

SEISMIC SAFETY AND DISASTER READINESS

**CALIFORNIA STATE UNIVERSITY,
NORTHRIDGE**

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ABBREVIATIONS

BOT	Board of Trustees, The California State University
CCR	California Code of Regulations
CPB&G	Committee on Campus Planning, Buildings and Grounds, CSU Board of Trustees
CSTI	California Specialized Training Institute in San Luis Obispo
CSU	California State University
DRP	Disaster Recovery Plan
EH&S	Environmental Health and Safety
EMEP	Earthquake/Major Emergency Preparedness – (a CSU task force formed in spring 1985 and disbanded in 1990)
EO	Executive Orders from the Chancellor
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
ICS	Incident Command System protocols required by SEMS regulations
IS	Information Systems
ITR	Information and Technology Resources – CSU, Northridge
OES	Office of Emergency Services, State of California - Governor's Office
PP&D	Physical Planning and Development, Chancellor's Office
SEMS	Standardized Emergency Management System regulations issued by OES in September 1994
SRB	Seismic Review Board of The CSU formed in 1992
UPS	Uninterruptible Power Supply

INTRODUCTION

PURPOSE

Our overall audit objective was to furnish an independent appraisal of the seismic safety and disaster readiness functions, to ascertain compliance with established policies and procedures, to determine adequacy of internal controls, and to identify opportunities for operational improvements which would help better achieve goals and objectives.

Within the overall audit objective, specific goals included determining whether:

- ▶ necessary seismic retrofitting has been done so facilities meet the relevant building standards in Title 24 of the California Code of Regulations;
- ▶ new construction complies with Board of Trustee policy for seismic peer review (RCPBG 05-93-13);
- ▶ reasonable facility measures for disaster avoidance and prevention have been implemented, e.g., anchoring unsecured furniture and equipment or providing for fire suppression - automatic sprinklers and portable extinguishers;
- ▶ there has been coordinated campuswide planning and preparation for disaster preparedness and response, development and promulgation of sound plans and strategies, and continued vigilance to maintain and update plans;
- ▶ campuses have effective response capabilities to the most probable incidents that may affect the safety of personnel, damage assets, or cause significant business interruption;
- ▶ buildings can be evacuated during disasters/emergencies;
- ▶ reasonable provisions have been made for the availability of equipment, information systems, records, supplies, and trained personnel when needed; and
- ▶ tests/exercises have been conducted to prove plan viability and identify deficiencies or weaknesses in response instructions.

SCOPE AND METHODOLOGY

The review emphasized but was not limited to compliance with state laws, Board of Trustee policy, and Chancellor's Office and campus policies, letters, and directives.

Various campus functions and offices were involved including, for example, facilities management, environmental health and safety, public safety, student health center and computer center. Auxiliary organizations were generally excluded from the audit except for the seismic safety of buildings that they occupy which have been prioritized by CSU's Seismic Review Board for retrofitting.

The 1995/96 and 1996/97 fiscal years were the primary periods reviewed for disaster preparedness and planning. However, other earlier years were also included as needed, in part, because the seismic safety action plan for the system dates back to the Board of Trustees resolution in May 1993.

During the course of the audit, we:

- ▶ interviewed responsible personnel;
- ▶ inspected certain facilities such as the emergency operations center, the computer center, and telephone switch rooms;
- ▶ reviewed various plans and documents;
- ▶ examined emergency equipment and supplies; and
- ▶ tested selected devices and features integral to the campus system for disaster mitigation, preparedness, response and recovery.

BACKGROUND

As indicated in the May 1993 Agenda Item 7 of the Board of Trustees' Committee on Campus Planning, Buildings and Grounds, the CSU relies upon the requirements of Title 24 of the California Code of Regulations (CCR) for seismic safety building standards. From a structural standpoint, the CSU has been specifically involved in a seismic retrofitting program since 1992. In the 1992/93 Budget Act, funds were provided for seismic reviews of CSU facilities. In implementing this program, the CSU formed a Seismic Review Board (SRB) which has been active with essentially the same membership since its original formation. The focus of this program has been to identify and mitigate the highest life safety risks. Part of the program has been for the SRB to rank order facilities on the degree of seismic risk, subject the highest risks to further engineering investigation and, if warranted, capital outlay retrofit projects. The resolution of the committee in May 1993 (RCPBG 05-93-13) also provided for independent technical peer reviews of the seismic aspects of all construction projects from their design initiation, including both new construction and remodeling.

