The Good Fight: The Moapa Band’s Struggle for Clean Air

Twenty years ago, just before Vickie Simmons’s brother passed away due to cardiomyopathy at age 31, he told her, “I’m one in 100,000.” At the time, she thought, “Wow. That’s really bad luck.” And then her neighbor died of the same illness.

Simmons hasn’t been alone in seeing loved ones prematurely sicken, and too often die, on the Moapa River Reservation, an hour north of Las Vegas, Nevada.
Greetings. I hope you’re keeping warm as the Arctic air begins to chill. As always, ITEP has been busy on a variety of projects and activities, and I’d like to share some of those with you.

First, in our air program, our FY15 courses are up and running, and they’ve been well attended. Our Emissions Inventory (EI) course, now transformed from a classroom event to an extended, two-part, instructor-guided webinar format, was delivered this fall to more than a dozen tribal participants. The online courses include extensive interactions between instructors and staff, and the new approach has been well received. Our instructional team continues to support those who took part and continue work on their tribal EIs. We constantly strive to improve our support “products” and, when necessary, revise and update them. Congratulations to Melinda and Angelique for assembling and delivering these first-rate courses.

Last month I introduced two new TAMS Steering Committee members, Craig Kreman, Quapaw Tribe, and Kaibah Tsosie, S. Ute Tribe. The entire Committee is getting rave reviews and we’re very grateful for their generous volunteer efforts. To mention just one of the TAMS Center’s many activities, the TAMS staff is now working to implement Standard Operating Guidance documents for the TAMS air-equipment loan program. That effort should enhance the loan process by helping to get equipment in, serviced and calibrated, and out to tribes again as needed.

Next, the National Tribal Air Association (NTAA) support staff, Andy Bessler and Cristina Gonzalez-Maddux, visited Alaska in early November with NTAA leaders to learn more about air-quality issues in Alaska Native communities. During their visit to the Alaska Tribal Conference on Environmental Management, NTAA leaders delivered a plenary address describing the association, Cristina conducted an Air Quality 101 mini-session, and NTAA leaders facilitated a listening session attended by several dozen Tribal Village members and EPA and state air-quality officials. NTAA members came away from the conference with a lot clearer understanding of the unique challenges the NTAA will surely be addressing in our northernmost state—challenges such as indoor air quality and issues around burning trash. One of the NTAA’s duties is to provide tribes with information on policy issues that impact reservations, including climate change. As you’ll read in this issue’s story on the Carbon Rule, the NTAA recently submitted an excellent comment letter to EPA on the proposed rule. Links to the letter and the rule are included in the article.

It seems like we just packed up and flew out of Washington after our last National Tribal Forum at the Swinomish Reservation, and already we’re back in the planning stage for the next Forum. In accordance with our practice of moving the conference from region to region to enhance the ability of tribal members to attend, we’re looking to hold the next NTF in spring or early summer in the Midwest. Watch for updates on our website soon.

ITEP’s Tribal Clean Energy Resource Center (TCERC) addresses the energy-production needs of interested tribes. Among its present tasks, the TCERC staff is forming a "Tribal Solar..."
Most members of the Moapa Band of Paiute Indians who live on the reservation assume their widespread illnesses—from asthma to hyperthyroidism to cardiopulmonary disease—are the result of the thick clouds of coal ash that darken their skies and choke their lungs when the Nevada wind picks up. The dust that has plagued the reservation for over 50 years emanates from landfills and dried sludge ponds, the byproducts of coal-based power production at the nearby Reid Gardner Generating Station. Deposits of spent coal pock the landscape, some lying just a few hundred yards from the edge of the 200 member Moapa community. When the wind blows the wrong way, the dust is kicked up, and thick clouds of the toxic brew waft over tribal homes, choking the unwary and forcing residents to stay indoors.

A video produced by EarthJustice (www.youtube.com/watch?v=Tr8FQ_hu5uY) chronicles the many toxic effects of exposure to coal ash, which is suffused with arsenic, lead, mercury, cadmium, chromium, selenium, and other potentially lethal elements.

As the late Calvin Myers, former Moapa Tribal Chairman, described it in a video on the issue, “If you breathe-in the stuff, it’s pretty much going to ruin your body. I can taste it. I can taste the salts in my mouth. You’re essentially in prison in your own home.”

