Looking back at the news stories, weather reports, and weather forecasts of the past year, it appears that extreme weather conditions presented some significant challenges to our real-world activities. We have all seen the incredible photographs of icy roads, fallen power lines, stranded cars, flooded streams, dry creeks, and empty lakes, all having dramatic impacts at a local and often regional level. Temperatures have ranged from unbelievably hot to bitterly cold, often within short periods of time. Strong winds have wreaked havoc on anything found in their path, and surging waves have engulfed everything along a shoreline. These extreme weather events have also had consequences in the environmental world, and this month, EM invites you to share your experiences (and possible ways to avoid the negative consequences of such experiences). We will collect and compile your submittals for publication in a future column.

To start the discussion, and by way of example, consider the following scenarios involving the extreme, prolonged drought that much of Texas is experiencing.

**Prolonged Drought Creates Havoc in Texas**

**Scenario 1**

As water utilities encourage their water customers to conserve potable water, often imposing restrictions on outdoor watering and assessing “drought surcharges” to recover some of the revenue from lost retail sales of this precious commodity, the characteristics of wastewater entering domestic wastewater treatment plants has changed dramatically. The volume of wastewater from many sources has declined. With the reduced volume of residential wastewater, wastewater treatment plants may now be receiving wastewater that is higher strength (has more organic loading) than was typical in years past. In some cases, the plant was designed using influent quality and hydraulic loading assumptions that are no longer correct. As a result, wastewater treatment systems and operators are experiencing challenges as they adjust and re-engineer their plants to maintain compliance.

**Scenario 2**

When a facility holding a stormwater discharge permit experiences months and months of dry...
weather, there may be a long interval with no discharges of stormwater from its outfall. In such cases, the facility personnel responsible for discharge monitoring may not have these obligations at the top of their to-do lists. When rainfall is rare and no one has observed any stormwater for months, facility personnel may be so happy to see rain falling from the sky in the midst of a hot dry summer that they forget that they are supposed to rush to the outfall to obtain a timely stormwater sample when the rain returns. This is an easy mistake—but perhaps the designation of several people as the stormwater sampling crew could avoid the omission of a sampling event in the case of rain.

Scenario 3
The long passage of time without rainfall may have other impacts on a facility’s environmental compliance efforts. For example, some instruments or measuring devices, such as a pH meter, require a chemical solution or other component in order to accurately and successfully perform their tasks. If this chemical solution sits on the shelf for such a long time that it passes its expiration date, it may not be useful when needed. Even when the long-awaited rain starts to fall and the facility staff person remembers the obligation to obtain a sample, it may not be possible to perform the required on-site analysis of the sample if the sampling instrument has dead batteries or its buffer solutions have expiration dates that have long since passed by. To avoid this unhappy situation, facilities may find it prudent to institute a targeted inspection routine for all sampling and testing devices to check expiration dates and confirm that the instruments that are sitting on the shelf in anticipation of a future use are in good working order.

We hope that these three scenarios have triggered a memory or inspired a story and some words of advice from our colleagues in the environmental field. To share your story, please e-mail a short description of the extreme weather event and its impact on an environmental compliance matter to em@awma.org. With such a geographically diverse readership, we are anticipating a lot of interesting real-world experiences. Thank you, in advance, for your participation. em