May 14, 2010

Dear President Rosenberg:

On April 1, you asked me to lead a review of our current emergency response alert systems, and, by the end of the Semester, to present you with recommendations to improve our emergency response alert system capability and capacity. Enclosed is my report.

As you observed, the students, staff and first responders are to be commended for their rapid and focused efforts to help Kendall Berry during the altercation of March 25, 2010. The incident was one of senseless violence and tragedy, and one from which lessons can be learned. Among these lessons is the need for our university community to continuously review our emergency response plans, seeking potential improvements consistent with the newest response technologies and best practices.

FIU is in many ways a small city. Our university community is more populous than many cities within Miami-Dade County. Our combined campuses' student population exceeds 40,000 and our faculty and staff number more than 5,000. Nearly 11,000 students take courses at night at one of FIU's campuses, and nearly 3,000 FIU students now live on campus, facts that must be considered in planning emergency response alert systems.

FIU is foremost a public educational and research institution. This imposes on us obligations of openness, flowing both from our public status and from traditional notions of academic freedom and free exchange of ideas. I have tried to keep these principles in mind when making recommendations for improvement.

This report, obviously, is only a first step, developed within a short time frame. It is merely a starting point for discussing and implementing potential improvements. I hope it is helpful, and I remain available to discuss its content with you or your designee.

Sincerely,

R. Alexander Acosta
Dean of the College of Law
Florida International University

An Overview of, and Recommendations Regarding,
Florida International University's
Emergency Response Alert Systems

I. Executive Summary.

At 9:03 p.m., on March 25th, 2010, Miami-Dade 911 received a call regarding an altercation outside the FIU recreation center. Rescue 29, located at 351 s.w. 107th avenue, responded and arrived on scene at 9:08 p.m.

In the minutes and hours to follow, individual staff at FIU did their jobs, and did them well. Dispatch coordinated first responders. FIU Police took charge of the crime scene, identified and apprehended possible suspects. The staff in housing and residential life responded quickly, providing heightened security and counseling to those in the residence halls.

This review focuses on one part of that evening's response, and specifically on the emergency response alert system. As part of that evening's emergency response, an InformaCast informational alert issued at 10:24 p.m. At 10:28 p.m., a Panther Alert message issued. The Panther Alert written and InformaCast audio messages read: "WE HAD A FELONIOUS ASSAULT BY THE RECREATION CENTER SUSPECT AT LARGE TUNE INTO LOCAL MEDIA FOR MORE." The InformaCast message was broadcast audibly over the Modesto A. Maidique Campus' Voice over IP telephones, external speakers, emergency phones and emergency call boxes. The Panther Alert message was sent to over 21,000 system subscribers.

Following the events of March 25th, President Rosenberg commended the students, staff and first responders for their rapid and focused efforts to help Kendall Berry and the FIU community that evening. President Rosenberg expressed dissatisfaction, however, with the emergency response alert system. Accordingly, he directed this review, to develop recommendations to improve the emergency response alert system capability and capacity. Reflecting his desire to implement change expeditiously, he directed that the review be completed by the end of the semester.

The evening of March 25th was the first use of the emergency response alert system during a live criminal incident. From this, several lessons may be learned. This emergency response technology is consistent with best practices and has the capacity to work well. The system's performance, nonetheless, can be improved. A low Panther Alert subscription base, a delay in issuing the alert, and technical problems with the alert transmission that night reduced the emergency response alert system efficacy. This review recommends emergency response alert policy and systemic changes intended to help get the alert out faster and to more people.

II. Factual Background.

At 9:03 p.m., on March 25th, 2010, Miami-Dade 911 received a call regarding an altercation outside the FIU recreation center. At 9:05 p.m., Rescue 29, located at 351 s.w. 107th avenue, responded. Rescue 29 arrived on scene at 9:08 p.m.

Also at 9:04 p.m., recreation center employee Lucia Monroy called the FIU Police Department Dispatch to report the altercation. By 9:05 p.m., dispatch had notified units 150 (Ra. Torres), 169 (Suarez), and 177 (Bustamante). At 9:05 p.m., dispatch had also notified Miami-Dade County Police.

The first FIU Police Officer arrived on scene by 9:07 p.m. Between 9:07 p.m. and 9:11 p.m., five more officers arrived on the scene, including Officer Alex Silva, who upon arrival took chase of a suspect. By 9:10 p.m., the suspect was in Officer Silva's custody. Fire Rescue arrived to evacuate and transport the victim within 10 minutes of the original call.

By 9:13 p.m., Pete Garcia, Director of Intercollegiate Athletics, had been made aware of the incident, and contacted Chief of Staff Javier Marqués. Chief of Staff Marqués, President Rosenberg and Provost Doug Wartzok were together at the time, and thus both President Rosenberg and Provost Wartzok were notified as well.

At 9:14, and again at 9:15 p.m., Mr. Marqués called FIU Police Chief Bill King. Mr. Marqués received no answer from Chief King, and left him a voice message. Mr. Marqués again called Mr. Garcia, and then placed two calls to the Vice President of Student Affairs, Dr. Rosa Jones, at 9:18 p.m. and 9:19 p.m. He received no answer from Dr. Jones, and left her a voice message as well. As the President and Chief of Staff Marqués were together, they swapped phones. Their calls thus are somewhat interchangeable. At approximately 9:26 p.m., President Rosenberg and Chief of Staff Marqués arrived on campus.

At about 9:20 p.m., Rob Frye, Director of Recreational Services called Jim Wassenaar, Executive Director of Student Affairs Operations and Auxiliary Services. Mr. Wassenaar, who was in Pembroke Pines, drove to campus. En route, he proceeded to call Dr. Jones and Chief King, and left messages on both voicemails. Next, he spoke with Ron Thompson, Associate Director of Residential Housing. Mr. Thompson proceeded to notify the residence life coordinator "on call." Residence life coordinators are live-in professional staff, holding a masters degree, who oversee the housing resident assistants. Mr. Thompson was onsite by 9:35 p.m. He proceeded to meet with the resident assistants. Security in the residence halls was heightened as well.

Chief King was out-of-town at the time of the incident. At around 9:40 p.m., he checked his phone for missed calls. He had received calls/messages from Javier Marqués, Jim Wassenaar, Director of Parking and Transportation Bill Foster, and Lieutenant Rick Torres.