Appendix I_a of the 7/19/95 Report of the Ad Hoc Committee on Emergency Preparedness contains a recent history of emergency planning in the CSU. This report indicates that much of what is in place within the CSU at the current time can be traced to the Task Force on Earthquake/Emergency Preparedness

INTRODUCTION

(EMEP) formed in the spring of 1985. The EMEP Task Force was instrumental in development of Executive Order (EO) 524 issued April 5, 1988. While this EO is dated, it is still in effect as systemwide policy.

In April 1994 (approximately three months after the January 17, 1994 Northridge earthquake), the CSU convened the Ad Hoc Emergency Preparedness Committee. The July 19, 1995 report of the committee was circulated to the campuses but not implemented on a systemwide basis.

In September 1994, the governor's Office of Emergency Services issued "new Standardized Emergency Management System (SEMS) regulations with which the CSU and all other state agencies as well as local governments and special districts must comply."

Disaster readiness terminology varies. Disaster is associated with emergency management or emergency operations and sometimes with other terms such as business continuity. The "3 R's" of business continuity planning have been described as readiness, recovery, and restoration and defined as follows:

READINESS

- Disaster Prevention and Avoidance
- Emergency Preparedness
- Corporate-wide Planning
- Business Unit Recovery Planning

RECOVERY

- Incident Management and Initial Recovery

RESTORATION

- Long-term Business Recovery

OPINION

We visited the California State University, Northridge campus from September 2, 1997 to December 1, 1997 and reviewed the seismic safety and disaster readiness functions in effect at that time.

We found that the January 17, 1994 Northridge earthquake has had a profound effect on the majority of what the campus has done and plans to do in emergency preparedness. For the most part, their first-hand experiences were beneficial.

We found that the structural hazards posing the highest life safety risk have been retrofitted and that buildings have been reevaluated as needed. New construction has generally been subjected to independent technical peer review for seismic safety. However, the final reports on seismic peer reviews were not well documented.

We further found that the campus has a central disaster/emergency plan with provisions such as an emergency operations center and integrated team structure as required by the state's Standardized Emergency Management Regulations. However, in our opinion, the plan and the degree of preparedness could use improvement in several areas. These suggested improvements are addressed in both the executive summary below and in the body of the report.

There are a number of items included in the report where campus planning had started prior to the audit but had not been finalized as of audit completion. Two particular examples are the new facilities being planned for relocation of the emergency operations center and telecommunication facilities. The campus has also made significant progress in implementing some of the recommendations brought to their attention during the course of the audit.

EXECUTIVE SUMMARY

The purpose of this section is to provide management with an overview of conditions requiring their attention. Areas of review not mentioned in this section were found to be satisfactory. Numbers in brackets [] refer to page numbers in the report.

ENVIRONMENTAL & FACILITY CONTROLS

SEISMIC PEER REVIEW DOCUMENTATION [8]

Seismic peer reviews were not well documented. Complete records reduce risks related to life safety concerns and related liabilities.

TELECOMMUNICATION ROOMS [8]

The University Student Union (USU) basement area temporarily houses the main distribution frame for voice and data communications in two different rooms. The original facility was abandoned due to damage from the 1994 earthquake. A new, permanent facility is planned.

SMOKE DETECTORS [9]

Smoke detectors did not cover both temporary telecommunications rooms in the basement of the University Student Union. Installing additional smoke detectors will ensure that smoke is detected at the earliest possible time before the fire has caused unnecessary damage. **Subsequent to the audit fieldwork, the campus installed the necessary smoke detection devices.**

WATER INTRUSION DETECTORS [9]

The University Student Union basement area that temporarily houses the two telecommunication rooms lacked water intrusion detectors. In the event of water leakage and intrusion, water detectors with remote notification alarms would help ensure timely response and reduce the risk of equipment damage and disruption of campus communications. **Subsequent to the audit fieldwork, the campus installed the necessary water intrusion detectors.**

FIRE SUPPRESSION [9]

Existing fire sprinklers did not reach the interior areas of both temporary telecommunications rooms in the basement of the University Student Union. Improving automated fire suppression will help to minimize damage.

