



MURRAY CITY MUNICIPAL COUNCIL COMMITTEE OF THE WHOLE

The Murray City Municipal Council met on Tuesday, September 15, 2020 for a meeting held electronically in accordance with the provisions of Utah Code 52-4-207(4), Open and Public Meeting Act, due to infectious disease COVID-19 Novel Coronavirus. Council Chair, Ms. Dominguez, determined that to protect the health and welfare of Murray citizens, an in person City Council meeting, including attendance by the public and the City Council is not practical or prudent.

Council Members in Attendance:

Diane Turner – Vice Chair	District #4
Kat Martinez	District #1
Dale Cox	District #2
Brett Hales	District #5

Absent:

Rosalba Dominguez –Chair	District #3
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Others in Attendance:

Blair Camp	Mayor	Janet Lopez	City Council Director
Jennifer Heaps	Chief Communications Officer	Jennifer Kennedy	City Recorder
Doug Hunter	UAMPS	Pattie Johnson	City Council Office Admin.
Danny Astill	Public Works Director	Russ Kakala	Streets Superintendent
Brenda Moore	Finance Director	Melinda Greenwood	CED Director
G.L. Critchfield	City Attorney	Bill Francis	The Imagination Company
Blaine Haacke	Power – General Manager	Greg Bellon	Power – Asst. General Manager
Jared Hall	CED – Division Supervisor		

Vice Chair, Ms. Turner conducted the meeting; noting the absence of Ms. Dominguez; she called the meeting to order at 4:30 p.m. with the following statement:

Considering the continued rise of COVID-19 case counts in Utah, meeting in an anchor location presents substantial risk to the health and safety of those in attendance because physical distancing measures may be difficult to maintain in the Murray City Council Chambers. The Center for Disease Control states that COVID-19 is easily spread from person to person between people who are in close contact with one another. The spread is through respiratory droplets when an infected person coughs, sneezes or talks and may be spread by people who are non-symptomatic. The intent is to safeguard the lives of Murray residents, business owners, employees and elected officials by meeting remotely through electronic means without an anchor location.

The public may view the meeting via the live stream at:
www.murraycitylive.com or <https://www.facebook.com/Murraycityutah/>

Citizen comments or public hearing comments may be submitted by sending an email in advance or during the meeting to city.council@murray.utah.gov. Comments are limited to less than three minutes, include your name and contact information, and they will be read into the record.

Approval of Minutes – Ms. Turner asked for comments or a motion on the minutes from August 4, 2020, Committee of the Whole. Mr. Cox noted one correction and moved to approve with the correction. Ms. Turner confirmed it was her mistake, and acknowledged the correction. Mr. Hales seconded the motion with the correction. Passed 4-0.

Discussion Items:

Solid Waste Contract Services RFP – Mr. Astill discussed the need for an RFP (request for proposal) by the end of September to give ample time for processing applications. He reported the City's current 5-year contract with Ace Disposal would expire December 31, 2020. Ace hauls garbage to the TransJordan Landfill, and the goal is to attain a new contract for another 3-5 years. The RFP requires all interested vendors to include pricing on a number of items the City is requesting.

Mr. Astill reported the City currently offers automated weekly curbside pickup for regular garbage (up to two cans per home), and recycling cans. He pointed out the City's recycling collection is typically 25%-30% contaminated, which greatly needs improving. He discussed ramifications of existing contracted services; non-contractual services, additional programs, requested services included in the RFP; and potential services that could be added into a new contract, as follows:

Contracted services:

- Leaf bag collection and disposal. Drop off sites are available from October 23, to November 30.
- Rental programs for roll-off dumpsters; and green waste trailers.
- Glass collection and disposal. Two drop off locations are offered.
- ABOP (antifreeze, batteries, oil, and paint) drop-off recycling.

Non-contractual services:

- Recycling in parks: This service was discontinued, due to very high contamination rates that the City cannot monitor.
- Christmas tree disposal: Two locations are offered.
- Parks garbage pickup: Murray Parks Department staff schedules garbage collection as needed for all City parks; the Solid Waste fund allowed them to a recently purchased garbage truck of their own.

