MINUTES
ENVIRONMENTAL POLICY ADVISORY COMMITTEE
VIRTUAL MEETING
DECEMBER 3, 2020

A meeting of the Environmental Policy Advisory Committee (EPAC) was convened virtually on Thursday, December 3, 2020, at 5:15 p.m. Chair Lopez called the meeting to order at 5:15 p.m.

ROLL CALL

Those members present were:

Gail Connors
Becky Cortese
Nancy Keller
Ted Lopez
Sherie Shaffer
Ryan Tessman

Member absent: Jenna Seddon.

Staff present: Sandra Smith, EPAC Recording Secretary.

APPROVAL OF THE DECEMBER 3, 2020 EPAC AGENDA

Chair Lopez stated he would like to make some changes to the order of the agenda as follows"

"We have done the roll call and are not on Item #2, approval of this evening's agenda. He stated, after the approval of the minutes, Item #3, he would like to present the Chair's Report, Item #4. Next would be Nancy Keller's Water Quality Subcommittee Report, Item #6, and then back to Jenna Seddon's Health Promotion Specialist Report, Item #5. Item #7, The Solid Waste Subcommittee Report with Becky Cortese, remains the same." (Item #5 becomes Item #6 and Item #6 becomes Item #5.)

Chair Lopez called for a motion to approve order changes in this evening's agenda. Ms. Keller moved to approve the changes in the agenda as presented. Ms. Cortese seconded the motion. The motion passed unanimously.

APPROVAL OF THE FEBRUARY 6, 2020 EPAC MINUTES

Chair Lopez called for a motion to accept the minutes as mailed.

Ms. Shaffer motioned to approve the February 6, 2020 EPAC minutes as mailed. Ms. Connors seconded the motion. The motion was passed unanimously.

CHAIR'S REPORT – TED LOPEZ

Chair Lopez stated his report would be brief. It has been a long time since February, and a lot has happened in terms of changes to the community. In terms of EPAC, not much has happened. He stated that this meeting came about because he had spoken to Ms. Carmen Howard, PACOG Manager, at one of the meetings a couple of months ago. He thought it would be impossible to do a meeting thinking that it would have to be in person, but he had forgotten that PACOG was having its meetings virtually. Because of that conversation, EPAC has convened this evening. He stated that about 10 or 15 minutes prior to this evening's meeting he forwarded a copy of a letter of support that he had written to the Division of Environmental Science and Practices at the Center for Disease Control in support of a grant application the Pueblo Department of Public Health and Environment was going to submit. He gave a little bit of history about the existence of EPAC within PACOG and some of the accomplishments that

EPAC had done during his membership since June 1994. He also mentioned some of the liaisons that some of the EPAC members do with other committees within the community. He stated this was all he had to report.

WATER QUALITY SUBCOMMITTEE - NANCY KELLER

Chair Lopez questioned if everybody had received a copy of Ms. Keller's report. If not, he would send it out by e-mail. Ms. Howard stated she would open up the share capability so the document could be shared for all to see.

Ms. Keller stated the processing plant received a national award for a project that they just did, and she would give an overview of what that project was and some of the other things she has done. She presented a 10-slide PowerPoint (Exhibit 1). The first slide showed an aerial view of the plant as well as the hydrocyclone area. One of the projects that won the award was the stage three electrical project, which was to update some of the electrical system that was in the plant. The plant was built over 30 years ago, and much of it was outdated, especially the computerized data systems. It is getting old faster and faster as technology changes. It is taking some major electrical upgrades for the type of equipment that is needed to handle all the connectivity and the fiber going between buildings. She stated that the size of the wiring in the plant is a little bit different than what is in a household. It has an 8-inch conduit carrying cables and electrical cords and optical fibers. Slide two indicates the electrical upgrade is Phase 3 of 7, and the different areas of the plant would be addressed in the project. It is a two-year process. It takes a year to do the design of the process and then do computer upgrades. Also replaced were some of the switchgear, noting slide three showed the new one at the bottom. It was a major feat considering the whole time this was being done, the plant could not be turned off. They were switching things over from the old to new and managed to get through it without any violations of their permit. They also replaced two of the digester lids. The digesters have covers on them that deteriorate over time as pictured in slide four. She stated they did not want to lose the methane gas. They want to capture the methane gas to be burnt in the boiler, which is used to heat the digester and, in turn, heat the buildings through the winter. They cannot apply their solids because of the high selenium in the area. Those were major improvements that were reduced. Also on slide four, the large column going up the old Archimedean-type screw that used to lift the water up at the beginning of the plant was replaced with a commercial pump to pump it up, which was much more efficient and takes a lot less maintenance. It also does not require two cranes to set them down to maintain them. This is a major improvement because the water flows by gravity. This was the only time that water was pumped within the plant. The improvement project included replacing hard to meet new permit limits as indicated on slide five. Regulation 85 permit limits were adopted in 2020. Their permit had a compliance schedule that needed to be met by April 2020. To meet these limits, they had to start a process that would allow them to do that. Typically, it was done by adding another process, noting it was very costly to add a process to activate the sledge to remove both nitrogen and phosphorus down to the required levels. They took a different approach and used an approach that was not uncommon in Europe. There is only one other facility in Florida that has it on a side stream that is operating right now since they got theirs online. Denver Metropolitan District has a pilot using this process. Pueblo was able to go a little bit different route to meet those limits. She showed in 2027, there will be some significantly lower numbers that will be required. That will require additional work to be done at that time. Those numbers will probably change. The standards were adopted, and the EPA did not approve those numbers. In 2027, the Water Quality Control Commission will be going back to look at the numbers the Division has developed between then and now and will be adopting different numbers. The only thing we know is that the EPA did not feel that they were low enough to be protective. She stated that she knows they are going to go down but not how far down. The process that was put in place was called a hydrocyclone,

