

**UC Davis Enterprisewide Risk Assessment**

**Briefing Summary for Senior Management**

**August 11, 2006**

**UC Davis Enterprisewide Risk Work Group  
J. Michael Allred, Chair**



## **UCD Enterprisewide Risk Work Group** **Briefing Summary for Senior Management**

### **Executive Summary**

In February 1997, the Office of the President asked each campus to develop a plan to improve financial accountability in response to concerns from The Regents, UC's external auditors, and the public regarding the effectiveness of the University's systems of internal controls. UC Davis, in response, designated the position of Associate Vice Chancellor of Finance as the Controller, created the position of Director of Controls & Accountability, and established an Accountability & Controls Work Group.

The Accountability & Controls Work Group realized after addressing the initial concerns of UCOP that a comprehensive effort was needed to manage risks across the campus. The Accountability & Controls Work Group was expanded in 2002 and was renamed the Enterprisewide Risk Work Group. The Enterprisewide Risk Work Group promotes collaboration and coordination of efforts to assess and manage the risks associated with the University's objectives as stated in the *UC Davis Strategic Vision*, and ensures that mitigation efforts are effective in managing risks to an acceptable level of exposure.

The Enterprisewide Risk Work Group adopted the new *Enterprise Risk Management – Integrated Framework* published in September 2004 by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission, as a framework to identify, assess and manage risk. The *Framework* enables management to deal successfully with uncertainty and deploy resources effectively in pursuit of the University's objectives. It also creates a foundation for mutual understanding enabling all parties to speak a common language and communicate more effectively.

The UC Davis Enterprisewide Risk Work Group conducted an enterprisewide risk assessment in FY 2003-04 to identify the risks that could prevent the campus from achieving the non-academic objective stated in the UC Davis Strategic Plan and to assess the effectiveness of actions taken to mitigate those risks. The potential impact and likelihood, and the need for more effective mitigation efforts were of special concern for three of the five highest risks: policy noncompliance, research noncompliance, and recruitment and retention of staff. The Work Group collaborated with other organizations on campus to implement additional actions to mitigate the highest risks. The details of the risk assessment and the recommended actions are presented in this document.

With the changing environment at the University and the work already accomplished, the Work Group proposes to undertake a second enterprisewide risk assessment in FY 2006-07 to identify new risks that have arisen since the last assessment and evaluate the effectiveness of current risk mitigation activities. The methodology for this next risk assessment will be modified based on experience with the first assessment and ideas learned from private corporations engaged in Enterprise Risk Management. The next risk assessment will be designed to give decision-makers more quantitative information about actions recommended as a result of the assessment. It will incorporate: identification of "root cause" risks, analysis of low risks for over-control, risk trend analysis, and quantifications of risk tolerance, exposure value and key risk indicators.

**UCD Enterprisewide Risk Work Group**  
**Briefing Summary for Senior Management**

**Purpose**..... 5

**Background** ..... 5

**Enterprisewide Risk Assessment FY 2003-04**..... 6

**Risk Assessment Methodology** ..... 6

**Results of the Risk Assessment**..... 7

**Recommendations and Actions Taken to Further Mitigate the Top-5 Risks**  
    ..... 9

**Enterprisewide Risk Assessment – FY 2006-07** ..... 10

**Enhancements to the Process and Expected Benefits** ..... 10

**Implementation Time Frame** ..... 13

**Members of the Enterprisewide Risk Work Group** ..... 14

## UCD Enterprisewide Risk Work Group Executive Briefing Document

### Purpose

This briefing document was prepared by the UCD Enterprisewide Risk Work Group to inform senior management at UC Davis about the results of the first enterprisewide risk assessment conducted in FY 2003-04 and to propose a plan for conducting the next assessment in FY 2006-07.

### Background

In February 1997, the Office of the President asked each campus to develop a plan to improve financial accountability in response to concerns from The Regents, UC's external auditors, and the public regarding the effectiveness of the University's systems of internal controls. UC Davis, in response, designated the position of Associate Vice Chancellor of Finance as the Controller, created the position of Director of Controls & Accountability, and established an Accountability & Controls Work Group.

A key component of internal control is the management of risk, which is "the possibility that an event will occur and adversely affect the achievement of objectives"<sup>i</sup> UC Davis has many units that assess risks, employ risk mitigation activities, or consult with management about options to prevent and eliminate risks. The Accountability & Controls Work Group realized after addressing the initial concerns of UCOP that a comprehensive effort was needed to manage risks across the campus. UC Davis is a large, complex, decentralized institution that has grown significantly and will continue to grow through 2010.