FIRE ALARM PANEL [10]

The existing alarm receiver panel in public safety did not separate fire and security calls. Separation would eliminate stacking calls, hasten identification, and improve fire response time capabilities.

DISASTER PLANNING

ALTERNATE RESPONDERS [11]

The campus roster of alternate responders to emergency situations was incomplete. Maintaining a complete and current listing of trained alternates would improve the chances of adequately responding to an emergency.

TRAINING [11]

The *Multi-Hazard Emergency Management Plan* did not provide specificity on training. Specific training goals identify the type of training, the desired number of hours, and targeted trainees and further demonstrate management's commitment.

PLAN APPROVAL [12]

Neither the campuswide *Multi-Hazard Emergency Management Plan* nor any of the business unit plans indicated whether they had been approved by campus administration. Approval by campus administration signifies both endorsement and commitment to emergency planning.

VERTICAL PLAN INTEGRATION [12]

Plans in vertical business units were not reviewed for consistency with the campus *Multi-Hazard Emergency Management Plan* nor maintained in the Emergency Operations Center. Integration of plans would assure better support of disaster readiness objectives.

ITR DISASTER RECOVERY PLAN [13]

Information and Technology Resources (ITR) lacked a formal written disaster recovery plan (DRP). A DRP will increase the efficiency and timeliness of recovery operations.

STAND-BY DISASTER CONTRACTS [14]

The campus did not have pre-approved stand-by disaster contracts for equipment, supplies, and services to be activated in the event of a disaster. Advance arrangements in preparation for a disaster/emergency would provide additional assurances of the availability of needed resources.

EMERGENCY LOCATOR RECORDS [15]

Records indicating the locations of faculty, staff and students by day and time were not maintained in the EOC. Information transfer is expedited more efficiently when critical records are readily available in the EOC.

EMERGENCY OPERATIONS CENTER [15]

The size of the current Emergency Operations Center (EOC) is minimal. Complying with the minimum square footage guidelines assures a more orderly and properly functioning EOC.

PLAN VALIDATION & MAINTENANCE

EMERGENCY EXERCISES [16]

There has not been a combined campus-wide emergency exercise in the last two years. Testing, at formal prescribed intervals, provides opportunities for the campus to document and evaluate the weakness or failures of the existing plan and to amend the document as needed.

EVALUATING EMERGENCY RESPONSE DRILLS [16]

Evaluation of emergency response drills and simulation exercises was inconsistent. Specific procedures on reporting the nature and extent of drills and simulations and evaluating their results, including suggested revisions to the campus *Multi-Hazard Emergency Management Plan*, should be prescribed to keep the plan current and relevant.

VITAL RECORDS [17]

The campus was not following the vital record back-up provisions of *the Multi-Hazard Emergency Management Plan*. Backup of these records reduces the likelihood of permanent losses.

REGISTERING VOLUNTEERS [18]

The campus did not have authority to register disaster service volunteers. Obtaining this authority will clarify questions of liability.

EXPENDITURES [18]

The campus did not track or coordinate disaster readiness expenditures. Tracking and coordinating disaster readiness expenditures provides a system of control for these funds and related acquisitions.

GENERATOR MAINTENANCE [19]

Preventative maintenance on emergency generators was not well documented. Regular scrutiny of maintenance activities would provide further assurance that generators would work when needed.

DATA SAFE [19]

The computer center was without the use of a data safe to protect backup tapes on-site between pick-ups for off-site storage. Protection of these tapes through a data safe or alternative means would enhance recovery from a disaster.

OBSERVATIONS, RECOMMENDATIONS, AND CAMPUS RESPONSES

ENVIRONMENTAL & FACILITY CONTROLS

SEISMIC PEER REVIEW DOCUMENTATION

Seismic peer reviews were not well documented.