Additional information:

- Curbside yard waste: The service is off the table at this time; the landfill is not able to accommodate the great amount of green waste that would be collected.
- Curbside glass collection: There is a possibility for the service, by Momentum, who is an individual third-party option.
- Recycling costs versus landfill costs: With such high contamination much of recycling ends up going to the landfill. Mr. Astill stated through ACE, the tipping fee rate is \$60 per ton for contaminated recyclable material; he noted the standard rate for trash to the landfill is \$18 per ton. Recycling habits need to improve.
- WFWRD (Wasatch Front Waste and Recycling District): This is not an option because the City would have to join WFWRD permanently with no option in the contract to ever leave the organization.

Requested services for RFP Calendar Year 2021-2025:

- Weekly Residential Refuse Collection and Disposal Services

- Weekly Residential Recycling Collection and Disposal Services
- Biweekly Residential Recycling Collection and Disposal Services
- Solid Waste Collection and Disposal
- Glass collection and Disposal
- Leaf Bag Collection and Disposal
- Roll-Off container Rental Program

Potential options:

- Neighborhood cleanup program.
- Additional glass collection areas.
- Individual opt-out of recycling. Mr. Astill noted the opt-out recycling program does not provide a financial savings to the City.

Council Comments and Discussion:

- Ms. Martinez asked if residents can contact Momentum directly to attain curbside glass collection. Mr. Astill confirmed citizens would independently hire them for a separate personalized service.
- Ms. Martinez asked about factors for not providing recycling cans in City parks and wondered how contamination was monitored. Mr. Kakala said the effort is involved; for example, in Salt Lake City staff goes ahead of recycling trucks lifting can lids, diving into cans and sorting through material to look for contaminants- prior to trucks dumping recycling cans into their load. He stressed as it is, cities are already struggling with recycling, and contamination is why costs are so high- paying close to \$70 per ton to dispose of recycling. In addition he explained:
 - Many citizens are successful at recycling; but problems occur when careless people throw contaminated items into recycling cans; this act ruins an entire truck load because clean items get mixed with contaminates of liquid or oil found on unclean items.
 - Unless Murray has funding to hire additional recycling inspectors, who go ahead of trucks to inspect, the program is not worth it, which is already very expensive.
 - Challenges exist at park pavilions during summer months, due multiple daily use. Inspections would occur after each event. As a result, all park trash goes to landfills.
- Mr. Kakala discussed reasons for considering bi-weekly recycling because cans are not getting filled up and half empty cans are pushed to the street. Large heavy trucks cause more wear and tear on neighborhood streets, pavement, and city roads; so, bi-weekly pickup could be an advantage.
- Ms. Martinez noted recycling has a challenging educational piece; and reported many constituents favor a neighborhood cleanup program most of all.
- Mr. Hales favored the neighborhood cleanup program, and also had that request from many constituents.
- Mr. Astill would add the neighborhood cleanup service to the RFP process.
- Ms. Turner suggested more recycling education; she asked if Ace offered programs. Mr. Astill said a full-time ACE employee is assigned to handle personal trainings, mailings, and social media notifications. He said door-to-door hands-on education is most effective, and larger cities can budget for that but Murray does not have that capability.
- Ms. Turner clarified Ace Disposal serves Murray City west of 900 East; and WFWRD provides service to Murray areas located east of 900 East. Mr. Astill confirmed.
- Mr. Hales said continued education would make a difference. He thought many citizens aware of good practices try hard; but more are uneducated about proper handling. He thought instructions engraved inside can lids was a helpful reminder. Mr. Astill said instructions are sent out frequently, but the problem lies with weekly changes within the recycling industry itself.
- Mr. Kakala agreed understanding acceptable material was a moving target, because material is based

on commodities that constantly fluctuate. Therefore, the instructions are ineffective.

- Mr. Astill confirmed all solid waste services are funded by utility fees collected by the City; whether contracted or City provided; including park trash removal, road cleanup, and the hauler purchase.

Revisions to Chapter 17.65 Beekeeping Standards – Ms. Greenwood discussed current beekeeping standards and provided the existing ordinance. She noted changes occurred in 2016 -before her employment; and those changes made implementation difficult for anyone wanting beehives at their residence. Therefore, proposed changes were presented categorized in three ways:

1. Regulatory and compliance would be shifted appropriately back to the State and Salt Lake County Health Department.
2. Hives will require licensing through the State and County; no Murray City application is needed.
3. Beekeeping would be allowed on all properties/lots with a single-family residence. The amendment would extend allowance to include all properties or lots used as single-family detached dwellings; regardless of the zone they are located in. Use would continue in agricultural zones.

