CITY OF ELLENSBURG
AGENDA
Council Chambers
Thursday, July 21, 2022
3:30 PM - Utility Advisory Committee

https://us02web.zoom.us/j/84525239515

1. CALL TO ORDER

2. ROLL CALL

3. APPROVAL OF MINUTES

3.A Approve minutes - June 16, 2022 regular meeting minutes
UAC Minutes 6-16-22.docx

4. APPROVAL OF CONSENT AGENDA Consent items have been distributed to committee members in advance for study and will be enacted by one motion. If separate discussion is desired on an item, that item may be removed from the Consent Agenda and placed on the Regular Agenda at the request of a committee member or at the request of a member of the public with concurrence of a committee member.

4.A WWTF Roof and HVAC Replacement Project Acceptance

4.B City Obligation for Kachess Dam Safety Modifications
Kachess Dam Safety Repayment Contract.pdf

5. CORRESPONDENCE AND CITIZEN COMMENTS ON NON-AGENDA ITEMS Time is set aside each meeting to allow citizens to address the Utility Advisory Committee on city utility issues that are not on the agenda. Please limit remarks to three minutes. The Committee will not take action when the issue is first raised, but may place the issue on a future agenda. Citizen comment on items on the agenda is also welcome. Please let the chair know you wish to speak and then wait to be recognized.

5.A M. Anderson Letter
June UAC Response 2.pdf

5.B M. Ludlum Letter
Letter to Ellensburg July 2022.docx

6. TELECOMMUNICATIONS UTILITY DISCUSSION ITEMS

6.A Telecommunications Issues and Updates
UAC July 2022 - Telecom Issues & Updates updated.docx

7. ELECTRIC, NATURAL GAS, WATER, WASTEWATER, STORMWATER UTILITY DISCUSSION ITEMS

7.A Water, Wastewater, Electric, & Natural Gas Rate Study

8. INFORMATIONAL ITEMS

8.A Public Works & Utilities Issues and Updates
UAC July 2022 Public Works & Utilities Issues Update.docx

9. NEXT MEETING

9.A August 18, 2022 at 3:30 pm

10. ADJOURNMENT

CITY OF ELLENSBURG — **Utility Advisory Committee**

Date of Meeting	**June 16, 2022**
Time of Meeting	**3:30 PM**
Place of Meeting	**Council Chambers**

1. CALL TO ORDER

Chairperson Goodloe called the meeting to order at 3:30 pm.

2. ROLL CALL

Members present: Nancy Goodloe, Chair; Ed Barry, Vice Chair; Nancy Lillquist, City Council; Nate Sitton, City Utility Customer; Shane Scott, CWU; Bryan Clark, KITTCOM. Jim Goeben, Telecom Customer.

Also present: Ryan Lyyski, Public Works & Utilities Director; Darren Larsen, Assistant Utilities Director; Kim Bowie, Operations Analyst; Darin Yusi, Gas Engineer; Terry Weiner, City Attorney; Buddy Stanavich, Power & Gas Manager; Ben Faubion, IT, Heidi Behrends Cerniwey, City Manager; Jon Morrow, Stormwater Manager; Derek Mayo, Engineering Services Manager; Julie Coppock, Rate Analyst.

One member of the public and others present remotely via Zoom.

3. APPROVAL OF MINUTES

3.A. Approve minutes - May 19, 2022 regular meeting minutes

Committee member Barry moved to approve the minutes. **Motion approved. 6-0**

4. APPROVAL OF CONSENT AGENDA

No items.

5. CORRESPONDENCE AND CITIZEN COMMENTS ON NON-AGENDA ITEMS

Fred Padjen requested utility staff seek to use methane recovery fuel created by the Wastewater Treatment Plant onsite instead of putting it into the gas distribution network.

6. TELECOMMUNICATIONS UTILITY DISCUSSION ITEMS

6.A. Telecommunications Issues and Updates

Ben Faubion gave an update on telecommunications.

6.B. Ellensburg Broadband Mapping and Strategic Plan

Nancy Lillquist moved to forward a favorable recommendation to City Council to accept the Ellensburg Broadband Mapping and Strategic Plan and staff continue to evaluate the status of broadband development. **Motion approved. 6-0**

7. ELECTRIC, NATURAL GAS, WATER, WASTEWATER, STORMWATER UTILITY DISCUSSION ITEMS

7.A. Residential Natural Gas Extension Policy Review
Buddy Stanavich, Power & Gas Manager presented a timeline of the City of Ellensburg's natural gas utility.

Shane Scott left the meeting at 4:45 pm

Nancy Lillquist moved to forward a favorable recommendation to City Council to rescind the ordinance passed in 2014 that requires natural gas extension to new developments. **Motion approved. 3-1 (Sitton opposed).**

8. INFORMATIONAL ITEMS

8.A. Public Works & Utilities Issues and Updates

Staff shared key points on departmental issues and updates.

9. NEXT MEETING

9.A. July 21, 2022 at 3:30 pm

10. ADJOURNMENT

With no further discussion, the meeting adjourned at 5:07 pm.