The scope of the Accountability & Controls Work Group was expanded in 2002 to promote collaboration and coordination of efforts to assess and manage risks. The Accountability & Controls Work Group became the Enterprisewide Risk Work Group with a focus to advance risk awareness, identify and assess the risks associated with the University's objectives as stated in the *UC Davis Strategic Vision*, and ensure that mitigation efforts are effective in managing risks to an acceptable level of exposure.

The Enterprisewide Risk Work Group adopted the *Enterprise Risk Management – Integrated Framework* published in September 2004 by the Committee of Sponsoring Organizations (COSO) of the Treadway Commission, as a framework to identify, assess and manage risk. The adoption of a campus-wide management of risks proposes several benefits:

- Focusing on all sources of risk/value and ways to mitigate risk.
- Furthering the university's mission of education, research, patient care and public service through better management of risk.
- Reducing the possibility of adverse developments that may cost money or cause embarrassment.
- Avoiding the treatment of risk in isolation.
- Aggregating information for decision-making.
- Improving anticipation and response mechanisms.
- Integrating risk management into the management of the University.
- Satisfying our stakeholders regarding our fiduciary responsibilities.

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### Enterprisewide Risk Assessment FY 2003-04

The initial efforts of the Enterprisewide Risk Work Group were to conduct an Enterprisewide Risk Assessment to identify and assess the risks that could prevent UC Davis from achieving the non-academic objectives stated in "*The UC Davis Vision: The Campus' Strategic Plan*." The assessment focused on fostering and supporting the goals of education, discovery and engagement and the Framework for Success.

### Risk Assessment Methodology

The Assessment began in late spring of 2003 with interviews of 45 key managers selected from the Senior Advisors Group, campus organizations, and the Enterprisewide Risk Work Group. The managers were asked about the risks they believed could prevent achievement of the *UC Davis Strategic Plan*. Their responses were accumulated into a database of risks, factors influencing risks and actions taken at the time to mitigate risks. The participants made 355 comments identifying risks, which were consolidated into the following 15 strategic risks:

- A. Inability to meet the demands for growth due to the California budget crisis.
- B. Inability to recruit, develop and retain a distinguished and diverse faculty.
- C. Inability to recruit and retain staff.
- D. Incorrect business decisions by unqualified managers not based on shared values.
- E. Building safety declining due to deferred maintenance and unsafe practices.
- F. Noncompliance with policies and procedures.
- G. Losses of research funding and assets from non-compliance, non-accountability, and high-risk partnerships.
- H. Breakdowns of communications in all directions affecting business decisions.
- I. Financial losses from improper governmental activities.
- J. Decline in financial support due to our stakeholders perceiving that we are not good stewards of the resources entrusted to us.
- K. Insufficient facilities (i.e., space) to continue to meet the growing demands for education, research and service.
- L. Not building a true community of spirit and purpose based on mutual respect and caring.
- M. Not fulfilling our mission to teach students, pursue research and serve the public.
- N. The safety and security of the university environment and international collaboration are diminished by world events and acts of violence.
- O. Natural disasters (e.g., earthquakes, floods, electrical storms).

A web-based survey was set-up to enable the members of the Enterprisewide Risk Work Group to vote on the impact and likelihood of each of these strategic risks. They evaluated each risk by responding to the following questions using a scale from 1-Very Low to 5-Very High:

- What would be the impact on the ability of UCD to achieve the goals of the 2020 Vision if this risk occurred?