At 9:41 p.m., Chief King returned Lt. Rick Torres' call and learned of the situation on campus. The Chief again called Lt. Torres at 9:42 p.m. Following the calls to Lt. Torres, the Chief called Dr. Jones at 9:44 p.m. and Dorothy Miller, Emergency Management Coordinator, at 9:47 p.m. This was the first time that Coordinator Miller had been informed of the incident. Chief King then returned Mr. Marqués' call at 9:48 p.m., and between 9:51 p.m. and 10:02 p.m., additional calls were placed between Chief King, Chief of Staff Marqués, Dr. Jones and Lt. Torres.

At 10:08 p.m., the Chief called Captain Ianniello. At 10:10 p.m., Chief King called Officer Alex Silva. Officer Silva serves as the Police Department Communications Coordinator. Officer Silva informed the Chief that no campus-wide alert had yet been issued. The Chief then again called Coordinator Miller at 10:13 p.m.

At 10:14 p.m., Chief King again spoke with Officer Silva. The Chief dictated to Officer Silva a message to be issued as an "informational alert". Chief King ordered Officer Silva to issue the alert. Officer Silva then called dispatch and relayed the message and order. At 10:24 p.m., an InformaCast message issued. At 10:28 p.m., a Panther Alert message issued. The Panther Alert written and InformaCast audio messages read: "WE HAD A FELONIOUS ASSAULT BY THE RECREATION CENTER SUSPECT AT LARGE TUNE INTO LOCAL MEDIA FOR MORE." According to Chief King, this message was slightly different than what he dictated, although the transcription errors were minor. He did not recall the specific differences.

Dispatch offered additional details regarding the events that took place at approximately this time. Dispatch noted that a time delay existed between the initial request to issue an alert and the construction and delivery of a message. As best as could be recalled, it appears that dispatch was initially contacted by Officer Silva and told to issue an alert. There was no message in the system, however, and it was unclear who had authority to draft a message. At about the same time, dispatch was contacted by Coordinator Miller and asked if a message had been sent. Miller informed dispatch that something needed to be sent and that dispatch needed to let her know what was drafted. From this, dispatch understood that the message needed to be approved by Miller prior to issuance. Miller confirmed that she asked dispatch not to send the message unless she knew what was being sent.

Following this call, Officer Silva again contacted dispatch. This time, Silva dictated Chief King's message over the recorded line (x2626). During the transmission of the message, Miller again called dispatch and was told that a message had gone out. Shortly after, Miller arrived at the Public Safety Office.

Coordinator Miller also offered additional details regarding these events. She recalls a call from Chief King asking her to "take are of" issuing a message, as dispatch appeared to be having difficulties. Miller assumed that (i) dispatch was not familiar with the system or (ii) did not know what message to put out. Because Miller did not have system access at her location, she contacted Maria Drake in the Division of IT. Maria Drake connected Miller with Mayte Cantillo, also in the Division of IT, who discussed

issuing a message. At some point, Coordinator Miller called dispatch and found that Chief King had already ordered issuance of the alert.

At 10:58 p.m. Dr. Jones, Provost Wartzok and Maydel Santana, in consultation with the President who reviewed and edited a draft, completed an email message for the FIU community. This statement was sent by email at 11:00 p.m. to all students, faculty, staff, media and volunteer leadership boards, and Facebook and Twitter accounts were updated. The FIU-HELP helpline was updated at about 11:30 p.m. Additional messages and updates were issued throughout the night and the next morning. The university's Emergency Management and Continuity of Operations Plan was not formally activated.

III. Methodology and Scope.

This report is the result of research and interviews. I reviewed the FIU Emergency Management and Continuity of Operations Plan, the Campus Security Report & Safety Guide, and additional materials provided to me by various university offices including the Division of Public Safety and the Office of Emergency Management. I selected a second Florida public university, reviewed their Emergency Response Alert Plan and spoke with their emergency response officials. For this, I selected Florida State University, in part because their emergency management coordinator is a nationally recognized expert, having just completed a term as Chairman of the University & Colleges Caucus of the International Association of Emergency Managers. I also reviewed a number of reports related to this issue, including: (i) the April 2010 joint report issued by the Secret Service, F.B.I., and U.S. Department of Education, *Targeted Violence Affecting Institutions of Higher Education,* (ii) the September 2009 Major Cities Chief Campus Securities Guidelines sponsored by the U.S. Bureau of Justice Assistance, and (iii) reports and recommendations from incidents of violence at other institutions of higher education since 2007, including *The Review Panel Report of the Mass Shootings at Virginia Tech.* Finally, I interviewed approximately two dozen university and emergency response officials.

The scope of this report focuses on the President's charge – to review the emergency response alert system with an eye toward potential improvements. This report thus does not focus on the law enforcement or fire-rescue response to the underlying incident that took place on March 25th, but rather on the emergency response *alert* system's efficacy following that incident. That said, on occasion, it is difficult to review the alert system without some context provided by the response to the underlying incident.[1]

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[1]The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act, 20 U.S.C. §1092(f), requires the university to give timely warnings of crimes that represent a threat to the safety of students or employees. The Division of Public Safety and the Office of the General Counsel oversee Clery Act compliance. This report focuses on best practices, new technologies and areas of improvement, and does not directly address compliance under Clery Act standards.

The scope of this report is also limited in that it was prepared over a one month period, a time much shorter than typical for these types of reviews. This short turnaround time will enable the university to address expeditiously the recommendations in advance of the next regular term.

In preparing this report, I received substantial assistance from Catherine Torres, whom I would like to thank. I would also like to thank Dr. Thomas Breslin, Chair of the Faculty Senate, Jose Gabilondo, Associate Dean for Academic Affairs at the College of Law, and Anthony Rionda, 2009 – 2010 President of the Student Government and Member of the Board of Trustees, for their comments.

The report will first review the structure of the Office of Emergency Management within the university. Next, it will discuss how the Office of Emergency Management plans for emergency response alerts. Activation of the emergency response alert plan and transmission of the emergency response alert will then be discussed. Testing, training, tabletops and field exercises will be addressed next, followed by a number of observations.