Kim Bowie
Recording Secretary
Drafted: 6/17/2022
Approved:

AGENDA REPORT

Meeting Date:	July 21, 2022
Agenda Subject:	WWTF Roof and HVAC Replacement Project Acceptance
Submitted by:	Mike Helgeson Public Works & Utilities
Recommended Action or Motion:	Staff is recommending that the UAC forward a favorable recommendation to City Council to accept the WWTF Roof and HVAC Replacement Project as complete.
Background/Summary:	Staff realized an imminent need for the replacement of the roof of the administration building at the Wastewater Treatment Facility (WWTF). Shortly thereafter, staff discovered that the HVAC unit that provides temperature control for the laboratory, which is inside the admin. building, is failing and is also in need of replacement. Staff decided to go out to bid for both projects in one bid call (#2021-09) because the HVAC unit is a rooftop unit. The City of Ellensburg solicited bids, (Bid Call #2021-09), with bids being due July 1st, 2021. The City received one bid that was deemed Non-Responsive due to errors made in the unit pricing. Because no bids were received, staff was able to negotiate a contract with MBI Construction Services to complete the work as outlined in Bid Call #2021-09. The work on the Wastewater Treatment Facility (WWTF) Roof and HVAC Replacement Project is complete. City staff are recommending the Utility Advisory Committee forward a favorable recommendation to City Council to accept Project # 21-066 & 21-067 as complete.
Previous Council Action:	At the July 19, 2021 City Council meeting, pursuant to RCW 35.23.352(1), Council adopted Resolution 2021-22, rejecting the single bid for Bid Call #2021-09.

At the August 16, 2021 City Council Meeting, Council approved the award of the contract to MBI Construction Services Inc. for the WWTF Roof and HVAC Replacement Project. (Project # 21-066 & 21-067)

Analysis:

Staff drafted a Memo of Understanding with MBI to signify that the work would be completed as outlined in Bid Call #2021-09. The contract that was awarded to MBI by City Council was for $160,981.45. Three change orders were executed with MBI during the project:

1. Due to long and unanticipated lead times that would have made it impossible to complete the roof before winter. An alternate supplier of roofing material was used with a significantly shorter lead time, but at a higher price.
2. Due to the discovery of dry rot on the pedestal supporting the exhaust fan for the Laboratory, a change order was executed to remove the fan, rebuild the curb, and re-install the fan.
3. Due to a mistake made by the supplier of the HVAC unit, alterations needed to be made in the wiring to incorporate the new unit. All costs associated with this change order were incurred by MBI and the supplier of the unit and no costs to the City.

The increase to the contract due to these change orders was $9,749.00 for a total contract amount of $170,730.45.

Financial Impact:

There was $60,000 budgeted in 2022 for the WWTF Admin Building Roof Project. Staff requested to move that amount into the 2021 budget with a supplemental appropriation of $34,000. Staff also requested a supplemental appropriation of $68,000 for the replacement of the HVAC unit. Council approved these requests in conjunction with the award of the contract at the August 16, 2021 meeting.

Staff requested and Council approved a carry forward in the amount of $85,080.02 from 2021 to 2022 to pay the remainder of the contract.

AGENDA REPORT

Meeting Date:	July 21, 2022
Agenda Subject:	City Obligation for Kachess Dam Safety Modifications
Submitted by:	Ryan Lyyski Public Works & Utilities
Recommended Action or Motion:	Staff recommends the UAC forward a favorable recommendation to City Council to sign the attached Pay as you Go contract with Bureau of Reclamation for repairs at Kachess Dam
Background/Summary:	Part of the City's water portfolio includes a water right through the United States Bureau of Reclamation. Occasionally the Bureau of Reclamation needs to make system improvements on the Yakima River storage and conveyance system. The Bureau of Reclamation needs to make repairs on Kachess Dam and has prepared the attached agreement for the City to sign as the City's obligation on the project.
Previous Council Action:	N/A
Analysis:	The Bureau's work is schedule anticipates construction during the years of 2023-2027. The proposed repayment schedule is estimated; however, and is subject to change. The agreement is set up so that the City will not be paying interest on the construction as long as the City makes the annual payments.
Financial Impact:	The City's portion of the work will be budgeted in upcoming Water Division budgets. These amounts have also been included in the Cost of Service Analysis that has recently been performed for the city. The City's anticipated annual payments are as follows: September 1, 2023 $56,542 September 1, 2024 $92,524 September 1, 2025 $11,308 September 1, 2026 $5,997 September 1, 2027 $4,969

Attachments:
Kachess Dam Safety Repayment Contract.pdf

United States Department of the Interior

BUREAU OF RECLAMATION
1150 North Curtis Road
Boise, ID 83706-1234

IN REPLY REFER TO:
CPN-6322
2.2.4.23

RECEIVED
JUN 21 2022
PUBLIC WORKS

CERTIFIED – RETURN RECEIPT REQUESTED

City Manager
City of Ellensburg
501 N. Anderson Street
Ellensburg, WA 98926

Subject: Contract for Repayment of Kachess Dam Safety of Dams Modification Costs, Yakima Project, Washington

Dear Contractor:

Enclosed is a proposed repayment contract for the repayment of the City of Ellensburg's (City) proportionate share of the costs for the Safety of Dams modification work at Kachess Dam. The City's estimated repayment obligation is $171,340.

Background of the Safety of Dams Work

Over the past several years, the Bureau of Reclamation (Reclamation) has corresponded with the City regarding construction work at Kachess Dam required to correct the safety deficiencies identified by Reclamation's Safety of Dams (SOD) Program as authorized by the Reclamation Safety of Dams Act of 1978, as amended (SOD Act).[1] The costs of construction of the Kachess Dam SOD modification are subject to Federal funding procedures and repayment requirements. Pursuant to the SOD Act and Reclamation policy, the reimbursable project purposes are required to repay 15 percent of the total SOD modification cost, with the remaining 85 percent being nonreimbursable and borne by the United States Treasury. Each Yakima Project Storage Division contractor is responsible for repaying its respective share of the 15 percent reimbursable portion of the total SOD modification cost.