Ms. Greenwood shared the background about Utah State beekeeping requirements noted under the Utah Bee Inspection Act, where State Code requires that:

- Each beekeeper must be registered with the State.
- Location must be identified by a sign showing owner registration number, unless the apiary is located on property owned by the beekeeper.
- County bee inspectors conduct annual inspections.
- If issues are found like diseased, parasitized, or abandoned hives, inspectors may prescribe treatment.
- Appeal process is available if beekeepers disagree with inspection outcomes.
- Beekeepers may not intentionally maintain aggressive or unmanageable bees.

State Code was reviewed in relationship to Salt Lake County Health Department requirements for Honeybee management. Ms. Greenwood highlighted things like maintaining hives safely and correctly; flight patterns, water provisions during certain times of the year; location of hives out of public sight; and placing hives on properties not registered. She reviewed the Murray ordinance to describe the quantity of hives permitted on lot sizes. Variances of 4,000 square foot lots with 2 hives; and lots of 12,000 square feet or more, cannot have more than 6 hives.

Ms. Greenwood reported the item was presented to the Murray Planning Commission on August 20, 2020. No public comments were made; and the result was a favorable vote of 6-0. She confirmed City staff contacted both the State DOA (Department of Agriculture), and the Salt Lake County Health Department to discuss proposed changes and revisions to Murray City Code; both agreed that the previous ordinance was too restrictive, and both supported the changes, as well. Findings and facts made by the Murray Planning Commission were as follows:

1. The text amendment was carefully considered based on characteristics of practical application, and oversight from experts;
2. The proposal is consistent with the purpose of Title 17, Murray City Land Use Ordinance;
3. It is also consistent with the Goals and Policies of the Murray City General Plan;
4. And the amendment will allow Murray residents ability to have apiaries in conjunction with their residential dwellings in all zones.

Ms. Greenwood stated City staff and the Murray Planning Commission recommend the Murray City Council approve the proposed amendment accordingly. She informed them that the item would return-

during the October 6, 2020 council meeting for final consideration during a public hearing.

Council Comments:

- Mr. Cox asked about the removal of burdensome regulations from the City, such as, various safeguards and training. He assumed the State and County had those regulations in place; for example, a positive barrier between hives and neighboring yards. Mr. Hall confirmed fly-away barrier placement is something that prevents bees from being attracted to something in nearby lots that would create a nuisance. He explained barriers are broad enough that if something becomes a nuisance, inspectors can make adjustments in a better fitting way. He agreed State and County barriers were less specific than what Murray had before, however, their regulations make problems easy to handle.
- Mr. Cox suggested having a point person in the City to help Murray residents with questions and navigate through problems. He thought by avoiding timely appointments with County or State officials problems could be addressed faster having that local assistance. Mr. Hall agreed minimal connection between State and County officials, and City Code Enforcement was desired, due to no expertise among staff. He indicated that he and Code Enforcement Officer, Mr. Boren would act as mediators to receive complaints from Murray residents; they could contact the County for a quicker response. Mr. Hall reported a good working relationship was already established with inspectors for coordinating issues; he expected the program to go well.
- Mr. Cox thought with only three or four beekeeping inspectors statewide, having a City go-to-person would assist with problem solving.
- Ms. Greenwood added there was a provision in the proposed amended ordinance that states if conflict should arise between the City's ordinance, or County regulations, or the State ordinance; the most restrictive regulation would apply. She thought this would benefit the City from having to revise the ordinance if State and County regulations are changed again later.
- Ms. Martinez asked about bee hives; she observed hives are contained in dresser drawer like boxes; she asked whether the hive was the drawer, or the entire stack of drawers in terms of the number of hives allowed. Mr. Hall confirmed a beehive is the entire stack of drawers, where typically there is no more than three drawers to a hive. Therefore, State beekeepers consider a stack of six drawers to be two hives.
- Ms. Martinez noted other cities allow hives on 8,000 square foot lots; she asked what the rush was in Murray, to allow any square foot residential lot to accommodate beekeeping now. Mr. Hall explained rationale came from the DOA who recommended there was no longer a concern about lot size and the number of hives allowed. However, City staff made the decision to limit the number to specific lot sizes so that neighborhood yards would not be overrun with hives; and smaller residential lots would not be excluded.