Once the Band chose to act, they moved forward with courage and tenacity. With support from the Sierra Club and EarthJustice, Moapa sued to close the plant and also filed suit against Nevada Energy, the plant operator, to force a cleanup of the waste. To increase public understanding of the issue, the tribe has organized awareness events, lobbied state and national leadership, and otherwise shined a relentless spotlight on the threat to their community. In 2013, Moapa’s tenacity began to pay off when the state passed legislation to retire the plant by 2017 and replace it with more-sustainable generating modes.

The band has begun moving toward a clean energy future with the construction of a 250-megawatt solar plant (Simmons was among its first workers) which will send electricity to California. The tribe is also awaiting approval from the Nevada Public Utilities Commission on another 200-megawatt, industrial-scale solar plant on the reservation, which will replace some of the dirty energy from the closing of Reid Gardner and power 100,000 homes in Nevada.

Moapa has made great strides in protecting its community, but their struggle isn’t over. The ash ponds and landfills still must be removed (or lined and covered), and remediation of groundwater contamination must be completed. All of these actions could take years. But the tribe has set the healing process in motion. By their vigorous defense of their community, Moapa has demonstrated that a small group of spirited resisters can turn the tides on a big problem that continues to plague their own tribe as well as communities nationwide.

Another choking dust storm rolls over the Moapa tribal community.

This article is based on a presentation that Vickie Simmons gave at the National Tribal Form last May. For updates on Moapa, please visit: www.moapapaiutes.com

“If you breathe-in this stuff, it’s pretty much going to ruin your body. You’re essentially in prison in your own home.”

—Former Moapa Tribal Chair Calvin Myers
Upcoming AIAQTP Courses

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<td>AQ Computations</td>
<td>Jan. 13-16</td>
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<td>Geographic Information System</td>
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<td>State Implementation Plan</td>
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<td>Indoor AQ in Alaska</td>
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Dates and locations can change. For updates, visit: http://www4.nau.edu/itep/air/training_aq.asp

HOST SITES NEEDED FOR SUMMER INTERNSHIP PROGRAM

The Institute for Tribal Environmental Professionals – Environmental Education Outreach Program at Northern Arizona University in Flagstaff, Arizona, is seeking air quality-focused offices and programs to host a college student for an eight-week summer internship. Tribal environmental offices, EPA offices, and other tribal environmental organizations are encouraged to apply.

The interns will be highly motivated undergraduate or graduate students majoring in environmental or related careers, from different colleges and universities nationwide. ITEP provides each student intern with a $3,636 stipend and limited housing and travel allowances. The host site provides a work place and supervision for the intern.

The projects MUST focus on addressing air quality issues in tribal communities. Submit an application online at: www4.nau.edu/eeop/internships/ssi_host.asp

For detailed information on the internships and host-site requirements, visit our internship website: www4.nau.edu/eeop/internships/index.asp

Please contact Mansel Nelson for more information, at: mansel.nelson@nau.edu

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Working Group” to promote efforts by tribes to develop solar-energy projects on their reservations. Please check the ITEP website for more information on this new program.

One of our relatively new tasks is to facilitate tribal involvement in U.S. EPA’s National Environmental Information and Exchange Network, a nationwide environmental data-sharing system. That effort started to ramp up last month when we held our first face-to-face meeting the Tribal Governance Group to discuss tribal support strategies for the NEIEN.

One such strategy is hosting the annual Tribal Exchange Network Conference, planned for Feb. 4-5 in Phoenix, Arizona. Lydia Scheer is heading the NEIEN project. Please contact her if you’re interested in obtaining NEIEN-related support. For more information on NEIEN activities, please visit the Tribal NEIEN website at www.tribalexchangenetwork.org.

Another ITEP project that deserves mention this time around is our Navajo Nation Environmental Workforce Development Program. The partnership with the Navajo Nation, headed by ITEP’s Roberta Tohannie, provides training for eligible tribal members in uranium-waste cleanup and related skills. We’ve already graduated one class and are presently looking for new applicants for the next training, which will begin in April 2015. Please let us know if you or someone you know might be interested in gaining certification in environmental cleanup skills.

In my role as a member of the Interior Department’s Advisory Committee on Climate Change and Natural Resources
Taking Inventory

Once the ITEP training team realized the classroom approach was not meeting tribal needs, Chris Lee, co-Director of ITEP’s Tribal Air Monitoring Support (TAMS) Center, solicited feedback from those who had experienced the earlier training. “Some folks who had taken the course submitted good comments at our classroom courses,” he says. “So I reached out to them and asked if they wanted to be part of the redesign team. They contributed a lot of really good input to help us shape the course.”

