DEPARTMENT OF HEALTH AND HUMAN SERVICES
NATIONAL INSTITUTES OF HEALTH
NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES

MINUTES OF THE NATIONAL ADVISORY ENVIRONMENTAL HEALTH SCIENCES COUNCIL

September 17-18, 2007

The National Advisory Environmental Health Sciences Council was convened for its one hundred twenty-second regular meeting on September 17, 2007 at 8:30 a.m. in the Rall Building, Rodbell Auditorium, National Institute of Environmental Health Sciences, Research Triangle Park, NC. Dr. Samuel Wilson presided as Chair.

The meeting was open to the public on September 17, 2007 from 8.30 to 5:20 p.m. and on September 18, 2007 from 8:00 a.m. to 10:30 a.m. In accordance with the provisions of Public Law 92-463 the meeting was closed to the public from 10:30 a.m. to 12.30 p.m. for consideration of grant applications. Notice of the meeting was published in the *Federal Register*.

Members Present
Teresa Bowers, Ph.D.
Hillary Carpenter, Ph.D.
David Christiani, M.D.
Kathleen Dixon, Ph.D.
John Essigmann, Ph.D.
Bruce Freeman, Ph.D.
Joseph Graziano, Ph.D.
Lisa Greenhill, MPA
Stefani Hines, MS
George Leikauf, Ph.D.
Daniel Liebler, Ph.D.
David Losee, J.D.
Martin Philbert, Ph.D.
Peter Spencer, Ph.D.
Kevin Stephens, M.D.
Altaf Wani, Ph.D.

Members Absent
Elaine Faustman, Ph.D.
Kenneth Ramos, Ph.D.

Ex Officio Members Present
COL James S. Neville

NIEHS Staff
Kathy Ahlmark
Steven Akiyama, Ph.D.
Janice B. Allen, Ph.D.
Beth Anderson
Ralph Ball, Ph.D.
David Balshaw, Ph.D.
Linda Bass, Ph.D.
Martha Barnes
Perry Blackshear, Ph.D.
Ebony Bookman, Ph.D.
John Bucher, Ph.D.
Gwen Collman, Ph.D.
William Copeland, Ph.D.
Allen Dearry, Ph.D.
Martha Dimes
John, Drake, Ph.D.
Christie Drew
Dorothy Duke
Sally Eckert-Tilotta, Ph.D.
Benigno Encarnacion
Kris Erwin
NIEHS Staff
Christine Bruske Flowers
Mary Gant
Elliot Gilmore
Kimberly Gray, Ph.D.
Thomas Hawkins
Heather Henry, Ph.D.
Marc Hollander

Michael Humble, Ph.D.
Ethel Jackson
Laurie Johnson
Marian Johnson-Thompson, Ph.D.
Grace Kissling
Annette Kirshner, Ph.D.
Lacie Koppelman, Ph.D.
Dennis Lang, Ph.D.
Cindy Lawler, Ph.D.
Robin Mackar
Joyce Martin, J.D.
William Martin, M.D.
Carolyn Mason
J. Patrick Mastin, Ph.D.
Elizabeth Maull, Ph.D.
Kimberly McAllister, Ph.D.
Rose Anne McGee
Elizabeth McNair
Sirkanth Nadadur, Ph.D.
Teresa Nesbitt, Ph.D.
Shelia Newton
Liam O'Fallon
Michelle Owens
Jerry Phelps
Christopher Portier, Ph.D.
Leslie Reinlib, Ph.D.
Margarita Roque
John Schlep
Barbara Shane, Ph.D.
Daniel Shaughnessy, Ph.D.
Carol Shreffler, Ph.D.
William Suk, Ph.D.
Kristina Thayer, Ph.D.
Ann Thompson
Claudia Thompson, Ph.D.
Sally Tinkle, Ph.D.
Fred Tyson, Ph.D.
Bennett Van Houten, Ph.D.
Brenda Weis, Ph.D.
Samuel Wilson, M.D.
Mary Wolfe, Ph.D.
Marva Wood
Leroy Worth, Ph.D.
Larry Wright, Ph.D.

Members of the Public Present
Kevin Beverly, Social and Scientific Systems, Inc.
Scott Briggs, Purdue University
Christy Barker-Cummings, Social and Scientific Systems, Inc
Ryan Cabot, Purdue University
Susan Kinney Integrated Laboratory Service, Inc.
Ann Kirchmaier, Purdue University
Perry Kirkham, Ph.D., Purdue University
Amy Lossie, Purdue University
Bobbie Peterson, RTI International
Beth Roy, Social and Scientific Systems, Inc.
Jennifer Sass, NRDC
Anne Sassaman, Ph.D., Consultant
Pamela Schwingl, Social and Scientific Systems, Inc.
Erich Staib, Duke University Press

OPEN PORTION OF THE MEETING – SEPTEMBER 17, 2007 – 8:30 A.M.

I. CALL TO ORDER AND OPENING REMARKS

Dr. Samuel Wilson called the one hundred twenty-second regular meeting of the National Advisory Environmental Health Sciences Council to order. He opened the meeting by welcoming those in attendance and asked for any alterations or modifications to the agenda, if indicated. Several members of Council requested that the presentation by Dr. William Copeland, at 11:15 a.m., agenda Item V be postponed to a later date. The purpose to discuss events that occurred between May council and this council meeting. A motion was made by Dr.

Martin Philbert to postpone agenda Item V and to replace the time allocated for discussion. The motion was seconded and approved.

Dr. Wilson thanked the retiring Council members (Drs. Bowers, Faustman, Philbert, Spencer and Mr. Losee) for their service on the Council. He then mentioned the 2007 Council slate which was in its final stages and hoped to have all the new members at the February Council meeting. Council members were asked to introduce themselves and then asked NIEHS staff and guests to continue with the introductions.

Dr. Dennis Lang reminded Council members to sign their Conflict of Interest forms and to complete their travel vouchers expeditiously. He noted that Michelle Owens was available to Council members to help with any administrative or logistic matters.

II. REVIEW OF CONFIDENTIALITY AND CONFLICT OF INTEREST PROCEDURES

Dr. Lang discussed with Council confidentiality and conflict of interest procedures and read the requirements of the Government in the Sunshine Act and the Federal Advisory Committee Acts. All aspects of the meeting were open to the public except those concerned with review, discussion and evaluation of grant applications and related information.

III. CONSIDERATION OF MEETING MINUTES

Ms. Stephanie Hines, council member, noted that at least four sections appear to have a misrepresentation of the discussion or did not include the necessary detail. She could not provide suggested alternative language because of lack of detailed recollection. Dr. Wilson suggested discussing the issues or revisions one by one. Ms. Hines suggested that it be done by section in case other Council members have comments.

The first section, Section V, “The Report of the Director,” the statement, “A lengthy discussion ensued over the details of the congressional requests, Council’s obligations and Dr. Schwartz’s response;” several Council members noted the discussion was not lengthy and the word lengthy should be stricken.

Section VII “Children’s Health Research Evaluation” she invited Council members to share their perspectives, particularly Drs. Graziano and Philbert who were the reviewers. They did not agree with the statement, “They agreed with the report for the most part.” They asked to have the tone revised.

Section XI “Concept Clearance Global Environmental Health (GEH),” under the section “Council Response and Discussion,” provides a very general statement and does not provide sufficient detail. There were a number of very important points that were brought up by Council, specifically related to how to proceed with respect to the concept clearance. Dr. Essigmann provided a statement to be incorporated in this section of the minutes.

With regards to the last section, Section XIV, “Epigenetics Road Map Initiative,” under “Council Response and Discussion,” more detail is needed to capture specific questions, points and comments made by Council. The minutes are to be revised incorporating the suggestions by Council.

The minutes of the May 30-31, 2007 meeting were not approved as written.

IV. FUTURE COUNCIL MEETING DATES

The following dates were confirmed:

February 19-20, 2008	NIEHS	Tuesday – Wednesday
May 13-14, 2008	NIEHS (ONES Interviews)	Tuesday – Wednesday
May 29-30, 2008	NIEHS	Thursday – Friday
September 9-10, 2008	NIEHS	Tuesday – Wednesday

V. DIRECTOR'S REPORT ON LEADERSHIP TRANSITION AT NIEHS and CONGRESSIONAL INQUIRIES – Dr. Wilson

Dr. Samuel Wilson began with an outline of what he would be covering in his presentation to Council. He noted that it would be best to pause and have a discussion after each sub-segment of the presentation.

Dr. Wilson informed Council that on August 20, 2007, Dr. Schwartz had stepped aside as Director and he (Dr. Wilson) was appointed by Dr. Zerhouni as Acting Director. As Acting Director, he will consult closely with Dr. Kington, the Deputy Director, NIH. Dr. Wilson cited his letter to NIEHS staff on August 23, 2007, stating the Institute will need to move forward and take a positive approach. He also acknowledged the outstanding contributions made by NIEHS employees.

Dr. Wilson reported three immediate management priorities he hoped to implement in the next few months: 1) to maintain continuity in the programs under way and under development; 2) to reestablish stability and morale at the Institute and across the extramural community; and 3) to address critical (hot button) issues.