UAMPS (Utah Associated Municipal Power Systems) CFPP (Carbon Free Power Project) – Mr. Haacke had just come from his monthly UAMPS board meeting; there he received news that the CFPP deadline of September 30, 2020, had been extended to October 31, 2020. The reason was that DOE (Department of Energy) funding has not shown up yet. As a result, UAMPS board members felt more time was needed to make a wise decision. Therefore, the special meeting scheduled for Monday, September 21, 2020 - was no longer necessary; and the vote from the Council could be delayed. He encouraged them to postpone the public hearing, specifically because DOE funding is the key part to success of the whole project. Mr. Haacke believed there was value in being first participants in a project, with first of a kind technology-with essential DOE funding. He stressed to the Council if DOE money did not come through, Murray should walk away from the project because it would become extremely expensive; he reemphasized no Council

Member should vote to stay in the project, without DOE funding. He noted the September 21st meeting could still be held, with a vote; although he felt waiting until October was best. He inquired Ms. Turner whether he should continue with the planned presentation, or return next month. Ms. Turner expressed her preference, and took a poll:

Council Responded:

- Ms. Turner wanted to continue as planned, and vote on September 21, 2020.
- Mr. Hales favored extra time to further analyze information. He said DOE funding was a huge factor in his decision making, so waiting until October was best.
- Mr. Cox agreed there was no longer a hurry to vote before September 30, 2020; extra time was helpful, especially for waiting on the DOE contribution.
- Ms. Martinez appreciated the delay; she preferred the voting be rescheduled on a usual Tuesday council meeting night - she noted the public was accustomed to sharing comments and concerns during the public comment segment at council meetings.
- Ms. Turner noted overall favor to wait on voting; the item was moved to October 20, 2020; and she asked Mr. Haack to continue with his presentation. (See Attachment #1)

Mr. Haacke thanked Mayor Camp and the City Council for attending many past SMR meetings; the project has been in the making for years. He reiterated next month's decision was very important, and explained the Council would consider one of three options in October:

1. Keep the current subscription of 14,000 KWh (kilowatts), the City would continue on with the project.
2. The City could reduce the 14,000 KWh entitlement to 10,000, or even 5,000; and stay with the project.
3. Walk away from the project and move on to find another resource.

An overall review of the situation was given; previous questions were addressed; and importance of the project was reemphasized. Mr. Haacke's goal was to provide a balanced opinion, due to rumors and misconceptions about the project; many negative posts on social media. He said the technology is very safe; and has been examined for nearly a decade. He felt the price was competitive to other long-term options. He reported that the technology and design were flying through NRC (Nuclear Regulatory Commission) approval, with no large hurdles hindering the continued licensing phase of the plant.

Mr. Haacke's desire was to address overall concern. First and foremost, he said the City must find a large sized plant or resource within the next 15-20 years. Older and outgoing power plants like coal, must be replaced. Therefore, a cost effective, preferably clean and reliable, and manageable resource must mix well into Murray's hourly needs. With UAMPS as the City's agent searching the grid for new plants to build, buy into, or contract with; it has been found that there are no large plants being built that fit the desired mode. Mr. Haacke stressed, Murray must have a plant to follow load requirements; one that can integrate with renewables because new natural gas plants on a large scale are few.

Mr. Haacke shared concerns that renewables are not base load reliable; there are no large battery options yet to back up the City's substations; hydro plants are scarce; but SMR technology is being watched by the world. He reiterated this was the reason for his presentation; to make known that future energy choices need to be addressed now- because few options exist for the City to rely on into the next 30-40 years. Therefore, he questioned, if not the SMR, then what? He believed the SMR is the carbon free resource that fits.

Murray's current energy portfolio was reviewed. Mr. Haacke said all varied resources are reasonably

priced, and the envy of other cities. The mix includes renewables, (solar and wind), coal fired plants, hydro, and natural gas. And Murray is the only city in the State that utilizes methane. Market purchases can also be made to cover needs. He emphasized that Murray citizens benefit today from past decisions made by Murray's forefathers and previous council members who decided to create their own power company.

Mr. Haacke discussed current conditions and the outlook for each of the following resources in detail; he noted that some resources have a shorter life span than others.

