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FACULTY RIGHTS AND RESPONSIBILITIES--RESEARCH

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15 FACULTY RIGHTS AND RESPONSIBILITIES--RESEARCH

15.1 UMBC POLICY AND PROCEDURES FOR HANDLING ALLEGATIONS OF MISCONDUCT IN RESEARCH AND OTHER SCHOLARLY ACTIVITIES

(Originally Issued June, 2001/Revised: November 28, 2001 per President's Council Approved by Faculty Senate November 11, 2003. Section headings and paragraph style adapted to the format of this *Handbook*.)

15.1.1 Policy Introduction

It is the policy of UMBC that each individual faculty, staff member, and student is expected to maintain high ethical standards in the conduct and reporting of his/her research or other scholarly activities. Maintenance of public trust in these standards is the responsibility of all members of the university community. Faculty, staff, and students have responsibilities for ethical conduct not only to UMBC, but also to the community at large, to the academic community, and to private and public institutions sponsoring the scholarly activities.

Misconduct in research or other scholarly activity is prohibited and allegations of such misconduct shall be investigated thoroughly and resolved promptly. Should alleged incidents of misconduct in scholarly activity occur, reporting of such possible violations is a shared responsibility, and it is the duty of the faculty, staff members, and students to resolve issues arising from such alleged misconduct.

Furthermore, 42 C.F.R. Part 50, Subpart A defines the responsibility of institutions receiving federal grants for dealing with and reporting possible misconduct and states, in part, that each such institution shall "…establish uniform policies and procedures for investigating and reporting instances of alleged or apparent misconduct…"

Therefore, all faculty, staff, and students engaged in or assisting with the conduct of research or scholarly activity shall comply with this policy, as amended from time to time.

15.1.2 Definitions for Purposes of this Policy

The terms defined in this section are given special meaning within this policy.

Allegation: Any written or oral statement or other indication of possible misconduct made to an institutional official.

Committee Advisor: University Legal Counsel, or any person designated by the Research Ethics Review Officer (RERO) to advise the Inquiry or Investigation Committees about this Policy's requirements and procedures.

Complainant: The individual(s) alleging that an act of misconduct has occurred.

Conflict of Interest: The real or apparent interference of one person's interests with the interests of another person, where potential bias may occur due to prior or existing personal or professional relationships.

Day(s): Throughout this document, the term "day" or "days" means calendar days.

Deciding Official: The institutional official making the final determination on allegations of misconduct and any responsive institutional actions.

Dean: College deans, the direct administrative reporting line for a center or institute, or dean equivalent. The Dean or dean equivalent serves as the chief administrative officer of his/her respective area.

Good Faith Allegation: An allegation made with the honest belief that misconduct may have occurred. An allegation is not made in good faith if it is false or if it was made with a reckless disregard for the truth.

Inquiry: Information-gathering and preliminary fact-finding to determine whether an allegation or apparent instance of misconduct warrants an investigation.

Inspector General: The office in many federal agencies (e.g., National Science Foundation, NASA) that is responsible for the misconduct and research integrity activities.

Investigation: A formal examination and evaluation of relevant facts to determine whether misconduct has taken place and, if so, to determine the responsible person and the seriousness of the misconduct.

Misconduct: Misconduct is defined for the purposes of this Policy as fabrication, falsification, plagiarism or other serious deviation from accepted practices in proposing, carrying out, or reporting results from research or other scholarly activities. The term "serious deviation from accepted practices," as used herein, includes but is not limited to the following illustrative examples of prohibited conduct:

a. Improper use or appropriation of information learned from reviewing the grant applications or manuscripts of others.

b. Making a false or grossly negligent accusation of scholarly misconduct; withholding or destruction of information relevant to a claim of misconduct; obstruction of a misconduct inquiry or investigation; and retaliation against persons involved or perceived to be involved in the allegation or investigation.

c. Material failure to comply with regulatory requirements affecting sponsored projects, including but not limited to substantial violations of federal or state regulations involving conflict of interest, the use of sponsored project funds, care of animals, human subjects, investigational drugs, recombinant products, new devices including engineering research materials, or radioactive, biological or chemical materials, or other environmental protection regulations.

d. Deliberately misstating or misrepresenting the credentials (i.e., qualifications, experience, research accomplishments or racial/ethnic origin of the Principal Investigator or project staff) or material facts of a proposed or existing project in order to advance the research program, to obtain funding, or for other professional advancement.

e. Deliberately sabotaging or physically damaging the laboratory research set up, equipment, or records.

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Misconduct, as defined herein does not include honest error or honest differences in interpretation or judgments of data. Further, this document is not intended to relate to student conduct that is governed by student judicial policies, or to limit faculty in the exercise of legitimate academic freedom.

Office of Research Integrity (ORI): The office within the U.S. Department of Health and Human Services (DHHS) that is responsible for the misconduct and research integrity activities of the U.S. Public Health Service.

Personal Advisor: Any person (e.g., lawyer, colleague) chosen by the Respondent or another participant (e.g., witness) to accompany that participant and act as a personal advisor when the Participant is called to a meeting of the Inquiry or Investigation Committee.

Public Health Service (PHS): The U.S. Public Health Service, an operating component of the U.S. Department of Health and Human Services (DHHS).

Respondent: The individual(s) against whom an allegation of misconduct has been made.

Research Ethics Review Officer (RERO): The Vice Provost for Research will serve as the Research Ethics Review Officer RERO for the University. It will be the duty of the Research Ethics Review Officer to inform the Provost of the status of inquiries and investigations of misconduct and to be responsible for the security of all documents relating to allegations, inquiries, and investigations of misconduct.

University Legal Counsel means legal counsel who represents the institution during the misconduct inquiry and/or investigation and who is responsible for advising the (RERO), the inquiry and investigation committees, and the Deciding Official on relevant legal issues. University Legal Counsel may mean in-house counsel and/or the Office of the Attorney General of Maryland. The University Legal Counsel does not represent the Respondent, the Complainant, or any other person participating during the inquiry, investigation, or any follow-up action, except the institutional officials responsible for managing or conducting the institutional misconduct process as part of their official duties.

Retaliation: Any action that adversely affects the employment or other institutional status (e.g., course grades or academic progress of a student) of an individual that is taken by an employee because a Complainant or witness has made, or is perceived by the Respondent to have made an allegation of misconduct or cooperated with the inquiry or investigation.

15.1.3 General Policy Provisions

A. Obligations of the Campus Community

All university employees, resident visitors (e.g., exchange students, visiting faculty), and students are obliged to cooperate to the fullest extent in any and all proceedings and with the sequestration of evidence related to the case.

B. Interim Administrative Action

In some instances, the seriousness of the allegation may be such that interim administrative action must be taken concurrent with sequestration, or prior to completion of the

inquiry or investigation. Interim administrative action (e.g., temporary replacement of a Principal Investigator or employment suspension with pay) will be taken when, based on actions taken by the Respondent, there is a possibility of adulteration or obfuscation of evidence, obstruction of the inquiry or investigation, or potential or actual harm to, or retaliation against, research subjects, employees, Complainants or other participants. Interim administrative action will require approval of the Provost in consultation with University Legal Counsel and the Research Ethics Review Officer (RERO). This order may remain in force until the completion of the inquiry and investigation or may be lifted at any time for good cause by the Provost.

C. Reporting Misconduct

Anyone having reason to believe that a member of the faculty, staff or student body has engaged in research or scholarly misconduct, should promptly consult with the RERO. The purpose of this consultation is to determine whether the person complaining will file a formal complaint. The institution will use due care to protect the privacy of the Complainant to the extent provided by law except insofar as information needs to be disclosed so that the University may effectively investigate the matter or take corrective measures. If the complainant chooses not to file a formal complaint of research or scientific misconduct as provided for in this policy, the RERO shall consult with University Legal Counsel to determine if a misconduct inquiry is appropriate, and/or whether referral should be made to other appropriate oversight agencies. If the RERO decides to initiate a misconduct inquiry, this will be reported by the RERO, in writing, to the Respondent's department head, his/her dean or equivalent supervisor, and the Provost. The RERO shall next provide written notification of the intent to proceed with an inquiry to the Respondent. The RERO or his/her designee shall personally deliver the notification to the Respondent at which time (or immediately subsequent to the provision of notice) relevant records will be sequestered in accordance with the procedures set forth in Appendix A.

15.1.4 Inquiry

A. Purpose of the Inquiry

The purpose of the inquiry is to make a preliminary evaluation of the available evidence to determine whether there is sufficient evidence of possible misconduct to warrant an investigation. The purpose of the inquiry is not to reach a final conclusion about whether misconduct definitely occurred or who was responsible.

B. Conducting the Inquiry

1. Convening the Inquiry Committee

Following delivery of written notice of intent to proceed with an inquiry, the RERO will appoint and convene the Inquiry Committee. The Inquiry Committee should consist of at least three individuals who do not have real or apparent conflicts of interest in the case, are unbiased, and have the necessary expertise to evaluate the evidence and issues related to the allegation, interview the principals and key witnesses, and conduct the inquiry. These individuals must be exempt professional staff or faculty and may be scientists, subject matter experts, administrators, lawyers, or other qualified persons, and they may be from inside or outside of the institution. At least two thirds of the members must be faculty of an institution of higher education.

2. Ensuring against Bias or Conflict of Interest

The RERO will take reasonable steps to ensure that the members of the committee (and experts, if any) have no bias or personal or professional conflict of interest with the Respondent, the Complainant, or the case in question. In making this determination, the RERO will consider whether a prospective committee member or any members of his or her immediate family:

a. has any financial involvement with the Respondent or Complainant;

b. has been a coauthor on a publication with the Respondent or Complainant;

c. has been a collaborator or co-investigator with the Respondent or Complainant;

d. has been a party to a scientific controversy with the Respondent or Complainant;

e. has a supervisory or mentor relationship with the Respondent or Complainant;

f. has a special relationship, such as a close personal friendship, kinship, or a physician/patient relationship with the Respondent or Complainant; or

g. falls within any other circumstance that might appear to compromise the individual's objectivity in reviewing the allegations.

3. Objection by Respondent

The RERO will notify the Respondent in writing of the proposed committee membership within ten (10) days of the notice of intent to proceed with an Inquiry. If the Respondent submits to the RERO a written objection to any appointed member of the Inquiry Committee or expert based on bias or conflict of interest within five (5) days of receipt of the list of board members, the RERO will promptly determine whether to replace the challenged member or expert with a qualified substitute.

C. Duration of the Inquiry

The inquiry is considered formally initiated on the date of the issuance of the written allegations to the Respondent. The inquiry normally should be concluded within sixty (60) days. If the deadline for completion of the inquiry cannot be met, a written request for extension shall be submitted to the RERO. The request shall cite the reasons for the delay and a brief description of the progress to date. The written request and the RERO's response shall be included in the record of the inquiry. Should the extension be granted, the RERO shall notify the Respondent of the extension.

D. Administrative Support

The Office of the RERO will provide administrative and logistic support to the Inquiry Committee. Such services may include administrative staffing support, tape recording and transcription services, and provision of expert consultants (e.g., forensic, statistical, scientific). The Office of the RERO will also be responsible for maintaining the security and confidentiality of all evidentiary materials relating to the inquiry.

E. Committee Procedures

1. Initial Meeting

At the committee's first meeting, the RERO and the University Legal Counsel and/or the Committee Advisor will review the charge with the committee, discuss the allegations, any related issues, and the appropriate procedures for conducting the inquiry, assist the committee with organizing plans for the inquiry, and answer any questions raised by the committee.

2. Follow Up Meetings

The RERO, University Legal Counsel, or the designated Committee Advisor will be available or may be present throughout the inquiry process to advise the committee as needed. The Inquiry Committee will normally interview the Complainant, Respondent, and key witnesses as well as examine relevant research records and materials. The committee will evaluate the evidence and testimony obtained and, after consultation with the RERO and University Legal Counsel, the committee members will decide whether there is sufficient evidence of possible misconduct to recommend further investigation. When invited to attend a Committee hearing, the Respondent is expected to speak for himself/herself. The Inquiry Committee, in its sole discretion, shall set the interview schedule. Persons called to testify shall comply with the Committee's requests for scheduled appearances and with the timely production of evidence.

F. The Role of Personal Advisors by Participants

A personal advisor may be engaged by any individual involved in the inquiry at his/her own expense, but the advisor may only advise the client, and may not provide advocacy for the client. In particular, the Respondent is expected to speak for himself/herself in the proceedings of the Inquiry Committee. Therefore, Respondent's or other Participant's personal advisor may not address the committee directly or represent the client to the Committee.

G. Committee Report

1. Report Contents

A written report will be prepared by the committee that states the name and title of the committee members; the allegations; a summary of the inquiry process used; a list of the research records reviewed; summaries of any interviews; a description of the evidence in sufficient detail to demonstrate whether an investigation is warranted; the committee's determination as to whether an investigation is recommended and what actions should be taken if an investigation is not recommended. University Legal Counsel will review the report for legal sufficiency.

2. Report Distribution

The RERO will provide the Respondent with a copy of the draft inquiry report for comment and rebuttal. Within 14 calendar days of their receipt of the draft report, the Respondent will provide comments, if any, to the RERO for distribution to the Inquiry Committee. These comments will become part of the final inquiry report and record. Based on the comments received by the Respondent, the Inquiry Committee may revise the report as appropriate in consultation with University Legal Counsel. This report will be made part of the record and the date of the report shall mark the end of the inquiry.