IV. Analysis and Recommendations.

A. Emergency Management Operational Structure.

The university's emergency management response alert systems are overseen by the Office of Emergency Management ("OEM"). Historically, OEM developed a focus on weather-related emergencies and reported to the Office of Environmental Health and Safety. The reporting structure changed in 2006, when President Maidique transferred responsibility over OEM to the Office of Public Safety. The Director of Public Safety (Chief Bill King) thus serves as the Director of Emergency Management. His designee (Dorothy Miller) serves as the Emergency Management Coordinator.

The Emergency Management Coordinator has many responsibilities. As set forth in the university's Emergency Management and Continuity of Operations Plan ("EMCOP"), her responsibilities include:
- Serving as the custodian of the EMCOP;
- Coordinating the various departments to assure preparedness;
- Activating the Emergency Command Center at CSC 1123;
- Staffing the Command Center; and
- Establishing and maintaining contact with the Miami-Dade Emergency Management offices.[2]

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[2] FIU Department of Public Safety Office of Emergency Management, *Emergency Management and Continuity of Operations Plan* 21 (Feb. 2010), available at http://www.fiuoem.com/pdfs/FIU%20EMCOP-2010.pdf [*hereinafter* EMCOP].

The Emergency Management Coordinator's responsibilities thus require both a close working relationship with the various university departments and a definite and vital role within the law enforcement emergency response structure. Interviews and research suggest room for improvement here. The Emergency Management Coordinator was not contacted until 43 minutes after the March 25th incident occurred. As a result, fundamental questions such as whether an alert had already issued were not asked until well after the incident took place. This oversight appears consistent with the low visibility of the Office of Emergency Management within the Office of Public Safety specifically and the university more generally. The OEM director's name and phone number are not listed on the Public Safety contact list.[3] Individuals on scene that night did not think to contact OEM, and did not think to activate OEM's emergency response alert plan. Senior staff too, assumed that OEM had been contacted, yet did not question OEM's absence.

The Office of Emergency Management's low visibility appears to present a challenge to its efficacy. To an extent, the decision to transfer responsibility for Emergency Management to the Office of Public Safety positively reflects a greater focus on non-weather related emergencies. As part of Public Safety, OEM can cooperate more closely with law enforcement. This, however, is only part of OEM's mission. OEM serves a larger coordinating role within the university. Emergencies touch on diverse university departments including, though not limited to, residential housing, transportation, facilities, and Division of IT.

The appropriate reporting structure, to a large extent, depends on the specific allocation of responsibilities within the university. There is no right answer. According to a survey by the University & Colleges Caucus of the International Association of Emergency Managers, about one-third of universities and colleges ask OEM to report to public safety, about one-third to environmental health and safety, and about one-third have stand-alone units reporting directly to a vice-president or more senior official. What is important is the OEM coordinator have the access, authority and visibility within the university to do his or her job.

> *Recommendation #1: Consider ways to strengthen the Office of Emergency Management's access, authority and visibility within the university management structure.*

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[3] Roster of the FIU Department of Public Safety, (Nov. 24, 2009), on file as Roster112409.doc.

B. Planning Emergency Response Alerts.

The Office of Emergency Management develops and coordinates the university's Emergency Management and Continuity of Operations Plan ("EMCOP"). The EMCOP, as presently written, provides substantial guidance for emergency response alerts arising from weather-related emergencies,[4] some guidance for emergencies relating to explosives,[5] and almost no guidance for Medical Emergencies, Hazmat or campus unrest.[6] Although FIU increased its focus on non-weather related emergencies, including unpredictable incidents of violence, following the tragedy at Virginia Tech in 2007, the absence of substantial guidance for non-weather related emergencies offers room for improvement.

1. Identifying Potential Emergencies.

The Major Cities Chiefs, in their recommended Campus Security Guidelines, properly observed that "[t]hreats on campus come from many different sources, including large populations, research facilities, high-profile speakers, troubled students or faculty, and traditional crime. High-profile and large-scale events held on campus will draw in large crowds from the campus and the community, along with media attention."[7] These are in addition to the various emergencies that result from natural events, including hurricanes, tornados and potential floods.

The university's increasing focus on non-weather emergencies, as opposed to weather-related emergencies, is appropriate because man-made emergencies typically require a more immediate response. Despite this shift in focus, much of the EMCOP continues to focus on weather-related emergencies. The EMCOP, for example, presents detailed plans for hurricanes and tornados. The plan for explosives is limited. As to the plans for medical emergencies, hazmat and campus unrest, the EMCOP simply states: "no data available," and no other potential emergency scenarios are considered. Obviously, more can be done here.

Emergency Management should consider identifying with greater specificity the types of emergencies that may confront the university community. The university's emergency management website already has given some consideration to defining an emergency, and may provide a helpful first step.[8]

When defining types of emergencies, it is important to think broadly. Consideration may be appropriate for not only the type of threat, e.g., traditional crime,

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[4] EMCOP at 41 - 58.
[5] *Id.* at 59 - 64.
[6] *Id.* at 65 - 67.
[7] Major Cities Chief, *Campus Securities Guidelines* (U.S. Bureau of Justice Assistance, September 2009).
[8] *See* FIU Department of Public Safety Office of Emergency Management, *Typical Emergencies*, http://www.fiuoem.com/emman/typicalemergencies.htm.

hazmat or campus unrest, but also for special recurring circumstances that may pose heightened threat levels, e.g., large-scale events that recur from year to year, such as major athletic events or fairs. Similarly, at a campus as engaged with the broader community as is FIU, consideration of the source of potential threat may be important. Nationally, one-fourth of campus incidents that result in deaths or serious injuries are perpetrated by individuals other than current or former students, faculty or staff of a university, and this statistic may be higher at urban universities.[9] This statistic should be considered in identifying likely emergency scenarios.

A particularly important consideration for FIU is what may be called the "spillover" emergency. FIU is an urban institution bounded by areas of high population and activity. Interviews reveal that, in some instances, felony suspects from surrounding areas were believed to have used FIU property to flee from police. These spillover emergencies may give rise to a need to issue emergency response alerts, and thus should be considered when developing the EMCOP.