Seismic peer review engineers were involved with various projects at the campus; however, final reports were not consistently available. These reports (formal, written reports signed by the preparer) are necessary to finalize resolution of design comments and formally document conclusions on the seismic safety of structural retrofitting and new construction projects.

The policy of the CSU since the May 1993 resolution of the Board of Trustee's (BOT) Committee on Campus Planning Buildings and Grounds (RCPBG 05-93-13) has been that independent technical peer reviews of the seismic aspects of all construction projects (both new construction and remodeling) will be performed starting at design initiation to assure conformance with good seismic resistant practices and pertinent provisions of Title 24 of the California Code of Regulations.

Responsibility for monitoring and ensuring compliance with the seismic peer review process and maintaining documentation of this effort was unclear. The nature of the delegation of completed projects to the campus indicates that the campus' need to verify that this process was properly incorporated within building or facility construction and renovation projects.

Incomplete records do not adequately document the mitigation of life/safety risks and related liabilities sought through the seismic peer review program.

Recommendation 1

We recommend that the campus document compliance with the seismic peer review requirements in RCPBG 05-93-13.

Campus Response

The campus will request that our peer review engineer re-evaluate the projects in question and generate "final reports" where necessary. This re-evaluation process will be completed by June 1, 1998.

TELECOMMUNICATION ROOMS

The University Student Union (USU) basement area temporarily houses the main distribution frame for voice and data communications in two different rooms. The original facility was abandoned due to damage from the 1994 earthquake. A new, permanent facility is planned. In our review of this area we found that:

SMOKE DETECTORS

Smoke detectors did not cover both temporary USU telecommunication rooms. The existing configuration would require smoke from a fire in an interior area to seep through a door crack or burn through a wall before reaching a detector in the building ventilation ducts.

The lack of smoke detectors in these interior locations could delay the detection of a fire and the emergency response, resulting in greater damage to telecommunications equipment.

Subsequent to the audit fieldwork, the campus installed the necessary smoke detection devices.

WATER INTRUSION DETECTORS

The two temporary USU telecommunication rooms lacked water intrusion detectors.

The USU basement is a location at risk of water intrusion from multiple sources. There is a history of water problems and some measures have already been taken. However, the area is not normally occupied and, in the absence of automated detection devices, water would not necessarily be noticed unless response personnel intervened or until communications were disrupted.

The lack of water intrusion detectors increases the risk of equipment damage and disruption of communications on campus.

Subsequent to the audit fieldwork, the campus installed the necessary water intrusion detectors.

FIRE SUPPRESSION

Existing fire sprinklers did not reach the interior areas of both temporary USU telecommunications rooms.

An automated fire suppression system that reached into the telecommunication rooms would reduce the extent of losses and the length of time operations is disrupted.

Recommendation 2

We recommend that campus provide automated fire suppression coverage for both telecommunication rooms in the basement of the University Student Union.

Campus Response

Installation of an automated gas discharge fire suppression system is currently being investigated. We understand the importance of protecting existing temporary telecommunications rooms until we construct a post-earthquake Main Distribution Frame (MDF) building. In the interim, an appropriate automated fire suppression system will be identified and installed.

FIRE ALARM PANEL

Fire and security calls had been combined in the same receiver panel in public safety.

At times, calls were backing up and the system became overloaded. Public safety dispatchers were required to sort through calls manually to identify fire alarms and determine priorities.

According to a lieutenant in public safety, the fire alarm receiver panel was destroyed in the January 1994 earthquake and not replaced immediately for lack of funding.

Receiving both fire and security calls in the same panel hinders efficient and timely response to fire alarms.

Recommendation 3

We recommend that the campus provide separate fire and security alarm receiver systems.

Campus Response

A contract for the hardware and technical support required to separate the fire and security alarm systems was issued in early March 1998. We anticipate that the "stand alone" fire alarm system will be fully operational by August 15, 1998.

DISASTER PLANNING

ALTERNATE RESPONDERS

The campus roster of alternate responders to emergency situations was incomplete.

Redundancy in providing back-up resources is prevalent in emergency management practices. The *Multi-Hazard Emergency Management Plan* envisions primary and secondary responders.

Incomplete rosters do not provide for identifying individuals who should be trained in emergency response. If primary respondents are unavailable when needed, their backups are essential for an adequate response.

