

NASA: Drinking water a top concern



A group of freshman look over a schematic demonstrating how to make an electrical circuit on Tuesday at Pendleton High School.

Staff photo by E.J. Harris

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While one student answered “Wi-Fi” when asked what were the essentials for extraterrestrial colonization, the pipeline team established five basic needs: water, oxygen, food production, energy and transport. Each science class session revolved around an experiment that demonstrated that need.

Multiple classes touched on the importance of drinking water in space.

With weight being a premium on spaceships, astronauts aren’t able to take large amounts of water with them on missions. The International Space Station recycles urine and sweat to keep its inhabitants hydrated.

“Today’s coffee is tomorrow’s coffee,” said Isabel Carrera, a doctoral student in the University of Washington’s environment program.

Quinn Oksotkaruk, a Washington geology student, demonstrated the value of a water purifier in space.

After mixing together water, Italian salad dressing and sand, Oksotkaruk made a makeshift filter. He then had the students make water filters of their own using household items like coffee filters, cotton, sand and pebbles.

One by one, students turned the water from a sickly yellow to varying levels of gray. In space, Oksotkaruk said the water would be filtered multiple times before it would be given back to



Tedrick Mealy, outreach coordinator for the Washington NASA Space Grant Consortium, demonstrates using an hand crank to light an LED while taking about the energy needs for colonizing the moon on Tuesday at Pendleton High School.

Staff photo by E.J. Harris

astronauts to consume.

In one of the neighboring classrooms, Carrera said electricity also plays a crucial role in determining whether water is safe to drink. Water with contaminants is more likely to conduct electricity while pure H2O doesn’t.

Carrera had students isolate oxygen and hydrogen in water by using baking soda, sugar, a plastic container, aluminum foil, a battery and rubber bands.

Other classes used different projects to explore a different necessity: a session on energy had students use a circuit board to create a speaker, the lesson on food

production used hydroponics to show how food could be produced without soil, and a transportation project required kids make cardboard lunar rovers.

Tedrick Mealy, the outreach coordinator for the Washington NASA Space Grant Consortium, organized the event.

Mealy said the visit from the pipeline group was an effort to make NASA projects and STEM subjects relate to high school students across Oregon, Washington, Idaho and Montana.

The visit is meant to establish connections with both students and teachers.

The pipeline can connect students with NASA after-school programs and summer camps aligned with school curriculum.

In turn, teachers can rely on NASA’s STEM expertise to help them feel more comfortable teaching more technical subjects like robotics.

Mealy said all of this is done in an effort to avoid going “over their heads,” adding that the pun was not intended.

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Dems seek half of cap-and-invest deal

By PARIS ACHEN
Capital Bureau

SALEM — House Democrats are making a last-ditch effort to enact at least half of a cap-and-invest program in Oregon this year.

Acknowledging reluctance among lawmakers to pass a full program this year, House Speaker Tina Kotek, D-Portland, has proposed setting up only a cap on the amount of carbon emissions that individual companies may release into the atmosphere. The change would come in the form of an amendment to a House bill proposing the cap-and-invest program.

The idea behind the amendment is that the Legislature would, in 2019, develop a program for pricing carbon emissions that exceed that cap and investing the proceeds into projects intended to offset climate change.

If the Legislature failed to complete the program during its regular session in the first half of next year, the amendment authorizes the Oregon Environment

Quality Commission to develop the program.

Rep. Diego Hernandez, D-Portland, testified Tuesday in the House Rules Committee that he hopes the amendment will “propel us toward an agreement on a cap-and-trade bill in 2019.”

A hearing on the amendment is scheduled for Thursday, Feb. 22, at the Oregon Capitol, said House Majority Leader Jennifer Williamson, who chairs the House Rules Committee.

House Republican Leader Mike McLane of Powell Butte has repeatedly opposed passing a cap-and-invest program during the Legislature’s “short” session this year. The 35-day session in even years is designed to clean up existing policy and amend budgets, McLane has said.

House Democrats, such as Rep. Pam March of Ashland, who spoke in favor of the amendment Tuesday, said climate change is an urgent issue that needs to be addressed immediately.

LIFEWAYS: Spriggs-Flanders was a Wallowa County clinician

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“He’s managed crisis services. He’s worked as a crisis worker. He’s worked with numerous community partners such as law enforcement, courts and hospitals,” Campbell said.

