An increasing number of lawsuits and general heightened public awareness to ADA (Americans with Disabilities Act) requirements are forcing property owners to ensure their facilities are ADA compliant. Title III of this act stipulates that public accommodations provide goods and services to disabled patrons on an equal basis with the non-disabled public. Title III became effective on January 26, 1992, and is enforced for newly designed, or newly constructed buildings and facilities, as well as altered portions of existing buildings and facilities post 1992.

FEA ran an article in our Summer 2000 edition of Facility Facts, marking the tenth anniversary of the ADA. The article detailed a proposed rule change published in November 1999, which would result in an updated version of the 1991 ADA Guidelines.

A key goal of these new guidelines was to substantively update the requirements to reflect technological developments, create a more streamlined structure, and incorporate a new numbering system consistent with model codes. For anyone who has worked with the current guidelines, an improved structure and numbering system will be a welcome change. The new guidelines feature a number of changes and modifications. For example, modifications to plumbing requirements, will include changes to water closet locations, clear floor space around water closets and specification for shower compartments, and will introduce new provisions covering washing machines and clothes dryers.

**What Impact Will These New Guidelines Have?**

Significant changes are primarily in the sections addressing Accessible Entrance and Access to Goods and Services.

- Revised reach ranges are proposed. The 54-inch side reach will be abolished, requiring all controls and operating mechanisms, including electrical, mechanical, and self-service controls, to be mounted at a maximum height of 48 inches (formerly the forward reach maximum). This will require that a paper towel dispenser or light-switch mounted at 54 inches, and which could be approached from the side by a person in a wheelchair, be lowered to 48 inches. In many cases, relocation of items such as paper towel dispensers can be managed by internal maintenance teams. However, light-switches, which can be numerous throughout a facility, will require an electrician to modify them, and can cost in the region of $230 per switch.

- It is proposed that industry tolerances will no longer be allowable where specific minimum and maximum ranges are stated. For example, current guidelines require water closets to be centered 18 inches from the sidewalls of a stall. Currently, industry tolerance, typically ± 1-inch, can be applied in either direction. The new guidelines state a specific range of 16 inches minimum and 18 inches maximum, which will mean anything over 18 inches would not be allowable.

- The number of building entrances that must be accessible are proposed to be increased from 50-60%.

*Continued on page 2*
Proposed changes to parking state that one in six accessible parking spaces will be required to be van accessible, with a minimum vertical clearance of 114 inches. Current standards stipulate one in eight spaces be van accessible.

Modifications are proposed for wheelchair and companion seating in assembly areas, which typically reduces the amount of accessible seating required. The most significant change is where the seating capacity exceeds 500. Currently assembly areas with a capacity greater than 500 require six accessible seats with one additional accessible seat required for each total seating capacity increase of 100. The new guidelines propose that additional seat requirement over and above the six stipulated for the 500 capacity be one for each increase of 200. This would mean that an assembly area with a seating capacity of 2100 under the new guidelines require eight accessible seats, whereas current guidelines would require 16.

The requirement for hotel guest rooms to be provided with visual alarms and communication devices is proposed to be changed. Current guidelines work on a table format showing the number of accessible features required for a given number of elements (rooms). The new requirement is percentage-based. Under the current guidelines, as a general rule a facility with more than 10 rooms requires a maximum of 10% with accessible features reducing to 2% or less where there are 500 or more rooms. With the new system, a facility with more than 10 rooms requires a minimum of 10% with accessible features rising to a maximum of 20% where there are 500 or more rooms. As an example, for a medium size hotel containing 200 rooms, the current requirement is for six rooms to have accessible features. The new guidelines would require a 200-room facility to have 10% of the rooms (20 rooms) provided with accessible features, which more than triples the current requirement.

The process to modify the ADAAG has taken more than two years since the changes were proposed in the Federal Register, in November 1999. Public hearings were held in early 2001 and a May 15, 2001 deadline was established for comments. The final draft was made available for public review on April 2, 2002. The final step of the process was for the guidelines to be submitted to the Office of Management and Budget (OMB) for review and clearance. Once submitted, the OMB will have 90 days to review and approve these guidelines.

As of this writing, the Access Board has not submitted the guidelines to the OMB, but anticipated doing this before their next board meeting. According to the Access Board, there will not be any grace period, and the guidelines will be effective immediately upon their publication. Therefore, if the OMB maintains their schedule, the new guidelines will become effective in the summer of 2003.