which is the one on the right in slide six. Instead of increasing more basins like the one pictured in the middle, which is the active basin sludge area, to treat nitrogen and then add another process to treat phosphorus, they use the hydrocyclone. The hydrocyclone uses a circular centrifugal type process where the heavy solids are pulled down and the lighter solids are left at the top. The light solids are bacteria that are filaments that cause problems. They can form a matte on top of the basin and reduce the oxygen level. The mattes that form must be removed because they do not benefit the process of removing nitrogen or phosphorus. The heavier solids at the bottom are returned to the process to keep the bacteria active in removing the nitrogen and phosphorus. It just happens that those heavy filaments are the ones that remove phosphorus very efficiently so by increasing the amount of those particular organisms in the current process, they are able to go down to a lower level. The other portion in the process are the probes that can be seen in the picture on slide eight. Those are metal arms that are hanging over the railing. The probe is hanging down and measuring the amount of ammonia. Typically, activated sludge is controlled with oxygen, but you cannot accurately measure oxygen at very low level. They are tracking 0.3 milligrams per liter or below. With activated sludge, you usually keep the dissolved oxygen at 2 milligrams per liter. The bubbles that are visible in the center picture are diffusers blowing oxygen up through the sludge partially for mixing and partially to maintain the oxygen levels in order to keep the bacteria active. She stated it was normal to run about 2 milligrams per liter in those basins; however, by using ammonia control and measuring, they were able to take that oxygen level to 0.2 milligrams per liter. In doing that, the low oxygen level allows nitrification to occur, which reduces the nitrogen and allows more phosphorus uptake. They were not only able reduce nitrogen in that system, but they can now reduce phosphorus, which is usually another process built on to the end of the plant. They are now able to do both in the same infrastructure that they had in place. Slide nine shows the settling in those basins. Because they got rid of the light filaments that cause issues, the blue indicators are before the new process began and the green indicators the day the new process was activated. The levels dropped and have stayed down. Slide ten summarizes the significant results at Pueblo. The new process has increased the plant's capacity by 50%. The chemical addition of Polyaluminum Chloride (PAC) used in the previous process was able to be removed completely because it was no longer needed to remove the light filament probes and the acidic acid, which is the food for the bacteria. They were able to completely remove the chemical because they don't need that extra process with the new process. They were able to lower the oxygen levels significantly. The number of blowers, noting there are five huge blowers that supply all the oxygen, was reduced to one blower. A pipe had to be placed on it as an outlet to blow off excess oxygen at night when they didn't have as much demand. That one blower is more than enough to provide the oxygen that is currently required. This was a huge reduction in electrical consumption to not have all those blowers running. What they ended up seeing with the new process was an increased capacity, by half, they saved $300,000 a year in chemicals, and saved $150,000 in energy. The effluent was not only meeting the standards but was below the standards. The State program was looking at facilities that were greater than 1,000,000 gallons to implement the Regulation 85 permit limit standards. When the State did its evaluation for EPA, it decided a larger benefit could be achieved if the larger facilities could lower their levels to below the required standards, rather than forcing smaller facilities to implement more treatments. She stated people do not think of Pueblo as being big, but Pueblo's water treatment plant is the 10th largest plant in the State, which puts the plant in the big facility category. This was why the EPA approved the standards so that the larger facilities could fulfill it easier and earn credits. She stated that Pueblo was earning credits, which meant that when those really low 2027 standards are adopted, for every month with the credits that are earned, it delays a month that the plant will have to meet those standards. If the standards are adopted in 2027, it will take a few years to get a compliance schedule to the State. It could be 10 or 12 years before the ultra-low standards can be met. For every month that could be pushed out further, it gives time for technology to further improve and costs to come down. Technology seems to get