> *Recommendation #2: Consider identifying with greater specificity the varied types of emergencies that may confront the university community and developing an emergency response alert plan for each type of emergency.*

2. Planning, for Each Type of Potential Emergency, a Specific Emergency Response Alert.

Having identified potential emergencies, the next step is planning for them. Emergency management should consider developing specific emergency response alert plans for each type of emergency identified. This may include specific, pre-scripted alert messages.

The university has already taken this approach with respect to weather-related emergencies. For example, the EMCOP Tornado Response Procedure provides:

> University-Wide Notification
> When informed of a Tornado Watch advisory, the DEM [Director of Emergency Management] shall initiate notification procedures, as appropriate. The following message shall be used to relay a tornado watch or warning to department heads and supervisors.
>
> "*The National Weather Service has issued a tornado watch for this area. Please notify Personnel to be on alert for a possible tornado and to take appropriate response actions.*"
>
> Each dean/director/department head/supervisor or safety warden shall immediately inform employees in their unit to seek secure shelter [sic]

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[9] Diana A. Drysdale et. Al., *Targeted Violence Affecting Institutions of Higher Education* 16 (April 2010).

remain there until advised otherwise. This notice is particularly important for occupants of trailers and personnel in the field.[10]

For non-weather related emergencies, by contrast, the EMCOP does not list any specific, pre-drafted messages. Although InformCast has some pre-scripted messages, their availability or use is not referenced in the EMCOP and they are fairly limited in scope:

- "A fire alarm has been activated in your building; please evacuate immediately."
- "A possible hazardous material has been reported in your area; please evacuate immediately."
- "A hazardous condition exists outdoors; please seek shelter and stay indoors until further notice."
- "A security threat has been reported in your building. Seek a safe room until further notice."[11]

Messages more targeted to identified likely situations have many advantages. Content can be carefully considered in advance. Multiple stakeholders can provide input and help develop appropriate content. The message is readily available and need not await senior personnel's approval. Senior personnel responding to an emergency, moreover, need not be distracted by the need to draft a more tailored message while managing the incident. And transcription error is unlikely.

The value of pre-drafted messages becomes evident upon a review of the March 25th events. The absence of an appropriate pre-drafted message caused delay and confusion. Chief King drafted a message and dictated it over the phone. Transcription errors, though minor, apparently occurred between the dictation and the eventual transmission of the alert. The language of the message reportedly caused some confusion among the university community. In all, the process of drafting, dictating and issuing the alert took at least 15 minutes. A pre-drafted message may have helped streamline this process.

Prior planning for specified emergencies and pre-drafted content for particular events is consistent with recommendations issued by other university review committees. *The Review Panel Report of the Mass Shootings at Virginia Tech*, for example, cited the Virginia Tech Emergency Response Plan as "deficient in several respects," including the fact that "[i]t did not include provisions for a shooting scenario." [12]

Although some interviewed raised valid concerns regarding the limitations of pre-drafted messages, these concerns may guide, rather than discourage, the use of pre-scripted messages. Pre-drafted messages certainly cannot address all conceivable contingencies. Careful consideration of the more critical scenarios, along with wording

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[10] EMCOP at 54

[11] *See University-Wide Emergency Notification System End User Documentation* at 6.

[12] Virginia Tech Review Panel, *Mass Shootings at Virginia Tech* 17 (April 16, 2007) [*hereinafter* Mass Shootings at Virginia Tech].

sufficiently generic to provide at least an initial warning is possible. An overly long list of pre-drafted messages, although likely to address more situations, certainly can be cumbersome and cause undue delay. The balance should be carefully considered, and reference to other universities such as FSU, which uses pre-scripted messages, may be appropriate.

> *Recommendation #3: Consider developing, for each type or types of emergencies identified, a specific emergency response alert plan that includes a pre-drafted emergency response alert message.*

C. Activating an Emergency Response Alert Plan.

A plan that is not activated is of limited use. Activation of an emergency response alert plan raises several issues. When is a plan activated, and for what reasons? Who has the authority to activate a plan? How is the activation order implemented? Each of these areas offers room for improvement.

1. When is an Alert Plan Activated, and for What Reasons?

The EMCOP lays out the criteria for activation of emergency plans for weather-related emergencies. For example, a tropical weather system triggers a Phase I alert upon entering the quadrant defined by 15N to 30N and 65W to 87W. A hurricane or tropical storm entering the smaller quadrant defined by 20N to 30 N and 75W to 87W triggers a Phase II alert. A tropical storm or hurricane watch triggers a Phase III alert, and a warning triggers a Phase IV alert. Each alert phase includes an emergency response alert.[13]

The EMCOP, by contrast, does not lay out criteria for when to activate the emergency plan or issue an emergency response alert in non-weather related emergencies. In part, this may be due to the difficulty of developing prospective criteria sufficiently broad to encompass the variety of emergency circumstances that may face a university community. In part, however, this may also be due to what appears to be a less detailed treatment of non-weather related emergencies. It is noteworthy, for example, that even though InformaCast includes a pre-scripted hazmat message, the EMCOP's discussion of hazardous material emergencies does not reference that message, or include any criteria for whether or when to issue that message. In short, activation of an emergency response alert plan for non-weather related emergencies now appears to be on a case-by-case basis.

Pre-approved criteria for issuing an emergency response alert have several advantages. The criteria can be carefully considered in advance. Potential differences within the university community regarding appropriate criteria can be elevated in

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[13] *See* FIU Department of Public Safety Office of Emergency Management, *Escallation Chart*, http://fiuoem.com/emman/escallationchart.htm .

advance to senior management for decision. Personnel on the scene of the emergency need not be distracted by decisions regarding under what circumstances an emergency alert should issue.

Pre-approved criteria need not be complex. FSU, for example, has as the criteria for a "dangerous situation" campus alert: "Any human-caused situation, generally of a criminal nature, occurring or imminent, that poses an immediate threat to the health and safety of individuals on campus." With a simple set of criteria established by senior management, less senior personnel on scene can issue the alert more quickly, as they need not await approval from university policymakers.

Recommendation #4: Consider developing, for each type or types of emergencies identified, pre-approved activation criteria that, if met, triggers an emergency response alert.

2. Who has Authority to Activate an Alert Plan?

The President, Provost, Senior Vice President for Finance and Administration, Senior Vice President for External Relations, Vice President for Student Affairs, Chief of Staff, Director of Emergency Management / Public Safety and the Emergency Management Officer have authority to activate an Alert Plan. Interviews suggest that others have apparent authority to do so as well.