FEA has carried out numerous ADA evaluations over the past ten years in a wide range of facilities. These evaluations continue to be a growing part of FEA's business. If you are unsure of the compliance of your building, or would like FEA to conduct a survey to determine work needed for compliance, give us a call at 703-591-4855.
area experienced one of the largest accumulations of snow fall in recent years, with some areas receiving over 30” of snow. Data gathered after the storm demonstrated that it was one of the worst snow storms in the last ten years and ranked about fifth on the all-time snow fall accumulation records for the region. Unlike typical mid-Atlantic snow storms, however, this one was unusual in one other respect. It was followed by a period of unusually cold weather for this region, virtually eliminating the significant melting of snow that commonly occurs in this area after a snow storm. Weather forecasts for the end of the week called for a warming trend, with significant rainfall of 1-1/2” predicted for Friday and Saturday.

The amount of unmelted snow on a low-sloped roof has a tendency to cause subtle deflection of the roof deck, which can substantially slow the flow of water to roof drains. This condition is more serious in roof structures that have only one primary means of drainage from the roof (i.e., roofs that have no redundant drainage paths). With the cold conditions, ice can form and block roof drains. Additionally, snow can absorb a large amount of rainfall, becoming very dense in the process, and creating ponding conditions, which often lead to collapse. FEA teamed with Structural Solutions to send an alert out to our clients warning them of the potential danger and providing them with basic information on how to address the issue.

By the end of the day Friday, over 1” of rain had fallen over much of the region, with more predicted to fall on Saturday. Saturday, some areas received over 2-1/2” of rain between early morning and mid-day. At our client’s request, on Friday and Saturday, FEA and Structural Solutions worked together to visit a total of 18 sites in the mid-Atlantic region. We evaluated existing roof conditions and calculated total roof loading, determined whether it was safe to occupy the facility or keep the store open, and recommended methods for reducing the loading of the roof. Typically, this consisted of removing snow at the roof drains and creating channels in the snow so that melt water could move freely to the drains [see photo below].

In summary, it was not the significant snow storm that caused roof collapses and overloading in the mid-Atlantic region, but rather the combination of significant snow accumulation followed by uncharacteristically low temperatures, which was then followed by heavy rains. When this occurs there is the potential for serious overloading and action must be taken to avoid collapse. Property owners and managers should know that while steel structures are generally more susceptible to failure, any low slope roof can be affected. Therefore, for most owners/managers of low-slope roof properties, the best solution is to get the snow off the roof as quickly and safely as possible. If the snow cannot be completely removed, channels for drainage should be created. If concerns arise regarding the structural integrity of the roof, engineering review of the roof system should be implemented.

As with most structural issues, good design can go a long way in preventing problems in the first place. Therefore, when the opportunity arises to install a new roof system, you might consider contacting a consultant to assist you with the design. A consultant can often determine ways to implement increased roof slopes and redundant drainage paths which can significantly reduce the likelihood of a repeat of the winter of 2003.

John S. Rossi has been a practicing structural engineer since 1982. He formed Structural Solutions in 1990, specializing in consulting services for property owners and managers in the mid-Atlantic region. [Photos courtesy of Structural Solutions]

Steve Bentz is a graduate of Penn State University’s professional degree program in Architectural Engineering, with an emphasis on structural systems and an added specialization in building enclosure science and design. He is a Project Engineer at FEA working on structural and waterproofing repair projects throughout the Washington, D.C. area.
Inside This Issue:

- Complying with Americans with Disabilities Act (ADA) Updates
- Evaluations
- Snow Load
- Root
- Low-Slope

Facility Facts:

- Catch FEA at one of the following events...

FEA on the Road:

- Educational Facilities Forum 2003
  The Association of Higher Education Facilities Officers (AHEF)
  July 27-29, 2003 Nashville, TN
- 40th Annual Conference & Exhibition
  American Society for Healthcare Engineering (ASHE)
  July 14-16, 2003 San Antonio, TX
- 3rd Annual Retreat and Educational Program
  Maryland DC Chapter of the Association of Higher Education Facility Officers
  June 26-27, 2003 Rocky Gap, MD
- 16th Annual Conference & Tradeshow
  National Association of State Facilities Administrations (NASFA)
  June 2-5, 2003 Overland Park, KS