3. Recommendation and Case Disposition

If it is determined by the Inquiry Committee that the misconduct charge does not warrant an investigation, the committee shall recommend such disposition in writing to the RERO. The RERO, in consultation with University Legal Counsel, shall make the final decision as to the disposition of the case and shall notify the appropriate individuals. If it is determined by the Inquiry Committee that the misconduct charge does warrant an investigation, the Provost will be notified in writing by the RERO that an investigation is warranted.

H. Notice of Inquiry Determination and Additional Sequestration

Upon notification to the Provost that an investigation is warranted, the RERO will immediately sequester any additional pertinent research records that were not previously sequestered during the inquiry. Immediately preceding, or concurrent with, the sequestration of additional evidence, the RERO shall notify the Respondent in writing and send a copy of the inquiry report with the notice of investigation. The procedures to be followed for sequestration during the investigation are shown in Appendix A.

15.1.5 Investigation

A. Purpose and Scope of the Investigation

The purpose of the investigation is to explore in detail the allegations, to examine the evidence in depth, and to determine specifically whether misconduct has been committed, by whom, and to what extent. The investigation will also determine whether there are additional instances of possible misconduct that would justify broadening the scope beyond the initial allegations. The result of the Investigation Committee's work is a written analysis of the evidence, a set of findings and recommendation to the RERO and Provost concerning disposition of the case. The RERO, in consultation with University Legal Counsel, may expand the investigation based upon committee recommendation or the development of additional allegations arising from evidence uncovered during the conduct of the investigation. In the event additional allegations arise, the RERO shall promptly notify the Respondent in writing of those additional allegations. This is particularly important where the alleged misconduct involves potential harm to human subjects or the general public or if it affects research that forms the basis for public policy, clinical practice, or public health practice.

B. Conducting the Investigation

Following notification of the Respondent, the RERO shall (1) appoint an Investigating Committee, (2) refer the written misconduct charge(s) to the committee, including the inquiry report, and (3) take such action as may be deemed reasonable in the discretion of the RERO to ensure the continuity and integrity of research or other scholarly work, the rights and interests of research subjects and the public, and the observance of the legal requirements.

The committee shall conduct a prompt but thorough investigation to ascertain the facts of the case and to determine whether the Respondent has violated this policy.

Convening the Committee. Procedures for appointing and convening the Investigating Committee, including membership and conflict review, shall be as set forth for the Inquiry process. Members of the Inquiry Committee shall not serve on the Investigating Committee.

C. Duration of the Investigation

The investigation will be considered initiated on the date the RERO refers the misconduct charge(s) to the Investigating Committee. If possible, the investigation should start within 30 days of the date that the inquiry ends, unless the Respondent has objected to the committee membership. In the event of an objection by the Respondent on the basis of bias or conflict of interest, the investigation should begin as soon as practicable after resolution of the committee membership.

The committee's investigation normally will be concluded within sixty (60) days from the initiation of the investigation. However, it is recognized that complex cases may require significantly more time to complete a thorough investigation. If the deadline for completion of the investigation cannot be met, a written request for extension shall be submitted to the RERO citing the reasons for the delay, summarizing the progress to date, and providing the requested period of time needed to complete the investigation. The written request and the RERO's response shall be included in the record of the investigation. Should the extension be granted, the RERO shall notify the Respondent in writing of the extension.

D. Administrative Support

The Office of the RERO shall provide administrative support to the committee. Support services may include administrative staffing support, tape recording and transcription services, and provision of expert consultants (e.g., forensic, statistical, scientific). The Office of the RERO will also be responsible for maintaining the security and confidentiality of all evidentiary materials relating to the investigation.

E. Committee Procedures

The committee's first meeting will be an organizational meeting. The RERO and the University Legal Counsel and/or the Committee Advisor will review the charge with the committee, discuss the allegations, any related issues, and the appropriate procedures for conducting the investigation (e.g., cataloging evidence, interviewing witnesses, and maintaining confidentiality), assist the committee with organizing plans for the investigation, and answer any questions raised by the committee. During that meeting or in subsequent meetings, the committee will establish an investigation plan that:

1. establishes how the committee will receive and review evidence;

2 identifies the need for forensic or expert review; and

3. sets a witness interview schedule

With respect to witnesses, the Investigation Committee, in its sole discretion, shall set the interview schedule.

The RERO and the Committee Advisor will be available or may be present throughout the investigation to advise the committee as needed. Persons called to testify shall comply with the Committee's requests for scheduled appearances and with the timely production of evidence. The Respondent will not be permitted to attend any committee session unless specifically invited by the committee.

The Respondent shall have the right to request the appearance of witnesses not otherwise called to appear to provide information concerning the matter under investigation. The Respondent shall provide a brief written explanation of the basis for requesting each witness so as to demonstrate the relevance of the suggested witness' testimony.

The Respondent may also provide a list of suggested questions for the Committee to ask prospective witnesses considered pertinent to the investigation by the Respondent. The Committee shall make the final determination as to the relevance of the suggested witnesses and questions.

15.1.6 Examination of the Evidence

The investigation will typically involve examination of all available, potentially relevant testimonial, documentary, and physical evidence including, but not limited to, research records, computer files, calendars, proposals, manuscripts, publications, correspondence, memoranda, and notes of telephone calls. The Respondent should provide any physical or documentary evidence the Respondent deems relevant. The committee will review the Respondent's evidence and make its own relevance decisions. All evidence submitted by the Respondent, regardless of relevance, will be cataloged and included in the Committee's Report as part of the record of the investigation.

Whenever possible, the committee shall interview the Complainant(s), the Respondent(s), and other individuals who might have information regarding aspects of the allegations. In addition, external scholars or persons with expertise in relevant areas (e.g., forensic, statistical, scientific, etc.) may be interviewed and/or hired to conduct analyses when warranted by the nature of the field or by the nature of the allegations.

Interviews of the Respondent shall be taped and transcribed. All other interviews should, at a minimum, must be taped. A brief written summary of each taped interviewed shall be made. All tapes of the interviews and the attendant summaries or transcripts of the interviews shall be prepared and included as part of the investigatory file.

15.1.7 Legal Representation of or Use of Advisors by Participants

A Personal Advisor may be engaged by any individual involved in the investigation at his/her own expense, but the Personal Advisor may only advise the client, and may not provide

advocacy for the client. In particular, the Respondent is expected to speak for him/herself in the proceedings of the Investigating Committee. Therefore, a Participant's Personal Advisor may not address the Committee directly or represent the client to the Committee.

15.1.8 The Committee Findings and Report

A. Standard of Proof and Intent

The committee will consider whether there is sufficient evidence of intent in the alleged acts. To substantiate a finding of misconduct, the alleged act(s) must have been committed intentionally, or knowingly, or recklessly.

In reaching a conclusion on whether there was misconduct and by whom it was committed, the conclusion must be supported by a preponderance of the evidence.

In considering these factors, the committee should consider whether the Respondent has presented substantial evidence of honest error or honest differences in interpretations or judgments of data, such that misconduct cannot be proven by a preponderance of the evidence.

B. The Draft Report

Upon conclusion of the investigation, the committee will prepare a preliminary investigation report setting forth its findings with respect to the misconduct charge(s) and the grounds on which such findings are based. The draft investigation report will include all evidence submitted to or considered by the committee during the course of its investigation. The draft investigation report will be transmitted to University Legal Counsel for a review of its legal sufficiency.

The RERO will provide the Respondent with a copy of the draft investigation report for comment and rebuttal. The Respondent will be allowed twenty (20) days to review and comment on the draft report. The findings of the final report should take into account the Respondent's comments in addition to all the other evidence. The Respondent's comments will be made a part of and attached to the final report.

15.1.9 The Final Report

Report Contents. Upon the receipt of the Respondent's and Complainant's written response(s) or expiration of the 20-day response period (whichever comes first), the committee will prepare a final investigation report. The final investigation report will contain: background of the case, the allegation(s), names of the committee members, dates of the investigative hearings, a comprehensive list of all evidence reviewed by committee and/or submitted by the Respondent, analysis of key evidence, testimonial tapes, transcripts and/or summaries, Respondent's and Complainant's responses to the draft Report, all correspondence with the Respondent, all correspondence relating to any requests for investigation completion deadline extensions, the conclusions reached by the committee, the rationale for the conclusions, and recommended sanctions, if applicable.

If, by a preponderance of evidence, a majority of the committee finds that the Respondent has violated this policy, the committee will recommend an appropriate course of action that may include disciplinary sanctions and recommendations to ensure that the University meets its

obligations to any third parties affected by the violation. These third parties may include co-investigators and co-authors, project sponsors and professional journals.

The final report of the Investigating Committee will be submitted to the RERO who will then forward it to the Provost.

15.1.10 Provost's Decision

Upon receipt of the Investigating Committee's complete record, including all relevant evidence and findings and recommendations, the Provost, in consultation with the RERO and appropriate Dean, shall prepare a written report of his/her final decision and include therein the disciplinary action, if any, to be taken. This report will be provided to appropriate parties, including the Respondent, within ten (10) days. The Respondent will be notified in writing by the Provost of the disciplinary action to be taken.

15.1.11 Disciplinary Action

Disciplinary action may consist of one or more of the following example actions, or may consist of other sanctions deemed appropriate to the circumstances of the case:

1. Letter of reprimand
2. Removal from particular project
3. Special monitoring of future work
4. Probation
5. Suspension
6. Salary reduction
7. Rank reduction (with concurrence of the President)
8. Non-renewal of contract
9. Termination of employment (with concurrence of the President)

15.1.12 Appeal of the Deciding Official's Decision

A. Timing of the Respondent's Appeal

Upon being notified of a finding of misconduct by the Provost, and prior to the imposition of disciplinary action other than any interim administrative action taken as specified above, the Respondent shall have the right to appeal the decision to the President of the University.

B. Form and Grounds for Appeal

The appeal must be made in writing and delivered to the President's office within thirty (30) days of notification of the Provost's decision. The appeal is on the record. The appeal must set forth specific grounds for appeal. Grounds for appeal are limited to procedural error or arguments clearly and convincingly establishing that the Provost's decision is not supported by substantial evidence in the record.

C. Processing the Appeal

The President may delegate review of the record to an appropriate reviewing official not previously substantially involved in the investigation. If the President concurs with the decision of

the Provost, the decision is final and the record will be returned to the Provost. The Provost will initiate any disciplinary process. All disciplinary actions to be taken as a result of a finding of misconduct shall be subject to and carried out in accordance with applicable USM and UMBC employment policies (e.g., University System Policy on Appointment, Rank, and Tenure of Faculty BOR Policy II-1.00).

If the President does not concur with the decision of the Provost, he/she may take such action as he/she deems appropriate, consistent with USM and UMBC policies.

15.1.13 Post Decision/Appeal Processes

A. Remedial Actions

If the institution finds no misconduct, the RERO, after consulting with the Provost, the Respondent, and University Legal Counsel, may undertake reasonable efforts to restore or further protect the Respondent's reputation. Depending on the particular circumstances, the RERO should consider notifying those individuals aware of or involved in the investigation of the final outcome, publicizing the final outcome in forums in which the allegation of misconduct was previously publicized, or expunging all reference to the misconduct allegation from the Respondent's personnel file.

B. Storage and Security of the Investigation Records

All materials will be kept until such time that no further action (litigation or sponsor action) is probable, but not less than three (3) years after conclusion of the investigation. After the requisite storage period, the materials, as appropriate under the circumstances, will be returned to the investigator, or the sponsor, or destroyed under the direction of the Research Ethics Review Officer or his designee.

C. Reporting to the Sponsor

When required by regulation or contract, or if deemed appropriate, the project sponsor will be provided with copies of all final reports and decisions resulting from any investigation hereunder.

The RERO will take steps to notify and keep informed, project research sponsors and the cognizant federal office for research integrity (e.g., the Office of Research Integrity or the Inspector General), as appropriate, in compliance with applicable laws, regulations and agreements. When the research is federally sponsored, notification is required, and sponsors will be:

1. informed immediately if an initial inquiry supports a formal investigation;
2. informed immediately of any administrative actions;
3. kept informed during such a formal investigation;
4. notified prior to any investigation, or as required during an investigation:

    (a) if the seriousness of apparent misconduct warrants;
    (b) if immediate health or environmental hazards are involved;
    (c) if the project sponsor's resources, reputation, or other interests require protection;

(d) if federal action is needed to protect interests of a subject of the investigation or of others potentially affected; or
(e) if the scientific community or the public should be informed.

5. informed within 24 hours of reasonable indication of possible criminal violation.

15.1.14 Appendix A: Sequestration of the Research Records

1. Immediate Sequestration

If the relevant project records have not been obtained at the assessment stage, the RERO will immediately locate, collect, inventory, and secure them to prevent the loss, alteration, or fraudulent creation of records.

2. Institutional Access

Project records produced under grants, cooperative agreements, and most contracts are the property of the institution. Employees cannot interfere with the institution's right of access to them. Under certain contracts, certain project records may belong to the sponsor, but the institution will be provided access to contract records in the custody of the institution for purposes of reviewing misconduct allegations.