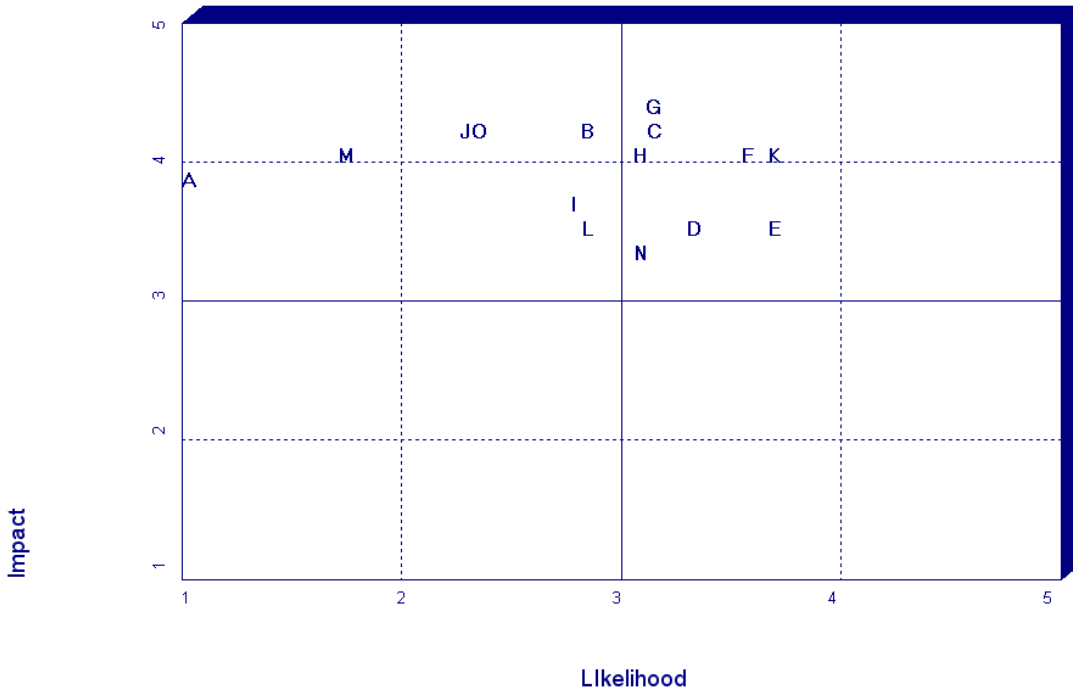
## UCD Enterprisewide Risk Work Group Executive Briefing Document

- Considering everything being done today to mitigate this risk, what is the likelihood of this risk occurring?

### Results of the Risk Assessment

The following chart and table present the results of the vote.

### UCD Enterprisewide Risk Assessment



Risk	Description	Impact	Likelihood	Average
<b>Top 5 Risks:</b>				
K	Insufficient facilities (i.e., space) to continue to meet the growing demands for education, research and service.	4.15	3.69	3.92
F	Noncompliance with policies and procedures	4.14	3.57	3.86
G	Losses of research funding and assets from noncompliance, non-accountability and high-risk partnerships.	4.50	3.14	3.82
C	Inability to recruit and retain staff.	4.29	3.14	3.71
E	Building safety declining due to deferred maintenance and unsafe practices.	3.57	3.71	3.64
<b>Other High Risks:</b>				
B	Inability to recruit, develop and retain a distinguished and diverse faculty	4.31	2.85	3.58

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H	Breakdowns of communication in all directions affecting business decisions.	4.00	3.08	3.54
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### Medium Risks:

D	Incorrect business decisions by unqualified managers not based on shared values.	3.54	3.36	3.45
O	Natural Disasters (e.g., earthquake, flood, electrical storms).	4.21	2.36	3.29
I	Financial losses from improper governmental activities.	3.77	2.77	3.27
J	Decline in financial support due to our stakeholders perceiving that we are not good stewards of the resources entrusted to us.	4.21	2.31	3.26
N	The safety and security of the university environment and international collaboration are diminished by world events and acts of violence.	3.43	3.07	3.25
L	Not building a true community of spirit and purpose based on mutual respect and caring.	3.62	2.85	3.23
M	Not fulfilling our mission to teach students, pursue research and serve the public.	4.07	1.71	2.89

### Low Risk:

A	Inability to meet the demands for growth due to the California Budget Crisis.	3.92	1.00	2.46
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## Assessment of Effectiveness of Risk Mitigation Efforts

Following the risk assessment, the Enterprisewide Risk Work Group focused on the Top-5 Risks. Facilitated discussions identified consequences if each risk occurred, factors contributing to the realization or prevention of the risk, and actions taken at the time to mitigate the risk. Participants used web-based voting a second time to evaluate the effectiveness of the risk mitigation activities. The consensus of the participants was that current mitigation efforts for three of the five risks were somewhat or not effective and significant improvement was needed to reduce risks:

Top-5 Risks	Ratings*
K – Insufficient facilities (i.e., space) to continue to meet the growing demands for education, research and service	2.73
F – Noncompliance with policies and procedures	2.46
G – Losses of research funding and assets from noncompliance, nonaccountability and high-risk partnerships	2.45
C – Inability to recruit and retain staff	2.64
E – Building safety declining due to deferred maintenance and unsafe practices	2.46