How the Estimated Repayment Obligation was Determined

The total cost of the SOD modification work at Kachess Dam is currently estimated at $37 million, with the 15 percent reimbursable portion estimated to be $5.55 million. The reimbursable project purposes are Irrigation and Municipal and Industrial (M&I) water supply and, based on the proportional net present benefits evaluated in the *Kachess Dam Safety of Dams Economic Benefits Analysis Report*, the $5.55 million reimbursable construction costs are

[1] Past written communications include letters dated April 14, 2022, June 30, 2021, August 20, 2020, and October 8, 2019. Copies of these letters are available to be resent upon request.

allocated 93 percent to Irrigation water supply ($5,161,500 = $5,550,000 x 0.93) and 7 percent to M&I water supply ($388,500 = $5,550,000 x 0.07).

Under existing contract(s) with Reclamation, the City receives a water supply from facilities of the Yakima Project Storage Division, which includes Kachess Dam, for M&I use. Based on the amount of contracted Yakima Project Storage Division water provided, the City's share is 44.10305 percent of the amount allocated to M&I water supply. Thus, the City's estimated repayment obligation is $171,340 (44.10305% of $388,500), subject to actual final SOD modification costs. The actual amount of the repayment obligation could be more or less than the above estimate.

Repayment Terms of the Proposed Contract

The proposed repayment contract provides for annual payments to be made during each year of the construction period which is anticipated to be calendar years 2023-2027. It is intended that payments will be made in the year the construction costs are incurred, thereby avoiding the potential accrual and application of interest. However, some contractors expressed a desire for more flexibility in making annual payments during the construction period. Therefore, the repayment contract also provides for postponement of annual payment(s) subject to certain terms and conditions providing for the application of Interest During Construction.

The general feedback from the contractors was a preference to pay off their repayment obligations during the construction period, thereby avoiding accrual and application of interest on the M&I portion during the repayment period after substantial completion of SOD work. Therefore, the proposed contract does not provide for traditional repayment occurring after substantial completion. However, this option is still available to the City. If the City desires to request the preparation of a traditional repayment contract, please submit your request in writing to the point of contact identified below by July 8, 2022. Reclamation's costs of developing such a contract would be added to the City's repayment obligation.

Next Steps

We anticipate award of procurement contract(s), in the fall of this year, for pre-modification construction activities to begin in 2023 on Kachess Dam. It is imperative that repayment contracts are in place prior to the awarding of construction contracts for the SOD work. Therefore, the signed contracts need to be returned to this office no later than **August 12, 2022.**

During review of the enclosed contract, please note that there are blank spaces in Explanatory Recital 2(i) pertaining to documentation of environmental compliance required for the execution of the contract, which is in the process of being completed. Reclamation will fill in these blank spaces with handwritten documentation details at the time the contract is executed on behalf of the United States.

If the enclosed contract is acceptable to the City, please have the appropriate representative(s) sign and date both copies and have the signatures notarized in the spaces provided. Then please return both copies of the contract to this office in the stamped, self-addressed envelope. Once received and upon completion of environmental compliance, the contracts will be signed on behalf of the United States. A fully executed original will be returned for the City's records.

If you have any questions about the enclosed contract, please contact Mr. Michael Cobell, Economist, Reclamation Law Administration, at (208) 378-5223 or via email at mcobell@usbr.gov. For the hearing impaired please call the Federal Relay System at (800) 877-8339 (TTY).

Sincerely,

JENNIFER CARRINGTON
Digitally signed by JENNIFER CARRINGTON
Date: 2022.06.16 13:53:24 -06'00'

Jennifer J. Carrington
Regional Director

Enclosure: In duplicate

For Internal Use
Reference Date: ____________

Contract No.: 22SD102177
Type: Pay-Go

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

Yakima Project, Storage Division

CONTRACT BETWEEN THE UNITED STATES OF AMERICA AND THE CITY OF ELLENSBURG FOR REPAYMENT OF SAFETY OF DAMS COSTS

Table of Contents

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

YAKIMA PROJECT, STORAGE DIVISION

CONTRACT BETWEEN THE UNITED STATES OF AMERICA AND THE CITY OF ELLENSBURG FOR REPAYMENT OF SAFETY OF DAMS COSTS

1. **THIS REPAYMENT CONTRACT**, hereinafter referred to as the "Contract," is made pursuant to the Reclamation Act of June 17, 1902 (32 Stat. 388) and acts amendatory thereof or supplementary thereto, including the Reclamation Safety of Dams Act of 1978 (Public Law 95-578; 43 U.S.C. § 506, et seq.), as amended; all of which are commonly referred to as the Federal Reclamation Laws, between the **UNITED STATES OF AMERICA**, hereinafter referred to as the "United States," acting through the Department of the Interior, Bureau of Reclamation, hereinafter referred to as "Reclamation," and the **CITY OF ELLENSBURG**, hereinafter referred to as the "Contractor," a municipal corporation existing under and by virtue of the laws of the State of Washington.

WITNESSETH THAT:

2. **<u>EXPLANATORY RECITALS</u>**

The following statements are made in explanation:

(a) **WHEREAS**, the United States completed construction of Kachess Dam in 1912 as a feature of the Storage Division, Yakima Project (Project); and

(b) **WHEREAS**, the Reclamation Safety of Dams Act of 1978 (Public Law 95-578; 43 U.S.C. § 506, et seq.), as amended, authorizes the Secretary of the Interior, through Reclamation, to perform Safety of Dams modifications; and

(c) **WHEREAS**, investigations and studies completed under Reclamation's Safety of Dams Program have confirmed that dam safety issues exist at Kachess Dam that contribute to the risk of failure, and Reclamation has concluded that the possibility of the failure modes and the associated potential loss of life, property damages, and loss of benefits requires that risk reduction actions be implemented at Kachess Dam; and

(d) **WHEREAS**, the Commissioner of Reclamation has approved certain work to make the dam safe while providing project benefits and protecting downstream property and lives; and