Recommendation 4

We recommend that the campus maintain a current list of primary and secondary responders for each emergency management staff position.

Campus Response

The list of primary and secondary emergency management staff assignments will be revised by June 1, 1998. This revised list will be kept in the Emergency Operations Center (EOC) and in the *Multi-Hazard Emergency Management Plan*.

TRAINING

The *Multi-Hazard Emergency Operation Plan* did not provide specificity on training.

Section I.6 of the campus *Multi-Hazard Emergency Management Plan* states:

Training and exercising are essential to make emergency operations personnel operationally ready. This emergency plan will include provisions for training.

Campus records indicate that training is occurring in a number of areas including public safety, hazardous material, urban search and rescue, and building/floor wardens. However, the plan does not indicate goals in terms of training that should be provided, how much training, and to whom. Without this specificity, the campus risks having an inadequate number of people trained and in the wrong areas.

Recommendation 5

We recommend that the campus specifically establish appropriate training goals for emergency management personnel.

Campus Response

A detailed training program for all emergency management personnel will be added to the next revision of the *Multi-Hazard Emergency Management Plan*. At a minimum, this program will meet the training requirements specified by the Standardized Emergency Management System (SEMS) Regulations. We anticipate completing the revised plan by September 1, 1998.

PLAN APPROVAL

Neither the campuswide *Multi-Hazard Emergency Management Plan* nor any of the business unit plans indicated whether they had been approved by campus administration.

Executive Order (EO) 524 delegates to the campus presidents the responsibility for maintenance and regular updating of the institution's plan, but it does not specifically require that the plan be approved by them. This EO further indicates that the emergency preparedness plan should "be regarded as a permanent and important element in the policy structure of the institution." Page 1 of the campus plan also states that "the campus president establishes the basic policies."

Absence of plan approval by the president or his designee does not link the plan to the policies of the campus and execution of the responsibilities in EO 524.

Recommendation 6

We recommend that the campus president or designee formally approve emergency planning documents for the campus.

Campus Response

The *Multi-Hazard Emergency Management Plan* will be revised by September 1, 1998. This revision will be approved by the president or her designee.

VERTICAL PLAN INTEGRATION

Plans in vertical business units were not reviewed for consistency with the campus *Multi-Hazard Emergency Management Plan*. These vertical plans were not maintained in the Emergency Operations Center (EOC).

The current campus *Multi-Hazard Emergency Plan* is a combination of a campus-wide horizontal plan with a number of vertical plans (e.g., Information Resource Management, Health Center, Child Care Center, Housing, etc.) subsumed thereunder. The main plan has evolved from a generic multi-hazard functional plan prepared by the EMEP Task Force dating back to the late 1980s. The following was observed with respect to many of these vertical emergency plans prepared by the campus:

- ▶ Vertical plans had not been reviewed for consistency with campuswide expectations.
- ▶ All current vertical plans were not maintained within the EOC.

This lack of coordination is detrimental to the preparedness of the campus because the vertical plans could have inconsistent provisions. There could be a breakdown in plan implementation without EOC access.

Recommendation 7

We recommend that the campus:

- a. integrate vertical business unit into the campus *Multi-Hazard Emergency Management Plan*; and
- b. maintain copies of all vertical plans be within the EOC.

Campus Response

A standard format for vertical business unit plans will be established and used for the update/revision of all vertical plans. This standard format will ensure that the vertical plans are consistent with the Multi-Hazard Emergency Management Plan. Copies of the revised vertical plans will be kept in the EOC. We anticipate that all vertical business unit plans will be revised by March 1, 1999.

ITR DISASTER RECOVERY PLAN

Information and Technology Resources (ITR) lacked a formal written disaster recovery plan (DRP).

The manager of computer operations indicated that, while a DRP was underway, the process had been slowed down to accommodate more coordination and certainty in integrating non-ITR organizations.

Without a DRP, the efficiency and timeliness of recovery operations are not ensured. The process of performing a risk analysis and preparing the plan also helps to identify mitigating steps that can be taken before a disaster occurs.

Recommendation 8

We recommend that ITR develop a written DRP.