*Legend (Participants voted using a scale from 1-Not Effective to 5-Highly Effective)	Average Vote
Risk mitigation activities were effective to highly effective (i.e., efficient and effective)	3.50 – 5.00
Risk mitigation activities were moderately effective and needed some improvement	2.50 – 3.49
Risk mitigation activities were somewhat or not effective; significant improvement was needed	1.00 – 2.49

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### Recommendations and Actions Taken to Further Mitigate the Top-5 Risks

Recognizing that mitigation efforts at the time were at best somewhat to moderately effective, the Enterprisewide Risk Work Group focused on the identification of additional actions that could be taken to further mitigate the Top-5 risks. The actions recommended and taken are summarized as follows:

*Risk G. Losses of research funding and assets from noncompliance, nonaccountability and high-risk partnerships.*

- A Research Compliance Task Force had already been formed to address this risk. Some members of the Enterprisewide Risk Work Group were on that Task Force, so it was decided that the best course of action was to let the Research Compliance Task Force do its job.

*Risk F. Noncompliance with policies and procedures.*

- In September 2004, Internal Audit Services issued their annual report commenting on a need for improved oversight and monitoring of business activities by administrators and faculty members with management responsibilities. Internal Audit Services recommended that department chairs be required to complete training designed to assist them in understanding and fulfilling their management responsibilities.
  - i. Accounting & Financial Services partnered with Internal Audit Services and conducted training for new department chairs to help them understand their management responsibilities and the MSO/CAO perspective.
- Seminars on financial management and research compliance were also provided to new laboratory managers
- Deans and vice chancellors signed the Fiscal Year-end Letters acknowledging their responsibilities and understanding of the *Administrative Responsibilities Handbook* (<http://accounting.ucdavis.edu/refs/AdminHandbook.pdf>)
- A departmental risk self-assessment is being developed to help chairs assess risks associated with research and with administering their departments. The latest draft is available at the A&FS Controls & Accountability Web-Site (<http://accounting.ucdavis.edu/Controls/>).
- Discussions are being held to identify ways to enhance the relationships between chairs and senior business officers
- Members of the Enterprisewide Risk Work Group are also on the Research Compliance Work Group

*Risk C. Inability to recruit and retain staff.*

- A Sub-Work Group of the Enterprisewide Risk Work Group, consisting of representatives from OOA, A&FS, HR, FO&M and EH&S, conducted in-depth discussions of the recruitment and retention risk. The Sub-group concluded that UC has good plans in place and that this is primarily a funding issue.
- The risk of an inability to recruit is driven by the University's recognized need for a stronger salary program. An initiative by HR identified 20

## **UCD Enterprisewide Risk Work Group Executive Briefing Document**

areas of focus which they are working on and management is allowing more flexibility and moving to higher level people in recognition of low classifications.

- The risk of an inability to retain staff is also heavily driven by budget. Staff persons are stretched too thin and feeling burnout. People who have the capacity to be creative and find win-win situations are in greater demand. Several programs are in place to counter this risk, such as flexibility in defining positions, succession planning, the Work-Life Balance Initiative, and the MSOs for the Future Program.
- Additional Actions recommended by the ERWG and being considered by HR include: exploring the possibility of recruiting our own students for employment, giving career employees time to pursue degrees, developing incentives for those who need training, and building the skills of current employees to fill the difficult-to-fill positions.

*Risk K. Insufficient facilities (i.e., space) to continue to meet the growing demands for education, research and service.*

- The Office of Resource Management and Planning is addressing this risk and taking into consideration all implications of space issue discussions.
- A&E is studying building system deficiencies before renovations occur.
- The campus was recognizing the fluctuations in enrollment growth and that state funding will not be more generous.
- The Enterprisewide Risk Work Group recommends increasing the percent of funds from the Comprehensive Campaign targeted for facilities.

*Risk E. Building safety declining due to deferred maintenance and unsafe practices.*

- Several recommendations were forwarded to A&E for consideration including more emphasis on crime prevention through environmental design, reassessment of the allocation of indirect cost recovery, including funding for maintenance on capital programs, and implementing life cycle costing for capital projects.