To accomplish these priorities we will, 1) endeavor to maintain the continuity of the existing programs and those in development across the Institute's portfolio; 2) constitute a series of meetings to reestablish stability and morale, to find out concerns, and to discuss current issues; and 3) plan the Institute's action for the topic of GEH, the EHP contract for continuing the journal and the editor search, and various internal issues such as management-union relationships, etc.

Dr. Wilson acknowledged the appointment of Dr. William Suk as Acting Deputy Director on September 10, 2007.

Dr. Wilson discussed the letters from members of Congress (list provided to Council members earlier) which raised concerns about the way Dr. Schwartz managed his personal research laboratory and some of the decisions he made interfacing with the legal community and constituents. However, not all the letters focused exclusively on Dr. Schwartz. Some related to the alleged conflict of interest in regard to the review of bisphenol A by the National Toxicology Program's (NTP) Center for the Evaluation of Risk to Human Reproduction (CERHR). Dr. Wilson reiterated that these letters only represent allegations or concerns. Many of the comments represent concerns about poor judgment or misunderstanding on the part of Dr. Schwartz.

Dr. Wilson updated Council on the Report language from the House Labor HHS sub-committee (Report language can be found in the Report for the House Committee on Appropriation 110-231) in which NIH is directed to conduct an on-site review of scientific and management

operations at NIEHS. The review will be conducted by the NIH Office of Management Assessment and will begin on September 24, 2007. A committee at the NIH in Bethesda, Maryland will supervise the review. The committee will be composed of individuals from NIH and experts in management review external to NIH. The committee will be chaired by an NIH Institute Director. The completed report is due to Congress on January 1, 2008. Marc Hollander, NIEHS, Office of Management (OMA) will be coordinating this activity.

Dr. Wilson asked Mr. Hollander to provide further details. Mr. Hollander informed Council that on September 24, 2007 there will be an all-day meeting of NIEHS leadership and management staff with the committee. The committee will be looking at personnel, contracting, financial management, financial disclosure, conflicts of interest, government structure, internal risk assessments, and equal employment opportunity.

Dr. Wilson discussed a letter from Congress addressed to him that was received on September 11, 2007. The letter requested information delineating practices on grants, programs, and projects before Dr. Schwartz became director versus the present time; the information is due on September 18, 2007. He acknowledged the heroic efforts of Dr. Van Houten and the Program Analysis Branch (PAB) staff, and the leadership of Dr. Tinkle who spear-headed this effort. Responding to the request involved an enormous amount of information that needed to be gathered and collated in one week.

Dr. Wilson informed Council of the hearing on September 25, 2007 before the House Subcommittee on Domestic Policy, Committee on Oversight and Government Reform on the topic of the information requested. Dr. Zerhouni was asked to testify and Dr. Wilson will probably be a witness. Formal notification has not as yet been received. With that statement, Dr. Wilson asked Council for comments on the material discussed thus far.

A Council member asked for a clarification of the management review. Is the review stated in the language of House Labor HHS subcommittee (Report language can be found in the Report for the House Committee on Appropriation, 110-231) the same management review that Dr. Zerhouni announced? Dr. Wilson said it is the same review.

Dr. Wilson pointed out that there has been one recent response by Dr. Zerhouni to the various letters from Senator Grassley.

A Council member noted that in one of Senator Grassley's letters it was suggested that Mr. Hollander be recused from involvement in this review. Have those issues been separated? Dr. Wilson responded that Mr. Hollander and others are still involved in the Institute's business and activities until a definition is received.

A Council member wanted clarification of the upcoming review and its relationship to the previous OMA review that Senator Grassley was highly critical of and that allegedly failed to address important points.

Dr. Wilson responded that the review referred to in Senator Grassley's letter was conducted by the NIH OMA. He informed Council that this is an office charged with conducting independent reviews within the NIH. He noted that the review in question was the one that dealt with allegations concerning Dr. Schwartz, in regards to setting up his personal office, activities surrounding travel in relation to Hurricane Katrina, etc. However, Senator Grassley alleged in his letter that his office's investigation revealed information that was not evident in the OMA review. Therefore, Senator Grassley's letter raised the question as to whether or not the OMA review mechanism was appropriate and as thorough as it should have been.

A Council member then asked, was the review insufficient? How did that happen? It is difficult to know the source of the concern about missing information, whether it just was not provided by individuals at the Institute or whether it was provided and ignored. Since we are looking towards the future, are there any ideas, approaches or suggestion on how this may be avoided in the next review? The stakeholders want to be able to trust the information that comes out of the review and know that it is accurate.

Dr. Wilson responded that the review by the OMA is an independent review and is not interfered with or impacted by individuals at the Institute. The review is entirely independent. The Institute has been fully cooperative with the OMA review, submitting information concerning congressional requests. As to the details of whether or not there is information that the OMA did not produce or whether there are other explanations, he could not resolve that issue at this time

Dr. Mary Gant, NIEHS congressional liaison, clarified that the letter from Senator Grassley, which mentioned several NIEHS staff by name and asked that they not to be involved in gathering information or responding to the questions in that letter, and the OMA management review that was put in the House Appropriations report language by Congressman Dave Obey are totally separate activities. It was her understanding that the National Association of the Public Administration will be involved in the OMA review. They are the "National Academy of Sciences equivalent" when it comes to public administration. They have an untarnished reputation for doing excellent, unbiased work. This should allay any concerns about the quality of this review.

A Council member then asked whether the OMA review will have an impact on the FY08 budget for projects or are the two completely separate.

Dr. Wilson explained that the two activities are separate. However, concerns about the Institute and its management could have an impact on the outcome of the budget process. The Institute is working to prevent that kind of adverse outcome. However, the two activities are not the same. Ms. Gant agreed with Dr. Wilson and noted that there has not been any indication that any of these reviews or letters will impact the actual budget numbers.

Dr. Wilson noted that the NIEHS budget has benefitted from trans-NIH programs, such as the Gene and Environment Initiative (GEI) and Epigenomic programs. These two activities represent an operational increase in the NIEHS budget beyond the traditional appropriations.

A Council member noted that the congressional letters have a very short turn around in terms of response time. How is staffing coping in terms of meeting these requests and managing their normal work load?

Dr. Wilson responded that staff have worked long hours and weekends. They have managed to answer the request in the time allocated. He acknowledged the tremendous efforts of Drs. Bookman, Tinkle, Van Houten, and their staffs.

A Council member then referred to Senator Grassley's letter of July 25, 2007 in which there were some allegations about the breach of integrity of the grant process. A Council member asked for clarification. Did Dr. Zerhouni respond to the requested information or will the OMA review address the request? Dr. Wilson responded that he did not have any substantial details concerning the letter of July 25, 2007.

A Council member then asked if the NIEHS staff assembled the information requested in Grassley's letter for Dr. Zerhouni. Dr. Lang clarified that there were two separate requests from Senator Grassley's office. The initial response was coordinated by the Office of the Director, NIH, which apparently did not contain all the information they requested, therefore, they came back with a more detailed request, which is the letter of July 25, 2007. DERT assisted the NIH Office of Management Assessment in providing the requested information. However, only a portion of the request pertained to DERT, which was the information requesting grant information.

Dr. Lang noted that he has no idea whether any information was actually shared with Senator Grassley's office.

A Council member noted that there were many congressional letters and they had only been privy to a few. Is there a way that Council members can be informed when these kinds of letters and requests for information are released?

Dr. Wilson responded yes. He also noted that there are new icons on the toolbar on the Electronic Council Book that enable Council to access information. He also pointed out the website for Senator Grassley's office. Information, including the letters, can be assessed from that website.

A Council member then referred to the allegation in the letters concerning overspending within Dr. Schwartz's lab that raised a number of questions. Two questions were posed: 1) how is the extramural and intramural budget determined for the year; and 2) is there a firewall between these budgets and if so, what is the policy?

Dr. Wilson explained the allocation process within the Institute. After the budgets are allocated the divisions are expected to spend within their allocations. It is very difficult to transfer funds from the intramural division to the extramural division and vice versa. Therefore, there is a firewall between the two divisions. Ms. Laurie Johnson then explained the process for moving funds from one division to another. She explained that this is called reprogramming and there are several levels of approval. The first being NIH, and the second, congressional concurrence.

A Council member then asked if there had been a transfer of funds from the extramural program to the intramural program or vice versa.

Ms. Laurie Johnson, Budget Officer, noted that there is reprogramming from time to time, but would have to verify if it had been done recently.

A Council member then requested that if transfers of funds occur between the two divisions that Council be informed to determine what impact these transfers have on the extramural portfolio.

With regard to the allegations of overspending or misspending, a Council member pointed out that if firewalls are in place then something was missing in the process to allow this to happen.

Dr. Wilson informed Council that the overspending they are alluding to mainly had to do with Dr. Schwartz's use of the clinical research contracts. The misunderstandings leading to the alleged overspending were that individuals at NIH believed that Dr. Schwartz's budget did not include expenditures in the clinical research contract. Dr. Schwartz, however, assumed he had access to the clinical research contracts just as all the principal investigators at the Institute have access to those contracts. Therefore, the main disagreement had to do with the clinical

research contracts at the Institute. However, any overage in Dr. Schwartz's budget was relatively minor.

A Council member then wanted information in regard to Congressman Kucinich's letter. What is the rationale for the letter? Also, will the Strategic Plan continue to be followed, have any programs been temporarily or permanently discontinued, and what is the fate of the new clinical component?