- Hunter Plant – Good until 2042; provides 35% of Murray's needs; and is the least expensive resource to the City. The coal fired plant is over 30 year's old- Mr. Haacke said his biggest concern with regard to stabilizing a power resource for the future is the imminent loss of the City's largest coal fired plant, which will be gone in 22 years. He noted there was a good possibility the plant might not last that long, due to more environmental legislation, and continued aging. If it closes sooner, Murray would immediately need an alternative; so he stressed the CFPP could replace this resource.
- CRSP – (Colorado River Storage Project) Good until 2045, and 25% of Murray's needs and is inexpensive. The federal hydro power plant has been in operation since 1964.
- San Juan – The coal fired plant is expected to close in 2022, and currently provides 3% of Murray's energy needs. Cause of closure is age and environmental issues.
- IPA – (Intermountain Power Agency) Coal plant. Contract expires in 2027. Murray has been a member since 1980, with 4% entitlement; the City can only use energy with advanced notice order; and has used it only to supplement when short. The coal plant will close in 2025 and be replaced by a natural gas fueled facility. With more legislation, the plant will begin to produce a mix of natural gas and hydrogen in the future; a hybrid fuel of sorts. The hydrogen manufacturing facility will be constructed alongside the existing plant and hydrogen will be stored in existing salt caverns and used as needed. The cost for the hydrogen mix will increase over the years until it becomes a total 100% hydrogen plant by 2045- funded by California, and good until 2070. Mr. Haacke said IPA remains a valid option to meeting the City's energy needs.
- Natural Gas Turbines – Available until 2040. The City can generate power from its own turbines located in the City. Often used to meet summer peak load requirement; but turbines can be used 24/7 365 days per year if necessary; or available for emergency production.
- Little Cottonwood Hydro – Useful until 2040. The City owns the 5MW resource utilizing little Cottonwood Creek runoff. Power can be generated from May to September each year when flows are abundant, which meets about 3% of the City's needs.
- Landfill Methane Plants– Estimated use is from 2022-2028. Murray has contracted with two landfills for the renewable green power resource, providing about 8% of the City's needs. Together they provide 7.5MW of energy, produced from rotting waste. Mr. Haacke reported one contract was just renewed for 10 more years; the other is up for negotiation in a few years.
- NTUA (Navaho Tribal Utility Authority) Large Solar – Estimated use is from 2022-2047. Murray will soon have access to large scale solar, and recently entered into a PPA (purchase power agreement) with the NTUA; 5MW of large scale solar will come from the four corners region. The expectation is that about 5-7% of the City's energy will be provided from this facility.
- Others –
 - Federal Hydro – Based on availability. Short-term options within federal hydro contracts provide supplemental energy purchases.
 - PX – Power Exchange. Good forever. Scheduled on-line market purchases vary for seasonal, daily, and hourly use.
 - UAMPS – Good forever. Monthly, long term, and seasonal agreements are made when the City is in short supply. Murray heavily relies on UAMPS groups for most of its supplemental needs.

During some months staff relies on UAMPS to go to the market for the City on the hour. Purchases can also be made from other UAMPS members in short or long term commitments; and the option is there to buy into or pass on new opportunities brought forth.

Mr. Haacke stressed even with a variety of resources, future challenges remain for the next 5, 10, 30; and 50 years. He reiterated since the Hunter plant closing is certain, replacing 20MW of energy is vital. This is why he and staff are always thinking about other options; why UAMPS is a valued source to help find new possible options; and why the CFPP was brought for the City to consider.

He reviewed CFPP main partnerships; the DOE, NuScale, Fluor, and UAMPS, where cost sharing has been the goal since day one. The DOE's interest in the project has been key; and received bipartisan political support as a small nuclear concept. Currently all members and partners are waiting on \$1.4 billion from the DOE to fund capital construction costs- to be spaced out over several years. Because this funding is so significant in making the project economical, Mr. Haacke was confident the money would come through.

So far, partners together have spent approximately \$500 million to get the project licensed; but there are still several years to go before the completed license is attained. UAMPS has spent about \$9 million thus far; and Murray committed about \$330,000 just to research the resource. Murray has not spent any money out of pocket; and money spent during the licensing process will be rolled into the bond payment. We are upon the next phase of licensing finance, which is the reason for the next vote. The City would consider re-committing Murray's present subscription entitlement of 14,332 kW (kilowatts).