Although restricting activation authority to a small set of individuals helps ensure that the Emergency Response Alert System is not unnecessarily used, limiting authority to a small number presents challenges as well. These senior individuals are unlikely to be first responders, and often as was the case on March 25th, may be away from campus or otherwise unavailable. In some weather-related emergencies, their immediate unavailability is less likely to pose a challenge because some weather-related emergencies often offer substantial decision lead-time. In other emergencies, however, a rapid decision to issue an emergency response alert may be necessary.

Consideration should be given to determining circumstances under which deputies or designees of senior management have authority to issue an emergency response alert. There may be value, likewise, in considering circumstances when first responders or the senior police officer on the scene are empowered to issue an emergency response alert. Particularly in scenarios where there is an active emergency that requires an immediate alert, taking time to seek out and contact senior officials may result in unnecessary and potentially harmful delay.

Providing alert issuance authority to more individuals, and in particular to first responders and the senior officer on the scene, is consistent with recommended practices. The Review Panel of the Mass Shootings at Virginia Tech, for example, expressed substantial concern over the protocols for authorizing an alert: "The police did not have

the capability to send an emergency alert message on their own. The police had to await the deliberations of the Policy Group…even when minutes count."[14]

If the senior officer on the scene were given authority to issue an alert, specific criteria would be particularly helpful. Some interviewed raised concerns that line personnel may be hesitant to overstep their position and issue an alert. Clear criteria to guide decision-making under these circumstances would provide line personnel confidence to make this decision. This hesitancy also implies, however, that the concern regarding unnecessary use of the alert system may be overstated as line personnel are likely to be particularly cautious. An example is the above-referenced criteria used at FSU. If that criteria is met, i.e., if a human-caused situation posing an immediate threat to the health and safety of individuals on campus is met, then the senior officer in charge among the first responders is not only empowered, but is expected, to authorize the alert.

Finally, there may be value in considering whether at least one senior emergency management representative should always be available, or "on-call." To the extent that a review of potential emergencies identifies particular times when risks are unusually high (e.g., times of campus unrest or large-scale events that recur from year to year), having an "on-call" system for senior emergency managers during these periods may be particularly important.

> *Recommendation #5*: *Consider expanding the number of individuals with authority to issue emergency response alerts.*
>
> *Recommendation #6*: *Consider authorizing first responders or others on scene to issue emergency response alerts under particular circumstances.*
>
> *Recommendation #7*: *Consider whether the university should have a senior emergency management individual "on-call" to address emergency situations, particularly during times of heightened risk.*

D. Transmitting the Emergency Response Alert.

The choice of transmission technologies for an emergency response alert is obviously among the most important elements of an emergency response alert system. Best practices suggest that campus emergency response alert communication systems should use multiple and redundant means of transmission. This often includes (i) audible messages (e.g., loudspeakers), (ii) visual messages (digital signage), (iii) messages directed at the individual (text messages, voicemail, e-mail, etc.), and (iv) more detailed passive information dissemination mechanisms (helplines, web updates, Facebook, Twitter, etc.). No single notification mechanism will reach everyone. Use of varied and various transmission technologies helps increase the probability of making contact with the maximum number of possible individuals. The technologies work best if they are

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[14] Mass Shootings at Virginia Tech at 17.

integrated, easier to manage and cost-effective. Emergency alert transmission technologies must communicate rapidly with several thousand individuals.

FIU's present emergency response alert strategy uses multiple, redundant systems. Active systems "push" information to a user. InformaCast, which uses audible messages via loudspeakers and visual messages on Voice over IP telephones, is an entirely active system; recipients see and hear the information without any action on their part. Panther Alerts, which uses text messaging and email to reach subscribers, is a quasi-active system; subscriber telephones will beep to inform the subscriber of a pending message, yet subscribers must still check their phones. The FIU Help-line and Facebook, Twitter, the FIU homepage and other web-based media, serve as passive communication technologies that users can seek out to obtain additional information.

1. InformaCast.

InformaCast is a software system that allows emergency response personnel to simultaneously send an audio stream and a text message to multiple IP phones and systems. Within this university, the InformaCast alert system communicates through (i) the Voice over IP ("VoIP") telephones located in offices, classrooms, labs and other university facilities, (ii) the VALCOM call-boxes located in each residence hall dorm suite, (iii) the external speakers installed throughout the university and (iv) the emergency call telephones also installed throughout the university. In the case of an emergency alert, a written text appears on the screens of the VoIP phones and a voice message is broadcast over the speakers of the phone, call boxes and external loudspeakers.

InformaCast offers several advantages. Most importantly, it requires no affirmative actions from the user. The user need not subscribe to this alert system. The user need not check voice-mail, email or text message to receive an alert. The alert, rather, is broadcast both audibly and visibly. The recipient needs only to listen or look.

Since its inception in 2007, InformaCast's reach on campus has grown substantially. The most recent data shows that Informacast reaches:

        5912   VoIP telephones
         102   External Speakers
                    14 at the Housing Quad
                    26 at the Housing Villas
                    6 at Housing - BBC
                    35 at MMC
                    16 at BBC
                    5   at EC
         768   Emergency Phones
                    223 in classrooms
                    153 in class labs

> 82 in open labs
> 174 in hazardous material labs
> 136 in conference rooms
> 570   Emergency Call Boxes
> 102 in Panther Hall
> 124 in Everglades Hall
> 135 in University Towers
> 209 in Lakeview Residences

The Division of IT's efforts to expand InformaCast are ongoing, yet the Division of IT reports that approximately 480 additional telephones or speakers are needed to fully cover the university.

> *Recommendation #8: Consider reviewing the ongoing InformaCast expansion plan, including the installation schedule and installation locations, to optimize coverage on campus.*

InformaCast offers additional possibilities. So long as an IP address is available, other communications systems apparently can be linked through InformaCast. Ideas such as generating desktop alerts for computers linked to the university servers, and perhaps links with the electronic information displays increasingly common throughout the university may be considered.

