SPEAKING TO PEOPLE THAT RANDY HAS DONE, THAT NEIL HAS DONE AS WELL BEEN DOING A VERY GOOD JOB OF GETTING THE WORD OUT ON THIS. THERE'S MORE WORK TO BE DONE OBVIOUSLY BECAUSE, AS RANDY SAID, HE'S SURPRISED SOMETIMES HOW PEOPLE DON'T KNOW ENOUGH ABOUT CIRM TO REALLY TAKE ADVANTAGE OF IT. I THINK THIS WHOLE CAMPAIGN IS SOMETHING THAT'S GOING TO INCREASE THAT. SO WORK WELL DONE. THANK YOU.

MR. MC CORMACK: THANK YOU. THIS IS VERY MUCH THE BEGINNING OF WHAT WE'RE GOING TO DO. WE'VE JUST LAUNCHED 2.0, AND WE OBVIOUSLY HAVE TO KEEP THE MOMENTUM GOING. SO WE'RE GOING TO BE WORKING TO DO THAT IN THE COMING MONTHS AND YEARS. SO IF ANY ONE OF YOU HAS ANY IDEAS ABOUT HOW WE CAN DO THAT, WHO WE CAN TALK TO, IF YOU NEED SOMEONE TO COME DOWN AND TALK TO A GROUP, WE'RE ALWAYS HAPPY TO DO THAT, SO JUST REACH OUT TO ME AND WE'LL BE HAPPY TO OBLIGE. THANK YOU.

CHAIRMAN THOMAS: OKAY. I THINK THAT IS A WRAP ON THIS SESSION. WE'VE HAD OUR PUBLIC COMMENT.

WE'VE GOTTEN THROUGH EVERYTHING. JAMES, MARIA, ANYTHING ELSE WE NEED TO COVER? GOOD. I'D LIKE TO THANK EVERYBODY FOR COMING TO THIS MORNING'S, DAY'S SESSION AS ALWAYS, AND WE WILL SEE YOU FOLKS IN PERSON NEXT IN MARCH WITH THE APPLICATION REVIEW SUBCOMMITTEE MEETING IN FEBRUARY -- NO, NOT MEETING IN FEBRUARY. OKAY -- MEETING IN APRIL. OKAY. THANK YOU. ALL RIGHT. SO MEETING IS ADJOURNED. THANK YOU.

(THE MEETING WAS THEN CONCLUDED AT 02:20 P.M.)

REPORTER'S CERTIFICATE

I, BETH C. DRAIN, A CERTIFIED SHORTHAND REPORTER IN AND FOR THE STATE OF CALIFORNIA, HEREBY CERTIFY THAT THE FOREGOING TRANSCRIPT OF THE PROCEEDINGS BEFORE THE INDEPENDENT CITIZEN'S OVERSIGHT COMMITTEE OF THE CALIFORNIA INSTITUTE FOR REGENERATIVE MEDICINE IN THE MATTER OF ITS REGULAR MEETING HELD AT THE LOCATION INDICATED BELOW

HYATT REGENCY SAN FRANCISCO AIRPORT
1333 BAYSHORE HIGHWAY
BURLINGAME, CALIFORNIA

ON

JANUARY 29, 2015

WAS HELD AS HEREIN APPEARS AND THAT THIS IS THE ORIGINAL TRANSCRIPT THEREOF AND THAT THE STATEMENTS THAT APPEAR IN THIS TRANSCRIPT WERE REPORTED STENOGRAPHICALLY BY ME AND TRANSCRIBED BY ME. I ALSO CERTIFY THAT THIS TRANSCRIPT IS A TRUE AND ACCURATE RECORD OF THE PROCEEDING.

BETH C. DRAIN, CSR 7152
BARRISTERS' REPORTING SERVICE
160 S. OLD SPRINGS ROAD
SUITE 270
ANAHEIM, CALIFORNIA
(714) 444-4100