### **Enterprisewide Risk Assessment – FY 2006-07**

#### **Enhancements to the Process and Expected Benefits**

Many changes have occurred since the last enterprise risk assessment in FY 2003-04. The State budget climate has improved, the University has grown, and efforts based on the last risk assessment are either in process or have been completed. The Enterprisewide Risk Work Group proposes to complete a second enterprisewide risk assessment during FY 2006-07. The methodology for this next risk assessment will be modified based on experience with the first assessment and ideas shared by private corporations engaged in enterprisewide risk assessment. The next risk assessment will be designed to give decision makers more quantitative information about actions recommended as a result of the assessment.

## **UCD Enterprisewide Risk Work Group Executive Briefing Document**

UC Davis, as a large decentralized organization, has many risks to be concerned about. In the first risk assessment, the Enterprisewide Risk Work Group combined similar risks into 15 general strategic risks. In the second risk assessment, the Work Group will employ a new approach used by large corporations - that is to focus on "root cause" risks. Risks are events that can prevent achievement of objectives. They are usually caused by other risks. Initial interviews in the second risk assessment will concentrate on identifying "root cause" risks. This is accomplished by asking "How do we find out why this could happen?" until it can no longer be asked. For example, the risk of paying large fines to federal sponsoring agencies could be caused by the risk of improper accounting, which in turn could be caused by allowing accounting transactions to be processed by people who are not properly trained, and so on. Identifying "why" a risk could occur enables management to focus resources on preventing the fundamental or "root" cause of the risk. This also eliminates the fallacy of managing the consequence of the risk.

The Enterprisewide Risk Work Group recognizes that the University must accept some element of risk in order to grow and maintain excellence. The first risk assessment focused on the Top-5 Risks, those with the highest potential impact and likelihood. During the next risk assessment, attention will be given to the lowest risks as well as the highest risks. A risk with both a very low impact and a very low likelihood may be over-controlled consuming more resources than needed. The low risks will be analyzed to see if some of the resources used to mitigate them could better be used to reduce the impact or likelihood of the high risks. This approach was learned from corporations who have implemented enterprisewide risk assessments. The goal of the Enterprisewide Risk Work Group is to reduce the impact or likelihood of all risks to a level that is acceptable to management. The enterprisewide risk assessment provides us with a framework for thinking strategically about how limited resources should be deployed.

The measures used in the first enterprisewide risk assessment were very subjective. Measures that are more quantifiable will be introduced as part of the second assessment, such as enhanced impact and likelihood scales<sup>1</sup>, exposure values<sup>2</sup>, key risk indicators<sup>3</sup>, risk tolerances<sup>4</sup>, thresholds<sup>5</sup> and notification parameters<sup>6</sup>.

Impact and likelihood of risks, during the first enterprisewide risk assessment, were determined by the participants voting on each risk using a scale of 1-Very Low to 5-Very High. While this provided the collective perception of the relative importance of each risk, the spread of the votes suggested significant differences in the way participants interpreted the scales. The scales to be used in the second risk assessment will be better defined and include examples. The scales will also be extended to allow nine possible choices.

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<sup>1</sup> Impact and Likelihood Scales – Measurement scales to be used in estimating impact and likelihood of potential risks (i.e., events that can prevent the achievement of objectives).

<sup>2</sup> Exposure Value – Estimate of the potential financial impact of a risk occurrence.

<sup>3</sup> Key Risk Indicators – Qualitative or quantitative measures that provide insight into potential risks.

<sup>4</sup> Risk Tolerances – Acceptable levels of variation of measures relative to the achievement of objectives.

<sup>5</sup> Thresholds – A fixed numerical range for a key risk indicator outside of which the indicator is considered to be at an unacceptable level.

<sup>6</sup> Notification parameters – Triggers for alerting management to areas of concern identified by comparing current transactions, or events, with thresholds.

## **UCD Enterprisewide Risk Work Group Executive Briefing Document**

As more risk assessments are completed, the Work Group will be able to determine the direction of each risk and answer the following questions: Which risks are increasing and which are decreasing? Overall, is the level of risk at UC Davis getting better or worse?

Determinations of exposure value will become part of the second risk assessment. Exposure value is an estimate of the potential financial impact. The occurrence of a risk can result in a penalty, loss of revenue or assets, increased expenses, etc. Fair market values of assets can be used to estimate potential financial impact of lost assets. Evaluations of recent settlements can be used to estimate losses from research noncompliance. Recent examples show that the Federal Government is increasing its application of the Federal False Claims Act whereby they charge treble damages plus \$10,000 for each false claim.