> *Recommendation #9: Consider whether other communications systems should be linked to InformaCast.*

2. Panther Alert.

As part of its 2007 Strategic Initiative, the Division of IT sought to extend to all members of the university community the emergency text messaging then being used by administrators and emergency management personnel. The technology selected was the Wireless Emergency Notification System ("WENS"), known at FIU as Panther Alert.

The WENS system appears well-established. It is the system selected by Miami-Dade County's Department of Emergency Management in 2007. WENS has been successfully used by Florida State University. Its technology continues to be selected, having been chosen by the U.S. Marine Corps to provide emergency alert notifications at Camp Pendleton in 2009. Notably, Camp Pendleton adopted WENS after prior bad experiences with other systems: "The test with WENS was a complete success. We have been using another emergency alert system for the last 2 years to send out mass notifications and have not had consistent results."[15]

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[15] Press Release, Inspiron Logistics, Camp Pendleton Selects WENS (Feb. 17, 2009), *available at* http://www.inspironlogistics.com/press/press_release_camp_pendleton.cfm .

As of April 29, 2010, 22,143 individuals were listed as subscribed to the WENS / Panther Alert text message system. Several thousand subscribers also provided an email contact. This subscriber base includes students, faculty, and staff, as well as family and friends of the FIU community. To help ensure rapid delivery of alert texts, given this large number of subscribers, the WENS system uses multiple channel technology to send text messages (160 character maximum length) to the mobile phones. Put simply, rather than send a text to FIU's approximately 22,000 subscribers via one channel, the WENS system breaks up the 22,000 subscribers into groups of a few thousand and sends the text out to each group via a separate channel. Delivery using this system is more rapid. WENS also sends emails to subscribed individuals who provide an email address.

On March 25th, the initial alert was sent via text message to approximately 21,000 individuals, who had at that time subscribed to Panther Alert. As part of this review, officials at Inspiron Logistics, the operators of the WENS system, were contacted. They reported that approximately 4600 messages were not delivered. Others were delivered with transmission delays. Inspiron reported that this failure rate is higher than typical for the WENS system and offered to conduct a review of that night's transmission, with the objective of pinpointing the reasons for this failure rate. That review is still pending with officials at Inspiron.[16] Some of the data used to pinpoint problems is accessible only in the days immediately following the incident, however, and thus a more rapid request for investigation of failure rates is advisable.

A second issue regarding the March 25th alert was the fact that some administrators and emergency managers did not receive the message. A demonstration of the WENS system conducted as part of this report revealed a programming oversight that accounts for this in part. The police dispatch officer on the evening of March 25th appropriately checked as "recipient groups" every category that appeared on his screen. This included: (i) "faculty/staff," (ii) "family/friends of FIU," (iii) "Other," and (iv) "Students." The alert was thus sent to these four groups. Unknown to dispatch, however, there are additional WENS distributions groups, including (v) administrators, (vi) emergency management group,[17] and (vii) emergency management core committee.[18] Access to these latter three groups was restricted to those holding "master account" privileges. As dispatch only held "normal account" privileges, dispatch did not have the option to send to, and was unaware of, these latter three groups. The alert was thus not sent to these three distribution groups, groups including individuals of obvious importance to an emergency response.[19] The message sent the next day, by contrast, was

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[16] OEM will be provided contact information at Inspiron Logistics so that they may complete the review of the WENS system on March 25th.

[17] The Emergency Management Group is "comprised of the directors or their designees of twenty-six critical units whose specific scope of responsibility are directly applicable to the University response and recovery."

[18] The Core Committee "is comprised of the department heads from fourteen areas of operation that work closely together to identify, monitor and recommend appropriate responses to operational or meteorological threats to the University. The Core Committee monitors unusual events, potential and imminent threats to the University and advises the Director of Emergency Management accordingly."

[19] Some individuals in these distribution groups nonetheless received the message, as they were also part of the first four distribution groups.

issued by the system administrator using master account privileges, and thus went to all groups.

The Panther Alert failure rate on the evening of March 25th thus does not necessarily reflect a problem with the WENS technology. FSU implemented the WENS system at about the same time as FIU. Their initial experience with WENS was mixed, as the failure rate often exceeded the expected level. Their Division of IT worked with Inspiron Logistics to analyze and address this issue. Much of the failure rate was due to carrier-specific issues, including but not limited to wireless carriers labeling the alerts as "spam" and localized cell-tower overload. Working with the carriers and message aggregators, these issues appear to have been addressed.

Regardless of the failure rate, it is clear that a majority of the FIU community has not subscribed to Panther Alerts. Indeed, even following March 25th, the subscription rate has not substantially increased. This appears to be a challenge associated with most "opt-in" technologies, such as Panther Alerts. One survey concluded that typically less than half of a university student body signs up for opt-in text-based emergency alerts.[20] As a result, many universities instead use an "opt-out" system. Opt-out respects concerns that include privacy and costs to the recipient of text messages, yet encourages wider subscription rates. FSU, for example, automatically registers students, faculty and staff for its WENS system unless they opt-out. Their subscription rate is approximately 94%. Even this participation rate, however, raises some concern. For campus residents, and perhaps other groups such as faculty and staff, mandatory subscription should also be considered. Panther Alert is only as effective as its subscription base. Absent overwhelming participation, its effectiveness is likely limited.

> *Recommendation #10: Determine the causes of the transmission failures on March 25th and consider appropriate corrective action.*
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> *Recommendation #11: Adopt a policy that requires immediate review of the WENS system performance after every use.*
>
> *Recommendation #12: Ensure that all individuals holding WENS system access authority have the system privileges necessary to issue alerts to all WENS subscribers.[21]*
>
> *Recommendation #13: Consider adopting policies, such as opt-out, that increase the subscription base of Panther Alerts, and in the case of residents, faculty and staff, consider mandatory subscription.*

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[20] Robin Hattersley Gray, *Text Message Troubleshooting: 4 Challenges Your Campus Should Address*, Campus Safety (Dec. 2008) *available at* http://www.campussafetymagazine.com/MassNotification/BestPractices/?ArticleID=179&page=2 .

[21] Because an emergency could occur at any time, Police Chief King was made aware of this recommendation the day after we conducted the WENS demonstration.