Armed with that input along with observations from their vantage points as instructors, Angelique Luedeker and Melinda Ronca-Battista chose to completely scrap the classroom version of the training. In its place they restructured the material to be delivered via live webinars. The first set of instructor-assisted webinars were delivered to 14 participants between March and September of 2014.

EI training participants in the revamped course now sign on to a series of weekly webinar sessions, led live by Ronca-Battista and Luedeker. During each session, participants learn a manageable “chunk” of the EI process. Between online sessions, they are assigned homework in which they employ what they’ve learned to continue work on their tribal EIs.

The fact that students work on real EI projects (a course requirement is that an applicant be working on an EI) makes a big difference in the efficacy of the training. “Every piece of information they learn,” Ronca-Battista says, “is patterned around the work they have to do anyway.” Luedeker adds that having students work on their own computers, rather than using ITEP-supplied classroom computers and then transferring data back to the worksite via thumb drives, goes a long way in easing the process.

The course is open to anyone engaged in EI work. Attendees might include new or experienced line staff, air program managers, or others. Their task might be to start a new EI, complete or revise an existing one, assist a colleague, or check on a contractor-produced tribal EI. “Sometimes,” says Ronca-Battista, “they might just be starting an air program, and this is a first step.”

The EI Challenge

Training is broken into two courses that function in tandem. The Fundamentals course is presented in weekly guided live webinar sessions, during which participants learn EI basics, such as source types, methods of reporting, and EI-related functions in Excel and specialized EI software. Each webinar session might involve a mix of slide presentations, Excel exercises, mock-EI work on a hypothetical plot of land (an exercise created by Luedeker), and step-by-step instruction in the use of the Tribal Emissions Inventory Software Solution (TEISS) program, which contains data calculators and other tools to facilitate efficient EI work.

During each session, participants cover new material and are assigned homework to apply that material to their own ongoing EIs. Among the supports available to participants between sessions are 43 instructor-produced training videos, grouped into two series (Fundamentals and Advanced) and available via YouTube.com.

Students who begin with only a basic understanding of Excel leave the Fundamentals course conversant in a variety of its functions. In fact, Ronca-Battista says, “When we get course feedback, people have often commented on how much they’ve learned about Excel. Angelique has provided template Excel sheets with example data and formulas, and participants can substitute their own data, thereby saving them a lot of time and frustration.”

By the end of the Fundamentals course, each student will have completed a Level 4 emissions inventory (drawing on data already available from the national EPA database). That might be sufficient for a tribe’s needs; if so, a student can stop there or continue on to the Advanced course.

EI Advanced

The Advanced course mirrors the Fundamentals course in terms of how it’s taught, but it includes more-complex techniques and tools necessary for performing a higher-level EI. Webinars are sometimes conducted less than once each week, because homework tasks can be more involved. Advanced training includes instruction on how to perform a Level 3 and sometimes a more-complex Level 2 EI, both of which go beyond the manipulation of existing data to include gathering new data, either online or in the field (Ellsworth notes...
The Proposed Carbon Rule and Its Potential Impacts on Tribes

At the National Tribal Forum last May, Garritt Voggesser, a longtime ITEP colleague who serves as National Director for Tribal Partnerships with the National Wildlife Federation, discussed the proposed federal Carbon Rule, which is being designed to mitigate climate change impacts. The rule, which includes four options, will limit carbon emissions from various sources, most notably existing coal-burning power plants. The proposed rule is slated to come online in Summer 2015.

Voggesser explained that the Obama administration considers existing power plants to be among the top regulatory priorities because they account for some 40% of U.S. carbon emissions. The focus on power plants will likely have a strong impact on Indian nations. For example, four tribes will be directly impacted by changes the rule specifies, 11% of existing power plants operate on or within 20 miles of reservations, and 50 reservations are significantly impacted by power plant emissions. Power plants also account for much of the mercury problem that plagues tribes and society in general.

Impacts on tribes that Voggesser noted will likely hinge on various decisions the agency makes as they refine the rule, based partly on public feedback. Such decisions will include whether to go with a “mass-based” or “unit-based” standard, compliance “over the fence line”, the role of state renewable energy standards and regional trading programs, and worker transition for retired plants.

He pointed out that many tribes are already pursuing carbon-related solutions with their own climate change initiatives; several tribes have set up large-scale solar and wind projects or plan to in coming years. He emphasized the importance of public/tribal input in the federal rulemaking process, especially considering that industry opposition to any such rulemaking will likely be vigorous. Tribes and individuals can play an active role in the rule’s development by speaking at public hearings on the matter, meeting with government officials, passing resolutions that support formal consultation by tribes, and otherwise staying involved and informed.