“Risk tolerances” will be established for UC Davis by quantifying tolerance levels for various risk impacts and outcomes. From these tolerance levels, thresholds will be established based on “key risk indicators” – a fixed numerical limit over/under which an indicator is considered to be at an acceptable or unacceptable level. Levels for notifying others when a tolerance is exceeded will also be set and “tuning parameters” (drivers management can influence and use to tune a process to reduce the level of risk exposure) will be defined. For example:

- Risk: Inability to attract qualified candidates
- Risk Drivers: Salary, benefits, prestige, assignments
- Key Risk Indicator: Offer to acceptance ratio
- Thresholds: 75%-100% Safe, 50%-74% Cautionary, 0%-49% Warning
- Notification: Human Resources
- Tuning Parameters: Regional salary studies

Enterprisewide Risk Assessment has, thus far, focused on strategic risks – those events that could prevent achievement of objectives stated in the UCD Strategic Plan.

Following our second risk assessment, the Enterprisewide Risk Work Group plans to begin looking deeper into the organization. Members of the Work Group are gathering lists of risks from sources in their professional contacts and are working with UCOP Risk Management Services in their efforts to create a common risk universe based on information already gathered (e.g., Collaborative Self Assessments, Risk Assessments). The Enterprisewide Risk Work Group is also developing a departmental risk assessment tool to help department chairs to assess their risks, especially in research compliance.

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Executive Briefing Document**

**Implementation Time Frame**

<b>Step</b>	<b>Time Frame</b>
Identify participants and conduct Initial Interviews to identify "root cause" risks	Fall 2006
Summarize initial interviews into a Risk Framework showing objectives and risks	Fall 2006
Conduct Risk Assessment <ul style="list-style-type: none"> <li>• Set up web-based risk assessment</li> <li>• Poll participants on impact and likelihood of risks</li> <li>• Summarize votes and rank risks</li> </ul>	Winter 2006
Assess effectiveness of current efforts taken to mitigate highest and lowest risks <ul style="list-style-type: none"> <li>• Facilitate discussions to analyze Top-5 risks               <ul style="list-style-type: none"> <li>– Determine consequences if risk occurs</li> <li>– Identify current efforts taken to mitigate risk</li> <li>– Identify key performance measures and key risk indicators</li> <li>– Assess effectiveness of current mitigation efforts</li> <li>– Recommend additional action needed to reduce impact and likelihood of risks to an acceptable level</li> </ul> </li> <li>• Facilitate discussions to analyze Bottom-5 Risks               <ul style="list-style-type: none"> <li>– Determine consequences if risk occurs</li> <li>– Quantify estimates of losses if the risk occurs</li> <li>– Identify key performance measures and key risk indicators</li> <li>– Identify current efforts taken to mitigate risk</li> <li>– Perform a cost/benefit analysis of mitigation efforts including an estimate of loss increases that may result if efforts to mitigate the risk were lessened</li> </ul> </li> </ul>	Spring 2007
Report on results of Enterprisewide Risk Assessment	Summer/Fall 2007

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**Members of the Enterprisewide Risk Work Group**

Associate Vice Chancellor—Finance/Controller	Mike Allred (Chair)
Associate Vice Chancellor-Safety Services	Jill Blackwelder
Director, Internal Audit Services	Richard Catalano
Senior Superintendent, Physical Plant	Christopher Cioni
Executive Director, Campus Recreation, MU Aux Svcs	Tom Compton
Campus Counsel	Steve Drown
Director, Environmental Health & Safety	Carl Foreman
Director of Controls & Accountability	John Gregg
Director, Sponsored Programs	Ahmad Hakim-Elahi
Division Manager, Extramural Funds Accounting	Kathy Hass
Executive Director, Medical Services, UCOP	Rory Jaffe
Associate Vice Chancellor, Campus Resource Mgmt	Richard Keller
Co-Director of Application Development, I&ET	Debbie Lauriano
Assistant Executive Vice Chancellor	Bob Loessberg-Zahl
Director, Risk Management Services	Deborah Luthi
Associate Director/Chief Financial Officer, UCDHS	William Mc Gowan
Director Occupational Health, Injury & Disability Svcs	Elizabeth Meyer
Assistant Vice Chancellor – Administration	Kathleen Moore
Chief of Police	Annette Spicuzza

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<sup>i</sup> *Enterprise Risk Management – Integrated Framework*, COSO The Committee of Sponsoring Organizations of the Treadway Commission, September 2004