Dr. Wilson informed Council that the Strategic Plan would continue with the initiatives as planned. We also will look at balance and appropriateness when implementing the seven goals. In terms of the clinical research program, the program will proceed as planned, as well as to continue the development of the clinical research unit including recruitments.

A Council member noted that the rationale for Congressman Kucinich's letter is not spelled out. The rationale should become evident at the Congressional hearing.

A Council member also noted that the letter was calling for an on-site review of scientific and administrative operations of NIEHS. Therefore, what is Council's role in this review?

Dr. Wilson responded that the role of Council is to provide advice and for the Institute to hear and make use of the advice when appropriate.

A Council member then asked if they would be interviewed by the committee from OMA.

Mr. Hollander informed Council that they had not as yet been briefed and did not know the extent of the review, what was expected, or who would be interviewed.

A Council member then questioned whether there had been any thought to establishing a mechanism for repairing NIEHS' relationship with its stakeholders.

Dr. Wilson responded that later in the agenda he would cover some mechanisms the Institute plans to use over the next year.

Several Council members queried how they could obtain information that had been provided to Congress. Council members should obtain information through the Freedom of Information Act (FOIA). Council members are considered Special Government Employees when at Council or Council related activities and members of the Public when not engaged in Council activities. Guidance will be requested from NIH.

Council expressed the need to have a special time, special meeting, updates, minutes of correspondence from Congress, as well as a list of the pertinent issues, in terms of management and scientific review in order that Council could have some meaningful discussions on the issues and provide advice.

Dr. Wilson responded that the Institute will contact Council in the next few weeks to specify some of these actions.

A Council member then wanted to know if the allegations fall under civil or criminal investigations.

Dr. Wilson responded that the OMA review and some of the congressional requests fall under civil investigations. Investigations by the Department of Justice may fall under criminal investigations.

Dr. Wilson informed Council of the Institutes' highlights and milestones. The following are noteworthy NIEHS accomplishments and updates that have occurred since May 2007.

1) Exposure Biology Program (GEI) awards were made. This is part of the Genes and Environment Initiative.
2) Interagency Coordination Committee on the Validation of Alternative Methods (ICCVAM) final draft of the five-year plan has been circulated to federal agencies that are partnering with the ICCVAM process.
3) NRC Report on Toxicogenomics has been completed and will be released next month..
4) The redesigned NIEHS website premiered in August.
5) Dr. John Bucher was named Associate Director of the National Toxicology Program.
6) CERHR expert panel completed the Bisphenol A review.
7) Mouse genome project is completed and data made available online.

Dr. Wilson mentioned five examples of outstanding publications that the NIEHS portfolio produced since the last council meeting.

1) Storici F, Bebenek K, Kunkel TA, Gordenin DA, Resnich MA.
RNA-templated DNA repair.
Nature.2007 May 17:447(7142):338-41. Epub 2007 11.

2) Kovtun IV, Liu Y, Bjoras M, Klungland A, Wilson SH, Mc Murray CT.
OGG1 initiates age-dependent CAG trinucliotide expansion in somatic cells.
Nature. 2007 May 24:447(7143):447-52. Epub 2007 Apr 22

3) Pursell ZF, Isoz I, Lundström EB, Johannsson E, Kunkel TA.
Yeast DNA polymerase epsilon participates in leading-strand DNA replication.
Science. 2007 Jul 6:317(5834):127-30

4) Naugler WE, Dakurai T, Kim S, Maeda S, Kim K, Elsharkawy AM, Karin M.
Gender disparity in liver cancer due to sex difference in MyD88-dependent IL-6 production.
Science.2007 Jul 6:317(5834:121-4.

5) Rastogi D, Wang C, Mao X, Lendor C, Rothman PB, Miller RL.
Antigen-specific immune responses to influenza vaccine in utero.
J Clin Invest. 2007 Jun:117(6): 1637-46.

Dr. Wilson updated Council on the status of three vacancies at the Institute. The search for the Scientific Director has been completed and we are awaiting permission from NIH to make a selection. The application deadline for the Director of the Division of Extramural Research and Training has been extended to December 3, 2007. The search for the Editor for the Environmental Health Perspectives (EHP) Journal is still ongoing. Dr. Wilson asked Council for comments, questions, or discussion on the areas presented.

A Council member asked that the process being used in the EHP search be described and how the stakeholders, particularly the EHP staff, will contribute to this process.

Dr. Martin informed Council that the search panel selected four final candidates and three of the candidates were then selected for an in-depth interview process, which included an interviewing search committee that represented the broad interest of the Institute. The Institute is in the process of providing staff from each of the divisions of the Institute (DIR, DERT, and NTP), the EHP staff, as well as attendees at an open meeting, the opportunity to interview each of the three candidates. After advisement, Dr. Martin will make the selection of the EHP editor.

A Council member asked for clarification on why the position is a GS/15, whereas in the past it had been a Title 42 position and whether this would hinder getting a senior scientist for the position of EHP editor.

Dr. Martin explained that the position has been a GS/15 and he had considered a Title 42 position. But the Institute is interested in filling the position as soon as possible and the Title 42 position would be a much longer process. Despite these concerns, there are three strong GS-15 candidates for the position.

A Council member then asked Dr, Wilson to describe the search process for the Scientific Director's position.

Dr. Wilson responded that a search committee was formed consisting of individuals within NIEHS as well as individuals from the extramural community. A position description was developed and the position was advertised in relevant journals and to the community-at-large. The applicants were then rated. The top six candidates were invited to meet with the search committee. After that series of interviews, three candidates were chosen. Each candidate visited NIEHS for two days; they gave a scientific seminar and were interviewed by many groups and individuals at the Institute. After this series of meetings, the information was collated and forwarded to the selecting official. At that time it was Dr. Schwartz.

Dr. Wilson updated Council on the budget appropriations. For FY07, NIEHS received $642,002,000 and the Superfund Basic Research Program received $79,117,000, totaling $721,119,000 for the FY07 NIEHS appropriation. Dr. Wilson illustrated the budget from FY85 – FY07. From FY85 – FY 96 the budget remained relatively flat. Beginning FY97 the budget began to increase and especially during the doubling of the NIH budget. However, in FY04 the budget began to decrease.

Dr. Wilson then referred to one slide in his power point presentation that illustrated the blend of NIEHS activities or NIEHS Rainbow of Activities. This slide begins with Fundamental Research in Molecular Toxicology and ends with Disease Impact: Prevention and Economic Benefit, encompassing research in genetic susceptibility, exposure assessment, epidemiology, exposure-disease relationships, public education and involvement, prevention research, and the NTP and policy.

He then spoke about the DERT 2007 Portfolio Statistics. From 1994 to 2005, there has been an increase in the number of NIEHS publications and the quality of the publications has been outstanding. He then pointed out how, from the new website, one can go to the extramural program and analyze the portfolio, either by science code, by state or by a full search. Therefore, one can assess the status of the portfolio and the wide distribution of activities across the Institute.

Dr. Wilson concluded his Director's Report by asking Council for comments and discussion on this part of the presentation.

A Council member asked how many papers were published and the cost per publication.

Dr. Van Houten informed Council that there are approximately 1800 publications per year. The dollar amount has not been calculated.

Council suggested they would like to see a calculation for each of the areas in the portfolio in order to see how much is being spent per manuscript. A number of questions focused on the coding of the DERT Portfolio. The coding should tell what is in the DERT research portfolio; therefore, it was suggested that they look at how the coding is defining the portfolio. Has the portfolio ever been categorized by the Broad Rainbow categories? Could the published literature be captured by quality, in addition to just quantity?

A Council member then asked if the Institute had looked beyond the scholarly activity into how the data that is generated by the Institute ends up in evidence-based risk assessment policy and ultimately rule making; and if so point out any examples of the successes?

Dr. Wilson pointed out that we have looked at how the portfolio has led to specific policies and prevention measures. An example is the arsenic regulation (arsenic levels) that is currently in place. Mr. Bucher also noted that on the NIEHS website, NTP has an entry that lists over 350 regulations based on NTP data. Ms. Bruske-Flowers also mentioned that on the NIEHS web site you can find a section on Public Health Impact which looks at specific research and relates it to policy decisions or changes in public health approaches.

A Council member pointed out there are other ways of measuring quality and impact and asked if the Institute had considered metrics that are a little more challenging with respect to the other aspects of the portfolio namely, community outreach and environmental justice, where there are not necessarily journal publications or the more typical metrics that are associated with science and the typical measurement of productivity.

A Council member asked if there was a reason for extending the deadline for the search of the DERT Director.

Dr. Wilson replied that, during this period of transition, it would allow more time for potential applicants to gain further information about the Institute.

A Council member noted that there appears to be a strong emphasis on recruiting someone from academia for EHP editor, rather than someone from government. Can you explain the bias toward academia versus government?

Dr. Martin informed Council that the Search Committee was seeking candidates with experience with editing scientific journals, who almost invariably come from academic institutions; however, in this particular position, there is a need for government experience and leadership, so an individual with prior or current government experience also would be considered.

At the September 2006 Council Retreat, the Council expressed a need for the following activities, which Dr. Wilson outlined:

1) Schedule time for formal discussions, as well as more opportunity for informal discussions.
2) Schedule discussions early in the process for Concept and Initiative development.
3) Provide more scientific presentations at Council.
4) Involve Council members in more activities.
5) Provide more feedback and interactions with Council members.