3. Original Records

The documents and materials to be sequestered will include all the original items (or copies if originals cannot be located after diligent search) that may be relevant to the allegations. These include, but are not limited to, project records as defined in this document.

4. Sequestration of the Records from the Respondent

The RERO should notify the Respondent that an inquiry is being initiated simultaneously with the sequestration so that the Respondent can assist with location and identification of the project records. The RERO should obtain the assistance of the Respondent's supervisor and University Legal Counsel in this process, as necessary. If the Respondent is not available, sequestration may be carried out in the Respondent's absence.

The Respondent should not be notified in advance of the sequestration of research records. This precaution is taken to prevent questions being raised later regarding missing documents or materials and to prevent accusations against the Respondent of tampering with or fabricating data or materials after the notification. In addition to securing records under the control of the Respondent, the RERO may need to sequester records from other individuals, such as coauthors, collaborators, or whistleblowers. If reasonably feasible and as soon as practicable, a copy of each sequestered record will be provided to the individual from whom the record is taken, if requested.

5. Inventory of the Records

A dated receipt should be signed by the sequestering official and the person from whom an item is collected, and a copy of the receipt should be given to the person from whom the record is received. If it is not possible to prepare a complete inventory list at the time of collection, one should

be prepared as soon as possible, and then a copy should be given to the person from whom the items were collected.

6. Security and Chain of Custody

The RERO will lock records and materials in a secure place. The persons from whom items were collected may be provided with a copy of any item. Where feasible, that person will have access to his or her own original items under the direct and continuous supervision of an institutional official. This will ensure that a proper chain of custody is maintained and that the originals are kept intact and unmodified. Questions about maintaining the chain of custody of records should be referred to the University Legal Counsel.

15.2 CONFLICTS OF INTEREST IN RESEARCH & PRODUCT DEVELOPMENT

15.2.1. Policy on Conflicts of Interest in Research & Product Development

(Approved by the Faculty Senate May 9, 2006; Section headings and format adapted to the style of this *Handbook*.)

15.2.1.1 Introduction

A. General. A conflict of interest in a research environment arises in a situation in which the potential exists for a secondary interest, such as financial gain, to cause undue influence over judgment associated with a primary interest such as performing research, reporting research results, or mentoring students. Since conflicts of interest are based on a situation, not an outcome, the integrity or moral character of a person involved in a conflict of interest situation is not relevant in the determination of whether or not a conflict of interest exists. Conflicts of interest, whether actual or perceived, can call into question the integrity of research performed by an investigator at an institution. For this reason, it is necessary for institutions to adopt policies and procedures that appropriately manage, reduce, or eliminate any actual or perceived conflicts of interest.

B. UMBC Mission. The University of Maryland, Baltimore County ("UMBC") strives to maintain the excellence and academic integrity of a top tier research institution while also promoting the economic development activities and corporate interaction expected of a State university. The pursuit of these two missions increases the likelihood that situations involving individual conflicts of interest will arise. It is important for UMBC to adhere to policies and procedures that address conflicts of interest and also support the university's pursuit of its mission.

C. Maryland State Ethics Law. Maryland law encourages public higher education institutions to promote economic development in the State and to increase their financial resources through arrangements with the private sector, including collaborative research and development, commercial application of institution owned intellectual property and creative works, and the provision of technical assistance. To facilitate these purposes, the Maryland Public Ethics Law[1] ("State Ethics Law")

[1] Annotated Code of Maryland – State Government – Title 15 – Public Ethics

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allows for the exemption of University System of Maryland ("USM") officials and employees from some of that law's conflict of interest provisions, which otherwise preclude such activities, provided that USM adopts policies and procedures that meet the requirements specified in § 15-523 of the law, and subject to the approval of such policies and procedures by the Office of the Attorney General and the State Ethics Commission.

D. University System of Maryland Policy. In response to the State Ethics Law, the University System of Maryland (USM) adopted a *Policy on Conflicts of Interest in Research or Development* (BOR Policy III – 1.11). This UMBC Policy on Individual Conflicts of Interest in Research and Product Development and its implementing procedures have been developed in compliance with the USM policy as it applies to research and product development activities.

E. Funding Agency Policies. The Public Health Service ("PHS") and The National Science Foundation ("NSF") have taken steps to promote objectivity in research by establishing standards to ensure that there is no reasonable expectation that the design, conduct, or reporting of research funded under PHS or NSF grants or cooperative agreements will be biased by any conflicting financial interest of an investigator[2]. Effective October 1, 1995, all proposals being submitted to NSF and PHS by UMBC, and all current grants from NSF and PHS, are required to include a certification by UMBC that UMBC has implemented and is enforcing a written policy on conflicts of interest. These federal agencies have promulgated regulations that require:

1. Individuals to disclose certain financial interests;
2. Institutional review of those disclosures;
3. Designation of a person(s) to review the disclosures and resolve actual or potential conflicts revealed;
4. Arrangement or informing (a) the NSF of conflicts that are not resolved to the satisfaction of UMBC, and (b) the PHS of all conflicts reported, resolved or not; and
5. Record retention procedures.

In addition, any subcontractors and collaborators of UMBC must either comply with this Policy or provide assurances to UMBC that they comply with their own policies that meet the PHS and/or NSF requirements, as applicable.

F. UMBC Policy and Implementing Procedures. In an effort (i) to preserve the public trust and the academic and research integrity of UMBC and its faculty, (ii) to support UMBC's academic research and economic development missions, and (iii) to comply with the State Ethics Law, USM Policy, and policies established by the NSF and PHS; UMBC has adopted this Policy and its implementing procedures to address situations that involve, or may be perceived to involve, a conflict of interest.

[2] See 45 CFR 94

15.2.1.2 Effective Date

This policy shall be effective July 1, 2006.

15.2.1.3 General Provisions

A. Scope. This Policy shall apply to all employees, including faculty and staff, students, fellows, visiting scholars and other individuals having a formal scholarly relationship with UMBC, whether or not employed by UMBC, who participate in research and product development activity ("Individual"). This Policy also applies to subcontractors and collaborators of UMBC unless such subcontractors and collaborators have their own policies on conflict of interest, which are acceptable to UMBC.

B. Acceptable Conflicts of Interest. Certain relationships, including certain financial interests that would constitute a conflict of interest, or may be perceived to constitute a conflict of interest, may be permitted if such relationships are first disclosed, evaluated, and approved in accordance with this Policy and its implementing procedures. No Individual shall perform research or product development activity when an unapproved conflict of interest exists, and UMBC shall not enter into any agreement where an unapproved conflict of interest exists, or would be created, on the part of any Individual. Only the President of UMBC can approve a conflict of interest as required for an exemption under the State Ethics Law.

C. Unacceptable Conflicts of Interest. If a disclosed conflict of interest is found by UMBC to be unmanageable, approval shall not be granted and the activity shall be prohibited. Examples of unmanageable conflicts of interest include, but are not limited to: (i) those perceived to be so influential as to impair impartiality in the conduct of the research or product development, including the interpretation of the results of the research or product development; (ii) those that give an unfair advantage to entities with which Individuals have a financial interest; and (iii) those that lead to misuse of the institution's students or employees for the benefit of such entities.

D. The President and Vice Presidents. The President or a Vice President may have a relationship with an outside entity that would constitute a conflict of interest, or may be perceived to constitute a conflict of interest, only if the Board of Regents grants an exemption after finding that: (i) participation by, and the financial interest or employment of, the President or Vice President is necessary to the success of the research or product development activity; and (ii) any conflict of interest can be managed consistent with the purposes of relevant provisions of the State Ethics Law.

E. Reporting. UMBC shall submit to the Chancellor in a format determined by the Chancellor a quarterly report that shall include all approvals granted under this Policy and how this Policy and the procedures adopted pursuant to it have been implemented in the preceding quarter. UMBC shall also submit to the State Ethics Commission all disclosures of conflicts of interest for which approval for an exemption is granted by the President.

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F. Records. UMBC shall maintain records of disclosures that required a management plan or were prohibited. All such records shall be retained for a period of three (3) years following termination of the relationships involved and shall be available to the public. Other agencies may impose longer record-keeping requirements of which UMBC should be cognizant and observant.

G. Former Policies. This Policy and its implementing procedures replace UMBC's former policies and procedures addressing conflicts of interest – *UMBC Procedures on Conflict of Interest for Faculty or Employee Interest in Sponsored Research and Economic Development* approved May 5, 1993; and *Supplement to the UMBC Procedures on Conflict of Interest for Faculty Interest in Sponsored Research and Economic Development* effective October 1, 1995.

15.2.1.4 Implementation

A. Institutional Procedures. UMBC shall develop implementing procedures based on this policy and the provisions of the State Ethics Law as stated at Title 15 of the Maryland Annotated Code. The procedures shall be approved by the Office of the Attorney General and approved as to conformity with the Maryland Public Ethics Law by the State Ethics Commission. The approved procedures shall be filed with the Office of the Chancellor.

B. Requirements for Implementing Procedures. The procedures developed to implement this Policy shall:

1. Describe a process that requires Individuals to disclose any financial interests in a company when that company is engaged, or plans to engage, in a relationship with UMBC involving the Individual and any real or perceived conflicts of interest that could develop from such a relationship;

2. Require institutional evaluation of, and action on, all disclosed real and perceived conflicts of interest, as described in this Policy;

3. Ensure that financial interests do not improperly give, or could not be perceived to give, an unfair advantage to entities with which the financial interests exist, lead to misuse of UMBC students or employees for the benefit of such entities, or otherwise interfere with the duties and responsibilities of the Individual maintaining the relationship;

4. Require that each activity that generates a conflict of interest be prohibited unless exempted as described in this Policy by the President, with such determination to be the final decision;

5. Require that the Board of Regents approve any financial interest maintained by the President or a Vice President;

6. Take into consideration relevant federal regulations such as those governing National Institutes of Health, Food and Drug Administration, and National

Science Foundation awards and provide procedures that satisfy agency requirements; and

7. Require that records of exemptions granted be maintained in a public file at UMBC.

15.2.1.5 Other Provisions

A. COI Awareness. UMBC shall make available to Individuals information regarding conflict of interest issues to raise awareness on the UMBC campus.

B. Acknowledgement of Funding Source. Since the source of research funding is of particular interest when considering conflict of interest situations, especially when such funding is provided by a company, Individuals must include in any publications resulting from funding originating outside of UMBC, an acknowledgement of the source of such funding whether or not an actual or perceived conflict of interest exists.

C. University Support for Investigators. When an investigator acts in good faith to comply with this Policy but requires representation in a lawsuit related to a financial conflict of interest related to his or her research, UMBC shall work with the Attorney General's Office to give support to that investigator.

15.3 POLICY ON PATENTS

(Board of Regents Policies and Procedures IV-3.00; Approved by the Board of Regents, May 31, 1990; Technical Amendment May, 2003) (On February 8, 2002, the Board of Regents replaced this policy with Policy on Intellectual Property IV-3.20 for all patents disclosed on or after July 1, 2002. This policy remains applicable only for intellectual property disclosures made before July 1, 2002.)

I. Objectives

The objectives of this policy are to encourage and aid research at the University of Maryland System, to provide financial compensation as well as professional recognition to inventors, and to protect and best serve the public interest. To these ends, this policy encourages disclosure of inventions and discoveries and their evaluation for possible patenting and licensing and establishes principles for determining the rights of the constituent institutions and inventors. The University of Maryland System continues to encourage scholarly publication of the results of faculty and student research.

II. Applicability

A. The University of Maryland System Patent Policy applies to all personnel. As used in this policy, "personnel" means all paid and unpaid full-time and part-time faculty members and staff, and all paid employees (including those on approved leaves); and students and fellows.

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III. General Policy

A. The University of Maryland System has an interest in all inventions of personnel which are conceived or first actually reduced to practice as a part of or as a result of: a University System Administration or constituent institution administered program of research; activities within the scope of the inventor's employment by the University System Administration or constituent institution; or activities involving the use, to a substantial degree, of University System Administration or constituent institution time, facilities, or materials or of University System Administration or constituent institution information not available to the public.

"Invention" means any invention or discovery which is or may be patentable or which may be commercially licensable. At the time of appointment of visiting faculty and staff a signed acknowledgment of this policy will be required. An invention shall be considered as resulting from activities "within the scope of the inventor's employment" whenever his or her duties include research or investigation or the supervision of research or investigation and the invention is relevant to the general field of inquiry to which the inventor was devoted or assigned. "Time, facilities and materials" paid for from funds administered by the University System Administration or constituent institution shall be considered University System Administration or constituent institution time, facilities and materials whether the funds arise from federal or state appropriations, student fees, donations, grants, contracts or other sources.

B. The University System Administration or constituent institution has a right to ownership of any invention in which it has an interest. Unless otherwise agreed, this Policy also applies to any inventions in which the University System Administration or constituent institution has an interest under the terms of contracts, grants or other agreements. An invention in which the University System Administration or constituent institution does not have a legal interest may be offered to the University System Administration or constituent institution, and, if accepted, the University System Administration or constituent institution will administer such invention in accordance with this Patent Policy or as otherwise agreed.

C. Except under special circumstances the University System will not agree to assign rights in future inventions to private corporations or businesses.