better and cheaper. She stated that it has been a huge benefit being able to meet the current standards for a cost of about $0.25 per gallon, treated. The normal treatment typically had a cost range from $5 to $10 per gallon, closer to $10 per gallons of treated effluent. A cost of $0.25 versus $10 is a huge difference. With the savings, the new system would have a return of investment in two years. The plant would have full compliance in two years and be paid for in full. This is unheard of in the wastewater industry because, usually, you have to build the process, which is expensive; you have to pay for the cost to run that process; and then add the cost of the additional chemicals that are used to run the process. She stated that none of this was going to happen this year with the new process. It is going to be paid for within two years and, from then on, the savings will be offsetting other costs in the plant. It has worked out really well. She stated the biggest impact from the new process was the benefits for Pueblo and a lot of savings for the citizens. The Water Environmental Federation honored the Pueblo Water Treatment Plant with a Project Excellence Award, which was received in October 2020, and staff was very excited to receive it. She said she has been with the City of Pueblo a little over 30 years, and she does not remember any national award ever having been won except awards for 100% compliance, which they have gotten over the years several times. She stated it was a huge honor to receive the award, and it have been very pleasing to see the new process work out as well as it has.

Ms. Connor congratulated Ms. Kelly on the award. She questioned if the Pueblo plant was affected by the Colorado Water Plan and its recommendations as well as public health and the EPA. Ms. Keller replied the Colorado Water Plan did not affect them directly. The Pueblo Board of Water Works was not part of the City of Pueblo anymore. It was split off many years ago, and when they did that, all of the water rights were given to the Pueblo Board of Water Works, noting it owns the discharge, and it has full control of all the water rights that affect the water plant. The one nice thing about the new process was it did not change the effluent volumes. If the plant was to do something like reverse osmosis, like the use of the new process, it would be expensive but an effective solution for selenium. Selenium will be an issue because the plant will probably have to augment the water to give back the water-right benefit to the Pueblo Board of Water Works. The reason is because the water would be lost with the evaporation of the brine. This would be the only time there is a potential for impact.

Chair Lopez questioned the savings that was shown per year. He questioned how long the new upgrade has been in use. Ms. Keller replied April 2019. Reporting was to start in April 2020. They have until April 2021 for it to be optimized. She stated it was very nice because construction was done early, which allowed more time to run the process multiple different ways and evaluate the impacts and benefits with the nutrients, the stability, and whether or not it had any impact on the amount of selenium. She noted that the new process was getting a little bit better removal of selenium. They were averaging about 15%, and they are now averaging 62%. She noted that this was a wonderful benefit. They did not have a clue that this was going to happen. They hoped it would happen, but they did not know if it would. They were able to run the process multiple different ways to find out the best ways to get the best nutrient and selenium removal before they had to start meeting the plants required standards per their permit. She stated the slide with the wasting chart shows the settling improvements, noting you could almost see the day the new process was activated in April 2019. Chair Lopez questioned if the percentage of selenium removal drops during wet periods. Ms. Keller replied there has not been enough rainfall to know for sure. The assumption is that it will drop because of the higher flow of water going through the plant, which does not allow time for the same settling characteristics; therefore, the 50% would go down during wet weather times. She noted it has dropped down to 30% in wet weather previously. There were a few days in 2019 that had significant rainfall, but the new process was not online at the time. She stated that she was anxiously awaiting to find out as well. Chair Lopez questioned the potential credits that might be