(e) **WHEREAS**, the need for Safety of Dams modifications at Kachess Dam results from new hydrologic or seismic data or changes in state-of-the-art criteria deemed necessary for safety purposes, and thus the Reclamation Safety of Dams Act of 1978 (Public Law 95-578; 43 U.S.C. §506, et seq.), as amended, and Reclamation policy provide that 15 percent of the costs incurred for the Safety of Dams modifications shall be allocated to authorized reimbursable purposes of the structure, and thus are reimbursable by the Irrigation and Municipal and Industrial water supply purposes users; and

(f) **WHEREAS**, the Contractor is a Project water user that benefits from the Project and is responsible for repayment of its proportionate share of the reimbursable cost of the corrective Safety of Dams Modifications; and

(g) **WHEREAS**, pursuant to the contract of December 21, 1971 (Contract No. 14-06-100-7216), as such contract may have been supplemented and amended, the Contractor receives a supply of water from Project Storage Division facilities, which includes Kachess Dam, for

Municipal and Industrial use. Based on the amount of contracted Project water provided pursuant to the above-referenced contract, the Contractor's proportionate share of the Total Reimbursable Cost allocable to Municipal and Industrial water supply is determined to be 44.10305 percent; and

(h) **WHEREAS**, the Contractor desires and is willing to repay its proportionate share of the reimbursable cost for the modification of Kachess Dam as the construction work proceeds, and Reclamation is agreeable to such arrangements as provided hereinafter; and

(i) **WHEREAS**, Reclamation has met all environmental compliance requirements for the execution of this Contract through preparation and issuance of ______________________________ ______________________________, ________________ approved on ____________________.

NOW, THEREFORE, in consideration of the mutual covenants and stipulations herein contained, it is mutually agreed by and between the parties hereto as follows:

3. **DEFINITIONS**

The following terms, whenever used in this Contract, shall have the following respective meanings:

(a) "Contracting Officer" means the Regional Director of the Columbia-Pacific Northwest Interior Region 9 of the United States Bureau of Reclamation, as the Federal official authorized to execute and administer this Contract on behalf of the United States in accordance with applicable Federal Reclamation Law, regulation, and policy.

(b) "Contractor's Repayment Obligation" means the Contractor's share of the Total Reimbursable Cost to correct the deficiencies at Kachess Dam.

(c) "Interest During Construction" or "IDC" means the amount of annual interest that accrues on Federal expenditures during the period of construction of the Safety of Dams Modifications.

(d) "Irrigation Use" means the use of water to irrigate land primarily for the production of commercial agricultural crops or livestock, and domestic and other uses that are incidental thereto.

(e) "Municipal and Industrial Use" means the use of water for municipal, industrial, and miscellaneous other purposes not falling under the definition of Irrigation use or within another category of water use under an applicable Federal authority.

(f) "Safety of Dams Act" means the Reclamation Safety of Dams Act of 1978 (Public Law 95-578; 43 U.S.C. § 506, *et seq.*), as amended by the Reclamation Safety of Dams Act Amendments of August 28, 1984 (Public Law 98-404), October 27, 2000 and several subsequent Acts, including (Public Law 106-377), December 3, 2004 (Public Law 107-117, Public Law 108-439), and December 18, 2015 (Public Law 114-113).

(g) "Safety of Dams Modifications" means any work or modifications identified by Reclamation as necessary to correct safety deficiencies at Kachess Dam.

(h) "Substantial Completion" means the point that Reclamation determines, in its sole discretion, that the Safety of Dams Modifications work is far enough along that the dam safety risk has been reduced to an acceptable level.

(i) "Total Reimbursable Cost" means 15 percent of the actual total Safety of Dams Modifications cost to correct the deficiencies at Kachess Dam, as provided in the Safety of Dams Act and Reclamation policy.

4. **CONTRACT TERM AND SCOPE**

(a) This Contract shall become effective upon the date of signature of the last signatory party herein, and its provisions shall remain in effect until the Contractor has paid all amounts owed to the United States under this Contract.

(b) This Contract does not affect other contracts between the United States and the Contractor unless the terms of those other contracts are contrary to the terms of this Contract, in which case the terms of this Contract shall prevail. This Contract shall not be deemed a new or amended contract for the purposes of Section 203(a) of the Reclamation Reform Act of 1982 (96 Stat. 1263 to 1274).

5. **SAFETY OF DAMS MODIFICATIONS WORK TO BE PERFORMED**

(a) The United States will finance and perform all construction of the Safety of Dams Modifications work. The Safety of Dams Modifications work is anticipated to begin in calendar year 2023 and is estimated to be Substantially Complete in calendar year 2027. The Safety of Dams Modifications are projected to include the following work, described below, as may be further defined by the Contracting Officer:

(1) Clearing and grubbing of trees in the construction project area.

(2) Development of access roads and construction contractor use areas.

(3) Upgrade electrical service to dam site.

(4) Fabrication and delivery of pipes.

(5) Excavation of foundation for outlet works conduit extension.

(6) Construction of conduit extension.

(7) Placement of a four-sided diaphragm filter around conduit extension.

(8) Installation of concrete around the pipe downstream of the conduits.

(9) Construction of a stability berm above the filter zone.

(10) Installation of a drainage system and inspection well.

Should it appear necessary or desirable to the Contracting Officer either before or during construction, Safety of Dams Modifications work may be modified in design or location, work may be eliminated, or other work may be added thereto, in keeping with the objectives of this Contract. The Contracting Officer will notify the Contractor, in advance, of any substantial change in modification requirements or work.

(b) The Contracting Officer shall determine and notify the Contractor in writing when the work as described in this article is Substantially Complete.

6. **<u>COST OF MODIFICATIONS AND CONTRACTOR'S REPAYMENT OBLIGATION</u>**

(a) The total estimated cost for Safety of Dams Modifications is thirty-seven million ($37,000,000) dollars, of which fifteen percent (15%), or an estimated five million five hundred and fifty thousand dollars ($5,550,000 = $37,000,000 x 0.15) is the Total Reimbursable Cost.