IV. Responsibilities of the University of Maryland System and Delegations of Authority

A. The University System shall: (1) notify the inventor promptly whenever it decides not to pursue or to abandon the pursuit of patenting or commercialization of an invention, (2) execute, upon request, all contracts, assignments, waivers or other legal documents necessary to transfer to the inventor the University System's interest in any invention which it has so chosen not to pursue, (3) act with reasonable promptness and in good faith on all inventions disclosed to it, and (4) remit to the inventors their shares of income from inventions as specified in Section VI of this policy. Subject to these responsibilities, the University System may, at any time, decide not to pursue or to abandon the pursuit of patenting and/or commercialization of an invention in which it has an interest.

B. Authority and responsibility for Patent Policy is delegated to the Chancellor (or his designee). The Chancellor (or his designee) may seek the advice and assistance of the University of Maryland System Intellectual Property Committee (hereafter called the Intellectual Property Committee; see Section VIII below).

The responsibility for administration of the University of Maryland System Patent Policy (including subparts 1-4 of IV.A.) is delegated to the chief executive officers of constituent institutions, except that rights in future inventions shall not be assigned unless the Chancellor determines in writing that doing so is in the best interests of the System. Each constituent institution shall develop procedures for implementing this policy.

V. Responsibilities of Personnel

A. Personnel who, either alone or in association with others, make an invention in which the University System has or may have an interest shall disclose to the chief executive officer or designee such inventions reasonably promptly. As to an invention in which the University System through the constituent institution has an interest, the inventor, upon request, shall execute promptly all contracts, assignments, waivers or other legal documents necessary to vest in the University System, or its assignees, any or all rights to the invention, including complete assignment of any patents or patent applications relating to the invention.

B. Personnel may not: (1) sign patent agreements with outside persons or organizations which may abrogate the University System's rights and interests as stated in this Policy or which otherwise conflict with this Policy, nor (2) without prior authorization use the name of the University of Maryland System or constituent institutions in connection with any invention.

VI. Revenue Sharing

A. The University System through its constituent institutions shall share with the inventors revenue which it receives from patents or inventions. Specific provisions of grants or contracts may govern rights and revenue distribution regarding inventions made in connection with sponsored research. Consequently, revenues received from such inventions may be exclusive of payments of royalty shares to donors or contractors. Moreover, constituent institutions may contract with outside persons or organizations for the obtaining, managing and defending of patents, and any royalty share or expenses contractually committed to such persons or organizations may be deducted before revenues accrue or before the inventor's share is distributed.

B. The revenues (net, if applicable per the preceding paragraph) which are received from a patent or invention will be applied first to reimburse the University System Administration or constituent institution for any specific, incremental expenses incurred by it in obtaining and maintaining the patent and in marketing, licensing and defending the patent or licensable invention. After provision for such expenses, such revenues shall be shared as follows: (1) the first $5,000 will be paid to the inventor or inventors: (2) thereafter the inventor(s) will receive fifty percent of such revenues.

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Applicable laws, regulations or provisions of grants or contracts may, however, require that a lesser share be paid to the inventor.

C. To the extent consistent with State and University System budget policies any net revenue received on account of an invention, after sharing with the inventor, will be dedicated to research and to the promotion of patenting and patents. If practicable, eighty-five percent of the University System Administration's or constituent institution's share of new revenue from each invention will be designated for research in the inventor's department or analogous unit up to $100,000 in a fiscal year for a particular department or analogous unit. The remaining part of the net revenues shall be devoted to research and the promotion of patenting and patents as directed by the chief executive officer, or designee (or, for the System Office, the Chancellor or designee).

D. If use of such funds for research within the inventor's department or analogous unit is not practicable or for an amount in excess of $100,000 per fiscal year, the chief executive officer may allocate funds for other use within the institution.

VII. Special Cases

The University System recognizes that special cases will arise which are not specifically covered by this policy or which may justify waivers of this policy. Such cases may be submitted to the Chancellor or designee.

VIII. Administration

A. The Intellectual Property Committee consists of the Vice Chancellor for Academic Affairs or designee as an ex officio member and chair and no more than fourteen other members selected and appointed by the Chancellor from candidates nominated by the chief executive officers of constituent institutions. Members are appointed for three-year terms with non-concurrent expiration dates and may serve successive terms.

B. The Intellectual Property Committee convenes at the call of the Vice Chancellor or designee, who determines when implementation or interpretation of the University of Maryland System Patent Policy requires consideration by the committee. Among the matters which may be referred to the committee for recommendation to the Chancellor are: whether the University of Maryland System has an interest in an invention; questions not covered by policy; and whether some part of the policy should be waived.

C. When the committee is considering a particular invention, the inventor and/or a representative designated by the inventor may examine all materials submitted to the committee, may make written and oral presentations to the committee, and may be present during oral presentations of others.

D. It is recognized that the evaluation of inventions and discoveries and the administration, development and processing of patents involves substantial time and expense and requires talents and experience not ordinarily found in its staff.

Therefore, the University System Administration or constituent institution may enter into a contract or contracts with third parties in connection with the administration of identified inventions, disclosures of invention, and developed patents.

E. Disputes on patent matters, including the interpretation of this Patent Policy, shall be referred for resolution to the Chancellor or designee.

15.4 POLICY ON COPYRIGHTS

(Board of Regents Policies and Procedures IV-3.10; Approved by the Board of Regents, May 31, 1990) (This policy remains in effect only for copyrights before July 1, 2002. For all works copyrighted on or after July 1, 2002, this policy has been replaced by the Policy on Intellectual Property IV-3.20, approved by the Board of Regents , February 8, 2002.)

PREAMBLE

Prior practice of the University of Maryland has been to ascribe ownership of copyright on the basis of the extent of the use of facilities and resources. This revision bases ownership on the characteristics of the work effort, e.g. the work may be an independent creative act in the course of employment or it could be a commissioned work produced under contract.

Contextual factors such as use of resources etc. will remain important in determining contract terms and in interpreting the policy.

I. POLICY

It is the policy of the University of Maryland System that copyrights arising from aesthetic, scholarly, or other work developed through independent efforts and not part of a directed institutional or University System assignment shall reside with the originator. Independent effort is defined as the product of inquiry, investigation, or research to advance truth, knowledge, or the arts where the specific choice, content, course, and direction of the effort is determined by the individual without assignment or supervision by the institution or System.

All rights in copyright for all other works arising from the use of institutional or System resources whether directed or commissioned or contractually determined shall belong to the Regents.

In conformity with this policy, the Chancellor and chief executive officers of the System institutions are authorized to enter into agreements with respect to ownership, licensure, disposition of royalty income, resolution of disputes, and other rights related to copyrights under their respective jurisdictions. They are authorized to register copyrights, accept copyrights from third parties, and to sell or grant licenses or assignments in the name of the Regents for any rights to copyrights under their jurisdiction.

II. OWNERSHIP BY CATEGORY OF WORK

A. Scholarly/Aesthetic

In keeping with traditional academic practice and policy, ownership of copyrights to scholarly or aesthetic works that are prepared through independent effort and not part of a directed

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assignment, shall reside with the originator except as otherwise provided in this Policy. The general obligation of faculty to produce scholarly works does not constitute such a directed assignment.

B. Personal

The copyright to any work that is prepared outside the scope of employment and without the use of institutional or System resources by an employee shall be the property of the employee.

C. Sponsored/Contracted

The Board of Regents asserts its right to copyrightable works created under sponsorship or contract. Copyright ownership of sponsored works and contracted works shall be governed by such agreements or contracts. Any sponsored work agreement which provides for ownership by other than the Board of Regents shall also provide the Board of Regents with a free-of-cost, non-exclusive, world-wide license to use and reproduce the copyrighted work for research and education purposes, except where prohibited by law or government regulation.

D. Commissioned

When the institution or System commissions the production of a work, title normally should be with the Board of Regents. In all cases, copyright ownership shall be specified in the written contract. Any commissioned work agreement which provides for ownership by other than the Board of Regents, shall also provide the Board of Regents with a free-of-cost, non-exclusive, world-wide license to use and reproduce the copyrighted work for research and education purposes, except where prohibited by law or government regulation.

E. Acquired by Assignment or Will

The Board of Regents may acquire copyrights by assignment or will pursuant to the terms of the written agreement or testament.

III. REVENUE SHARING FOR NON-CONTRACTED WORK

The Board of Regents may assign or license its copyrights to others. The University System through its constituent institutions shall share with the originator(s) revenue which it receives through copyrights. Specific provisions of grants or contracts may govern rights and revenue distribution.

Consequently, revenues received from such copyrights may be exclusive of payments of royalty shares to donors or contractors. Moreover, System institutions may contract with outside persons or organizations for the obtaining, managing and defending of copyrights, and any royalty share or expenses contractually committed to such persons or organizations may be deducted before revenues accrue or before the originator's share is distributed.

The revenues (net, if applicable per the preceding paragraph) which are received from a copyright will be applied first to reimburse the System or constituent institution for any specific, incremental expenses incurred by it in generating the copyright and in marketing, licensing and defending the rights. After provision for such expenses, such revenues shall be shared as follows: (1) the first $5,000 will be paid to the originator(s): (2) thereafter the originator(s) will receive

seventy-five percent of such revenues. Applicable laws, regulations or provisions of grants or contracts may, however, require that a lesser share be paid to the originator.

To the extent consistent with State and University System budget policies any net revenue received on account of a copyright, after sharing with the originator(s), will be dedicated to research and to the promotion of original works. If practicable, eighty-five percent of the System's or constituent institution's share of new revenue from each copyright will be designated for research in the originator's department or analogous unit up to $100,000 in a fiscal year for a particular department or analogous unit.

If use of such funds for research within the originator's department or analogous unit is not practicable, the funds should usually be designated for research in a related department or unit. The remaining part of the net revenues shall be devoted to research and incentive for creative works as directed by the President or Director, or designee (or, for the System Office, the Chancellor or designee).

IV. DEFINITIONS

For purposes of interpretation of this policy, the following definitions shall apply:

A. Aesthetic Work

A work that is a result of original artistic expression.

B. Commissioned Work

A work produced for the institution or the System by others pursuant to a contract at the institution's expense.

C. Contracted Work

Work produced by and for others at the others' expense, using institutional or System facilities pursuant to a contract.

D. Copyright

The intangible property right granted by statute providing the owner the following exclusive rights over a work: to reproduce, to prepare derivative works, to distribute, to perform publicly, and to display publicly.

E. Direct University Assignment

Any written or oral instruction or task assigned to an originator.

F. License

A contract in which a copyright owner grants permission to exercise one or more of the rights under copyright.

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G. Originator

Any person who produces a work by his or her own intellectual effort, including student employees.

H. Royalties

A payment made to an owner of a copyright for the privilege of practicing a right under the copyright.

I. Scholarly Work

Work such as, but not limited to, books, articles, other such publications, lectures, and computer software resulting from independent effort.

J. Software

A work comprising statements or instructions to be used directly or indirectly in a computer to bring about a certain result and any associated documentation containing operational instructions. (In cases where software is found to be patentable, the Patent Policy will govern.)

K. Sponsored Work

A work produced by or through an institution or the System pursuant to a contract, grant, or other agreement.

L. University System Resources

All buildings, equipment, services, funds (regardless of source), and other facilities under the control of the Board of Regents.

M. Work

Any copyrightable expression including, but not limited to, writings, lectures, musical or dramatic compositions, sound recordings, films, videotapes, computer software, architectural designs, and works of art.

15.5 POLICY ON SOLICITATION AND ACCEPTANCE OF SPONSORED PROJECTS

(Board of Regents Policies and Procedures IV-2.00; Approved by the Board of Regents, January 11, 1990)

I. The University System of Maryland engages in a wide variety of activities sponsored by non-System entities. These activities include research, training and public service projects which are consistent with the missions of the System and the institution. Such activities are encouraged as a means to further the objectives of the System and the institution, to strengthen ties with government, industry, the community, and other academic institutions, and to expand and enhance the instructional environment.

II. All proposals for specific sponsored projects shall be reviewed by institution personnel for consistency with all University System and institutional policies, for appropriateness to the mission of the institution, and for liability assessment. Each institution has primary responsibility for the solicitation and negotiation of proposals and administration of awards.

III. Applications may be submitted and awards accepted directly by the designated officer on each campus.

IV. In the course of soliciting, negotiating and executing agreements with sponsors, a constituent institution may encounter conditions for performance which are not standard System practice. Upon discovery of such a condition, the chief executive officer shall immediately notify the Chancellor. Such unusual practices include, but are not limited to, the following examples:

Abridgement of publication rights
Necessity for legislation in order to conduct the program of work
Assumption of liability for a third party
Creation of an unfunded liability
Exceptional contribution of State monies to the project

The Chancellor may, in consultation with the chief executive officer, require withdrawal of the proposal or non-acceptance of the award.

V. Constituent institutions, on a quarterly basis, are required to submit to the Chancellor an summary of sponsored project activity. The content and format of the report shall be determined by the System office and shall include at a minimum, the number of awards, dollar value.

15.6 UMBC POLICY ON THE CONSISTENT APPLICATION OF FACILITY AND ADMINISTRATIVE (F&A) COSTS

(Approved by President's Council, January 17, 2001; Approved by the Research Council, October 1, 2001. Revised policy approved by the President, August 24, 2011.)