Dr. Wilson then described his priorities for the Institute as Acting Director: 1) regarding management, the Institute would place a priority on management efficiency and accuracy with regard to guidelines and practices, and administrative oversight and evaluation. 2) Science, in environmental health research, should be the best in the country and around the world. 3) Community involvement offers the Institute leveraging and a way to more efficiently deliver information products to impact public health. 4) Diversity, the Institute will do all it can to emphasize diversity with regards to race and gender. 5) Policy, the cause and effect between transfer of knowledge and the impact on public health.

What are the ways in which research is transferred into policy, and how can this be done in a more efficient way?

Dr. Wilson described a Management Toolbox, consisting of six areas: 1) an initiative to interact more with Council members; 2) the NAS/NRC committee on implementation of the Strategic Plan. This committee will have broad input, discussion, and deliberations on the implementation of the Plan and will involve the extramural community; 3) Management Matrix for Administrative Oversight to be done with the Office of Management. All activities within the Institute and the management structure will be looked at to make sure proper oversight is in place; 4) the NAS/NRC committee on Emerging Issues will continue. The NAS/NCR committee fosters dialogue between various sectors (academic, environmental, industry, etc.); 5) the Stakeholder Consultation Program is a mechanism where Council members can participate in small working groups and report back to Council for discussion, and 6) a process for support of committee-based management of key functions will be devised. This will be a consensus-based-bottom up management structure.

Dr. Wilson asked Council for comments and discussion on this part of the presentation.

A member of Council questioned why management is at the top of the list of priorities?

Dr. Wilson explained that as Institute Acting Director he wants to make sure that management practices at the Institute are optimal and as strong as they can be.

A Council member then asked about the two letters from Senator Grassley, which alleged that policies in the awarding of extramural grants were violated. Council has received no information concerning the allegations or the responses to the allegations. When there are allegations that the awarding process is flawed and no concrete answers are given, a shadow is cast over the relationship between the Institute and the extramural community. Council asked to discuss how the Institute will ensure that the integrity of the process is protected, and how the Institute and NIH will respond to this allegation.

Dr. Wilson responded that the points made in Senator Grassley's letters are viewed as allegations. However, at the Institute we have a very structured process and outstanding oversight for evaluating proposals, securing advice from Council and making funding decisions. Dr. Lang then described in detail the procedures used in DERT to come to final funding plans. This includes two pre-Council meetings, Council, and a post-Council meeting. It was noted that careful attention is paid to staff conflicts of interest with individual applications and that conflicted staff are excluded from funding discussions and decision making. It was noted in cases where the NIEHS Director had conflicts, final approval of funding plans that contained those proposals go to NIH for final approval and signature.

A Council member pointed out that they are privy to the proposals which were ultimately funded but do not know the rationale for the funding.

Dr. Lang then explained that proposals are funded in priority score order, with few exceptions. However, certain criteria enter into the funding evaluation for proposals that fall within the gray zone (borderline); considerations such as program balance, content, new investigators, young investigators, and innovative research are considered.

Council reiterated their concerns about the allegations, arriving at a positive resolution to the investigations, and being kept informed.

Dr. Wilson acknowledged that he is taking the concerns of Council seriously and the Institute will do everything it can within the guidelines to share information with them.

Dr. Wilson closed his presentation by thanking all of the Institute staff who helped in addressing the Congressional inquiries and in preparing his report to Council.

Ms. Stephani Hines, Council member, noted she had assembled a “To Do List” and will share the list in the most appropriate way.

VI. DNA POLYMERASE GAMMA AND MITCONDRIAL DISEASES: LESSONS FROM THE BENCH - Dr. Copland

Presentation postponed to be rescheduled at a later date.

VII. PEER REVIEW PROJECT (VIDEO CONFERENCE) - Dr. Berg

Dr. Wilson introduced Dr. Jeremy Berg, Director, NIGMS to present the work of the Advisory Committee to the Director (ACD) NIH and the Steering Committee (SC) working groups that have been looking at peer review across NIH.

Dr. Berg began his presentation by showing the PowerPoint slide of the website for Enhancing Peer Review at NIH where Council could find more in-depth information. He pointed out that a year ago, during discussions at their leadership forum, the Institute and Center directors identified peer review as a key issue. In partnership with the scientific community, Dr. Zerhouni began a study to strengthen peer review at NIH in changing times.

The principles behind the study are the increasing breadth, complexity, and interdisciplinary nature of biomedical science which are creating new challenges for the system used by NIH to support biomedical and behavioral research. NIH must continue to adapt to rapidly-changing fields of science and ever-growing public health challenges; ensure that the process used to support science are efficient and effective as possible for applicants and reviewers and, to continue to draw the most talented reviewers. Dr. Berg noted that the “system” refers to the applications received and reviewed, the roles of program staff and council.

The first phase is to get the broadest input from all aspects of peer review; i.e., investigators, scientific societies, grantee institutions, voluntary health organizations, council and NIH staff.

Dr. Berg noted that there are two parallel groups that are working in concert. The ACD working group whose members are external to NIH and SC working group whose members are internal to NIH. The members of these committees were mentioned and shown on a PowerPoint slide.

The Center for Scientific Review (CSR) is working on the following initiatives; 1) shorten the review cycle; 2) immediate assignment of applications to IRGs; 3) realignment of study sections; 4) electronic reviews; and 5) shortening the size of applications. The Steering Committee is coordinating its efforts with these initiatives.

Dr. Berg went through the Phases for Review. 1) The Diagnostic Phase consisted of a request for information (RFI) with responses due by September 7, 2007 and NIH created an interactive website for soliciting comments. 2) Dr. Zerhouni and the ACD working group co-chairs held two teleconferences with research deans to obtain their comments. 3) The ACD working group will hold a series of regional town meets between July and October 2007. Also the ACD working group selected science liaisons to enhance out-reach to stake-holders and a common website was created for liaisons and ACD members to submit feedback. 4) SC working group solicited from ICs prior experiments and specific statements.

Dr. Berg mentioned additional efforts by the SC working group, such as, analysis of peer review literature (summary completed0; analysis of other agency approaches; and psychometric analysis of study section models by experts.

Dr. Berg informed Council that he and Dr. Lawrence Tabak, NIDCR are updating Council and NIH groups to keep them informed of the process. Dr. Berg then mentioned the next phases after the diagnostic phase. They are the piloting and Implementation phases.

Dr. Berg noted some emerging ideas, which consisted of 1) review criteria, focus, and application structure; 2) reviewer mechanisms and mechanics; 3) reviewers and review culture; 4) scoring; and 5) other issues.

Dr. Berg ended his presentation by asking for questions from Council.

Council Response and Discussion

A Council member wanted to know how CSR plans to find and recruit reviewers in those areas of research which are in the minority in terms of applications and are marginally represented in study sections. Will there be some formal mechanism to address those underrepresented areas of research?

Dr. Berg responded by stating there are no solutions at the moment. However, CSR would welcome ideas from Council on how to address this issue.

Council then asked if CSR had given any thought to polling the extramural community to determine what investigators' views are as to the optimum grant review system.

Dr. Berg responded that they had done a broad survey, receiving 2200 responses. However a more pointed survey was not done because it would take about a year to get OMB clearances. NSF did a broad survey and CSR will have access to their data to look at their responses.

Council discussed the amended applications and would it be possible to return to submitting an A3 or A4 application. This would enable study sections to rank proposals without the concern that an investigator would lose their job if not funded.

Dr. Berg responded that this is a possibility and is under discussion.

A Council member then pointed out that there appears to be little pre-training/orientation of study section members before they actually serve.

Dr. Berg responded that orientation of study section members varies how effectively it is done within CSR and the ICs. In the case where reviewers are underperforming, the issue is how to get them up to speed or to make sure they do not end up on study sections. This is a topic that is under discussion.

VIII. GENES, ENVIRONMENT AND HEALTH INITITATIVE (GEI) REPORT – Dr. Collman

Dr. Collman recapped for Council the two parts of the GEI initiative. NIEHS was the lead on the Exposure Biology Program and NHGRI was the lead for the Genetics Program. The purpose of the program is to accelerate our understanding of the genetic and environmental factors contributing to health and disease. The two components are working on parallel projects that will help move the field forward. The NHGRI genetics program will conduct a series of whole genome-wide associations of common disease, and the NIEHS exposure biology program will develop innovative technologies to improve the measurement and assessment of exposures.

Dr. Collman discussed how the program was implemented. Forty million new dollars was allocated to NIH for this program in the FY07 budget. The genetic component received $26 million and the exposure biology component received $14 million. From FY07 to FY10 the GEI funds are committed to the common fund at NIH. The funds are redistributed according to the ICs that take lead administrative responsibilities for the RFAs. It is hoped that the monies will revert to the base of the participating ICs in FY11 and beyond.

Dr. Collman pointed out that over the past year and a half Council has received extensive information on the Exposure Biology Program and not as much on the Genetics Program. She discussed the overall objectives of the program, which are to, 1) support initial genome-wide genotyping for approximately 15 complex diseases or traits; 2) conduct replication studies to further study initial strongly identified variants that come out of the genomic scans; 3) promote standardization and harmonization of phenotypic and environmental exposure data to permit cross-study analyses; and 4) look at developing new statistical methodologies at every step of the process so that we have tools available to study gene-environment interaction.