3. Help-Line.

The FIU Help-line is a phone-based technology used to disseminate information to the university community. Individuals can call the 1-305-FIU-HELP and hear a pre-recorded message. The Help-line contrasts with InformaCast and Panther Alerts in two important ways: (i) unlike InformaCast and Panther Alerts, the Help-line is not limited to a particular character length and can thus provide more detailed information, but (ii) unlike InformaCast and Panther Alerts, a user must affirmatively call the Help-line to receive information. For these reasons, the Help-line appears to work best as a supplementary means of communicating more detailed information, rather than as a primary alert technology.

On the night of March 25th, it was not until 11:30 p.m. that the recording on the help-line was updated to reflect the alert issued earlier that evening. This may have caused confusion to some who called the help-line for information and were told that all is well. Logs to determine the number of callers were not kept.

> *Recommendation #14a: Consider ways to ensure that secondary information sources such as the Help-line are updated immediately to include the latest emergency response alert information.*

4. Facebook, Twitter, homepage and other web-based media.

Web-based communications, including Facebook, Twitter, homepage and email are increasingly popular and effective methods of communication. Like the Help-line, these communications mechanisms can help provide more detailed information to the university community, yet like the Help-line, they require users to pro-actively check their web accounts (Facebook / Twitter / homepages / email) to receive the alert. Although web-based communications likewise appear to work best as a supplementary means of communicating more detailed information, rather than as a primary alert technology, this may change over time.

On the night of March 25th, web-based communications were updated at approximately 11:00 p.m. FIU Facebook and FIU News Twitter followers number over 11,000 and almost 2,000 respectively, and although site hit numbers for that night were not available, traffic was certainly heavy. As with the Help-line, it is important to ensure that web-based communications are updated during an emergency to reflect the latest alerts and publicly available information.

> *Recommendation #14b: Consider ways to ensure that web-based secondary information sources are updated immediately to include the latest emergency response alert information.*

5. Other Technologies.

Looking forward, FIU should consider additional or newly-available technologies as well. One technology that may offer cost-effective possibilities is the use of FIU Campus TeleVideo to issue alerts via the campus cable service. This may be particularly effective for the residence halls. This system would be a more up-to-date version of the Emergency Broadcast System historically used with televisions.   On the other hand, this system may already be dated. A careful review of options would be appropriate.

> *Recommendation #15: Continuously consider additional or newly-available alert technologies to ensure FIU's alert system uses the most appropriate available technologies.*

In examining additional emergency response alert technologies, a few considerations may offer useful guidance. To some extent, student technological sophistication and an omnipresent tendency toward newness sometimes makes the latest technology attractive.[22] New communications technologies such as Facebook and Twitter certainly offer the ability to disseminate more detailed information. Yet, in some emergency situations what is needed is the ability to disseminate a simple alert quickly rather than a more detailed communication slowly. Active, yet old-fashioned, technology such as loudspeakers can be quite effective at this and should not be overlooked.

6. Integration of Technologies, Ease of Use and Staffing.

Although designed for ease of use, the emergency response alert system nonetheless requires substantial individual attention during an emergency. Issuing an alert, for example, requires dispatch to log-on to the InformaCast system and issue the written and verbal alert. Dispatch must then do likewise for Panther Alert. The Help-line and web-based information systems must be updated as well. During an emergency, this presents challenges.

On the evening of March 25th, as a result of the Youth Fair, the FIU Police had a substantial number of officers on duty, along with multiple dispatch personnel. An additional dispatch officer nearby returned to campus quickly. This contrasts with a typical evening, when many fewer officers are on duty along with minimal dispatch personnel.

Asking what might have happened if March 25th were staffed as a typical evening is useful. The on-duty officers would respond to the scene and would likely be focused on the emergency at hand. They would have little time to discuss issuances of alerts. Dispatch, particularly if only minimally staffed, would likely face similar strain. Given that nearly 11,000 students now take evening classes and that nearly 3,000 students reside

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[22] *See generally* Suzanne Choney, *Campus Alerts Go Beyond Text Messaging*, MSNBC.com (April 16, 2010), available at http://www.msnbc.msn.com/id/36566978/ns/technology_and_science-security/ .

on an FIU campus, an analysis of when emergencies are likely to take place and whether the present staffing mix between day and evening is appropriate may be useful.

Even when dispatch is fully staffed, the issuance of alerts takes time. Consideration of who should be called upon to issue alerts and web updates may be worthwhile. Both InformaCast and Panther Alert can be activated from any computer, a fact that offers some flexibility in staffing. Care should be taken to ensure that first responders and sworn personnel are not distracted from their primary obligations to potential victims, to officers giving chase, to securing the safety of individual students, staff, faculty and campus visitors.

Finally, as FIU develops a more robust emergency notification system, the time needed to issue alerts may increase further. Consideration of an "easy button" may be appropriate. FSU is presently considering this approach. An easy button allows an authorized individual to send a pre-scripted, pre-recorded alert to all campus alert technologies literally with the push of a button or turn of a key.

> *Recommendation 16: Consider staffing, ease of use and related issues, so that issuance of an alert does not distract dispatch and first responders from their primary obligations to potential victims of an emergency, to officers giving chase and to the safety of the FIU community.*

> *Recommendation 17: Consider use of an integrating technology that centralizes activation of various alert technologies into one system.*

7. Contacting Emergency Managers and Senior Management

The WENS system provides one mechanism to notify the university's emergency managers and administrators, via their WENS subgroups (Groups 5, 6, and 7). Prudence suggests additional, redundant notification systems for these groups of individuals. Telephone calls may be most effective. This requires (i) an emergency response contact list and (ii) an individual or individuals assigned the responsibility to make these calls. Given the duty constraints and staffing of the Police Dispatch, the dispatch officer may not be available to contact this list of individuals.

The Emergency Management Coordinator may be an appropriate individual to initiate these contacts. A fall-back plan is advisable, however. On March 25th, for example, notifications to emergency managers and administrators were made, but on an ad hoc basis because the Emergency Management Coordinator had not been called and a backup individual did not have this responsibility.

> *Recommendation 18: Consider developing a clear chain of notification emergency call list, and a system with robust redundancy designed to ensure individuals on that list are contacted immediately.*

E. Testing, Training, Tabletops and Field Exercises.

Testing technology, training critical personnel and familiarizing the university community with the emergency response alert system are of obvious importance.