Mr. Haacke reviewed the DOE initially intended to purchase the first small module outright; use it for 15 years- then turn it over to remaining participants for their shared use, for the life of the plant. However, DOE interest changed to become a larger participant by helping with construction costs. Instead of purchasing the first module, they agreed to fund \$1.4 billion up-front in construction costs, which is 25% of the plant. Of the projected \$6.1 billion construction cost, and 25% coming from the DOE, the remaining money to fund the project comes from NuScale, Fluor, and UAMPS participants. Mr. Hunter confirmed.

Mr. Haacke noted the DOE has bigger plans beyond this CFPP, with hopes to construct SMRs throughout the country. This is why he believed there was a benefit to being first participants, as opposed to waiting for a second or third SMR to be constructed later. He thought simplistically, a second or third plant would cost more than \$6.1 million; mainly because the DOE might not be involved as a contributing partner with future plants like it is now. As a result, the entire cost of additional plants could fall solely on participants causing an increase in overall cost.

A previous question was addressed that there are 36 UAMPS participants, with initial subscriptions totaling 213 MW; and two entities dropped from the project so far. There are some members out of state; and Utah Members include: Heber, Kaysville, Bountiful, Lehi, Logan, Payson, Washington City, Ephraim, Beaver, and Bountiful; it is Logan and Lehi that dropped out. All entities are interested in the project; all have different needs, desires, and different subscription entitlements; once the license is received and ready for construction, it is expected that more cities watching the project will eventually join in. Mr. Haacke said after Logan, and Lehi dropped out, their totaled entitlements of 28 MW were given back; this resulted in Murray's increase to 8.3% from 6.7%. He clarified this did not increase Murray's buy in cost.

Mr. Haacke reviewed recent developments:

- First the updated financial model now reflects a 2020 base cost of \$55/mwh (per megawatt hour), which is a benefit to participants.

- Second, the next phase of licensing cost reimbursements are guaranteed- even if the economic test fails in 2023. This means if the Council votes yes to stay in the project, with whatever desired entitlement; and if by April of 2023 the project cannot keep the \$55/MWh requirement, UAMPS will walk away from the project and participants get 100% reimbursement. Mr. Haacke stressed this update was a significant game changer that occurred two weeks ago.
- Third, the UAMPS board acknowledged that the previous two-and-a-half-year window was too ominous before the next available off ramp; that is why UAMPS agreed to offer a new mid-season off-ramp in late 2021, or early 2022. He explained the reason this was added is to allow cities feeling uncomfortable with the project at that time to either adjust entitlements; or back out completely.

Mr. Hales asked for details about 2022/2023 off-ramps; he inquired what financial losses would occur at each opportunity. He understood if UAMPS walks away there would be no cost to the City; and affirmed if Murray takes the off-ramp next month, the City would lose approximately \$330,000.

Mr. Haacke confirmed. He said it was hard to determine precisely Murray's financial commitment at the 2022/2023 off-ramp, because it is unknown how many cities will remain with the project at that time; as cities drop out Murray's obligation increases slightly. He reported with Logan and Lehi out, Murray's commitment is approximately \$1.7 million at the next off ramp in 2023. But, with the new off-ramp at the end of 2021, or early 2022, the UAMPS group would have expended only half of that, which is approximately \$900,000. This is not a guaranteed reimbursement if the UAMPS group continues forward.

Therefore, if the City walks away in 2023, and the remaining UAMPS group moves forward, the loss to Murray would be close to \$2 million. Mr. Hunter confirmed. Mr. Haacke advised the Council against focusing on off-ramp opportunities only; he felt if the City is going to participate in the project- we should be fully immersed and keep moving forward. Although he understood matters of being comfortable with the project and whether to pursue it.

Mr. Haacke discussed SMR cooling alternative to address a previous question. He explained most nuclear plants process nuclear waste by wet cooling methods; plants are constructed near oceans or rivers to access large bodies of water. The CFPP would-be built-in Idaho, close to the Snake River aqueduct, but not near a lake; therefore, two options were considered; wet cooling, and dry cooling. Studies were completed and it was found that both cooling types were plausible. Dry cooling requires 2,000-acre feet of water, and wet cooling needs 22,000-acre feet of water. Both provide the cooling needed; both could be used; however, with water situations in Idaho and other environmental issues – the dry cooling option was chosen. Fluor has taken that technology to the design stage. Water rights are being purchased, and cooling water will not be an issue at the plant.