For more information on tribal impacts of the proposed Carbon Rule, you can contact Voggesser at the National Wildlife Federation at voggesser@nwf.org.

National Tribal Air Association Issues Comment Letter on the Proposed Carbon Rule

In a comment letter on the proposed Carbon Rule, delivered to U.S. EPA on October 15, 2014, the Executive Committee of the National Tribal Air Association stated their general approval for the proposed rule while also enumerating points of concern that tribes have expressed regarding the rule’s various options.

The letter first emphasizes that climate change has and will disproportionately impact tribal members due to their reliance on the natural world for spiritual, cultural and material sustenance. Addressing the specific proposals, the letter enumerates a host of concerns to tribes, among them the relative lack of direct mitigation strategies written into the plan (i.e., actually reducing greenhouse gases [GHG]); collateral risks associated with increased reliance on natural gas (most significantly fracking and its potential impacts on water resources, as well as methane release from fracking, which could add a more-potent GHG to the existing atmospheric load); concerns around an increased reliance on nuclear-power generation (potential for accidents, waste transport and storage challenges); increased reliance on the burning of biomass, whose net carbon reductions are anything but clear; and concerns about just treatment for tribes in any carbon-trading (cap-and-trade) approach that might be written into the final rule.

The letter also expresses dismay regarding a relative lack of tribal input solicited during the plan’s formulation, pointing out that regional planning organizations would allow states and tribes to work together to meet carbon reduction plans. This summary only touches on the concerns expressed in the NTAA comment letter. To read the full letter, visit: www4.nau.edu/itep/ntaa/resources/resources-policy-carbon-rule.asp

Gone but not Forgotten: Crematoria and the Touchy Topic of Air Quality

NOTE: This story deals with a topic that some might find objectionable.

As Brandy Toft told it during her NTF segment, “The Undertaker is Calling,” her first phone call wasn’t from the undertaker but from a concerned citizen. It came in a flurry of words: “Crematory…smoke…Why don’t you know?...What are you going to do about this?” Toft, a longtime Air Quality Technician for the Leech Lake Band of Ojibwe in northern Minnesota, soon realized she was facing a unique challenge in her work to protect the Leech Lake Reservation community. Emissions from a crematorium operating in the town of Cass Lake—the facility was located in a commercial/residential area—had drawn the attention of locals, who insisted that Leech Lake’s Environmental Department should address the issue.

This was a new one for Toft, but long experience in the field led her to take a first crucial step: call EPA’s Laura McKelvey for advice. McKelvey directed her to regional EPA staff, who directed her to the Minnesota Pollution Control Agency, who informed her that they lacked jurisdiction in this case…. After all the phone jockeying, she realized this one was in her hands. She began her research, immersing herself in the language of emissions: fuel source, PTEs, throughputs, operational times, minor source standards. She learned along the way that mercury from dental work can be an issue with crematoria, and that opacity of stack emissions cannot exceed 20%. She learned that the flue gas temperature must run at least 1200 degrees F, and that crematory licenses are issued through the state health department, with no air permit required. She refreshed herself on stack height principles (the higher the better) and other aspects of air management that might pertain to the situation.

Armed with a veritable hearse-load of information, she approached the operator, who, though perplexed, turned out to be agreeable and cooperative. Together they agreed that, although a 30-foot smokestack height was optimal, he would extend his stack to 24 feet, thus avoiding the headache of guy wires.

A happy ending to a potentially difficult situation. Although the immediate problem was laid to rest, Toft still has questions involving mercury emissions, oxides of nitrogen, flue gas emissions, and other substances, such as cancer drugs, that might be emitted in an ashes-to-ashes operation. She says there is a notable dearth of expertise in this politically touchy topic, and her research has proceeded at a…funereal pace.

The experience was instructive to Toft, who noted several lessons learned: When confronted with a nebulous situation such as this one, consult other ordinances, such as nuisance and opacity rules, for potential leverage; learn what constitutes “good practices” in this field; work with other regulatory agencies to explore solutions; find and use information outlets; and above all, keep a positive attitude.

Google Earth view of the Leech Lake neighborhood where a crematory operation drew the concern of local residents, launching one puzzled air quality technician on a dubious adventure involving phone calls, reams of research, and possibly more questions left answered after the fact.
T
echnology races on, and that’s especially true in the realm of air quality monitoring. EPA maintains Federal Regulatory or Regulatory-Equivalent monitors, but the monitoring industry is burgeoning. At the NTF, Kristen Benedict of EPA’s Office of Air Quality Planning and Standards described the agency’s approach to the growing body of new sensor technologies.