I. POLICY STATEMENT.

It is the policy of UMBC to consistently apply the full and appropriate federally negotiated F&A cost rate in the proposal budget on all sponsored projects regardless of funding source in consonance with federal regulations and applicable cost accounting standards.

II. PURPOSE OF THE POLICY.

The purpose of this policy is to cause the consistent application of the full federally negotiated F&A rate to sponsored research projects except under only limited and special conditions.

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III. APPLICABILITY AND IMPACT STATEMENT.

This policy applies to all sponsored research projects.

IV. DEFINITIONS.

Sponsored Research Projects - Sponsored research projects are externally-funded activities in which a formal written agreement, i.e., a grant, contract, or cooperative agreement, is mutually entered into by UMBC and a sponsor. Sponsored research projects are typically awarded to UMBC in response to a detailed description or statement of work and commitment to a specified project plan. A statement of work is usually supported by both a project schedule and a line-item, fixed price or modular budget. The statement of work and budget are typically described in a written proposal submitted by UMBC to a sponsor usually for competitive review.

Facility and Administrative (F&A) Costs - Alternatively known as "indirect costs" or "overhead", F&A costs are actual costs incurred by the campus in support of sponsored activities that cannot be directly identified with a specific grant or contract. These costs result from shared services such as the library, facilities operation and maintenance, utility costs, general, departmental, college and sponsored projects' administrative expenses, and depreciation for buildings and equipment. The F&A costs recovered on grants and contracts allow the university to build, maintain, and operate research facilities. UMBC periodically negotiates the F&A rates with the Department of Health and Human Services (DHHS), which is the cognizant federal agency overseeing the administration of UMBC's sponsored agreements. The established F&A rates, by federal regulation must then be applied uniformly and consistently to all sponsored research projects. Current rates and accompanying special remarks can be seen under UMBC Facilities and Administrative Cost Rate Agreement at http://www.umbc.edu/accounting/grantacct.html.

Depending on what is to be performed, a sponsored project might be categorized as organized research, instruction, or other sponsored activity. If there is any doubt how the Cost Rate Agreement will be applied, especially if a PI thinks a project should be categorized as other sponsored activity, OSP should be consulted before the budget is prepared.

Modified Total Direct Cost base (MTDC) – MTDC base is the direct cost base upon which the F&A amount is calculated. MTDC is defined in the Rate Agreement. For UMBC, MTDC includes salary/wage costs, including fringe benefits, materials, other direct expenses (such as services), travel, and the first $25,000 of a subcontract, but excludes capital equipment, tuition remission, scholarships, fellowships, foreign components of a grant or contract, and that part of a subcontract over $25,000.

V. EXCEPTIONS TO FEDERALLY NEGOTIATED F&A RATES.

V.I. APPLICATION FOR AN F&A RATE LOWER THAN THE FEDERALLY NEGOTIATED RATE.

UMBC's policy allows for the application of lower than the full applicable federally negotiated F&A rate under only two limited and special conditions.

1. Limit Imposed by Sponsoring Agency Policy. Some federal, state, and private sponsors impose an F&A cost rate that is below the federally negotiated rate. Similarly, many private foundations limit or exclude F&A as a matter of policy. In

effect, they are requiring the recipient institution to agree to share in the cost of performing the proposed work, even though this is not stated formally as "cost sharing". In all such cases, the decision to proceed with a proposal will depend on the non-monetary value of the grant to the institution, traded off against the under-recovery of F&A costs that are incurred.

2. Seed Funding. Small, pilot grants that are intended to get a new investigator started in a research area or help an established investigator begin working in a new field may call for a reduction or elimination of the F&A portion of the proposed cost. It may be in the institution's best interests in these cases to preserve the direct cost expenditures and reduce the recovery of indirect costs. It is expected that such grants will be no longer than one-year duration and will promote future funding that will recover full F&A costs**.** Renewal of any such project beyond the initial year will require application of the full, applicable F&A rate.

If a principal investigator (PI) thinks that either of these conditions is applicable a written waiver must be requested on the approved form, which can be downloaded from the OSP website, http://www.umbc.edu/research/Resources/forms.htm.

The waiver must be approved by the Department Chair, respective Dean or direct reporting line authority, and ultimately by the Vice President for Research prior to submission of a proposal. Approval of such a request will be on a case-by-case basis and will not establish a precedent for future applications. In those cases where a limit is imposed by the sponsoring agency, a copy of their written policy must accompany the request for a waiver.

In addition, if a PI thinks that the appropriate F & A rate might be impacted by customary or agency specific reasons, (s)he should contact OSP, who will consult with the Vice President for Research for a response.

Facility and Administrative rate negotiations with a sponsor must only be undertaken by OSP with the approval of the Vice President for Research. These discussions will occur after consultation with the PI, the Department Chair, and respective Dean or direct reporting line authority. Final authority to accept a lower F&A rate for the university rests with the Vice President for Research in consultation with OSP.

The ability of UMBC to absorb under-recovery of its F&A costs is limited. It is possible that after careful consideration, the Vice President for Research might recommend that UMBC not accept an award with reduced or no F&A costs. In those situations where the request for a reduced F&A cost rate is denied, OSP will explore other options with the principal investigator and originating department or unit.

V.II. APPLICATION FOR AN F&A RATE HIGHER THAN THE FEDERALLY NEGOTIATED RATE.

In some instances a sponsoring entity such as a corporation may be willing to pay an effective F&A rate higher than UMBC's federally negotiated rate. In these cases the maximum rate that can be applied is the actual F&A cost rate determined by the Office of Contract and Grant Accounting prior to its negotiations with DHHS.

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VI. RESTRICTIONS AND EXCLUSIONS.

None.

VII. RELATED ADMINSTRATIVE POLICIES AND PROCEDURES.

This policy revises the policy approved by the President's Council on January 17, 2001, the purpose of which was to define special conditions and procedures for exception to recovery of federally negotiated overhead rates.

Policy Number: UMBC IV-2.00.01
Policy Section: Research
Responsible Administrator: Director of OSP
Approved by President: August 24, 2011
Originally Issued: January 17, 2001
Revision Date: August 24, 2011

15.7 POLICY ON CLASSIFIED AND PROPRIETARY WORK

(Board of Regents Policies and Procedures IV-2.20; Approved by the Board of Regents, April 25, 1991)

The mission of the University of Maryland System is to generate and to disseminate knowledge. University System interests and purposes are well served by the conduct of extramurally sponsored activities. Sponsors may operate within a proprietary or classified environment while the University functions on the principle of free inquiry and open expression. To serve the common interests of both the University System and the external sponsors, reasonable and workable guidelines for collaborative work which both facilitate beneficial arrangements with the sponsors and protect the basic tenets of the University are necessary.

POLICY

It is the policy of the University of Maryland System that instruction, research, and services will be accomplished openly and without prohibitions on the publication and dissemination of the results of academic and research activities. The following statements establish the basis, under this general policy, on which the University System institutions will enter into contractual agreements under governmental or private sponsorship. It also provides the basis for acceptance of graduate theses and dissertations.

1. It is the policy of the University of Maryland System that it neither conducts federal classified work nor permits the use of University facilities or resources for classified work on any of its campuses. When it is in both the University System and the national interest, it is appropriate to engage in classified work, such work must be conducted at off-campus sites.

2. The University of Maryland System enters into no contractual agreement that restrains it from disclosing the existence of the agreement, the nature of the work, and the identity of the sponsor.

3. University System institutions will enter into no agreement that bars investigator(s) from publishing or otherwise disclosing the findings publicly. However, with the concurrence of

the investigator(s), the institution may agree to delay publication for a maximum of 90 days to allow sponsors to determine whether their proprietary information may be revealed, or whether they will exercise their rights under patent clauses in agreements with the institution. The institution, with the concurrence of the investigator(s), may agree to an additional delay of up to 90 days.

4. The University System recognizes that some publishable work can best be accomplished if a University investigator(s) has access to a sponsor's proprietary information or materials. The University and investigator(s) may agree to use reasonable efforts to protect such information or materials from disclosure, but they cannot accept liability if such efforts fail.

5. University System institutions accept no graduate theses or dissertations that cannot be made public. The provisions stated in item 3 for delaying public disclosure also apply to graduate theses and dissertations; therefore, the institution will not permit a student to defend any thesis or dissertation which contains proprietary information until the time period allowed by item 3 has expired.

6. This policy does not apply to consulting or other activities conducted off-campus or without the use of University facilities or resources. Consulting activities must conform to the University's separate policy on consulting.

7. This policy does not require the disclosure of the identity of human-research subjects whose participation in research projects is secured through pledges of anonymity. Further, this policy does not require disclosure of confidential student, patient or employee records protected by federal, state or university policies or of information protected by professional ethics.

8. Under highly unusual circumstances, exceptions to sections 1-4 may be granted by the Chancellor of the University of Maryland System on the recommendation of the appropriate President or Director. The Chancellor will make an annual report to the Board of Regents specifying exceptions granted under this provision.

DEFINITIONS

For the purpose of this policy proprietary information or materials means unclassified information or materials that can be made public or that can be disseminated only with the approval of an individual or organization external to the University of Maryland System.

15.8 UNIVERSITY OF MARYLAND SYSTEM POLICY ON HUMAN SUBJECTS OF RESEARCH

(Board of Regents Policies and Procedures IV-2.10; Approved by the Board of Regents, April 25, 1991; Amended by the Board on June 23, 2006; Amended by the Board on December 12, 2008)

The policy of the University System of Maryland is to respect and protect the rights and welfare of individuals. In the conduct of research, actions of the University System of Maryland and its constituent institutions will be guided, to the extent that they are applicable, by principles as set forth in such nationally accepted documents as the report of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, Ethical Principles and

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Guidelines for the Protection of Human Subjects of Research (April 18, 1979). Actions of the University System of Maryland and its constituent institutions will also conform to applicable federal, state, and local laws and regulations.

In accordance with this policy, all University System of Maryland research activities which involve human subjects, regardless of the level of risk foreseen, require review and approval, prior to the initiation of the activity. An Institutional Review Board (IRB) shall have jurisdiction over all reviews and approvals in accord with procedures set forth in recognized documents, e.g. Federal Wide Assurance and/or applicable regulations and policies including other policies adopted by the System or an institution.

OFFICIALS OF THE SYSTEM OR AN INSTITUTION MAY NOT APPROVE RESEARCH INVOLVING HUMAN SUBJECTS THAT HAS NOT BEEN APPROVED BY AN IRB. HOWEVER, OFFICIALS OF AN INSTITUTION MAY DISAPPROVE RESEARCH THAT HAS BEEN APPROVED BY AN IRB; IRB APPROVAL IS NOT THE ONLY APPROVAL REQUIRED FOR THE CONDUCT OF HUMAN SUBJECTS RESEARCH.

Those research activities in which human subjects may be exposed to more than minimal risk must be reviewed at a convened meeting of an IRB; other research activities may be reviewed in the manner determined by the IRB under its procedures. An individual is considered to be at more than minimal risk if exposed to the possibility of harm -- physical, psychological, social, legal, or other -- as a consequence of participation as a human subject in any research activity which departs from the performance of routine physical or psychological examinations and tests, or which departs from established and accepted procedures necessary to meet the individual's needs, or which increases the probability or magnitude of risks ordinarily encountered in daily life.

This policy applies to all research activities and to all development, training, and improvement or other related activities containing a research and development component. Furthermore, it applies to any such activity performed on the premises of the University System of Maryland or its constituent institutions and to any such activity performed elsewhere by faculty, students, or employees under University System of Maryland auspices.

To carry out this policy the University System of Maryland institutions will maintain a sufficient number of IRBs with appropriate membership to provide for adequate reviews. The IRBs will have the authority to approve, to require modification as a condition of approval, and to disapprove proposed activities that are covered by this policy. Furthermore, the IRBs will have the authority to determine whether or not any activity is covered by the policy and whether it requires review by an IRB. NO OFFICIAL OF THE SYSTEM OR A CONSTITUENT INSTITUTION SHALL TAKE ANY ACTION INTENDED TO INFLUENCE OR COERCE AN IRB, OR ANY OF ITS MEMBERS, TO APPROVE SPECIFIC RESEARCH.

15.9 ANIMAL RESEARCH

(Excerpted from the *Institutional Animal Care and Use Committee Procedure Guidebook*, December 8, 2009.)

Position Statement

The University of Maryland Baltimore County believes the responsible use of laboratory animals is essential for research into the understanding, prevention and treatment of human and

animal disease. We affirm the moral obligation of our scientists to carry out this research on behalf of mankind and animals. Millions of Americans are alive today, and live healthier and more productive lives because our nation's health care professionals are able to employ safe and effective treatments including vaccines, surgical procedures, drug therapies and other valuable therapeutic methods developed with animal research.

These same advancements in science, improving the quality of life for mankind, are also being used by veterinarians to save our cherished pets, companion animals, enhance the health of farm animals, and preserve a future for wildlife and endangered species. The benefits of animal research to human and animal health are virtually unchallengeable and are substantiated by scientific literature. UMBC supports this essential research for the benefit of current and future generations.