Dr. Collman showed a PowerPoint slide that illustrated the flow of investigation from genome-wide association to clinical translation. The next slide showed the components of the Genetics Program that will be funded during FY07 – FY10 (GWA studies, data analysis, replication/FM, sequencing, database, functional studies and translational studies).

Dr. Collman mentioned the FY07 awards that NHGRI made for the Genetics Program. There are two genotyping centers. One is the Broad Institute at MIT under the direction of Dr. Stacy Gabriel and the other is the Center for Inherited Disease Research at John Hopkins under the direction of Dr. David Valle. The Coordinating Center is at the University of Washington under the direction of Dr. Bruce Weir. She then noted that there are eight individual study groups which will be studying different health conditions (oral clefts, addiction, coronary heart disease, lung cancer, Type II diabetes, maternal metabolism-birth weight, dental caries and prematurity and complications).

Dr. Collman showed a PowerPoint slide that illustrated the schematics of the Exposure Biology Program. This program is designed to improve personal exposure assessment by developing new biomarkers and new biosensors which look at important biological pathways that are on the track to clinical diseases. The intent of the Exposure Biology Program is to link personal exposures through biology to clinical outcomes. She pointed out that they expected deliverable devices from this program.

Dr. Collman spoke to the amount of money that was set aside in the RFA, the number of applications received and the number funded.

Dr. Collman ended her presentation by pointing out that work conducted as part of the GEI Program will provide new insight into the interactions between genes and the environment in disease etiology. She asked for questions.

Council Response and Discussion

A Council member pointed out that the "statins" taken by a vast number of Americans have very specific pharmacological effects, which impact disease susceptibility. Children under the age of 17 are exposed to many drugs used for treatment on Attention Deficit Disorders, hyperactivity, and other diseases and syndromes. Council requested for future RFAs that we broaden our understanding of what constitutes the environment by including therapeutic substance, both prescribed and over-the-counter.

Dr. Collman informed Council that when the RFAs were developed they solicited input from all of the ICs and the topic of prescription-based drugs was not a high priority among the IC partners. This topic might need to be a stand-alone initiative. However, there is an active pharmacogenomics and pharmacogenetics program across NIH. They are looking at some of these genetic predictors and genetic aspects of response to pharmaceuticals through that program and NIEHS contributed and is a partner.

A Council member pointed out that biology does not really care how humans classify chemical substances. What matters is the totality of the chemical, physical, and psychological exposures that impact the individual. Until we grasp the totality of exogenous exposures, we are only dealing with subsets of the environment.

Council then expressed that they want to be involved in future meetings of the program. They then asked how the program is going to be evaluated.

Dr. Collman noted that the Exposure Biology Committee is dealing with many of these issues. They are looking at the evaluation attempts and methods that some of the large NIH biomarker consortiums have put forward and will take the best of those. NIEHS will continue to bring this initiative to Council to report and discuss.

A Council member then pointed out that the failures should be incorporated into the metrics so that they add to the pool of knowledge. These failures are not necessarily publishable but can contribute to the body of work.

Dr. Collman responded that if we are able to develop a new body of science related to biological response, then we will be successful because it did not exist before the program started.

IX. ENVIRONMENTAL HEALTH PERSPECTIVES (EHP) ROUNDTABLE REPORT - Dr. Martin

Dr. William Martin presented an outline consisting of the Report from the EHP Roundtable held in June 2007, and a status report on the Editor-in-Chief Search and of the EHP contract competition.

The Environmental Health Perspective (EHP) Roundtable took place on June 27, 2007 in Bethesda, MD. The meeting was designed and administered by the Keystone Center. Dr. Peter Adler, the president of the Keystone Center, was the facilitator for the discussions. Seventeen people were invited to the roundtable representing diverse perspectives on EHP and its value to various constituencies. Council members present were Dr. Ramos, Ms. Greenhill, and Ms. Hines. The brief presentations and the follow up discussions at the meeting were very open and transparent. Many questions were asked and answered regarding the *EHP Journal*. A meeting summary was written by the Keystone Center that included an appendix that captured comments of the participants. Dr. Martin paused to answer any questions on this segment of the presentation.

A Council member noted the time-line was short for responding to the Keystone summary with only eight days to send back comments. Also, the edits and comments that were made by the individuals were not immediately available for others to see.

Dr. Martin responded the meeting was run by the Keystone Center which is a neutral body. The meeting was designed and executed as a listening session. The Keystone Center put together the format for the meeting and wrote the summary and appendix from the comments solicited from the group. It was a one day meeting and not an overview of the *EHP Journal*. The meeting summary was based on what was actually discussed at the meeting. The Keystone Center uses this summary and response format for its workshops and includes all comments in the appendix even if not included in the workshop summary

A Council member asked for a description of the essence of the report. Dr. Martin responded that the meeting discussions included all the various perspectives on EHP Journal and its future and that the sense of the meeting by participants was that this was an important first step toward building trust.

A Council member commented that the *EHP Journal* has been very expensive to run relative to other journals and asked about the high cost of production. Dr. Martin responded, one-third of the cost is largely federal personnel and approximately two-thirds relate to the cost of publishing the journal.

The next topic, Editor-In-Chief Search had been addressed earlier in the Director's Report. Dr. Martin asked Council if there were further questions on the search for the Editor-in-Chief. With no further questions or comments he went to the next topic, The *EHP Journal* Contract.

The EHP contract is renewed every five years to seek a contractor to publish the journal. The contract competition is now being managed by The National Library of Medicine which has sought information on what the Institute is seeking to have a successful journal. In the re-competition the Institute is seeking a contractor that will continue with the high quality of the journal and also help in the addition of new technology to enhance the success of the journal in future years.

X. STAKEHOLDER CONSULTATION PROGRAM – Dr. Tinkle

Dr. Tinkle presented the following: The purpose of the program is, 1) to reaffirm the commitment of the expertise and resources of the NIEHS to the mission. The mission is to perform rigorous and transparent environmental health science research that prevents environmentally-related human disease and protects public health; 2) to engage environmental stakeholders and the public in thoughtful dialogue on topics that are important to the Institute; and 3) to provide Council and the NIEHS staff with structured and succinct stakeholder input on specific issues that will inform the mission of NIEHS. This should provide NIEHS with a broader knowledge base from which to make decisions.

The organizational structure will consist of a series of independently facilitated Stakeholder Consultations (two or three a year) that will engage a diverse working group of knowledgeable stakeholders. The Stakeholder Consultation will be convened at the request of the NIEHS director as a working group under the Council. All Stakeholder Consultation dates will be published in the *Federal Register, EHP Journal,* and the NIEHS website and will be open to the public.

The participants at each Stakeholder Consultation will include 12 - 15 invited participants and a facilitator. There will be at least one to two members from each of the following, Council, NIEHS leadership, and the general public. Others to be identified as needed.

Potential topics to be addressed are, 1) managing scientific innovation to benefit public health; 2) impact of REACH laws on U.S. science and policy; 3) impact of changing technologies on human research strategies; 4) communicating about environmental health sciences in a global information environment; 5) increasing diversity in the EHS workforce; and 6) opportunities for community involvement in EHS research.

Some topics for dialogue are, 1) current state of the environmental health sciences; 2) analysis of strengths, weaknesses, and opportunities in the scientific programs; 3) future drivers and constraints of the science fields; 4) vision as it relates to NIEHS now and in the next five years; 5) potential options and strategies for advancing the science in relationship to the NIEHS mission and Strategic plan; and 6) public comments.

Expected outcome is a report summarizing and analyzing the Stakeholder Consultation meeting. The discussions are to be prepared by the facilitator and reviewed by the participants. The deliberations will be brought to Council who will have the opportunity to review the document and make comments. Upon the advice of Council, a final report may be published on the NIEHS website, EHP journal or other suggested outlets.

Dr. Tinkle concluded her presentation by informing Council that this is a flexible program intended to bring forth the best in each Stakeholder Consultation meeting that will engage the stakeholders as well as the Institute. She then asked for questions.

Dr. Wilson then pointed out that the Institute would like some discussion on whether or not Council agrees that this activity is worthwhile and if there are significant time concerns that Council might have or concerns about participation in this type of program

Council Response and Discussion

Council realizes this idea is in the preliminary stage, but what will it cover above what Council is already engaged in? This mechanism might be useful if it is used to address a problem that is not met by any other mechanism; but why is NIEHS proposing this mechanism at this time?

Dr. Tinkle responded we want to engage the public in order to rebuild our reputation among our stakeholders. Dr. Wilson also noted that better communication with the community is needed as is better dialogue and feedback from Council. He pointed out that other mechanisms, such as town hall meetings and working groups, are not as optimal as this mechanism. This mechanism will be a function of Council and will adhere to the various guidelines by which Council operates. Town hall meetings and other similar venues are seen as problematic because they are not always open to the public. We plan to have meetings across the country where the greatest numbers of stakeholders are located. We are proposing this mechanism now due to the current climate at NIEHS; we believe this type of meeting is an optimal way to achieve interaction with the stakeholders and also to achieve better and more rapid communication with Council.