(b) Based on economic benefit calculations performed by Reclamation ninety-three percent (93%) of the Total Reimbursable Cost is to be allocated to Irrigation water supply and is estimated to be five million one hundred sixty-one thousand and five hundred dollars ($5,161,500 = $5,550,000 x 0.93), hereinafter referred to as the "Allocated Reimbursable Cost to Irrigation Water Supply." Seven percent (7%) of the Total Reimbursable Cost is to be allocated to Municipal and Industrial water supply and is estimated to be three hundred eighty-eight thousand and five hundred dollars ($388,500 = $5,550,000 x 0.07), hereinafter referred to as the "Allocated Reimbursable Cost to Municipal and Industrial Water Supply."

(c) The Contractor's Repayment Obligation is the Contractor's proportionate share of the Allocated Reimbursable Cost to Municipal and Industrial Water Supply and shall be

44.10305 percent of the Allocated Reimbursable Cost to Municipal and Industrial Water Supply. Accordingly, the Contractor's Repayment Obligation is estimated to be one hundred seventy-one thousand three hundred forty dollars ($171,340 = $388,500 x 0.4410305). This obligation may be adjusted under the provisions of Article 8 and Article 9 of this Contract.

(d) The Contractor understands that the figures in sub-articles 6(a)-(c) above are estimates only and that the Contractor is responsible for its proportionate share of the actual cost of Safety of Dams Modifications. It is understood that the total costs of Safety of Dams Modifications may exceed the estimated costs due to circumstances encountered during the performance of the Safety of Dams Modifications. If this occurs, the Contractor is responsible for its proportionate share of the additional costs. Likewise, if the actual costs are less than the estimated costs, it is understood that the Contractor is only responsible for its proportionate share of the actual costs.

(e) The Contracting Officer, at his/her discretion, will make reasonable efforts to complete the Safety of Dams Modifications within the cost estimate in sub-article 6(a) above. If it becomes evident during the course of the Safety of Dams Modifications that the costs will exceed the estimate, the Contracting Officer will inform the Contractor of this conclusion in writing with documentation of the reason for the additional costs and an itemized summary of the costs incurred.

7. Omitted.

8. MUNICIPAL AND INDUSTRIAL WATER SUPPLY ALLOCATION - REPAYMENT OF CONTRACTOR'S OBLIGATION

(a) Annual Payments During the Construction Period:

(1) The Contractor agrees to make annual payments for the repayment of the Contractor's Repayment Obligation, without interest, in the same proportion to Reclamation's

expenditure of Safety of Dams Program funds, beginning in the year that the Safety of Dams Modifications work is initiated through the year in which the Contracting Officer provides the Contractor with written notice of the Substantial Completion of the Safety of Dams Modifications work. On or before **September 1** of each year during the construction period of the Safety of Dams Modifications work the Contractor shall pay to the United States its annual amount identified as due and payable on the schedule shown in Exhibit B, which may be updated, as provided herein, from time to time without amendment of this Contract.

(2) After the execution of this Contract, the Contractor may request that any portion of a required annual payment(s), including the full amount(s), be postponed and added to the amount scheduled to become due in a subsequent or later year during the construction period: *Provided*, that such a request be made in writing to the Contracting Officer at least one-hundred eighty (180) days prior to the required annual payment becoming due: *Provided, further*, that unless and until the Contracting Officer grants written approval to the Contractor, as provided in sub-article 8(b), the Contractor shall make its annual payments as scheduled in Exhibit B.

(b) Postponement of Annual Payments – Interest Charges Applicable:

(1) The total amount of the Contractor's required annual payment(s) requested to be postposed shall be subject to Interest During Construction charges and accrual during the postponement period until the amounts are repaid.

(2) The interest rate used for determining the Interest During Construction charges applicable to the amount of postponed annual payment(s) shall be the rate determined by the Secretary of the United States Treasury which is in effect for the fiscal year in which federal funds are expended for the Safety of Dams Modifications work.

(3) Within sixty (60) days of receipt of the Contractor's request made pursuant to sub-article 8(a)(2), the Contracting Officer will provide written notice of approval of Contractor's request. A revised and updated Exhibit B will be issued by the Contracting Officer at such time.

(c) <u>Prepayments Authorized</u>:

Notwithstanding the schedule of payments provided in Exhibit B, the Contractor may prepay all or any portion of the outstanding balance of the Contractor's Repayment Obligation prior to the payment becoming due.

9. **STATEMENT OF COSTS**

The costs which make up the various obligations to be paid by the Contractor to the United States under this Contract shall embrace all expenditures of whatsoever nature or kind in discharge of the obligations undertaken pursuant to Article 5(a), including, but without limitation by reason of this enumeration, cost of surveys and investigations, labor, property, material and equipment, engineering, legal work, superintendence, administration, overhead, general inspection services, and claims of all kinds, whether or not involving the negligence of officers, agents, or employees of the United States. The Contracting Officer's determinations as to what costs are properly chargeable under this Contract, and as to the classification of those charges for repayment purposes, shall be conclusive.

10. **TITLE**

Title to the works and facilities constructed, repaired, or replaced pursuant to this Contract shall be and remain in the United States.

11. **STANDARD PROVISIONS**

The Standard Provisions applicable to this Contract are listed below. The full text of these articles is attached as Exhibit A and is hereby made a part of the Contract.

a. Charges for Delinquent Payments
b. General Obligation - Benefits Conditioned Upon Payment
c. Confirmation of Contract
d. Notices
e. Contingent on Appropriation or Allotment of Funds
f. Officials Not to Benefit
g. Changes in Contractor's Organization
h. Books, Records, and Reports
i. Equal Employment Opportunity
j. Compliance with Civil Rights Laws and Regulations
k. Certification of Nonsegregated Facilities
l. Medium for Transmitting Payments
m. Contract Drafting Considerations

IN WITNESS WHEREOF, the parties hereto have signed their names as of the day and year first above written.

