

## **The Environmental Challenge, a competition for university students**

October 23-25, 2019 – Butte, MT

*Proudly hosted by the Pacific Northwest International Section of the Air & Waste Management Association*

### **The Purpose**

The Environmental Challenge gives student teams the opportunity to develop solutions to a mock environmental problem and present their solution to a panel of environmental professionals. We do not give you a lot of numbers to crunch. We are more interested in hearing about the issues involved, how you interpreted the problem, the rationale you use to get to your conclusions, and how well you communicate your ideas. In light of all this, we incorporate a “tweak” to simulate how in the real world, nothing ever goes as planned. There is often new information that comes along and changes the game. Remember, the tweak is given last minute, the purpose being that you will need to interact with the Players in order to most effectively address this problem.

### **Global Climate Change Wreaking HAVOK on Marble River!**

The roadway expansion project is underway. The crews found the uranium in the road base, the river pH is on the flux, and air issues are streaming through the town. What else could go wrong? WELL - Over one weekend of work a 4-inch rainstorm inundated the area. Upstream from the town numerous landslides occurred, flushing more water and sediment into the Marble River - breaking its banks and spreading onto the surrounding area along the river. The fish are UNHAPPY due to the increased sediment loading, but such is mother-nature’s wrath. The following Wednesday after the torrential rainfall, Patty Glowenstein was taking a break from her scheduled work efforts – she was near the town’s bridge searching and delineating the uranium roadbase hazard with her Geiger counter. It was lunchtime! She took a drive over to the water park since they have a great view of the nearby oxbow along the Marble River. Little did she know she forgot to turn off her Geiger counter, and as soon as she was near the river, it started to click. “*But I’m nowhere near the contaminated road base...*” she thought. And then she sprung into action. The crews were able to trace the radiation to its source. Turns out, the flood event caused the quarry to fill up with rainwater, and then discharged via surface runoff into the river. No one noticed the quarry issue since there was so much sediment and water flooding in from the surrounding area. What is the town to do? The river sediment has now been altered due to the flood waters. Are there any other sources of the contamination, including other areas of the town? What other issues may have arose from the flood event? How do we solve this problem? How will this change the scope of the road work? What will the new or existing stakeholders think about this new finding?

### **The Expectation**

Greenhouse gases are a present issue in today’s society, and global climate change is driving populations to implement drastic measures to protect the world. You must develop a strategy to solve the issues that have come up from the heavy rainfall event, including evaluating other potential unknown effects of this event (low-income area effects drinking water sources, THE WATER PARK??). You are expected to discuss these issues with the stakeholders and include your solutions in the final presentations at the conference. Detailed calculations are not as important as your logic train, process, conceptualizations, creativity and integration of the Tweak into your proposal. Remember you can come up with assumptions, but they will need to pass the “straight-face” test. This is, sort of, like the real world!