Council felt that this discussion was perhaps premature. The EHP Roundtable proceedings were not as yet complete and Council was reluctant to proceed to a new program. Council pointed out it may be problematic to listen to the stakeholders and five years later there is no response. We further take the risk of alienating our stakeholders. Council concluded that going out to the stakeholders and picking topics for them is not the best approach, but educating Council on current stakeholder issues may be a better approach.

XI. EPIGENOMICS ROADMAP 1.5 INITIATIVE – Dr. Wilson

Dr. Wilson updated Council on the Epigenomics Program which is one of the programs in Roadmap 1.5. The program is co-led by three institutes and their directors; National Institute of Environmental Health Sciences (Dr. Samuel Wilson), National Institute of Drug Abuse (Dr. Nora Volkow), and National Institute of Deafness and other Communicative Disorders (Dr. James Battey). He then gave a working definition of epigenetics. It is the standard idea of regulating gene activity, and is not dependent on DNA sequence. These types of alterations are heritable in many cases, regulating gene activity or gene expression activity, and deal in many cases with progeny cells or individuals. Epigenetic changes are thought of as stable, long-term alterations and transcriptional potential in a cell and they are not necessarily heritable from one generation to the next. The definition of epigenomics is the “omics” idea of applying to all genes in a cell as opposed to single genes.

The goals of the program are to 1) establish an international committee (standard practices, platforms) to develop new antibody reagents and to create a database; 2) develop epigenomic mapping data and infrastructure to facilitate research in human health and disease; 3) evaluate epigenetics mechanisms in aging, development, environmental exposure (physical, chemical, behavioral, social environments) and modifiers of stress, and 4) develop new technology for single cell analysis and remote imaging of epigenetic activity in cells/tissue/whole animals.

Dr. Wilson noted the five RFAs for this research initiative. 1) RFA1: Reference Epigenome Mapping Centers (NIEHS lead, $50 million for FY08-FY12). Establish comprehensive “reference” epigenome maps (DNA methylation, histone modifications, non-coding RNAs) in human ES cells, differentiating/differentiated cells/tissues relevant to disease. 2) RFA2: Epigenetics of Human Health and Disease (multiple ICs, $88 million for FY09-FY15. Fifty/fifty cost sharing between the Roadmap program and the individual ICs on the individual projects addressing aging, development, environmental exposures, and modifiers of stress. 3) RFA3: Epigenomics Data Analysis and Coordination Center (NIDA lead, $12 million for FY08-FY15).

Develop data and computational infrastructure for Mapping Centers and other RFAs. 4) RFA4: Technology Development in Epigenetics (NIDA lead, $42 million for FY08-FY14). Develop new technology/tools for epigenetics, e.g., imaging in single cells/tissue/whole animal; and 5) Discovery of Novel Epigenetic Marks in Mammalian Cells (NIDDK lead, $15 million for FY08-FY12). Develop novel, stable epigenetic marks in mammalian cells with application to genomics.

RFA numbers 1, 3, 4, and 5 will be published in the Federal Register in early October 2007 and awards are to be made in September 2008 (FY08). RFA number 2 will be published in the Federal Register in either November or December 2007 and awards will be made in either October or December 2008 (FY09).

This portion of Roadmap 1.5 envisions an eight-year total investment of $219 million, plus $3 million to jumpstart the program. The jumpstart (NIDA/NINDS lead for FY07) will establish an NIH/International Committee on Epigenetics (NICE). Identify standard protocols/reagents for maintenance of stem cell/tissues and epigenetics research, develop new antibodies for epigenetics research, and create databases (NCBI).

Dr. Wilson asked for questions or comments from the Council.

Council Response and Discussion

A Council member noted the primarily focus is on epigenetics in human cells, and was there consideration given to the use of model organism, because there are well developed systems.

Dr. Fred Tyson responded model organisms will be available for use with epigenetic marks and technology development. However, the disease aspects of the program and the Mapping Centers are human cells and tissues.

A Council member asked how much technology development needs to occur and will investigators be able to obtain funds to carry out this type of research at University Centers?

Dr. David Balshaw responded that technology development will be available to individual investigators and some will be limited to the high-end imaging centers.

Council discussed the Roadmap dollars, matching IC dollars, how this could affect existing programs in the portfolio, and what did the Institute envision as a commitment over the next couple of years.

Dr. Wilson noted that their points were well taken. The ICs individually will have to make a decision about the value of investing in these individual projects that would incorporate a 50/50 match. The support would come from the existing IC budgets and would have to stand the priority decision in the budget.

Dr. Wilson concluded by telling Council he would keep them informed on this program as it moves forward.

XII. HIGH RISK/TRANSFORMATIVE RESEARCH CONCEPT CLEARANCE – Dr. Balshaw

Dr. David Balshaw presented to Council the High-Risk/Transformative Research Concept Clearance for supporting an effort to advance beyond the incremental and into research that will lead to paradigm shifts and new ways of unraveling the complex interplay between environmental exposures and human diseases.

Dr. Balshaw posed the following questions. 1) How does a single agent lead to multiple diseases? 2) What determines whether an individual gets one type of disease or another given an environmental exposure? 3) How can we predict response to real-world exposures - exposures to mixtures or to chronic low-level exposures? 4) How can we use an individual's exposure complement to provide a therapeutic decision, and to guide treatment? To answer these questions the approach is not the emphasis, but the impact. This effort can lead to ground-breaking research. The individual must have a track record as a proven investigator and needs flexibility to try new and different approaches.

Dr. Balshaw introduced Drs. Dixon and Wani, the Council reviewers for this Concept Clearance. Drs. Dixon and Wani were supportive of the program, but had concerns about how these proposals would be reviewed, since they would not fare well in a traditional study section.

Dr. Balshaw noted that he was aware of issues concerning the review panel. The review panel would have to be organized by the Institute and comprised of people who do this type of research, who have vision, and understand the issues. With appropriate pre-review interactions with program and review staff this issue should be minimized.

Council Response and Discussion

Council thought the Concept was exciting and were very supportive of the program, but the topics illustrated were thought to be neither high-risk nor transformative. Dr. Balshaw indicated that part of the transformative nature is encouraging the research community to probe long-standing issues such as these, so while the questions may not be innovative on the surface, answering them would transform the environmental health sciences. There were further concerns on how the applications would be reviewed in study section. It was noted that the study section would have to be an open-minded and visionary group.

Despite these concerns, Council thought this program would stimulate broad thinking, and the investigator should be allowed to choose the topic and not the Institute. Council gave examples of incentives for investigators, e.g., first award should be a R21, second award should be a R01, and the third award should be a translational grant. It was also noted that sufficient funds should be available to have a viable program.

Dr. Balshaw noted the comments and the Council unanimously approved the Concept Clearance.

XIII. GLOBAL ENVIRONMENTAL HEALTH PORTFOLIO ANAYLIS AND PLANS FOR FUTURE WORKSHOP – Drs. Van Houten and Martin

Dr. Van Houten brought to the attention of Council that Dr. Suk presented a Concept Clearance for Global Environmental Health (GEH) at the May Council and the Council reviewers, Drs. Spencer and Essigmann requested information concerning what the Institute is currently funding in GEH research.

Dr. Van Houten began his presentation by acknowledging the Program Analysis Branch staff, program administrators, and grants management staff for helping to gather the data for this presentation.

Dr. Van Houten noted that GEH is within two of the Institute's strategic plan goals, i.e., goal four and seven. In order to give Council the requested information the following definition for the NIEHS GEH portfolio was used: Any research occurring in foreign country and studying a foreign population (including tissue samples)**,** or collecting environmental samples, Using these criteria, fifty-seven projects, in 35 countries were identified for the period 2005-2007. Total project costs equaled $30 million (2005:$6.3 M, 2006: $12 M, and 2007 $11.7 M).

Dr. Van Houten explained gathering the data was very labor intensive since the information was not always in IMPAC II or in the Fogarty database. Information was gathered and is available on all 57 projects identified in the portfolio. Dr. Van Houten mentioned only six projects to give Council an idea of the types of projects funded; they were 1) Mexican border issues, particularly metal, such as arsenic, organic pollutants, developmental, and a broad range of diseases; 2) China, aflatoxin-induced liver cancer; 3) Seveso, Italy, looking at breast cancer, diabetes, metabolic syndrome, bone density, and women's thyroid hormone levels in relationship to dioxin exposure; 4) Seychelles, methylmercury in pre- and post-natal development; 5) arsenic and magnesium exposure on systemic effects including skin and bladder cancer; and 6) China, the development of acetaldehyde DNA adducts in women exposed to indoor cooking and the correlation with head, neck, and lung cancer.

Dr. Van Houten showed a PowerPoint slide of pie charts that represented the 57 projects totaling $30 million. The largest percentages (21%) are R01s totaling $21,834 million. The remainder ($8 million) ran the gamut of various mechanisms. He pointed out the Centers (2%), and training and career development (3%) represent a small percentage of the total dollars. He concluded his presentation by outlining the next steps to be taken: 1) the initiatives in development for GEH (arsenic, indoor burning, and environmental cancers); 2) leveraging current GEH research with other expertise in DERT portfolio; and 3) collecting additional data with the help of an outside contractor.

Council thanked Dr. Van Houten for his informative presentation in response to Council's request.