CITY OF ELLENSBURG

By: ______________________________

Title: ______________________________

Date: ______________________________

(SEAL)

ATTEST:

By: ______________________________

Title: ______________________________

THE UNITED STATES OF AMERICA

By: ______________________________
Regional Director
U.S. Bureau of Reclamation
Columbia-Pacific Northwest Interior
Region 9

Date: ______________________________

STATE OF WASHINGTON)
:ss
County of _______________)

On this ____ day of _______________, 20 ___, personally appeared before me _________________________ and _________________________, known to me to be the official(s) of the CITY OF ELLENSBURG that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said CITY OF ELLENSBURG and on oath stated they are authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal as of the day and year first above written.

(SEAL)

____
Notary Public in and for the
State of _______________________________
Residing at: ___________________________
My commission expires: ________________

* * * * * * * * * *

STATE OF IDAHO)
: ss
County of Ada)

On this ____ day of __________________, 20___, personally appeared before me ____________________________________, known to me to be the official of the UNITED STATES OF AMERICA that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said UNITED STATES OF AMERICA, for the uses and purposes therein mentioned, and on oath stated that they are authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal as of the day and year first above written.

(SEAL)

____
Notary Public in and for the
State of IDAHO
Residing at: ___________________________
My commission expires: ________________

EXHIBIT A

STANDARD PROVISIONS

CHARGES FOR DELINQUENT PAYMENTS

a. (1) The Contractor shall be subject to interest, administrative, and penalty charges on delinquent payments. If a payment is not received by the due date, the Contractor shall pay an interest charge on the delinquent payment for each day the payment is delinquent beyond the due date. If a payment becomes 60 days delinquent, the Contractor shall pay, in addition to the interest charge, an administrative charge to cover additional costs of billing and processing the delinquent payment. If a payment is delinquent 90 days or more, the Contractor shall pay, in addition to the interest and administrative charges, a penalty charge for each day the payment is delinquent beyond the due date, based on the remaining balance of the payment due at the rate of 6 percent per year. The Contractor shall also pay any fees incurred for debt collection services associated with a delinquent payment.

(2) The interest rate charged shall be the greater of either the rate prescribed quarterly in the Federal Register by the Department of the Treasury for application to overdue payments, or the interest rate of 0.5 percent per month. The interest rate charged will be determined as of the due date and remain fixed for the duration of the delinquent period.

(3) When a partial payment on a delinquent account is received, the amount received shall be applied first to the penalty charges, second to the administrative charges, third to the accrued interest, and finally to the overdue payment.

GENERAL OBLIGATION--BENEFITS CONDITIONED UPON PAYMENT

b. (1) The obligation of the Contractor to pay the United States as provided in this Contract is a general obligation of the Contractor notwithstanding the manner in which the obligation may be distributed among the Contractor's water users and notwithstanding the default of individual water users in their obligations to the Contractor.

(2) The payment of charges becoming due pursuant to this Contract is a condition precedent to receiving benefits under this Contract. The United States shall not make water available to the Contractor through Yakima Project, Storage Division facilities during any period in which the Contractor is in arrears in the advance payment of the any operation and maintenance charges due the United States or in arrears for more than 12 months in the payment of any construction charges due the United States. The Contractor shall not deliver water under the terms and conditions of this Contract for lands or parties that are in arrears in the advance payment of operation and maintenance charges or in arrears more than 12 months in the payment of construction charges as levied or established by the Contractor.

CONFIRMATION OF CONTRACT

c. Promptly after the execution of this Contract, the Contractor will provide evidence to the Contracting Officer that, pursuant to the laws of the State of Washington, the Contractor is a legally constituted entity and the contract is lawful, valid, and binding on the Contractor. This Contract will not be binding on the United States until the Contractor provides evidence to the Contracting Officer's satisfaction. In addition to other forms of evidence to meet the requirements of this article, the Contractor may provide or the Contracting Officer may require a certified copy of a final decree of a court of competent jurisdiction in the State of Washington, confirming the proceedings on the part of the Contractor for the authorization of the execution of this Contract.

NOTICES

d. Any notice, demand, or request authorized or required by this Contract shall be deemed to have been given, on behalf of the Contractor, when mailed, postage prepaid, or delivered to the Regional Director, Columbia-Pacific Northwest Interior Region 9, Bureau of Reclamation, 1150 North Curtis Road, Suite 100, Boise, Idaho 83706-1234, and on behalf of the United States, when mailed, postage prepaid, or delivered to City Manager, City of Ellensburg, 501 N. Anderson Street, Ellensburg, Washington 98926. The designation of the addressee or the address may be changed by notice given in the same manner as provided in this article for other notices.

CONTINGENT ON APPROPRIATION OR ALLOTMENT OF FUNDS

e. The expenditure or advance of any money or the performance of any obligation of the United States under this Contract shall be contingent upon appropriation or allotment of funds. Absence of appropriation or allotment of funds shall not relieve the Contractor from any obligations under this Contract. No liability shall accrue to the United States in case funds are not appropriated or allotted.

OFFICIALS NOT TO BENEFIT

f. No Member of or Delegate to the Congress, Resident Commissioner or official of the Contractor shall benefit from this Contract other than as a water user or landowner in the same manner as other water users or landowners.