While we continue to seek other means of testing new medicines and techniques, animals continue to be the best model for researchers attempting to understand and cure human disease. For the most part, alternatives to animal use such as tissue and cell cultures are useful as supplements to research, but have not entirely replaced the necessity for live animal testing. Computer modeling is also a valuable adjunct to research, but cannot replace the prudent use of animals. However, the University of Maryland Baltimore County does believe in the three R's of research animal use whenever possible: replacing, reducing, and refining. This means replacing of animals with cell cultures, or vertebrates with invertebrates whenever possible; reducing the number of animals used by responsible experimental design and improved statistical inferences; and refining techniques to eliminate any possible pain or discomfort.

Researchers at UMBC share the public's concern about the responsible use of animals in research. Peer committees and stringent federal guidelines (Public Health Service Policy and Animal Welfare Act) require scientists to explore other means of experimentation before considering animal testing. All research, whether or not supported by Public Health Service (PHS) funds and conducted at UMBC, or at another institution as a result of a subgrant or subcontract, employing live vertebrates must be reviewed and approved in advance by UMBC's Institutional Animal Care and Use Committee to ensure that animal use is necessary and that high standards of humane care are observed.

In addition to ensuring the judicious use of animals, the University administration and researchers share the responsibility to safeguard the welfare of laboratory animals. UMBC's animal facilities are in full compliance with the applicable laws and regulations and are managed by highly qualified professionals who specialize in laboratory animal care.

UMBC defends the right of free speech. However, our responsibilities of providing and advancing medical care to society demand that we do not capitulate to tactics of intimidation and violence which undermine our democratic traditions and threaten the principle of free scientific inquiry. Therefore, UMBC cannot tolerate such acts on University property and will not allow such acts to influence University policy. To the extent necessary, we will prosecute or discipline those who break the law or UMBC regulations.

It is essential that we continue to preserve and protect the right of our researchers to pursue knowledge for those who wait for better therapies and treatments for disease and disability, and for the good of all human and animal kind.

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15.10 UNIVERSITY OF MARYLAND, BALTIMORE COUNTY CHEMICAL HYGIENE PLAN

(The University of Maryland, Baltimore County Chemical Hygiene Plan is prepared by the University of Maryland Baltimore County Office of Environmental Safety & Health. Amended 10/05. Section headings and paragraph style adapted to the format of this *Handbook*.)

15.10.1 Introduction

The purpose of the UMBC Chemical Hygiene Plan is to comply with the requirements of the OSHA Standard for Occupational Exposure to Hazardous Chemicals in Laboratories (29 CFR 1910.1450). This has been written and developed by the Office of Environmental Safety and Health in conjunction with University auditors and representatives from the UMBC academic departments with the highest utilization of hazardous chemicals. The plan establishes general procedures and work practices that are designed to reduce exposure to hazardous chemicals used in laboratories. Compliance with these guidelines will reduce the health hazards associated with working with such chemicals. This plan will be evaluated periodically to determine its effectiveness and additional procedures will be developed as indicated. Campus employees and State and Federal regulatory agencies may review the plan upon request.

The plan applies to all UMBC personnel involved in the laboratory use of hazardous chemicals. As defined by OSHA, "laboratory use" includes all of the following conditions:

1. Chemical manipulations are carried out on a laboratory scale. Laboratory scale is defined as work with substances in which the containers used for reactions, transfers and other handling of substances are designed to be easily and safely manipulated by one person;

2. Multiple chemical procedures or chemicals are used;

3. Procedures are not part of a production process; and

4. Protective laboratory practices and equipment are available and in common use to minimize the potential for employee exposure to hazardous chemicals.

If these particular conditions are not met, then other OSHA regulations still apply.

The plan is divided into various areas to meet OSHA requirements:

1. **Environmental Health and Safety Committee**: will assist with the development of safety procedures and recommendations for the use of hazardous chemicals on campus, particularly in laboratories and research facilities.

2. **Medical and Post-Exposure Monitoring**: the medical status of employees who work with various substances that pose potential health risks will be monitored.

3. **Hazard Identification**: all hazardous chemicals will be properly labeled with the chemical name and appropriate warnings. Material Safety Data Sheets (MSDS) will be maintained for all chemicals used on campus at the user department and the Office of Environmental Safety and Health.

4. **Engineering Controls**: lists of the equipment available on campus, the conditions for use of this equipment, and the testing and repair procedures for each type of control will be maintained by the user department.

5. **Emergency Safety Equipment**: safety equipment used in laboratories and the inspection and maintenance procedures will be periodically monitored by the Safety Officer and routinely monitored by persons designated by the department chairperson.

6. **Employee Information and Training**: campus personnel will be trained in the safe use of hazardous chemicals by user departments with assistance from the Safety Officer.

7. **Record Keeping**: specific employee and laboratory records will be maintained in accordance to 29 CFR 1910.20 and additional records will be kept as necessary to comply with other applicable requirements.

8. **Laboratory Safety Guidelines**: specific employer/employee responsibilities, standard operating procedures and laboratory emergency procedures will be developed by the Environmental Health and Safety Committee and disseminated by department chairpersons.

15.9.2 Environmental Health and Safety Committee

An Environmental Health and Safety Committee will help to establish specific safety procedures and recommendations for use of hazardous chemicals on campus. The Committee is chaired by the Environmental Safety and Health Director with representatives from each major department involved with the use of hazardous chemicals as defined by this plan. The Committee will meet as needed. Committee members are appointed for one academic year and may be renewed if both the Environmental Safety and Health Director and the committee members so desire.

15.10.2.1 Knowledge of Hazardous Experiments

Principal investigators and laboratory instructors must be aware of all hazardous experiments in laboratories under their supervision. This information should include the nature of the experiment, the hazardous materials that will be used, recommended safety precautions, etc. They may require additional clarification, additional safety-related procedures, reformation of the methodology or related measures.

Principal investigators/lab instructors should be notified when one or more of the following situations exist:

1. There is a new procedure established.

2. There is a change to the present procedure, such as substitution of a new component, a substantial change in the amount of chemical used or new equipment being utilized.

3. There is a failure of the required equipment.

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4. There are unexpected test results.

5. Laboratory personnel are showing signs and symptoms of exposure to chemicals used or stored in the area.

15.9.2.2 Employee Exposure Monitoring

In the course of conducting laboratory experiments, Employee Exposure Monitoring will be performed when one or more of the following conditions exists:

1. When regular use of an OSHA regulated substance is believed to be in excess of an action level or Permissible Exposure Limit (PEL).

2. When the Exposure Risk indicates the need for sampling.

3. When laboratory personnel show signs and symptoms of exposure to chemicals used or stored in the area.

4. For investigation of employee complaints.

5. When additional health hazard information concerning use of a chemical is established.

The results of monitoring should be supplied to the affected personnel within a reasonable time after the receipt of the monitoring results. If initial monitoring exceeds an established action level or PEL, periodic and termination monitoring will be performed as required by the provisions of the specific OSHA Standard for the chemical.

15.10.3 Medical Monitoring and Post-Exposure Monitoring

Medical Monitoring Procedures have been established to monitor the medical status of personnel who work with asbestos, lead, blood borne pathogens, pesticides and hazardous chemicals in addition to those who wear respirators or who are exposed to noise levels above threshold limit values. This program will be administered and coordinated by the *UMBC* Safety Officer. The Safety Officer is also responsible for supplying the attending physician with the appropriate information (identity of the chemicals to which the employee was exposed, conditions under which the exposure occurred, symptoms experienced). The types of testing required will depend on the employee's responsibilities and the specific material used.

When an unexpected situation (such as a spill) results in the likelihood of a chemical exposure, post-exposure monitoring will be available as a Worker's Compensation Claim. The process will involve filing the Employee's First Report of Injury. Supervisor's First Report of Injury/Occupational Illness and other material as required. The Safety Officer will assist with monitoring the exposure and the consultation and/or examination.

The conditions for which use of hazardous chemicals require medical consultations and/or examinations are:

1. When area or personnel exposure sampling indicates that the action level or permissible exposure limit of an OSHA regulated substance (29 CFR 1910 subpart

Z) which requires exposure monitoring and medical surveillance is routinely exceeded.

2. When laboratory personnel develop signs and symptoms of exposure specific to the chemical being used or stored in the area. A Material Safety Data Sheet (MSDS) or other specific information will help to provide information concerning this evaluation.

3. When a spill, leak, explosion or other circumstance occurs that may result in an exposure to the chemical. This includes direct eye or skin contact.

When one of the above conditions are met, the Safety Officer will assist with supplying the following information to the physician performing the evaluation:

1. Suspected chemical(s) to which personnel have been exposed.

2. Other chemicals being used or stored in the area.

3. Signs and symptoms experienced by the employee.

4. Conditions of exposure.

5. Engineering control measures that are in use.

6. Monitoring devices in use in the area.

7. Previous monitoring results.

8. Information the physician is required to include in the medical evaluation.

This information will be obtained from investigation by the Safety Officer, the MSDS, the chemical information list for the area/laboratory and any specific records available concerning the incident.

When medical consultations and/or examinations are performed, the licensed physician is required to supply, in writing to the Safety Officer, an opinion concerning the following information. Only information pertaining to the specific exposure is required:

1. Results from the examination and any associated tests.

2. Any recommendations for further follow-up examinations.

3. Medical conditions found during the examination that may increase the employee's health risk.

4. Statement that the employee has been informed of all conditions found during the examination.

All medical surveillance results/records will be kept in accordance with OSHA's Access to Employee Exposure and Medical Records Standard (29 CFR 1910.20) by the Safety Officer.

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15.10.4 Hazardous Chemical Identification

UMBC's policy for identification of hazardous chemicals is in compliance with 29 CFR 1910.1200 (f) and 1910.1450 (h). UMBC faculty and staff shall ensure that all hazardous chemicals on campus are properly labeled with the chemical identity and appropriate hazard warnings. Material Safety Data Sheets (MSDS) will be maintained for hazardous chemicals. This information will be made available to any UMBC employee on request. In addition to providing information concerning the hazardous chemical, training in the safe use of hazardous chemicals will be provided by the using department. The Safety Officer will assist with training materials as requested.

Upon receipt of hazardous chemicals, and prior to their transfer to storage locations or the requesting laboratory, the receiving department will check all containers for accuracy in labeling: chemical identity, hazard warnings. and the name and address of the chemical manufacturer, distributor or importer. All labels and other forms of warning must be legible, in English, and prominently displayed on the container. If the labeling is found to be inadequate, the proper identity and/or hazard label will be permanently affixed to the container by the receiving department. All old labeling must be removed or permanently defaced if new labeling is affixed.

As part of the receiving procedure for hazardous chemicals, a receipt log shall be maintained by each department. This log will include the date of receipt, chemical identity, quantity and initials of receiver. These logs are subject to review by University auditors, State and Federal officials. The ordering department is responsible for maintaining a MSDS for each hazardous chemical in its inventory.

When performing routine laboratory inspections, containers will be randomly checked by the Safety Officer or designee to ensure proper labeling. If the labeling is improper, corrective action must be taken immediately. In addition to these inspections, employees are instructed to immediately report any container(s) found to have inadequate labeling to the laboratory supervisor and/or to label the container accordingly.

When working with chemicals in the laboratory, hazard identification will not be required for portable containers when chemicals are transferred from labeled containers for immediate use by the person performing the transfer.

If the product of a chemical reaction is known, appropriate information/training will be provided for working with this chemical. When a byproduct is formed from a reaction for which the identity is unknown, the product will be assumed to be hazardous and safe work practices will be implemented.

Laboratory personnel desiring information concerning a hazardous chemical present in the laboratory must contact the laboratory supervisor and/or the Safety Officer. The Safety Officer will assist with providing this information in accordance with the UMBC Hazard Communication Program.

15.10.5 Engineering Controls

Engineering controls will be utilized by laboratory personnel working with hazardous chemicals as a primary means of protection. Requirements for use will be determined by the toxicity of the chemicals or other materials/agents being used. The types of engineering controls that are present in the laboratories include chemical fume hoods and biological safety cabinets.

Generally, chemical fume hoods will be required for use of hazardous chemicals with a low Permissible Exposure Limit (PEL) and/or a high vapor pressure. More specific chemical use will require a fume hood to perform work as deemed necessary by the user department. This will include chemicals that require use in a designated area and use of chemicals where exposure sampling results are in excess of an action level or PEL when performing experiments outside of the fume hood. Chemical fume hoods should be separated into three classes depending on the toxicity of the chemicals being used and as recommended by manufacturer's specifications. Class A hoods will be those used for extremely toxic materials, such as chemicals requiring use in a designated area or having a low PEL. Class B hoods, the most common, are those used with chemicals of average toxicity. Class C hoods are those used with low toxicity chemicals. Each hood must be classified according to the toxicity of chemical used.