earned between now and 2027, noting that it may extend the compliance time by two or three years. What would have to be done when that time comes, i.e., more physical improvements to the plant? Ms. Keller replied that there were many different processes that were being designed. The benefit of compliance being delayed is that there are not a lot of processes being used. She stated that Europe was way ahead of the United States as far as nutrient requirements. Europe has some real promising activities being implemented. She hoped that by the time Pueblo must comply, the technology will be far enough along that necessary upgrades will eliminate the need to rebuild. She stated the plant would be able to meet the nitrogen levels within the current system, but they would not be able to meet the low levels required for phosphorus. They would have to build another process to get to the ultra-low phosphorus levels, which was very expensive. She stated as the levels get lower, the price goes up exponentially. If any of these other systems work out, as they are hoping, there will be something there that will be compatible. Some of the facilities in Europe that have the process the Pueblo plant just implemented have some exciting work being done. Europe is inventing all sorts of new things in an effort to meet the really low levels. Chair Lopez questioned if the Pueblo plant got any of its electricity by solar panels. Ms. Keller replied they did. They have a solar field, but she could not remember the volume of megawatts that was produced, noting it was not a lot. It was originally built to offset the amount of additional power that the plant would need when the chlorine disinfection was removed, and an ultraviolet (UV) system was introduced. It was not built to really offset all the plant's power, but it definitely helped. She thought that the way the current process was set up, the solar panels provided about 60% of the power. The only problem with solar was that it was daytime power. The peak demand requirements go up as soon as the solar field goes off. She stated at the end of 2019 and early 2020, Black Hills introduced its rebate program. All the sodium lamps in the plant were converted as well as all the outside lighting from the sodium lamps to LED bulbs. During the winter months, there was less daylight and more lights having to be used at night for longer periods of time. They are anxiously waiting to see what the electric bill will be.

HEALTH PROMOTION SPECIALIST REPORT – JENNA SEDDON

Mr. Tessman stated that Ms. Seddon was not present. He also mentioned that she may not be attending the EPAC meetings because she was assigned to contact tracing for COVID-19.

Mr. Tessman stated he might know some of the information as to what needs to be reported. He knew some general things about the recycling program but did not have that information in front of him. Chair Lopez questioned some events that were planned in the spring, i.e., three single-day recycling events. Did those happen? He also questioned if there was a discount day at the landfill. Mr. Tessman replied that all three of the recycling events did happen and were successful. He stated the discount day at the landfill was more of a discount week with a smaller discount over a longer period. The idea was to help spread out the traffic. Chair Lopez questioned the Colorado Recycles Conference that was scheduled for June. Mr. Tessman replied he was not sure about that one. Ms. Cortese stated that it was supposed to take place as a virtual conference, noting she did not attend and did not know how it went or what it was like.

SOLID WASTE SUBCOMMITTEE - BECKY CORTESE

Ms. Cortese stated the Trash Task Force (TTF) has been busy this year, and they gave their update to City Council last month. She stated that Mr. Tessman did a great job with the illegal dumping hotline, e-mail, and Facebook page. The TTF did a lot of community outreach, gave information on how to report problems, and installed 12 cameras at two common illegal dumping sites, which Mr. Tessman gets to monitor. The cameras must be installed in a way that

captures illegal dumping activity without capturing information they shouldn't. The program allows a party that has been caught illegally dumping to clean up their mess before they are ticketed. Before the October report, they had 38 suspects, noting 29 of them cleaned up their mess and provided receipts of proper dumping of trash, and six tickets had been issued. Three other suspects were pending. The TTF conducted four cleanup and one community cleanup before being suspended due to COVID-19 restrictions. It resumed in November 2020 with 138 cubic yards picked up, 200-plus tires, and 100-plus needles. Ms. Keller questioned if the number of cars had increased at the recycling centers. Ms. Cortese replied there were no numbers for 2020 to report.

Ms. Cortese spoke about recycling at the State level. She stated her sources were CPR News, November 17, 2020, "Colorado is Getting Worse at Recycling. Here's Why and Two Ways the State is Working to Fix it". The State's recycling rate in 2018 was 17.2% and, in 2019, it was 15.9%. The drop in the rate was largely due to the population increase. The diversion rates were keeping pace with population growth despite the drop. Legislation proposed to attract recycling business, and the Front Range Waste Diversion Enterprise Grant Program increased the landfill user fee beginning 2019 and each year after to fund the program. The State's diversion goals were 32% by 2021, 39% by 2026, and 51% by 2036.

Ms. Cortese spoke about recycling at the Pueblo County Level. She stated that Mr. Ron Go-Aco with the Pueblo County Economic Development and GIS was seeking Leadership in Energy and Environmental Design (LEED) certification for Pueblo County throughout 2020. He will be meeting with several topic specific LEED groups throughout 2020. She stated she attended the Materials and Resources Group. The application for LEED certification was submitted at the end of October 2020. She stated that Mr. Go-Aco was confident Pueblo County would qualify for Silver LEED status, noting the status had not been confirmed.