Mr. Haacke reiterated, whether the City walks away from the SMR, or stays with it, concerns remain about providing alternatives for Murray's future needs; and there is also a possibility of running out of methane. Possible alternatives were reviewed:

- Recall IPA – Available after 2027 but call back power would be more expensive at \$80/mwh. The hydrogen mix would result in a higher cost.
- Baseload gas turbines – Using the natural gas market, the resource could be used around the clock. Resource price range is from \$30 to \$120/mwh.
- Install Caterpillar engines on gas turbines – Significant capital would be required for construction, and to purchase the engines. Resource cost = \$60/mwh.
- Install additional gas turbines – Capital cost estimate = \$15 million for 10 megawatts; Resource cost = \$60/mwh.
- PPA with large scale solar or wind – Unknown cost and unknown feasibility. Wind and solar are only 40% reliable.

- Large scale battery storage – The technology is not here yet. Will monitor the resources for future.
- Long-term PPA – If available; cost is unknown ten years from now.
- Expansion of methane. Supplier indicated in the future they would like to install another small engine next to existing engines. It could provide another 2MW of energy when that happens; not much.

Mr. Haacke shared personal pro and con perspectives related to the CFPP:

Pros:

- The technology does not scare him. The world is watching this project, so he believes it will be built.
- If the City is going to utilize nuclear, now is the time to take advantage of DOE appropriation funding.
- Knowing the SMR is reliable, it can replace the Hunter resource.
- The SMR is stable and can follow renewable solar the City is attaining.
- The City will be ok for another 10-15 years with existing resources- if nothing else comes about. However, he is worried about 20 years and beyond; so, he questioned whether passing the opportunity was wise.
- Nuclear power adds diversity to the City's portfolio.
- UAMPS and partners offered safeguards and guaranteed strategies that protect Murray. He said there are risks involved in all ventures and thought UAMPS had done its best to help Murray feel comfortable with the project, by capping the price.
- Since there are no other large-scale baseload carbon free plants being built in our region; this opportunity helps with the 10-20-year outlook.

Cons:

- Participant subscription levels are low, and presently only 185MW are entitled; the plant is capable of 725MW. With low participation much of the next phase will transfer to remaining participants.
- He is concerned about not having a large anchor subscriber; like the EPA or Arizona power.
- Other large entities are not signing up; many, including Rocky Mountain Power have shown interest and will sign up eventually, but with renewable commitments they don't have the freedom to sign on now.
- Delayed DOE funding is worrisome; and whether appropriations henceforth will be slow as well, causing others to fund until the money comes in.
- The unknown costs of the next plant. Would costs be about the same, or more because of the DOE subsidy on this first plant? Is it worth the risk to stay in this one or better to wait for a second plant to be constructed?
- Plant costs have experienced sizeable increases since inception, as fine tuning has occurred.

Overall, Mr. Haacke stressed the main focus should be- can a \$55/mwh resource be provided to the City by the year 2030? He said if the CFPP and UAMPS can guarantee that price for energy, in the future, one should not worry about the cost to construct the plant. He thought the vote in October would be monumental to the City, like a similar risks taken in 1913 to create the power company; in 1930 when diesel engines were installed during the depression; in 1960 when buying into the federal hydro; and in the 1980's to buy into the IPA plant. He felt there was always risk in taking a step forward, but advised to walk away only if DOE funding did not come through.

The entire SMR presentation can also be viewed at:

<https://youtu.be/tPeXjKWVgQY?list=PLQBSQKtwzBqLxiqGGqdVorSUzCOAEmh-2&t=3101>

Mr. Hunter commended the presentation and stressed key thoughts:

- If not this, then what in 2030 when coal fired plants are gone.
- With the vast majority of replacement power being solar, the market price for natural gas will be very expensive, due to the lack of it.
- Outages similar to what California is experiencing today should be expected in the future; theirs was due to a 2200MW shortage this summer.
- If the City does not participate in the CFPP, there must be another reliable plan.