Campus Response

An ITR Disaster Response Plan (DRP) will be completed by July 1, 1998.

STAND-BY DISASTER CONTRACTS

The campus did not have pre-approved, stand-by contracts to be activated in the event of a disaster for off campus equipment, supplies and services.

The July 1995 *Report of the Ad Hoc Committee on Emergency Preparedness* recommended such agreements as part of disaster planning.

The campus purchasing officer indicated that needed supplies could be obtained through the normal purchasing process and the procurement card. He did not see the need for pre-approved agreements.

In the event of a large regional disaster, the availability of needed services and supplies will be limited and it is likely that those available will not be timely and cost effective, except where pre-approved stand-by agreements are in place.

Recommendation 9

We recommend that the campus reconsider the need for pre-approved, stand-by agreements for disaster preparedness.

Campus Response

The campus fully appreciates and respects the intent of the audit finding. We have established stand-by agreements, i.e. open or blanket orders with vendors for the provision of essential services and supplies such as tree trimming, high voltage maintenance, equipment rentals, etc. In this respect, ready sources of supply (usually more than one) for each prospective need have been identified with pricing at then fair market value (not disaster inflated), and delivery based on availability of resources at the time of call. Unlike contracts open or blanket orders do not carry the enforceability by law. We respectfully submit, however, that the establishment of the open/blanket orders satisfies the intent of the audit recommendation.

In addition we also have the procurement card which will be used to quickly purchase unanticipated needs. Overall, the credit card mode is particularly attractive to vendors in high demand due to the assurance of quick payment of their invoices.

EMERGENCY LOCATOR RECORDS

Records indicating the location of faculty, staff and students by day and time were not maintained in the EOC.

The emergency preparedness coordinator stated that these records were available through various campus databases. However, if a disaster has brought these computer systems down, this information would not be available. Storage of these records in the EOC at the start of each academic term would ensure their immediate availability.

The absence of readily accessible records may delay search and rescue efforts after a disaster.

Recommendation 10

We recommend that the campus document the locations of faculty, staff and students by day and time for each academic term and retain this information in the EOC.

Campus Response

This information will be available in the EOC at the beginning of the Fall 1998 semester and will be updated at the beginning each semester thereafter.

EMERGENCY OPERATIONS CENTER

The size of the current Emergency Operations Center (EOC) is minimal.

Presently, approximately 400 - 500-sq. ft. of space is allotted for the EOC in two public safety rooms. Office of Emergency Services (OES) guidelines specify 50 to 75-sq. ft per person in the EOC. According to the organization charts for emergency management, the EOC needs to accommodate approximately eighteen people.

Another EOC is planned for the new Technology Center subject to appropriate funding.

In an actual disaster, the current EOC may not function effectively.

Recommendation 11

We recommend that the campus comply with OES guidelines on per person square footage in the EOC.

Campus Response

We are currently investigating several options for relocating the EOC to an area that will meet the OES guidelines. Among the options being considered are locating the EOC in one of the new buildings scheduled for construction (e.g. Technology), or establishing a small dedicated EOC near the Department of Public Safety.

PLAN VALIDATION & MAINTNEANCE

EMERGENCY EXERCISES

There has not been a combined campus-wide test event. Evacuation drills were staggered.

Executive Order (EO) 524 requires each campus to develop an ongoing program for testing its emergency plan including a single, combined campus-wide test event to be conducted at least once every two years.

Simulated test events have occurred on a staggered basis and not as a single campuswide event. The manager, environmental health and safety indicated that this approach is more beneficial in focusing on how things work in specific locales. In our opinion, this approach does not meet requirements of EO 524.

By staggering test events, the full, campus-wide impact of an actual disaster on campus resources may be underestimated.

Recommendation 12

We recommend that the campus stage a campus-wide test event at least once every two years.

Campus Response

A single, campus-wide event will be conducted when all vertical business unit plans have been updated and integrated into our *Multi Hazard Emergency Management Plan*. Until that time, we will continue to test individual components of our emergency management program on a staggered basis. Test events planned for the next year include: building evacuation drills, exercise for Urban Search and Rescue Team, Chemical Emergency Response Team drill, and a table top exercise for EOC team.