OTHER

Ms. Shaffer reported that the master gardener volunteers gave away 1,000 seed packets this summer, which was more than normal. The other big initiative that came out of the COVID-19 pandemic ended up being a good thing when CSU Extension participated with the All Pueblo Seed Library Project, i.e., a grow and give project. When the pandemic first hit, a lot of people were talking about victory gardens that they had during one of the World Wars when people grew food in their yards to help the economy that was being affected by the war. That same concept started the Grow and Give Modern Victory Project. People could sign up for the Project, which would give them access to educational materials, videos, and factsheets on how to grow food. They would then get a list of places within the community to get the fresh produce. They checked with foodbanks to see if they could accept homegrown produce. They made these resources available for the public. She stated a report of how much was actually given away was available at the following link: https://cmg.extension.colostate.edu/grow-give/. There was handful of people in Pueblo that participated. Pueblo Food Projects had three different sites around town and in the downtown area. The master gardeners grew food and put up signs on what was available to eat from the public gardens. There was not a lot to give to food banks or other sources because people were taking the produce from the gardens, which was what the gardens were for. The project was supported. There were also a couple of private gardens, mostly from master gardeners. She stated she would like to see the project continue next year with more public participation. If you can grow, then more can be made available to people who need it. The pandemic has not been a good thing, but there have been some good things that have brought the community together. She stated that people have a main interest in growing food and how to get started. That shows where the needs are in the community and what is needed to continue with. Chair Lopez thanked her for the presentation.

He questioned if anybody has asked about aquaponic farming. Ms. Shaffer replied that they do get questions, noting about a handful each year. She stated that it was a very special method of growing, noting the fish must be cared for as well. There is one master gardener that took the course. She is a veteran that belongs to a group called Veterans to Farmers which has a very good training program with hydroponics and aquaponics. She goes to her to answer questions from the community about that type of gardening.

Chair Lopez asked Ms. Howard, Director of the Department of Planning and Development, to give an overview of the Pueblo County Regional Comprehensive Plan the focus groups will be talking about next Wednesday. Ms. Howard stated that this has been a project that has been trying to move forward for some time. She was not part of its beginnings but has been making great efforts with the other partners in the project, i.e., City of Pueblo and Pueblo West. She stated they have been successful in getting a grant from the Colorado Department of Local Affairs (DOLA). A Request for Quotation (RFQ) was posted, noting they have retained the services of Clarion and Associates. She stated they were a topnotch consultant who is on board to helping get the Comprehensive Plan updated. The schedule is aggressive, and they are looking at probably the beginning of 2022 for the Plan adoption. It is currently at the stage where the consultants are working on the public participation plan, gathering data and information relating to the state of the County, and so on. Next week will be a big week. They will be conducting some stakeholder interviews and interviews with our elected and appointed officials. They will also start the public participation process by holding two focus-group meetings on next Wednesday. She stated she sent invites to everyone, noting the focus group will be split into two meetings. Each meeting of the focus group will be addressing certain topics. One of the meetings will be in the morning, and the other meeting will be in the afternoon. Chair Lopez stated the morning focus group would address Housing, Community Advocacy, and Utilities, and the afternoon focus group would address Economic Development, Agriculture, Environment, Recreation, and Tourism. Ms. Howard was hoping that everyone would be able to participate at some level. There will be other opportunities if you can't make next week's meetings, but she felt this would be a good opportunity for everyone to get their feet wet and meet the consultants as well as the others that were participating in the focus group. This would also be a great opportunity to provide some information relating to the topics and interests that you have. Participation in one or both group meetings was suggested. She stated she had some pretty high expectations for Clarion. The work that we have seen them do has been topnotch, noting they were good consultants. She thanked Chair Lopez for the opportunity to provide this report. Chair Lopez stated he just sent a copy of the Comprehensive Plan that will provide a little bit of information on what the entire Plan was looking at. Prior to that he sent a copy of an article that he had come across, which he sent Ms. Cortese reporting how Colorado was not doing too good in terms of recycling. He stated that there were many initiatives within Pueblo County and the City of Pueblo that were underway, noting they were focusing on improving the quality life in Pueblo, i.e., CSU Extension for food, communities that care, Sustainability Plan Action Team, and others. He hoped some of these things get moving forward a little bit better in the future and are able to tie into the Regional Plan modification. He stated he was a bit excited about the things that were happening in Pueblo even though people must stay home a bit more.

AGENDA FOR FEBRUARY 4, 2021 MEETING

The next regularly scheduled EPAC meeting is Thursday, February 4, 2021. It will be held virtually via Zoom with the link being provided the day before the meeting. It is set for the regular time from 5:15 p.m. to 6:30 p.m.

ADJOURNMENT

There being no further business before EPAC, the meeting was adjourned at 6:25 p.m.

Sandra M. Smith
EPAC Recording Secretary

SMS