Spriggs-Flanders could not be reached for comment. A Wallowa Valley Center for Wellness representative said he worked as a clinician for the group for many years, and was one of the main crisis workers for the service.

GOBHI, as the contracting agency, has Lifeways’ fate in its hands. Campbell said the board met Feb. 8 to discuss the issue. Board members gave their approval for hiring Spriggs-Flanders.

“We took into consideration the progress that has been made to date,” Campbell said. “The action of the board was to hold in abeyance termination of the portion of mental health services contract for crisis services in Umatilla County.”

Pendleton Police Chief Stuart Roberts, who has

been involved with discussions with both Lifeways and GOBHI, said he thinks the group is making positive changes.

“One thing we have now that we didn’t have before is investment by the CEO,” he said, referring to Tim Hoekstra, who was hired in January.

He said they are working with law enforcement to close some of the gaps in following through with patients. He said that includes implementing a strategy that ensures that people in crisis are released to a responsible person, and to a safe location.

Roberts said he wasn’t so concerned with Lifeways making changes by the Feb. 20 deadline, as long as they continued to make them.

“That’s a pretty aggressive timeline,” Roberts said. “As long as I can see progress being made, I’m willing to play along. As far as I’m concerned, the probationary status is kind of ongoing until we get to where we need to be, and we’ve got a long path to travel.”

CARTY: Emissions vary based on operations

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accurate information, and PGE did not provide that to either the DEQ or the Oregon Facility Citing Council when it sought the permit.

That was back in 2009, but the Carty Plant was not operational until July 2016. Corson said the manufacturer of Carty’s turbine, Mitsubishi, found that starting and stopping the machine emitted more pollution than initially projected.

“We used the best data available [in 2009],” Corson said. “Now we have new data.”

That data shows the upper limit of Carty’s emissions, and the permit should reflect those possibilities, Corson said.

“We appreciate in absolute terms these look like large numbers,” he said. “But in terms of plant operations and actual emissions they will still be within appropriate health and safety standards.”

Doug Welch with the DEQ in Pendleton concurred. He is the senior environmental engineer writing the new permit.

“We consider this a kind of course correction,” he said.

Even with the higher limits on the proposal, the levels are within standards for human health and safety. The DEQ ran computer models to figure out the effects on air quality and make sure they would not violate regulations under the federal Environmental Protection Agency.

“We wouldn’t issue the permit if there was a health problem,” Welch said.

The hearing Thursday night in Boardman could bring a contingent of PGE customers from Portland.

Serres said that depends if the latest winter storm turns Interstate 84 into an undrivable ice rink. Attending or not, he said, Columbia Riverkeeper is going to push DEQ on the Carty plant pollution.

“We’re going to be asking DEQ to take a much harder look at way to control the pollution from this plant,” he said, which could mean limiting the start-ups and shut-downs or perhaps other technologies.”

Corson, who said he also plans on attending the hearing, said Carty already has the “best available control technology” to abate emissions of carbon monoxide and volatile organic compounds. He also added the permit limits are just that — the limits — and not what PGE expects Carty to emit on a regular basis.

For 2017, he said, the plant operated consistently with few start ups and shut downs and emitted 17.6 tons of volatile organic compounds and 31.1 tons of carbon monoxide. Both are below the limits of the permit the plant operates under now, but Corson said the possibility exists for higher emissions, so the permit should account for that possibility.

“Emissions vary significantly, even from month to month, based on plant operations,” he said. “So the permits reflect the higher limits of what’s possible while still staying within the

appropriate standards for health and safety.”

Following the hearing, the DEQ will continue taking public input in writing. Welch said Columbia Riverkeeper and other groups submitted a letter asking to extend the public comment period 60 more days, and the state agency is likely to grant that extension, although there has yet to be an official response.

Welch said the DEQ reviews the comments and considers if they raise new points or shine a light on new information that would lead to modifying the permit. Once the state regulators finish their work, Welch said the EPA makes sure the permit squares with its requirements.

Serres said Riverkeeper sees no justification for the pollution increases aside from what PGE claims, and the new data show fracking plants can be very polluting.

“There needs to be a more robust analysis of what this would do to the Gorge and the people who live nearby,” he said. “It doesn’t make sense for a new facility to see this enormous lurch in pollution.”

Corson said Carty is a key resource in PGE’s effort to distribute renewable energy. The plant is highly efficient and uses the best technology to control pollution, he said, and the change in the permit would allow the company to operate Carty as intended.

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