Dr. William Martin began his presentation by informing Council that the summary from the Global Environmental Health (GEH) workshop held in January 2007 was announced in the *Federal Register* and made available for public comment with the summary placed on the NIEHS website. Comments came from the Health Effects Institute, the COPD Foundation, The Energy and Resources Institute (TERI), the U.S. EPA, Drs. Roger Glass (Fogarty), Margaret Bentley (UNC), Stephen Gordon Liverpool), and David Armstrong (NIEHS). Many of the comments emphasized the need for NIEHS to look at GEH in the broader context (poverty, overcrowding, and malnutrition), and to include other partners who are doing GEH.

Dr. Martin noted that plans for an upcoming GEH workshop were in part to respond to these comments and to include foundations, non-governmental organizations (NGOs), and multi-nationals at the September 28, 2008 GEH workshop. This is a collaborative effort across NIH and other federal agencies (EPA, CDC, USAID and the State Department), foundations, and NGOs. The goals of the meeting are to, 1) introduce opportunities in global environmental health to a broader audience of foundations, NGOs, and other federal representatives; 2) determine common barriers in GEH research and ways in which these barriers were or were not

overcome through partnerships; and 3) develop working principles that can achieve sustainable partnerships in GEH research in the developing world. Dr. Martin outlined to Council the draft agenda, for the GEH Forum: How Partnerships Overcome Barriers to Improve Global Environmental Health.

Dr. Martin concluded by outlining some of the outcomes expected from this workshop. There will be working groups to address the important areas and will be seeking partnerships to help us understand how we can work together better in the developing world.

A Council member asked if it would be possible to have an inventory of the projects being funded by NIEHS and other organizations around the world, the available infrastructure, etc. Dr. Van Houten noted at present we do not have a database where this data exist or any data source electronically that we can use.

A Council member noted, a "generic ask" for support has not been prepared and that there will be organizations at the meeting who have the capability to become significant partners with NIEHS. At the San Francisco meeting several topics were put forward that matched the interest of several organizations; therefore, will NIEHS ask them to partner with us?

Dr. Martin responded, as a federal agency we cannot do the "ask". The "ask" will have to come from the Foundation of NIH (FNIH) but that this workshop is designed in part to take the appropriate next step toward that goal of setting up an "ask". The workshop will be held at the Cloisters on the Bethesda, MD campus where FNIH is housed and that FNIH and a current NIEHS partner, MCAN, will be doing a luncheon presentation on how private organizations can partner with the NIEHS and other components of the government.

A Council member then brought up the possibility of doing government–government agreements to provide resources for NIEHS to manage GEH projects.

Dr. Martin noted that there are joint working groups in place that are addressing what Council has suggested and that this process can and should be expanded. However, it requires that the Institute be willing to invest.

XV. Adjournment

Meeting adjourned at 5:20 p.m.

OPEN PORTION OF THE MEETING – September 18 2007 – 8:00 a.m.

XIV. TRAINING PORTFOLIO ANALYSIS – Dr. Drew

Dr. Christie Drew presented newly available statistics about two of NIEHS' key training programs and preliminary ideas about an evaluation of the programs. The long term objectives of the evaluation are to determine 1) who are the trainees; 2) in what areas of science were they trained; 3) where are they now; and 4) are they successful. The first two objectives were the main topic for the presentation. Ultimately, the training evaluation aims to improve trainee tracking, improving retention of trainees in environmental health research, and filling any gaps in training that are identified. This work builds on a training evaluation led by the NIEHS Program Analysis Branch in 1999, which identified key training areas and identified key elements for a

trainee tracking database. A tracking database has not yet been implemented, but NIEHS staff has contributed to new reporting tools that were recently developed to extract trainee information from the IMPAC II database, which houses information about extramural grants funded by NIH. Data presented are drawn from the new reports and from grant abstracts.

Dr. Drew described the T32 and F32 training programs from 1980-2005.

The T32 program (institutional training program) supports pre- and post-doctoral positions at institutions. From 1980-2005, approximately 5,000 individuals participated in the program at a total cost of approximately $215 million. The number of funded positions per year has remained fairly stable, at 450/year. About 65% of the positions are for pre-doctoral candidates, and 35% for post-doctorates. A total of 70 institutions have received T32 grants, with about half being active in 2005. A few intuitions have trained the majority of participants (e.g. 11 institutions have trained over half of the participants). Over one third of the 102 individual T32 grants have lasted for over 15 years, with several lasting over 25 years.

The F32 program (individual fellowship program) supports only post-doctoral fellows. Between 1980 and 2006, 473 individuals were trained at a cost of $21 million. This represents approximately 35 individuals per year at 136 institutions. In recent years the number of participants has been declining. Reasons for this are not fully known but are potentially related to the recent reorganization of study sections in CSR, or that fewer qualified individuals are eligible to apply. (Applications have also been declining).

NIEHS is also interested in retaining trainees in environmental health research. The only way to measure currently this is to look at the subsequent applications and awards from trainees to NIEHS and NIH. Data for the T32 program were presented. In general, a greater percentage of post doctorates apply for funding compared to pre-doctoral trainees. However, of those that do apply, the ultimate success rate for pre-doctoral trainees is better than the post-doctorates.

Dr. Drew also presented science areas associated with the T32 program from 2000-2006. Information was based on the titles and abstracts of 68 grants and 943 publications. A broad range of science areas were represented. The two largest training areas were carcinogenesis/mutagenesis and neurotoxicology/neurobiology/neurodegeneration.

Finally, additional analysis is possible in all areas presented, particularly related to subsequent grant information. Dr. Drew noted that PAB welcomes input from Council about further analyses or evaluation aims is most welcome. She acknowledged the PAB Branch, Drs. Shreffler and Humble, and Ms. Guthrie for their input.

Council Response and Discussion

A Council member asked why the cost per trainee in the T32 program appeared to rise so rapidly.

Dr. Shreffler explained that the cost of tuition and fees are increasing which is most likely the main driver behind rising costs per trainee.

A Council member suggested that the program could also be evaluated using retrospective interviews with highly successful trainees. Charting their history may provide a way to develop milestones for the different career paths.

A Council member suggested that PAB should explore the geographic and gender diversity of the trainees.

A Council member noted that "success" may refer to a range of different outcomes, all of which are important to track. Dr. Drew noted that PAB hopes to explore different types of trajectories in academia, industry and government that equal success. However existing NIH databases do not allow this type of analysis.

A Council member asked if PAB had an idea of how many past trainees self-identify or are in an identifiable EHS track. After learning that the answer is no, Council suggested sampling a group of past trainees and asking how many of them still identify themselves as environmental health scientists.

A Council member noted that female trainees may enter the program single, later marry, and change their name. Thus, women are more difficult to track using standard publication query tools. This may introduce an under-representation of women in the publication data presented.

Dr. Drew and PAB took note of these suggestions and welcomes additional input from Council. Further updates from Council will be provided as the evaluation progresses.

XVI. REPORT OF THE INTERIM DIRECTOR, DIR - Dr. Blackshear

Dr. Blackshear began by informing Council that he would be presenting some of the current activities occurring in the Division of Intramural Research (DIR).

He noted the current recruits to DIR, Dr. John Bucher, Associate Director, National Toxicology Program; Dr. Carmen Williams, tenure-track investigator, Laboratory of Reproductive and Developmental Toxicology (research interests: mammalian gametes and pre-implantation embryos, human reproduction and infertility); and Dr. Stavros Garantziotis, staff clinician, Clinical Research Unit (research interests: cell –matrix interactions in the pulmonary response to environmental or allo-immune lung injury);

Dr. Blackshear updated Council on the Clinical Research Unit (CRU). The CRU is being constructed in the parking lot of the F-module. It is scheduled to be completed on December 7, 2007, and will have approximately 12,000 net usable square feet. Other initiatives in support of clinical research are the 1) development of a data management system for the CRU; 2) development of a paperless, streamlined IRB review process; and 3) establishment of a DIR Molecular Genetics Core directed by Dr. Lauranell Burch. This core will offer genotyping, resequencing and other services to DIR investigators. This core is now centered in the Laboratory of Molecular genetics directed by Dr. Jan Drake. There is a steering committee that will decide admission to this core headed by Dr. Samuel Wilson.

Dr. Blackshear concluded his presentation by giving the primary goals for FY08: 1) hire a non-acting Scientific Director; 2) recruit a tenure-track and a tenured bioinfomaticist (search underway); and 3) recruit two to five additional tenure track investigators (identifying the most needed disciplines for these hires).

Council Response and Discussion

A Council member asked what will be the composition of the membership for the IRB.

Dr Blackshear informed the council that, by statute, neither the clinical director nor the scientific director is a member of the IRB. The composition is controlled by the Chairperson of the IRB, which at this time is Dr. Marian Johnson-Thompson. Every new appointee must be approved by Dr. Michael Gottesman and Building 1, NIH Bethesda. There are NIH guidelines for the composition for the IRB as far as internal, community, and minority representation (including ethnicity and gender). These guidelines are determined by statute.

A Council member inquired if conflict of interest procedures are in place and will continue during the functioning of the IRB.

Dr. Blackshear noted that there are strict guidelines that must be adhered to and are standard across NIH IRBs,

A Council member inquired about the appointment of a Scientific Director.

Dr. Wilson commented that at the moment there is no timeline for the selection, and it is not clear whether or not it needs to be postponed until a permanent Director is in place. That information will come from Building 1, NIH Bethesda.