CHANGES IN CONTRACTOR'S ORGANIZATION

g. While this Contract is in effect, no change may be made in the Contractor's organization, by inclusion or exclusion of lands or by any other changes which may affect the respective rights, obligations, privileges, and duties of either the United States or the Contractor under this Contract including, but not limited to, dissolution, consolidation, or merger, except upon the Contracting Officer's written consent.

BOOKS, RECORDS, AND REPORTS

h. The Contractor shall establish and maintain accounts and other books and records pertaining to administration of the terms and conditions of this Contract, including the Contractor's water supply data; water-use data; and other matters that the Contracting Officer may require. Reports shall be furnished to the Contracting Officer in such form and on such date or dates as the Contracting Officer may require. Subject to applicable Federal laws and regulations, each party to this Contract shall have the right during office hours to examine and make copies of the other party's books and records relating to matters covered by this Contract.

EQUAL EMPLOYMENT OPPORTUNITY

i. During the performance of this Contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advancements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the labor union or workers' representative of the Contractor's commitments under section 202 of Executive Order No. 11246

of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The Contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Contracting Agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations, or orders, this Contract may be canceled, terminated or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(8) The Contractor will include the provisions of paragraphs (1) through (8) in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions, including sanctions for noncompliance: *Provided, however*, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

COMPLIANCE WITH CIVIL RIGHTS LAWS AND REGULATIONS

j. (1) The Contractor shall comply with Title VI of the Civil Rights Act of 1964 (Pub. L. 88-352; 42 U.S.C. § 2000d), the Rehabilitation Act of 1973 (Pub. L. 93-112, Title V, as amended; 29 U.S.C. § 791, et seq.), the Age Discrimination Act of 1975 (Pub. L. 94-135, Title III; 42 U.S.C. § 6101, et seq.), Title II of the Americans with Disabilities Act of 1990 (Pub. L. 101-336; 42 U.S.C. § 12131, et seq.), and any other applicable civil rights laws, and with the applicable implementing regulations and any guidelines imposed by the U.S. Department of the Interior and/or Bureau of Reclamation.

(2) These statutes prohibit any person in the United States from being excluded from participation in, being denied the benefits of, or being otherwise subjected to discrimination under any program or activity receiving financial assistance from the Bureau of Reclamation on

the grounds of race, color, national origin, disability, or age. By executing this Contract, the Contractor agrees to immediately take any measures necessary to implement this obligation, including permitting officials of the United States to inspect premises, programs, and documents.

(3) The Contractor makes this agreement in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property discounts, or other Federal financial assistance extended after the date hereof to the Contractor by the Bureau of Reclamation, including installment payments after such date on account of arrangements for Federal financial assistance which were approved before such date. The Contractor recognizes and agrees that such Federal assistance will be extended in reliance on the representations and agreements made in this article and that the United States reserves the right to seek judicial enforcement thereof.

(4) Complaints of discrimination against the Contractor shall be investigated by the Contracting Officer's Office of Civil Rights.

CERTIFICATION OF NONSEGREGATED FACILITIES

k. The Contractor hereby certifies that it does not maintain or provide for its employees any segregated facilities at any of its establishments and that it does not permit its employees to perform their services at any location under its control where segregated facilities are maintained. It certifies further that it will not maintain or provide for its employees any segregated facilities at any of its establishments and that it will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this certification is a violation of the Equal Employment Opportunity clause in this Contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, disability, or otherwise. The Contractor further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Employment Opportunity clause; that it will retain such certifications in its files; and that it will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Employment Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually). Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

MEDIUM FOR TRANSMITTING PAYMENTS

l. (1) All payments from the Contractor to the United States under this Contract shall be by the medium requested by the United States on or before the date payment is due. The required method of payment may include checks, wire transfers, or other types of payment specified by the United States.

(2) Upon execution of the Contract, the Contractor shall furnish the Contracting Officer with the Contractor's taxpayer's identification number (TIN). The purpose for requiring the Contractor's TIN is for collecting and reporting any delinquent amounts arising out of the Contractor's relationship with the United States.

CONTRACT DRAFTING CONSIDERATIONS

m. This Contract has been negotiated and reviewed by the parties hereto, each of whom is sophisticated in the matters to which this Contract pertains.

EXHIBIT B

SCHEDULE OF ESTIMATED PAYMENTS OF CONTRACTOR'S SAFETY OF DAMS REPAYMENT OBLIGATION

The total estimated cost for the Safety of Dams Modifications is thirty-seven million ($37,000,000) dollars. The Total Reimbursable Cost is estimated at five million five hundred and fifty thousand dollars ($5,550,000 = $37,000,000 x 0.15). Based on economic benefit calculations performed by Reclamation ninety-three percent (93%) of the Total Reimbursable Cost is to be allocated to the Irrigation water supply and is estimated to be five million one hundred sixty-one thousand and five hundred dollars ($5,161,500 = $5,550,000 x 0.93). Seven percent (7%) of the Total Reimbursable Cost is to be allocated to Municipal and Industrial water supply and is estimated to be three hundred eighty-eight thousand and five hundred dollars ($388,500 = $5,550,000 x 0.07).

As provided in Article 6 of the Contract, the Contractor's Repayment Obligation is the Contractor's proportionate share of the Allocated Reimbursable Cost to Municipal and Industrial Water Supply, which is 44.10305 percent of $388,500 and estimated to be $171,340.

Based on the currently anticipated construction schedule and budget for the Safety of Dams Modifications work the Contractor's annual payments during the period of construction are:

Payment Date Due	Payment Amount
September 1, 2023	$56,542
September 1, 2024	$92,524
September 1, 2025	$11,308
September 1, 2026	$5,997
September 1, 2027	$4,969

The Contractor's Repayment Obligation and the estimated payment amounts displayed above do not reflect any adjustment for the assessment and accumulation of Interest During Construction, which may become due in accordance with the terms of Article 8, in which case the Contractor will be provided a revised Exhibit B by the Contracting Officer.