Council Comments:

- Mr. Cox expressed favor in moving forward with the project, and agreed it was Murray officials in 1913 who made hard decisions for the City to have its own water and power resources. His overall concern was where Murray would find energy to power the City in the future. He stated he is not pro-nuclear, or, against nuclear power– but in favor of pro-planning, so he felt responsible as a Council Member to ensure power will be available for future citizens. He said the City must find something to fill the gap, to ensure that lights will come on.
- Mr. Cox said renewables were useful, but the City needed a more reliable plan with carbon fuel going away. He addressed misinformation about the SMR; for example, false claims coming from the Utah Taxpayers Association that property taxes would increase with participation in the CFPP. Mr. Cox clarified funding did not come from taxes, it would come from power rates. And although rates would see an increase, the goal was to provide a steady and stable resource at the best possible price. He said noted experts had questionable commentary about the City’s decision to move forward with the project; but he trusted in recommendations made by Mr. Haacke, who would lead the City in the right direction.

Urban County Interlocal Agreement – Mr. Critchfield spoke about Murray’s participation in an urban county interlocal agreement managed by Salt Lake County. The federal government program applies to qualifying cities and counties based on population estimates and poverty rates; designed to benefit low- and moderate-income persons to offer housing opportunities. According to HUD (Housing and Urban Development) guidelines, to be an urban county there must be a population of 200,000; so the County’s role is to administer the program through interlocal agreements for interested cities and townships that cannot qualify on their own for direct funds. There are 7 townships and 10 cities involved. The reason for the interlocal agreement is for Murray to give consent to the County to participate in programs within City boundaries. Mr. Critchfield noted the Council would consider the renewed 2021-2023 agreement, during the council meeting. Highlights included:

- The County is the lead entity responsible to the federal government with administrative control.
- Allocation committees work with cities to recommend how ESG (Emergency Solutions Grant), CDBG (Community Development Block Grant); and HOME (Home Investment Partnerships) funding should be utilized within cities; committees are made up of representatives of participants.
- Once allocations are received, the City enters into another agreement for each project. After which, the City administers and controls project funds, and complies with federal regulations and laws.
- The approved and signed resolution, and interlocal agreement must be returned by the deadline of Monday, September 21, 2020, to be submitted no later than October 2, 2020.

Mr. Critchfield observed there were no surprises in the agreement, which the City has participated in for years. The Council would consider the agreement and the resolution in the council meeting.

Council Comments: None.

Announcements: None.

Adjournment: 6:18 p.m.

**Pattie Johnson
Council Office Administrator II**

ATTACHMENT #1



Power Dept SMR Discussion

September 15, 2020 COW Meeting



Intentions of this Hour

- Review Murray's energy need short and long term
- Review Murray's present resource mix
- Delve into the SMR project
- Review DOE, NuScale and Fluor commitment
- Introduce last minute modifications to the plan moving forward
- Review possible long term alternatives
- Pros and cons

Current Murray Portfolio Mix

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- **PX** – Power Exchange – hourly deals on-line - forever
- **UAMPS** – Monthly and seasonal agreements - forever
- **Power Marketers** – long term and seasonal agreements



Partners in the SMR Project

Dept of Energy (DOE)

NuScale – Oregon

Fluor – Texas

UAMPS



DOE
involvement

Annual appropriations totaling
\$1.4 Billion

Appropriations are 'front
loaded'

\$1.4 billion is approx. 25% of
plant capital cost



Utah and
UAMPS
partners

36 participants

Initial 213 mw subscription

Two entities dropped out

September 30 deadline



Recent Developments

Financial models are now using base of \$55/mwh in 2020 not 2018

Next phase of licensing is guaranteed reimbursement if \$55/mwh economic test fails in 2023

A mid phase offramp has been offered in early 2022



Cooling Alternatives

Dry Cooling – needs 2,000
acre ft per year

Wet Cooling – needs
22,000 acre ft per year

Possible alternatives for Murray's future needs

- Recall IPA - **39 mw available post 2027**
@ \$80/mwh
- Baseload gas turbine **33 mw at nat gas market**
price (\$30-120)
- Install Caterpillar engines **Cap cost of \$15M for 12**
mw est. \$60/mwh
- Install additional gas turbines **Cap cost of \$15M**
for 10 mw, est. \$60/mwh
- PPA with large scale solar **Cost of \$30-**
35/mwh, 40% load factor
- Large scale battery storage **Unknown cost**
and unknown feasibility
- Long term PPA **\$?? for 10 years,**
if available
- Expansion of methane **?? for 1 -2 mw**



Pros and Cons

A large, dark, textured shape, possibly a splash of ink or a shadow, occupies the left side of the image. It has irregular, organic edges and a mottled appearance. The rest of the image is a plain, light gray background.

Questions