EVALUATING EMERGENCY RESPONSE DRILLS

Evaluation of emergency response drills and simulation exercises was inconsistent.

Reporting varied from formal (prepared by an outside consultant) to brief memos. These documents did not consistently address drill objectives and outcomes, the degree of involvement by the campus emergency management team and revisions made to the campus *Multi-Hazard Emergency Plan* as a result of the process.

Executive Order 524 requires the campus to maintain summary records of each emergency response test event with particular emphasis on documentation of weaknesses or failures in existing planning. It further requires that, subsequent to each event, the campus emergency management team meet to evaluate the test and develop appropriate proposals for amending plan documents, if necessary.

Without specific procedures, exercises and test results might not be documented in consistent detail. If these results are not appropriately evaluated, necessary corrective actions might not be taken to enhance the campus *Multi-Hazard Emergency Management Plan*.

Recommendation 13

We recommend that the campus enhance and standardize the way in which they report on and evaluate emergency preparedness exercises and test events.

Campus Response

A new format for reporting on and evaluating emergency test events has been developed and was used to critique the most recent EOC exercise on December 4, 1997. This new format will be used to evaluate all future emergency test events.

VITAL RECORDS

The campus was not following the vital record provisions of their *Multi-Hazard Emergency Management Plan* (MHEMP).

Enclosure 13 to the MHEMP addresses vital record protection. It includes provisions to duplicate and store at an off-campus location all first class records.

Backup and off-site storage has not been a high priority when alternate records are available or when conversions to different systems are planned.

If a fire or other disaster should destroy the area of the building where the first-class records are stored, they may be permanently lost or may require extensive time and resources to recreate.

Recommendation 14

We recommend that the campus update the vital record provisions in their *Multi-Hazard Emergency Management Plan*, and make appropriate arrangements for protecting vital records.

Campus Response

We will review and update our procedures for protecting vital records. These updated procedures will be added to appropriate department vertical business plans and/or the revised *Multi-Hazard Emergency Management Plan* by September 1, 1998.

REGISTERING VOLUNTEERS

The campus did not have authority to register disaster service volunteers.

According to the State Emergency Services Act, Governor's Executive Order W-9-9, and CSU Executive Order 524, the campus is obligated to maintain a multi-hazard emergency response program. Such a program typically includes some provision for non-employee emergency resource persons. The State OES has a program for delegating authorization to register these volunteers thus providing access to workers compensation coverage if they are injured while performing disaster duties.

The campus had not addressed the issue of volunteer workers because of its unique location. A database of employee skills is presently being compiled for use in the event of a disaster.

In the absence of OES authorization, there are questions as to liability for disaster service volunteers and their access to benefits.

Recommendation 15

We recommend that the campus obtain OES authorization to register disaster service volunteers.

Campus Response

We will initiate the process to obtain OES authorization for registering disaster service volunteers. Furthermore, we will add the procedures for registering disaster service volunteers to the *Multi-Hazard Emergency Management Plan*. We anticipate that both of these actions will be completed by September 1, 1998.

EXPENDITURES

The campus did not track or coordinate disaster readiness expenditures.

SAM §20003 states that the elements of a satisfactory system of internal accounting and administrative control shall include a system of authorization and recordkeeping procedures adequate to provide effective accounting control over assets, liabilities, revenues, and expenditures.

The budget office indicated that they had not considered the need to coordinate emergency preparedness spending. They had never been required to capture this information. This information had never been requested.

The absence of a coordinated spending effort exposes the campus to ineffective control and accountability over disaster related acquisitions.

Recommendation 16

We recommend that the campus track and coordinate disaster readiness expenditures.

Campus Response

University accounting personnel have established an appropriate sub-code in the University Chart of Accounts for the tracking and coordination of disaster readiness expenditures. Personnel who initiate expenditures and purchasing personnel who execute purchase orders will be instructed to use the identified sub-code. Sub-code 4564 "Emergency Preparedness" has been assigned for this purpose.

GENERATOR MAINTENANCE

Preventative maintenance on emergency generators was not well documented.

The campus system for planned maintenance and work order control excluded many of the emergency generators.

