



Students at DePauw University in Greencastle, Indiana, watch as Rector Hall, a historic dormitory, burns in 2002.

Big Data Service on Campus

A new effort aims to improve data collection for on-campus fires.

By Paul D. Martin

Until very recently, when a fire occurred on a college or university campus, details about the event were hard to find. When college officials and fire safety professionals wanted to know the details of a campus fire or accurate statistics, they often had nowhere to turn.

Thanks to our work at the Center for Campus Fire Safety (CCFS), that's all in the past. The Campus Fire Data Project, created by the CCFS

and backed by the requirements of the new federal Campus Fire Safety Right-to-Know Act, is a data collection service that provides the statistical information colleges and universities need to make fire and life safety improvements to their campus infrastructure, and also presents a comprehensive and standardized repository for campus-related fire incident data. The service gathers campus fire incident data and is a

launching point for an online nationwide campus fire-reporting program, one designed to provide a more accurate and defined picture of fire as it affects colleges and universities across the United States. There has yet to be a thorough study done on this kind of data, and CCFS is now poised to lead the effort with the support and expertise of partners such as NFPA and Underwriters Laboratories, who share our common mission of fire and life safety on campuses.

Initial funding was awarded in April of 2008 through a grant from the Department of Homeland Security's Fire Prevention and Safety Grant Program. That money allowed us to begin working on the system's database and web portal, while

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a team of experienced campus fire officials from CCFS determined what kind of data we wanted to collect. Development continued through 2008 and into early 2009, as we refined the desired data fields with the help of focus groups comprised of end users (campus fire safety officers) from across the country. Officially launched on May 1, the project already has more than 100 colleges, universities, or related fire departments participating. CCFS is working aggressively to expand participation and welcomes organizations who wish to serve as partners.

The Campus Fire Safety Right-to-Know Act is crucial in helping us gather the information we need. This federal legislation became law in August 2008 and requires colleges and universities that maintain on-campus housing to compile fire data, report the data to the federal government, and publish an annual fire safety report to give students, parents, and the public more accurate and current information on fires in on-campus housing. A college's annual fire safety report, for

instance, would include statistics on the number of fires in on-campus housing, the cause of each fire, the number of injuries and deaths, and the value of property damaged. The report would also include a description of fire systems, the number of fire drills, evacuation procedures, education and training programs, and future plans for fire safety improvement, as well as the institution's policies on appliances, smoking, open flames, and other potential hazards. Colleges are also required under the new law to maintain a fire log that captures specific information about fires that occur in on-campus housing—and it is for this purpose that our data system is perfectly suited.

In the past, organizations such as NFPA would distill information reported by fire departments and include it in one of their annual reports on fires in the United States; for example, NFPA reports that colleges and universities across the United States average more than 3,300 fires per year. While those kinds of numbers provided a big-picture overview of the problem, little additional information about these fires was available. Anecdotal campus-related fire information was also compiled by several organizations, CCFS included, using mainstream media accounts, such as this excerpt from a recent newspaper story on a campus fire: "Several buildings on the...campus were evacuated Friday morning because of a fire in an underground utility tunnel. The blaze started shortly after 8 a.m., and was put out before 11 a.m. A university employee was taken to the hospital for smoke inhalation. The fire has interrupted Internet, telephone, and cable television service in some areas of campus."

Reliance on this type of media information to portray the state of campus fire safety, while it may contain some details that provide insight into the fire, is far from comprehensive, and it is neither an efficient nor a definitive method of data collection. College officials or local fire departments now working with the CCFS can input detailed fire incident data for all campus fire incidents, not just those in on-campus housing as mandated by the Campus Fire Safety Right-to-Know Act. Incident information collected directly at the source using an all-inclusive report form,

A student at Kent State University in Kent, Ohio, prepares to move to a new room after a 2005 dorm fire forced students to relocate.

with defined fields and uniform criteria, results in a broader range of fire data for the campus, a much-improved incident record, and a more complete and accurate national picture of the campus fire issue. The CCFS system lets participating institutions store their incident records as part of the larger nationwide database, and to review, sort, and analyze their specific data and even print individualized incident reports. All reports are archived online and can be downloaded and/or printed at any time by authorized users.

A few key guidelines are in place to ensure the integrity of the data. Only one account is allowed per college, fire department, or government agency; all entries are made based on CCFS-defined data fields; and CCFS will not publish or release campus-specific incident data. The full database is secure and is only available to CCFS program administrators, though participants have full rights and control over the data they input for incidents under their jurisdiction. Account holders have the ability to run reports and measure statistics for their account, while CCFS retains the ability to provide overall statistics and will report the data with a respect for campus anonymity. That means it will not publicly report any specific institutional information,



but only statistics based on broad criteria, such as national, regional, campus size and type, and demographic characteristics.

This information will be used to better identify the fire problems campuses face, including causal factors, compliance with fire safety plans or policies, and even protective systems performance. From this data, we will be able to create new training programs that will be available for use by campus fire officials, programs that will help further mitigate the risk of fire on college campuses. We expect to begin evaluating the national data in early 2011, with the intent of identifying emerging trends or areas of concern. Similarly, by using the CCFS data system, individual colleges will be able to perform local reviews of their own incident data to help guide their campus fire safety programs.

We invite colleges and universities to participate, as well as fire departments that serve colleges and universities. Registration is easy and can be done at www.campusfiredata.org. Applications are reviewed by CCFS staff to assure they meet the participant criteria and to avoid duplicate accounts, and upon acceptance—usually within 72 hours—a college can be on-line and entering data. Everyone's participation will help us better identify, and minimize, the fire problems on college campuses. ♣

The Center for Campus Fire Safety, based in Newburyport, Massachusetts, is the only non-profit, membership-based organization solely devoted to reducing the occurrence of fire at our nation's campuses. The mission of the CCFS is to serve as an advocate for the promotion of campus fire safety and to support its members in their professional development. The Center serves as the focal point for the efforts of a number of organizations and also as a clearinghouse for information relating to campus fire safety. For more information, visit www.campusfiresafety.org.

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