EPA recognizes three categories of monitors: Group 1, composed of regulatory or regulatory-equivalent monitors—the “gold standard”—which cost hundreds of thousands of dollars and offer the best possible reliability; Group 2, smaller footprint monitors used for community screening and research (and costing in the range of one to twenty-five-thousand dollars); and Group 3, small, low-cost monitors used for citizen science and other purposes, costing from one hundred to perhaps a thousand dollars. The latter group was the subject of Benedict’s discussion.

EPA is heavily involved in analyzing the uses and reliability of these monitors, which are often hand-held and can be capable of providing instantaneous readings. The monitors have a broad but not yet fully identified user base, among them researchers; citizens who feel their environmental-protection needs have gone unaddressed or who wish to provide health officials with evidence of a problem; those who feel they’re personally experiencing air quality issues and want more data; smaller communities that can’t afford more-elaborate monitoring systems; and individuals, such as joggers, who wish to determine the level of pollutants in the environment at a given time.

Potential benefits of the new monitors included their low cost, ease of setup and use, and real-time reporting on a variety of pollutants. Potential drawbacks include lack of clear reliability (some more than others); expiration dates after which some monitors must be replaced; inadequate information in user manuals; and, ironically, their potential for providing too-much/too-quick data. Benedict explains that generally, air regulators operate in terms of 1-hr or 8-hr levels and assess and report health-related information to communities based on those monitoring timeframes. The new monitors, some of which report 1-minute levels, might therefore overstate the risks in the environment at any particular time.

Benedict expressed the agency’s enthusiastic regard for the new technologies and emphasized that EPA wishes to be “proactive rather than reactive” as they work to gauge the monitors’ reliability, provide user information, and learn how such monitors might assist EPA and other agencies in their own air-management work. In the latter case, she offered possibilities such as their use to inform network design; determine background levels in areas that lack monitors (e.g., in permitting); ensure that more-elaborate monitors are placed in high-concentration areas; for risk assessment; and to provide insight on near-road concentrations of NO2.

To assist the public in better understanding this new breed of monitors, their capabilities and potential drawbacks, and to create links between the public and the agency regarding their use, EPA has created a website (www.epa.gov/research/airscience/next-generation-air-measuring.htm). A draft roadmap summarizing literature and expert commentary on the topic was issued in March; the final document is still in development.

EPA has also issued a guidebook (www.epa.gov/airscience/docs/air-sensor-guidebook.pdf) covering the topic in-depth. The online document includes an expansive set of links to information on new-generation monitors and includes links to citizen-science websites.

A June workshop explored new sensor technologies and later created a website with links to workshop materials. That site can be found at https://sites.google.com/site/airsensors2013/final-materials.
that a Level 1 EI, the most data-intensive level, is generally the province of a state with a multitude of sources [and facing possible litigation]—though a few tribes might at some point need to conduct a Level 1 EI.

If additional source-specific data are required, the EI tech might need to contact individuals who oversee pollution-generating operations, conduct interviews and/or provide them with questionnaires. Thus, skills related to public contact are also a part of the Advanced curriculum. The heavier focus on data also means participants learn more about the TEISS software, including its use to facilitate submissions to the national EI database.

**Proof is in the Production**

Unlike the classroom approach, measuring the success of instructor-assisted webinar training is less about test scores and marking off attendance sheets than simply getting the work done. In that sense there's good evidence the new approach has been a big improvement. For example, of more than a dozen students in the 2014 courses, says Chris Lee, “all the students have completed the required Quality Assurance Project Plans associated with their EIs. A few have completed portions of a Level 3 or 2 EI, and a few have completed draft EIs.” That level of success goes far beyond what students were able to accomplish through the earlier classroom approach.

An emissions inventory is a complex undertaking, though, and even the new training mode is unlikely to result in a completed EI during the instructional period. For that reason, Ronca-Battista and Luedeker continue to support course participants as they proceed with their EIs, via phone consultation and emails—support that is supplemented by YouTube EI-training videos and other material.

Both instructors agree that for students working on complex data tasks, the live-webinar approach is the best way to go. Their success with the first run of courses has inspired them to apply the concept to ITEP’s Tribal Data Toolbox training, which they will retool and offer late this winter. The next set of Web-based EI courses will likely be offered to a new group of tribal air staff in Summer 2015.

For more information on the instructor-led EI online course, visit: [http://www4.nau.edu/tams/tools/tools_EIonline.asp](http://www4.nau.edu/tams/tools/tools_EIonline.asp).