1. Testing.

Testing helps ensure that technology works as expected and that the university community maintains general familiarity with the emergency response alert system. Presently, the various alert technologies (InformaCast and Panther Alert) are tested at least once a semester. This may be sufficient, yet there may nonetheless be room for improvement. Interviews revealed some concerns regarding the timing, as opposed to the frequency, of the testing. Testing at peak loads, during peak hours, although potentially disruptive, is of particular importance. Testing in the evenings or on weekends is also of particular importance. As mentioned, FIU has substantial night-time activity. Testing in the evening or weekend hours can help familiarize those on campus during those times with the emergency response alert system.

> *Recommendation #19: Review the emergency response alert system technology testing schedule, with particular focus on testing technologies during peak loads and at times designed to ensure that individuals on-campus at varied times (morning, afternoon or nighttime) become familiar with the emergency response alert system.*

2. Training, Tabletops and Field Exercises.

Testing will help familiarize the university community with the emergency response alert system. For personnel assigned emergency responsibilities, however, more is needed. Presently, training is limited to some tabletop exercises. Here, there appears to be room for improvement.

Field exercises, as opposed to tabletops, offer more realistic training. Rehearsing likely emergency scenarios, particularly non-weather-related emergencies, may help individuals better prepare for actual emergencies. University-wide exercises are particularly important, in that they test communication and cooperation across university departments. Inclusion of first responders and law enforcement partners outside the university would be in keeping with best practices.

On March 25th, emergency management personnel worked well together. There was strong cooperation, which appears to be primarily the result of close personal relationships between individual emergency managers. A series of field exercises would help solidify these relationship, and would be particularly important to help ensure that even newer emergency managers are notified so that the university's response remains timely and according to plan.

*Recommendation #20: Consider conducting university-wide field
exercises on non-weather related scenarios.*

*Recommendation #21: Consider inviting law enforcement partners to
participate more broadly in tabletops and field exercises.*

In addition to those involved in emergency management, all university personnel
should have some familiarity with the emergency response alert system. Interviews
revealed that a substantial number of individuals lacked this familiarity. In fact, some
university personnel are unaware of, or at least have not subscribed to, Panther Alerts.
Mandatory web-based training or even information sheets that individuals must read and
sign as understood, may help address this issue. Inclusion of appropriately detailed
information regarding the emergency response alert system in the "Red-File" given to
faculty may be helpful. As observed by *The Review Panel Report of the Mass Shootings
at Virginia Tech*, "a messaging system works more effectively if resident advisors in
dormitories, all faculty, and all other staff … have instruction and training for coping
with emergencies of all types."[23]

*Recommendation #22: Consider mechanisms to improve university
faculty and staff's familiarity with the emergency response alert system.*

3. After-Action Reviews.

After-action reviews of performance following field exercises or actual incidents
are critical. Participation in such after-action reviews identifies potential systemic
improvements and, importantly, helps individuals understand how they can improve their
own emergency response skills.

After-action reviews should broadly encompass all relevant departments,
including the Division of IT. This may be particularly beneficial in identifying potential
technological problems, such as those discussed at Recommendation #11 and #12.

President Rosenberg, on March 28th, met with Senior Management to conduct an
after action review. He expressed dissatisfaction with the university's emergency
response alert system, and, after additional discussions directed this review of that
system. Since then, individual departments of the university have conducted additional,
operational level after-action reviews. A university-wide, operational level after action
review, however, has been deferred pending this report. Although this report may offer a
starting point for that after-action review, it is not a substitute for a detailed after-action
discussion by those directly responsible for the system's implementation.

*Recommendation #23: Consider conducting regular after-action reviews
of field exercises and actual incidents.*

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[23] Mass Shootings at Virginia Tech at 18.

F. Miscellaneous Items.

A few additional issues merit mention because (i) they were raised by several individuals interviewed and (ii) they address important subjects. These issues impact the emergency response alerts system less directly. In the interest of completeness, they are discussed although, because of their less direct impact on alerts, no recommendations are made.

1. Interoperability of Communications.

Interoperable communications are considered a best practice. Presently, FIU Police achieve interoperability by providing officers with two radios, an FIU frequency radio and a Miami-Dade radio. Concerns about the difficulty of carrying two radios, along with a firearm, non-lethal device and other equipment are certainly understandable. FIU police command staff has indicated that Chief King has convened a committee to consider interoperability issues.

2. Joint Operations and Joint Trainings with Law Enforcement Partners.

Several individuals interviewed suggested value in joint-training with regional law enforcement. Of particular concern was ensuring that regional law enforcement was sufficiently familiar with the campus to integrate seamlessly with FIU Police during an emergency. Clearer signage on university buildings was mentioned during several interviews as important to help ensure that regional law enforcement units responding to on-campus emergencies can more easily find the emergency site.

This issue is relevant to this report to the extent that it affects FIU's ability to issue emergency response alerts arising from spillover emergencies. Historically at FIU, a dangerous emergency arising from a criminal situation is more likely to result from criminal activity adjacent to campus than from within the campus. The FIU police presently address these spill-over situations through informal mechanisms. Dispatch monitors the Miami-Dade radio. FIU officers have personal relationships with regional law enforcement units. A more formal mechanism to address these situations may nonetheless be helpful. Joint-training with regional law enforcement agencies or other mechanism to increase familiarity with each others' procedures and practices may help ensure that FIU receives timely notice of spillover emergencies so that appropriate alerts may be issued. Other possibilities mentioned include more formal mutual aid agreements.

V. Conclusion.

Criticism is common, compliments rare. Reports such as this tend to highlight the former, as typically only negatives are deemed worthy of review. This is an apt admonition on which to conclude.

On the evening of March 25th, individuals did their jobs, and did them well. Dispatch coordinated first responders, whose rapid and focused effort has already been commended. FIU Police took charge of the crime scene, identified and apprehended possible suspects. The staff in housing and residential life responded quickly, providing heightened security and counseling to those in the residence halls. The staff in parking and transportation responded immediately as well, providing needed support throughout the evening. These are positives. Line-level responders in every department drove to campus that night, ready to help, even before they were formally called up. Although not part of the subject of this review, failure to acknowledge these positive facts would leave a misimpression. The emergency response alert system can certainly be improved, and I suspect it will. Yet issuance of the alert was only a small part of the university response that evening.