XVII. REPORT OF THE ASSOCIATE DIRECTOR, NTP – Dr. Bucher

Dr. John Bucher began his presentation with recent events and challenges. He noted that there has been increased national and international attention to the National Toxicology Program (NTP). The *Report on Carcinogens* listing process received approval from Office of Management and Budget (OMB) on the new review guidelines; therefore NTP can begin to review substances again for inclusion in the report. In August a document was published by the *OMB Watch* "An Attach on Cancer Research". This article can be found on the *OMB Watch* website. The House and Senate Appropriations Committee language for FY07 and FY08 requested NTP to create a NICEATM-ICCVAM five-year plan for the Alternative Animals Program. This document has been completed and is under agency review. The Center for the Evaluation of Risk to Human Reproduction (CERHR) Bisphenol A (BPA) review took place in March and August amid intense press coverage. All NTP contracts were reviewed for (COI) of interest by a working group of the NTP Board of Scientific Counselors. On August 15, *USA Today* cites "the highly respected NTP" in a call for labeling plastics containing di(2-ethylhexyl) phthalate (DEHP). DEHP was one of the first substances evaluated by the CERHR Program. This evaluation raised the concern level over the use of DEHP as a plasticizer in tubing used in the care of premature infants. The National Research Council (NRC) recently published a report, Toxicology in the 21st Century, which calls for an NTP-like institute to carry out new approaches in the evaluation of toxicity pathways using high-throughput screening techniques. This follows an interim report that was published in 2006 which evaluated the utility of high-throughput screening activities as a new approach in toxicology hazard assessment and identification. A number of ideas in the 2006 report were the same ideas in the 2004 NTP Roadmap. Since January the NTP has received over 20 Freedom of Information requests. This is a three-fold increase over the usual rate of requests.

Dr. Bucher presented the current organizational chart for DIR. He noted NTP is currently located within the Environmental Toxicology Program and most of the activities under the NTP are carried out by the Toxicology Operations Branch. The NTP activities are being realigned within the DIR to give better program identity to NTP; to enhance the visibility of the programs; to enhance accountability of staff time that goes into these programs; to provide budget clarity; and enhance public health impact.

Dr. Bucher outlined the future organization structure for the NTP. The program remains within the DIR and continues to have a direct line to the Office of the Director, NIEHS/NTP. There would be five branches under the NTP plus a Program Office which includes the Office of Nomination and Selection, Office of Liaison Policy and Review, Report of Carcinogens, and the CERHR and NICEATM activities. This new structure will provide new opportunities to increase efficiency and provide opportunities for fresh leadership and new approaches.

The next topic presented was on the Bisphenol A (BPA) review. This review was carried out by CERHR. The CERHR publishes a series of monographs that deal with reproduction and development, and the levels of concern that NTP and the scientific community has about potential for exposures that are occurring in the population at this time to produce potential effects on human reproduction and development. Twenty monographs have been published to-date. The most recent are on Prozac, acrylamide, Ritalin, and soy formula. Monographs to be published soon are genistein and BPA. To develop these monographs, a group of expert panelist evaluates the literature. Recommendations are made independent of the government in a background document. This document is then used by the CERHR Program to form the basis for the opinions that the NTP publishes concerning levels of concern for reproductive and/or developmental effects to occur in humans resulting from current exposures to chemicals in the monograph series.

Dr. Bucher noted clarification was needed surrounding the misconceptions and allegations surrounding the background document of NTP CERHR BPA review. He pointed out there were a number of draft expert panel reports generated. The initial draft was produced by the contractors, Sciences International, in August 2006 which compiled the literature reviews without making judgments about the utility of the literature for reaching conclusions. The document was made available to the NTP expert panel working group and their input was incorporated and released for pubic comment in December 2006. In March 2007, the draft included updated literature and panel additions in response to public comments. At that time, there were allegations of potential conflict of interest for the contractor from segments of the scientific community who believed the December draft was the work of the contractor and did not include input from the expert panel. This led to the perception that the contractor actually was involved in the analysis of papers and in the development of evaluations that went into the December draft. Nevertheless, the first expert panel meeting on BPA was held in March 2007. In April 2007 an interim draft expert panel report was released for public comment and the second expert panel meeting was held in August 2007. Because of the issues raised concerning potential conflict of interest, the NIEHS director asked NTP to evaluate all NTP contracts for possible conflicts of interest, and to develop conflict of interest language to be incorporated into all NTP contracts. NTP was also asked to audit the drafts of all BPA panel reports. NTP carried out these requests. The audit conclusions provided assurance that the draft BPA reports included consideration of all relevant references and changes requested by the expert panel members, and the draft expert panel reports were useful for the continued CERHR evaluation of BPA.

The conclusions of the working group were that there was no evidence of actual or apparent conflict of interest in the cross-section of contracts reviewed. They made recommendations to NTP and NIH of areas to improve to eliminate or reduce the risk of conflict of interest. Specific recommendations were to assist contractors in strengthening their conflict of interest policies where weaknesses were noted and to remove the contractor as chair of the Pathology Working Group. To-date NTP has included conflict of interest clauses in all NTP contracts. The NIEHS contracting office has updated conflict of interest policies and working with contractors to rectify weaknesses. The NTP staff will serve as Chair on the Pathology Working Group. Five

Statements of Work were identified and modified to insure they accurately reflect the work being done.

Council Response and Discussion

A Council member asked about the *OMB Watch Report* on Industry Obstruction of the National Toxicology Program. Is the report credible and are there recommendations?

Dr. Mary Wolfe responded by saying there were a number of recommendations with regard to differentiating requests for corrections under the Data Quality Act, from those complaints received that address NTP policy and processes as opposed to scientific information. Currently these steps are in our procedures.
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A Council member wanted to know the nature of the Freedom of Information requests. Dr. Wolfe responded that the more recent ones relate to the contracts review and CERHR BPA process reports. Others concern some of the chemicals within our testing program and how we reach decisions regarding what we decide to study.

A Council member commented that the Susceptibility Program located on the NIEHS website is requesting input on a number of different topics. If funding is not part of an initiative to what extent should the extramural community take time and energy to expend on these questions or is this aimed at a nonacademic entity?

Dr. Bucher responded that this program is patterned after an NCI program that is involved in the development of chemotherapeutics called the RAID Program. This is a program that does not involve transfer of funds between government, private or non-profit institutions, or private industry. However, the program does utilize contracts. NTP requested information because if some type of funding is required we would have some idea of the range of funding that would be necessary to engender interest in the academic community in those particular programs.

A Council member asked if NTP was looking to the scientific community or industry to add information to some of the genomics and proteomic end points for toxicity.

Dr. Bucher responded, concerning the incorporation of genomic information in the overall armamentarium of evaluating toxicities, the program has over the last couple of years developed a database call the CEBS Database that is trying to join micro-array data with other types of information. This database is not part of the NTP but is developed within the Institute.

A Council member asked if NTP is going to move to the analysis of epigenetic effects and there are mouse strains that allow this to be done fairly straightforward.

Dr. Bucher responded before we can incorporate that concept in a large way into the NTP there is a lot of work that needs to be done. At the moment there are no plans to incorporate epigenetic changes in this host-susceptibility activity.

A Council member asked if under the current climate at NIEHS, EPA might request NTP to be under its agency. Dr. Wilson responded there are information-based opportunities in having NTP at NIH that would not exist if it were located in another agency.

A Council member noted that the separation of NTP from regulatory agencies is important. If NTP were part of the regulatory community there would be issues regarding enforcement cases throughout the US.

XVIII. REPORT OF THE INTERIM DIRECTOR, DERT – Dr. Lang

Dr. Lang's presentation was postponed allowing retiring members (Drs. Teresa Bowers, David Losee, Martin Philbert, and Peter Spencer) to make comments. The members noted their experience on Council and Dr. Lang thanked them for their service and hoped that the Institute would be able to interact with them in the future.

CLOSED PORTION OF THE MEETING

XIX. Consideration of Grant Applications
This portion of the meeting was closed to the public in accordance with the determination that it was concerned with matters exempt from mandatory disclosure under Sections 552b(c)(4) and 552b(c)(6), Title 5, U.S. Code and Section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2).

The regulations concerning conflict of interest were reviewed. Council members were reminded that materials furnished for review purposes and discussion during the closed portions of the meeting are considered privileged information. All Council members present signed a statement certifying that they did not participate in the discussion of, or vote on, an application from any organization, institution, or any part of a university system, of which they are an employee, consultant, officer, director or trustee, or in which they have a financial interest. Institutions or organizations which have multi-campus institution waivers, or are specifically designated as separate organizations under 18 U.S.C. 208(a), are exempt from this provision.

XXI. ADJOURNMENT OF THE NAEHS COUNCIL

The meeting was adjourned at 12:00 p.m. on September 18, 2007

CERTIFICATION

I hereby certify that, to the best of my knowledge, the foregoing minutes and attachments are accurate and complete.

/ Samuel Wilson /
Samuel Wilson, M.D.
Acting Chairperson
National Advisory Environmental
Health Sciences Council

/Dennis Lang/
Dennis Lang, Ph.D.
Acting Executive Secretary
National Advisory Environmental
Health Sciences Council

Proper Signatures
Treat as signed, § 1.4(d)(2)

Attachment:
Council Roster