The absence of record keeping on maintenance of emergency generators raises questions whether the generators will be available when needed.

Recommendation 17

We recommend that the campus improve documentation on emergency generator maintenance in the automated system for work order control.

Campus Response

All emergency generators have been added to the Maintenance Management System (MMS). This system automatically generates work orders for routine generator testing and maintenance and provides the mechanism for documenting all work that is conducted.

DATA SAFE

The computer center was without the use of a data safe to protect backup tapes on-site between pick-ups for off-site storage.

The data safe previously resided in the former computer center location – a building (South Library) damaged in the January 1994 earthquake and subsequently demolished. The computer center is currently located in temporary trailers. The trailers could not accommodate the weight of the data safe.

In a disaster, highly sensitive data on daily back-ups presently stored in the computer center between pickups for off-site storage could be lost. Recovery would be expedited if these tapes were better protected and available.

Recommendation 18

We recommend that the campus arrange to have critical computer center back-ups stored in a data safe.

Campus Response

Procurement of a new data safe is currently being pursued. We anticipate that the new safe will be available for use by July 1, 1998.

APPENDIX A: PERSONNEL CONTACTED

<u>Name</u>	<u>Title</u>
Sheri L. Berger	Program Specialist - Developmental Mathematics Program
Marlene Bloch	Manager, Academic Resources – College of Engineering & Computer Science
Thomas Brown	Assistant Director, Engineering Services – Physical Plant Management
William M. Cooper	Director, Purchasing & Logistical Services
Cheryl Connole	Manager, Academic Resources – College of Science & Mathematics
Ronald Clouse	Director, Budget Planning & Management
Mark Crase	Director, Technology Support Group – Information & Technology Resources
Susan C. Curzon	Vice Provost, Information & Technology Resources and Dean of the University Library
Arthur J. Elbert	Vice President, Administration & Finance
Eric Forbes	Director, Operations – Admissions & Records
Eric G. Geoffroy	Information Technology Consultant - Academic Affairs
Robert W. Harding	Manager, Academic Resources – College of Business Administration & Economics
Edward W. Harrison	Director, Public Safety
Hildo Hernandez	Director, Physical Plant Management
Darryl R. Johnson	Administrative Operations Analyst - Physical Plant Management
Steven L. Johnston	Sergeant - Public Safety
Eleanor L. Jones	Director, Systems & Technology
Ronald R. Kopita	Vice President, Student Affairs
Allen Lin	Operations Analyst – Journalism Department
Ramon Mendoza	Computer Systems Coordinator - College of Science & Mathematics
Raymond Miller	Facility Maintenance Supervisor – University Student Union
Marilyn Mindoro	Controller/Director of Administrative Services - CSUN Foundation
Marc Montemorra	Network Communications Specialist - Information & Technology Resources
Stephen H. Montgomery	Director, Human Resource Services
James E. Moore	Director of Technology – College of Engineering & Computer Science
L. Kendall Mower	Design Manager, Campus Reconstruction Support Office - DMJM/JGM
Ronald S. Norton	Manager, Environmental Health & Safety
Kevin Patrick	Inspector - Los Angeles City Fire Department
Nick Pencoff	Associate Director, Financial Aid
Peter Prager	Special Assistant to Vice Provost & Dean, Information & Technology Resources
Carlos E. Ramos	Manager, Computer Operations – Information & Technology Resources
Eloy Retamal	Structural Project Engineer, Campus Reconstruction Support Office – DMJM/JGM
Wayne Smith	Director of Technology – College of Business Administration & Economics
Judith Sternberg	Assistant Systems Analyst – Financial Aid
Fred Strache	Associate Vice President, Student Affairs
Michael J. Sugar	Lieutenant - Public Safety

APPENDIX A: PERSONNEL CONTACTED (Con't.)

<u>Name</u>	<u>Title</u>
Tom Tindall	Director, Facilities Planning
Barrington Walker	Telecommunications Specialist - Information & Technology Resources
Michael M. White	Supervising Electrician - Physical Plant Management
Eric P. Willis	Library Systems Administrator
Tiffany Wong	Technology Project Coordinator - Student Affairs