Biological safety cabinets will be used primarily when working with biological hazards. The type of hood to be used will depend on the Biosafety Level of the microorganism as specified by CDC-NIH guidelines. For Biosafety Level 1 microorganisms, standard microbiological practices will provide adequate protection. However, if additional protection is desired, any class of cabinet may be used by personnel working with these microorganisms. Class I and II Biosafety Cabinets will be used for low to moderate hazard microorganisms of Biosafety Levels 2 and 3. The main difference between the two hoods is that Class II cabinets provide protection to personnel and the microorganism and Class I cabinets only provide protection to personnel. Class III Biosafety Cabinets with Glove Boxes are required when working with high hazard microorganisms at Biosafety Level 4. These cabinets are totally enclosed to provide the highest possible protection to personnel and the microorganisms. Glove boxes are required for experiments using radioactive solids that may become airborne and with other highly toxic chemicals. Decontamination of the equipment must be performed prior to use of different materials/agents.

Minimum requirements have been established for the operation of local ventilation systems. Performance testing of this equipment will be performed by appropriate personnel under established testing conditions.

When engineering controls are not feasible, are in the process of being instituted or do not provide sufficient protection when working with hazardous chemicals, respiratory protection equipment will be used. The UMBC Safety Officer will assist with obtaining/providing the necessary equipment and support to comply with OSHA's Respiratory Protection Standard (29 CFR 1910.134).

15.10.6 Emergency Safety Equipment

Laboratories that utilize hazardous chemicals will be equipped with appropriate emergency equipment. The type of equipment required to be present in the laboratory will depend on the chemicals used in the area. During regular safety inspections, the presence and operability of this equipment will be checked to ensure that it is properly maintained. Examples of emergency safety equipment are fire extinguishers, first aid kits, and emergency showers and eyewashes.

Fire extinguishers are present in areas where the possibility of a fire exists. The type of extinguisher present must be specific for extinguishing the type of fire that may occur without further damaging equipment located in the area. The use will be limited to small fires where the possibility of harm to personnel is minimal. Proper training of personnel must be provided. Fire extinguishers present in laboratories will be inspected, serviced or replaced as needed.

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Departments that use hazardous chemicals will be responsible for ensuring that first aid kits are located in appropriate areas and are properly provisioned. The contents of the kits will be appropriate for handling minor first aid problems, such as small cuts. Major problems will be reported and handled by appropriate emergency services personnel. It is the responsibility of each department to determine the location of the kit and selection of additional supplies to be present and for notifying the Safety Officer when additional supplies or replacements are needed.

Operation of emergency showers and eyewashes, plumbed or self-contained, will be routinely checked by the department and periodically by the Safety Officer in all laboratories using hazardous chemicals. Minimum requirements have been established for the operation of this equipment. For combined units, the shower and eyewash must operate independently of each other and meet established requirements for each component. Other safety equipment that can be used in conjunction with, but not in lieu of, this equipment include Personal Eyewashes and Hand-held Drench Hoses. Operation and maintenance of additional equipment will be according to applicable manufacturer's specifications.

15.10.7 Employee Information and Training

Employees utilizing hazardous chemicals will be trained in their proper use and handling. The Safety Officer will assist with obtaining adequate information to ensure that all laboratory personnel can work confidently with hazardous chemicals.

As part of the Human Resources/Relations Orientation, the Safety Officer provides personnel with information concerning the employee safety programs on campus. Those who will be involved with the use of hazardous chemicals as defined by this plan will be notified that they must attend additional training upon their initial assignment in the laboratory. The chairperson of the academic department will be responsible for notifying these persons of the requirements for training by the department. If new procedures are implemented for use of chemicals, additional training must be provided to the employee. Refresher training sessions will be conducted as needed. Records of training will be forwarded to the Safety Officer.

15.10.8 Record Keeping

For all surveillance that is performed under the Chemical Hygiene Plan, record keeping will be required.

1. **Area and Personnel Monitoring**: When there is reason to believe that concentration of a hazardous chemical in a laboratory is in excess of an action level or permissible exposure limit or when an employee exhibits signs and symptoms of exposure to a particular chemical used or stored in the laboratory, personal and area monitoring will be performed. The results will be sent to the personnel involved and a copy will be kept by the Safety Officer in accordance with 29 CFR 1910.20.

2. **Medical Consultations and Examinations**: When medical surveillance is required, the licensed physician will supply the employee with the appropriate results and send notification to the Safety Officer indicating that the tests/exams were performed and detailing the recommendations made. The Safety Officer will keep this record on file and the physician will keep the actual results, both in accordance with 29 CFR 1910.20.

3. **Laboratory Safety Inspections**: Records of periodic laboratory safety inspections will be kept by the Safety Officer. This includes general laboratory safety, emergency safety equipment and engineering controls inspections.

4. **Hazardous Chemical Receiving Logs and MSDS Information**: Copies of information obtained when hazardous chemicals are received by UMBC departments should be sent to the Safety Officer who is also the UMBC Right-to-Know Program coordinator. All questions concerning the labeling of chemicals and maintenance of the MSDS files may be referred to the Safety Officer or his designee.

5. **Employee Training**: Copies of acknowledgment forms that describe the content and date of department training and which are signed by each attending employee shall be maintained by the employee's department.

6. **Employee Complaint/Incident Reports**: All employee complaints and the investigation results will be maintained by the Safety Officer. Appropriate information will be collected using the Incident Report completed by the Safety Officer and other appropriate records.

7. **HAZMAT Information:** All recommendations regarding HAZMAT will be maintained by the Safety Officer. This includes information provided by the investigators, committee recommendations for safe use of chemicals and other appropriate information supplied by the committee.

8. **Hazardous Chemical Inventory**: The Internal Audit Office requires that user departments prepare annual inventories of hazardous chemicals. This is mandated by OSHA Standard 29 CFR 1910.1200 and the Environmental Protection Agency Right-to-Know Law. Copies of each department's hazardous chemical inventory must be forwarded to the Office of Environmental Safety and Health prior to the end of the calendar year. This information will be furnished to the Maryland Department of the Environment and must be readily available to police, fire and emergency services personnel. Inventories must include: chemical name, room number, department, building and quantity.

15.10.9 Lab Safety Guidelines

Lab Safety Guidelines that detail both general and specific health and safety policies and procedures will be prepared by the Environmental Health and Safety Committee. Each department is responsible for familiarizing students and employees with the existence, contents and location of the Guidelines and for keeping them up-to-date. Suggestions for additions or improvements to the Guidelines are encouraged and may be made to the Environmental Health and Safety Committee for review.

15.11 UNIVERSITY OF MARYLAND, BALTIMORE COUNTY HAZARDOUS WASTE DISPOSAL GUIDELINES

(Prepared by the Office of Environmental Safety and Health, December, 2001. Section headings and paragraph style adapted to the format of this *Handbook*.)

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15.11.1 Introduction

The intention of these guidelines is to provide UMBC employees with an understanding of Federal and State hazardous waste disposal regulations and explain the University's program for compliance.

UMBC is a generator of hazardous waste and must comply with the State and Federal waste disposal regulations.

The Safety Officer in the Office of Environmental Safety and Health administers the Hazardous Waste Management Program at UMBC. Complying with the program is very demanding and requires full cooperation by all campus entities. These guidelines focus on the management of hazardous chemical waste. They do not include procedures for the management of radioactive, infectious and biological waste or nonhazardous waste. Once a listed chemical is declared waste, it may be stored as waste. UMBC has one Resource Conservation and Recovery Act (RCRA) approved 90 day storage area. Designated satellite accumulation areas do not fall under the 90 day rule (40 CFR 262.34). UMBC is not permitted to treat or dispose of hazardous waste locally. All hazardous waste must be transported to a permitted off-site facility for further storage, treatment and/or disposal. It is illegal to dispose of hazardous waste by dilution, evaporation or dumping into the sewer or into the local landfill. Additional information on specific responsibilities and procedures may be obtained by calling the Safety Officer, 410-455-2918, who arranges for disposal and maintains records of all disposed waste.

15.11.2 Hazardous Waste Disposal Regulations

Non-compliance with any Hazardous Waste Regulation may result in substantial fines and penalties being assessed against the University. Individual generators causing a violation may also be found personally liable. Generators may be cited or fined for numerous types of violations. Violations range from failure to properly label a container of hazardous waste to intentionally disposing of hazardous waste into the air, down the drain or in the trash.

The Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (RCRA) passed in 1976 is administered by the U. S. Environmental Protection Agency (EPA) under Subtitle C, Hazardous Waste Management. EPA has the responsibility for regulating hazardous chemical wastes. RCRA has established a Acradle to grave@ Hazardous Waste Management Program to protect public health and the environment from improper disposal of hazardous waste. The law went into effect in November, 1980 and has undergone revisions on a regular basis since that date.

Hazardous waste generators may not store, process, dispose of or transport hazardous waste without having received an EPA Identification Number. Nor can they offer hazardous waste to transporters or to storage, processing or disposal facilities without these numbers. Before transporting or offering hazardous waste for transportation to an off-site facility, all requirements for packaging, labeling, marking and placarding must be met. A uniform hazardous waste manifest must accompany every shipment.

Only an EPA permitted Municipal Hazardous Waste (or Class I Industrial Hazardous Waste) Disposal Facility can dispose of hazardous waste. These limited numbers of facilities have approved incineration, neutralization, recycling or landfill operations.

15.11.3 Hazardous Waste Disposal Program

The Safety Officer will administer the program, oversee collection services and provide technical support to the various generators. Individual departments are responsible for proper identification of the hazardous waste they generate and for following University procedures in disposal of that waste. Waste Disposal Guidelines Wall Charts are available from the Office of Environmental Safety and Health.

In laboratory situations, a material is considered waste when the lab personnel determine the chemical will no longer be used and needs to be discarded. The waste regulations apply to any material that could be discarded in the trash, whether it is liquid, solid, semi-solid or compressed gas. Wastes can be hazardous in one of four ways: (1) those wastes and spent materials that are hazardous by definition and contained in specific lists, (2) a mixture containing a listed hazardous waste and a non-hazardous waste, (3) chemicals that exhibit one of four hazardous characteristics: ignitability, reactivity, corrosivity or EP toxicity, or (4) a chemical that is not excluded from regulation as a hazardous waste. The hazard characteristics are defined in 40 CFR Sections 261.21-261.24. Hazardous waste is categorized into several groups including: halogenated solvents, non-halogenated solvents, acids, bases, heavy metals, poisons and reactives.

The following approach is designed to ensure compliance with applicable Federal and State requirements for the proper handling of hazardous waste. It is also intended to reduce any potential impact on human health and the environment.

- Familiarize laboratory or facility employees with hazardous waste disposal procedures and requirements.

- UMBC is in compliance with labeling requirements contained in OSHA 29 CFR 1910.1200 which requires that hazardous chemical containers be labeled with the chemical=s identity. The University is also in compliance with labeling requirements specified in Resource Conservation and Recovery Act 40 CFR 262.34 which states that hazardous waste containers are labeled AHazardous Waste@ or the specific chemicals be identified.

- All spent chemicals or unused chemicals that are intended to be discarded must be handled and managed as hazardous waste.

- Departments may be charged for the analysis of unidentified (unknown) chemical waste to determine the chemical identity necessary for proper disposal.

- Whenever possible, return gas cylinders to the manufacturer or distributor. If they cannot be returned, tag and store them as hazardous waste.

- Treatment of waste to reduce the hazard or the quantity of waste can be done in the laboratory when the treatment method is included in the experiment procedure protocol.

- Mixed waste must be handled as both a radioactive waste and a hazardous waste.

- Different categories of waste must not be co-mingled in the same waste container.

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- Do not mix non-hazardous waste, such as water, with hazardous waste.

- Do not put inorganic heavy metal compounds into hazardous waste containers with waste solvents.

- Dry materials contaminated with chemicals (paper, rags, towels, gloves, kim wipes, etc.) must be double-bagged in heavy-duty plastic bags.

- Encapsulate **sharps (i.e.: needles, razor blades, etc.)** before placing in an approved container. Sharps used for animal tissues, organs, etc. should be treated as medical waste, not placed in trash.

- Each individual waste generator is personally responsible for ensuring that hazardous wastes are accumulated in safe, transportable containers and stored properly to prevent the possible exposure of co-workers or hazardous waste management personnel to the waste materials.

- All hazardous waste accumulation areas must be maintained under the control of the generator of the waste. They are responsible for the care, custody and control of the area.

- Individual waste generators are responsible for obtaining their own waste containers. All containers must have suitable screw caps or other secure means of closure. When special waste containers are warranted, contact the Safety Officer for assistance on selection and placement of appropriate container type and size.

- The original chemical label must be destroyed or defaced on empty chemical bottles used for waste accumulation. Be sure the container is in good condition, will not leak and is compatible with the contents (i.e.; do not use metal containers for corrosive waste or plastic containers for organic solvents).

- The container must include the generator=s name, be dated and its contents fully identified on the label when the chemical waste is placed in the hazardous waste storage room. (Disposal labels are not intended for this purpose.)

- Containers with improper caps, leaks, outside contamination or improper labeling will not be picked up until these have been corrected by the generator.

- Improper disposal of hazardous chemicals include:

    1. Disposal down the drain.
    2. Intentional evaporation in a fume hood.
    3. Disposal in the regular trash.

- Hazardous waste should be stored apart from non-hazardous waste.

- Keys and access to the hazardous waste storage room must be closely controlled.

- Photographic chemicals containing **silver** cannot be placed in the sanitary sewer. They must be disposed of as hazardous waste.

Equally important to the Hazardous Waste Program are correctly disposing of empty containers, properly filling containers and labeling chemical waste containers.

