

National Pollution Prevention Roundtable
Tribal P2 Workgroup Conference Call
Date: Tuesday, September 15, 2009
Time: 2 pm EDT, 1 pm CDT, Noon MDT, 11am PDT
Call in Number: **888-296-6500**; Passcode **547845**

1) Introductions – 18 participants

2) Guest Speaker: [Laura Cook](#), Environmental Director for the Poarch Creek Band of Creek Indians

The tribe's environmental group:

- 4 members of the group
- Recycling program
- Hazardous waste recycling event once a year
- Water and chemical testing
- Game reserve
- Environmental permits
- Biodiesel operation

3) Presentation: The tribe's biodiesel operation

Getting started

Before investing in their own biodiesel-making equipment, Laura and other members of the environmental group visited the city-run operation in nearby Daphne, AL. All of the city trucks in Daphne run on biodiesel. They were so impressed with the operation there that they developed a plan for their own biodiesel operation.

Before purchasing equipment, the site for the operation was prepared – adding water, cabinetry, etc. After the site was ready, the equipment was purchased using Air Grant funds. The equipment and supplies consisted of:

- BioPro 190 processor
- Transfer pump
- Ingredients: methanol, sodium hydroxide and sulfuric acid

The suppliers used were Northern Tools and Equipment, US Plastics and Utah Biodiesel. The first batch of biodiesel was made in late 2008. Once they got started, they realized that they would need two trailers to move the fuel around. The trailers were outfitted with tanks and nozzles so that the cooking oil could be funneled into the tanks and the biodiesel could be transferred out.

Laura estimates that the setup cost was \$18,000 and the cost of the 2 trucks was \$13,000. Initially, the biggest problem was finding enough cooking oil to convert. However, the tribe's casino opened shortly after the operation began, and the 3 restaurants in the casino generate plenty of oil.

The process

The environmental group is in charge of making the fuel. Two of them work together to make a batch. The ingredients consist of 50 gallons of cooking oil, 10 gallons of methanol, a premeasured package of sodium

hydroxide and a small bottle of sulfuric acid. After mixing it up, it sits for 24 hours, then is washed for another 24 hours. The result is 50 gallons of biodiesel fuel. A byproduct of the process is glycerin. Laura had the idea of having the cultural youth group use the glycerin byproduct to make soap which it can sell at events, thereby eliminating any waste. Laura estimates that their biodiesel costs \$1.04 a gallon.

Next Steps

Up to now, the group has made 3 batches of fuel and experimented with it in several vehicles. Before it could be tried on a larger distribution of the tribe's vehicles, the tribe had to approve the plan. Now that they have the approval, the environmental group plans on rolling it out to bigger construction vehicles with their next batch.

There are various enterprises on the reservation who will be given a chance to use the biodiesel. The first batch they use will be given to them and they will be charged a minimal fee for subsequent batches. They only want to cover the cost for the chemicals for now. As the experiment grows, Laura believes that when the next vehicles are purchased by the tribe, they will be done so keeping the use of biodiesel in mind.

Tours of the facility for neighboring city groups are in the works, as are other uses for biodiesel fuel, such as heating homes or mixing biodiesel with garbage to generate energy. Laura mentioned that there are a lot of people in the area making biodiesel so it can be difficult to get cooking oil from area restaurants.

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