15.11.3.1 Empty Containers

- EPA regulations stipulate that an empty chemical container:

  1. must not contain free liquid or solid residue,
  2. must be triple rinsed,
  3. the label defaced or removed and
  4. the lid or cap removed.

- Metal containers must have a hole punched in the bottom before disposal in a non-hazardous landfill. Take time to make sure this is done before placing a chemical container in a trash dumpster. Chemical containers not handled in this manner must be treated as hazardous waste.

15.11.3.2 Filling Containers

Containers must not be overfilled. Containers for liquids are generally rated by volume capacity. Jugs and bottles should not be filled past the shoulder of the container. The shoulder of the container is the place where the container sides start to slope in towards the neck. Closed head cans (5 gallon or less) should be filled so as to leave approximately two inches of head space between the liquid level and the head of the container. Closed head drums (larger than 5 gallons) should be filled so as to leave approximately four inches of head space. The excess volume is designed to allow for the expansion of the contents.

Containers for solids are generally rated by their weight capacity as well as volume capacity. Depending on the density of the solid material, the weight capacity of a container could be exceeded if its internal volume were completely filled. This generally is not a problem for jars and open head cans (5 gallons or less), but is a definite consideration for open head drums (larger than 5 gallons). With due consideration to weight, containers for solids can be filled within two inches of the level of the closure. Hazardous waste containers will remain closed except when waste is being added or removed as required by Code of Maryland Regulation 26.13.05.09D.

15.11.3.3 Container Disposal

When the container is ready for disposal, complete waste labels obtained from the Safety Officer or your department and attach it to the container. **Print the information on the label legibly.**

Include the information below to properly complete your chemical waste disposal label:

A Chemical Waste Disposal Label Must Be Attached to **Each** Waste Container.

The "REQUESTOR" is the person in charge of the lab.

Chemical name/Common name. **Chemical formulas are not acceptable.**

Containers must be compatible with the chemicals inside.

Containers must be closed or sealed to prevent leakage.

Containers should be stored in a designated protected area and be accessible to waste disposal personnel.

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Labels on containers of potentially explosive materials such as picric acid, silanes, nitro compounds and ethers must indicate the percent concentration of these chemicals.

Include any additional Hazard Information about container contents.

15.10.4 Source Reduction and Hazardous Waste Minimization

Early federal regulations on disposal of hazardous waste were aimed at controlling pollution of the environment. Today, the focus is shifting from controlling pollution to preventing pollution. The Pollution Prevention Act of 1990 (Federal Regulation) made the prevention of pollution and reduction of waste generation a priority.

The cost of commercial waste disposal continues to rise and the amount of waste generated continues to increase. Although we cannot control disposal costs, the amount of waste generated can be reduced. Emphasis is placed on "Front-end Waste Minimization" (reducing the amount and toxicity of hazardous materials used) as the primary means for reducing hazardous waste. Research and teaching laboratories and other working groups (Physical Plant, etc.) should examine their purchasing practices and systems, their chemical usage and workplace activities to identify potential points of their operations where source reduction and waste minimization can be implemented.

A. Suggested Waste Source Reduction Techniques

1. Chemical/Equipment Purchases and Inventory Control

- Utilize computerized tracking systems as chemical management tools for chemical purchase and inventory control. Maintain current inventories of chemical stocks to prevent the ordering of chemicals that may already be in stock and in order to monitor the shelf lives of remaining chemicals. Develop a campus-wide chemical exchange network - between labs and within labs, departments, etc. - to reduce "warehousing", promote sharing of chemicals and avoid redundant purchases.

- Negotiate contracts with chemical suppliers to gain volume discounts based on annual volume of chemicals purchased. In these contacts, insist on flexible delivery schedules of fewer, smaller-sized containers without cost penalties. They may require centralized purchasing and distribution of all chemicals.

- Purchase reagent chemicals in quantities that are appropriate to the scale of the experiment being used. Limit acquisition of chemicals to quantities required for immediate use. Do not order quantities to obtain a special unit cost savings. This savings will normally be lost due to eventual disposal costs if the chemical is not entirely used.

- When possible, obtain compressed gases from vendors who will accept return of their empty or partially full cylinders.

- Include waste generation as a criterion in equipment selection.
- Rotate chemical stocks in order to use chemicals before their shelf lives expire.

2. Chemical Usage

- Enhance a chemical exchange program by using lab procedures that assure the integrity of chemical quality.
- Reduce spills and wastes generated by pre-weighing chemicals for undergraduate use.
- Require proper labeling of all secondary containers. Replace all deteriorating labels on primary and secondary containers.
- Substitute less hazardous chemicals whenever possible. Example: biodegradable scintillation cocktails instead of xylene or toluene based cocktails. Minimize the use of heavy metal (silver, chrome, mercury, barium, cadmium and lead) chemicals.
- Substitute alcohol or electronic thermal monitors for mercury thermometers.
- Use No-Chromix, detergents or enzymatic cleaners instead of sulfuric/chromic acid cleaning solutions for cleaning laboratory glassware.
- Minimize solvent waste by recycling or substitution.

B. Suggested Waste Minimization Techniques

- Establish a Faculty Task Force to review waste streams generated and recommended ways to reduce or eliminate them.
- Prevent the mixing of different types of waste. Do not put non-hazardous waste, such as a mixture of water, sodium bicarbonate and acetic acid, into a waste container of hazardous waste. Do not put inorganic heavy metal waste in with solvents. This increases disposal costs. Segregate halogenated waste solvents from non-halogenated waste solvents.

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- Keep waste streams segregated by storing them in separate waste containers. Label waste containers with the full name(s) of the waste material(s) stored in them. Keep waste containers stored separately from reagent containers still in use to avoid accidental contamination of the reagent chemicals.

- Decontamination of empty containers prevents them from being handled as hazardous wastes.

- Neutralize dilute acids and bases making them non-hazardous and suitable for drain disposal.

- When possible, redesign experimental protocols so that harmful byproducts are detoxified or reduced in volume as a final step.

- Recycle chemicals via in-house purification processes or off-site vendors. Distillation or filtration of solvents, Freon and used oils for reuse in certain areas results in significant reductions in waste disposal.

- Hold lab employees accountable for the waste generated by experiments.

15.11.5 Emergency Procedures

Departmental personnel should be trained on the hazards associated with laboratory chemicals used. The training program should also include how to respond to spills and other emergencies. Material Safety Data Sheets are an excellent source for this information and should be compiled for all chemicals used or stored within a laboratory. Special clean-up supplies should be available and employees should be trained on how to use these supplies. Hazardous waste disposal procedures should be followed for disposal of contaminated clothing, rags, absorbent materials or other waste from clean-up of spills or leaks. All labs should know emergency numbers and develop a response scenario for emergencies. Major incident emergency procedures should be posted/available in each laboratory and chemical storage area. Emergency Response Guide wall charts are available from the Office of Environmental Safety and Health.

A Laboratory Safety Guide has been prepared by the Environmental Safety & Health Office. It incorporates general guidelines and in-depth information about laboratory safety practices to help identify potential hazards. Areas covered include: properties of hazardous chemicals, hazardous waste procedures, classification of hazardous materials, emergency response procedures and phone numbers, safety equipment and personal safety practices.

A Hazardous Waste Disposal Guidelines Wall Chart has been printed and distributed by the Office of Environmental Safety and Health. The 7 page chart deals with: chemical, radioactive, biological, pathological, medical, multi-hazard and general laboratory waste.

15.11.6 Appendix A - Definitions

a. Central Accumulation Area (Hazardous Waste Storage Room) -Area designated by the Safety Officer for the storage of hazardous wastes prior to shipment to permitted disposal facilities.

b. Disposal - The discharge, deposit, injection, dumping, spilling, or placing of any solid waste or hazardous waste (whether or not containerized) into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any water, including ground waters.

c. EPA Identification Number - The number assigned by the Environmental Protection Agency to each generator; transporter; and processing, storage or disposal facility.

d. Facility - Includes all contiguous land and structures, other appurtenances and improvements on the land for storing, processing and disposing of municipal hazardous waste or industrial solid waste.

e. Generator - Any person, by site, who produces municipal hazardous waste or industrial solid waste; any person who possesses municipal hazardous waste or industrial solid waste to be shipped to any other person; or any person whose act first causes the solid waste to become subject to regulation.

f. Hazardous Material - A substance or material, including a hazardous substance, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce and which has been so designated.

g. Hazardous Waste - Any solid waste material listed or identified in Title 40 Code of Federal Regulations, Part 261, Subpart C and D, or exhibiting the characteristics of ignitability, corrosivity, reactivity or toxicity also defined in Part 261.

h. Manifest - A uniform hazardous waste manifest form is to accompany shipments of municipal hazardous waste or Class I industrial solid waste.

i. Mixed Waste - A radioactive waste that is also a hazardous waste.

j. Processing - The extraction of materials, transfer, volume reduction, conversion to energy, or other separation and preparation of solid waste for reuse or disposal.

k. Recyclable Materials - Wastes that are recycled. Recycled material is used, reused or reclaimed.

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l. Reclaimed Material - Is processed or regenerated to recover a usable product. Examples: Recovery of lead from spent batteries and regeneration of spent solvents.

m. Satellite Accumulation Area - An area, system or structure used for temporary accumulation of hazardous waste prior to transport to the central accumulation area.

n. Solid Waste - Any garbage, refuse, sludge or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from institutional activities.

o. Storage - The holding of solid waste for a temporary period, at the end of which the waste is processed, disposed of, recycled or stored elsewhere.

p. Transporter - Any person who conveys or transports municipal hazardous waste or industrial solid waste by truck, ship, pipeline or other means.

q. Waste - Any material for which there is no use and is to be discarded as valueless

15.11.5 Appendix B - Hazardous Waste Disposal Plan Summary

A. Safety Officer Responsibilities. The Safety Officer shall provide the following services:

1. Maintain EPA/State hazardous waste reference materials, definitions and a list of such wastes.

2. Supply the requesting departments with chemical waste disposal labels (provided by waste contractor).

3. Review the labels, prescribe methods of collection and disposal and issue collection orders, as needed.

4. Coordinate disposal requirements with the requestor.

5. Arrange for disposal of waste with contractor. When necessary, designated department personnel (material movers) shall

a. collect the waste materials,

b. separate waste materials according to compatibility, and

c. transport the waste material(s) to the designated University storage facility where the waste material shall be segregated and stored until a qualified waste disposal service contractor is scheduled to dispose of the waste material(s). The service contractor will provide these on-site services twice a month.

6. Maintain disposal service records. The Safety Officer shall maintain a copy of the service contractor's shipping manifest for a minimum of three years.

7. Approve any alternative to waste disposal by a service contractor.

8. Provide reports to Federal and State agencies as required.

B. Department Member Responsibilities

1. Correctly identify hazardous materials (e.g.: laboratory waste materials) by using a chemical waste disposal label for each container of waste material. The steps of completing and attaching disposal labels are listed below:

   a. List the chemical(s) on the waste disposal label using the common name of the chemical(s) or the name used under the International Union of Pure and Applied Chemistry (IUPAC) System when both names are commonly used. Chemical formulas are not acceptable.

   b. The chemical waste disposal label must indicate the department, responsible person's name and telephone number and location of the waste material(s).

2. Ensure the containers of liquid and solid chemical waste are in good condition so that they may be handled safely. Containers must be suitable for storing chemical waste for at least 90 days. These containers will be provided by each department.

3. Place labeled containers of liquid and solid chemical waste in designated area that is convenient for collection and provides fire protection storage. Collection can sometimes be made from individual laboratories; however, a centralized storage room is preferable. Do not store waste containers in corridors (e.g.: hallways, passageways, etc.).

4. Improperly identified waste material will not be collected; however, unknown chemical waste material may be picked up if arrangements have been made with the Safety Officer. Departments may be charged the cost of analyzing the unidentified waste to determine its chemical identity.

5. Those employees who use chemicals in the course of their job functions are provided chemical awareness training by their departments. Those persons who deal with hazardous waste; i.e., transporting waste from labs to storage areas must receive training required by Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.120(a) Hazardous Waste Operations and Emergency Response. The contractors who conduct on-site visits twice a month are trained and certified to conduct this work. They inspect, collect, package, label and transport hazardous waste to the hazardous waste storage room for removal from the campus.

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C. Service Contractor Responsibilities

1. The service contractor's representative shall:

   a. conduct on-site visits twice a month to collect hazardous waste from designated satellite accumulation areas,

   b. package the waste,

   c. label the shipping containers, and

   d. complete a shipping manifest in accordance with Federal and/or State requirements before removal from the campus.

2. The service contractor shall transport the hazardous waste to authorized disposal facilities.

3. Commercial disposal shall be accomplished when the quantity of waste warrants such action; however, waste will be shipped to authorized disposal facilities before the 90 day accumulation limit expires.

D. Disposal Costs. The University will fund the collection, storage and disposal cost for campus entities.

OFFICE OF RESPONSIBILITY: Safety Officer, Office of Environmental Safety and Health

AUTHORITATIVE REFERENCES:

Environmental Protection Agency
Resource Conservation and Recovery Act of 1979 (RCRA)
Hazardous and Solid Waste Amendments of 1984
Code of Federal Regulations, Title 40, Part 260 to Part 299

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