July 6, 2022
Hi Heidi and Nancy G and Nancy L:
Thank you for investigating the slide presented at the June 16, 2022 UAC meeting. I appreciate the opportunity to communicate with all of you. I still have issues with the slide as presented at the meeting.

You mention that the slide was not intended for efficiency evaluations, and yet Mr. Stanavich announced during this slide that "It (natural gas) is still showing as the cheapest option today". Even though efficiencies weren't the center piece of the analysis, I would offer this statement made as identifying the importance of the cost comparison. You can view the slide and comments on the zoom recording at about 57 minutes.

In light of that statement, the slide and our discussion, I offer these further comments.

97% efficient gas furnace, 90% efficient gas furnace and 100% efficient electric appliance (furnace or baseboard) are all industry ratings for actual appliances.

150% for the heat pump is not an industry rating for an actual appliance. I understand, as you have explained, how staff arrived at this number as a percentage of cost. However, calling it "150% AFUE" implies this is another industry rating for an actual appliance, and it is not. Also, heat pumps generally don't use the AFUE designation, but rather SEER (for air conditioning), HSPF (for heating), and COP (performance). I'll use the Heating Seasonal Performance Factor (HSPF) in this discussion as well as the 'seasonally adjusted' Coefficient of Performance (COP) which is the efficiency %. The performance % is HSPF / 3.412 x10.

I have corresponded with the WSU Energy group on the Ellensburg slide with Carolyn Roos, who has a Ph. D. in systems science and mechanical engineering and 25 years of experience. I include part of her emails here:

"I would agree 150% is low for new heat pumps. . . .Also, it is not uncommon for heat pumps to not be installed well, affecting its efficiency. So the BPA's low assumption is likely to account for these factors."

"An Energy Star heat pump has an HSPF of 8.2 which corresponds to a seasonal efficiency of 240%. This is averaged seasonally over the year."

Here is the engineer contact information if you wish to verify and / or communicate with her:
Carolyn Roos, Ph.D.
Energy Engineer
Washington State University Energy Program
www.energy.wsu.edu

Residential Energy Code Hotline:
(360)956-2042
energycode@energy.wsu.edu

Low assumptions are not being used for the 90% and 97% gas furnaces, are they? On the slide and announced by Mr. Stanavich, the basis used for the analyses are for a 1600 square foot structure and all other aspects being equal. . .except for the 150% AFUE heat pump. For that one item, staff are taking an estimate (as a cost reduction percentage) based on a summary conclusion by BPA. Then staff further imply, as described in your recent email, that local 'data sets' indicate heat pumps 'don't perform as expected'.

Installation assumptions aside (re Carolyn Roos suggested reasoning above), I really don't think a casual assessment from BPA is accurate, given that these appliances have industry ratings.

Most heat pumps, adjusted for average seasonal performance, are 240% - 290%, and include ducted and ductless models. HSPF on these models range from 8.2-10. Of interest is that the first HSPF rating set by the US Dept of Energy in 1992 was 6.5, which correlates to a seasonally adjusted efficiency of 190%. So even 30 years ago, heat pumps minimum standards were well above 150%.

Natural gas furnaces can never be more than 99.9% efficient (under 100%), because of the physics of burning fuel. At 97% efficient, the gas furnace modeled in the slide is at the top of gas equipment available today. I wonder how many customers actually own a 97% efficient furnace?

When inserting a number for the heat pump just based on 25-40% less cost (rounded up to 50%), staff achieve results that aren't accurate comparisons with the other equipment. Using consistent industry standard ratings and the same formulas throughout would be transparent. The 150% reduction number actually works out to be 1/3 (33%) cost reduction, not 1/2 (50%), because that math divides the electricity cost for the 100% electric appliance into thirds:

$175.40 - $28 = $147.40 as actual electricity cost less the monthly service fee.
$147.40 / 1.5 (150% or (/ 3 X 2) = $98.26 + $28 = $126.26.

I do understand that each home is different, that is why the staff slide indicates a 'model home' of 1600 square feet that is the same size, same insulation, same fenestrations, for the purposes of a 'standard' analysis, which is what the WSU calculator does also.

The WSU calculator goes further than staff totals, I believe, as it also includes "Distribution Systems". When using ducted systems, there is generally a loss of efficiency of about 25%.

Did staff deduct for the distribution losses associated with <u>all</u> natural gas furnaces? Did they use appropriate parameters for all comparisons (those requiring ducting and those not)?

Continued on next page

Analysis 97% gas furnace vs 240% heat pump (both ducted):
In using a baseline heat pump, 8.2 HSFP with 240% seasonally adjusted efficiency, and the 97% gas furnace, the WSU calculator sums, and Carolyn Roos sums, are quite different than staff results. These sums indicate annual savings (as a compilation of monthly). The term 'Dist Efficiency %' is the distribution system and in both cases presented they are ducted systems with R-8 insulation:

Inputs		
	Your Current System	New System
Heater Type	Natural Gas - Energy Star Furnace	Electric - Standard Heat Pump
Fuel Cost $	1.1398 / Therm	0.0737 / kWh
Heater Efficiency %	97	240
Dist Efficiency %	73	73

Results		
	Your Current System	New System
BTU*/Unit of Fuel	100,000	3,413
Space Heating Cost ($ Per Million Btu)	16.10	12.33
Operating Cost/year ($)	1,098.02	840.91

By choosing the new system over the current system, you will save (on average) $257 /year in fuel costs.**

Please note that space heating operating cost and savings numbers are provided for comparison purposes only. Your costs will vary, according to such factors as home insulation, climate, and size of your home.

* British Thermal Unit, a measurement of energy; one BTU is approximately the amount of heat released by burning a wooden kitchen match.
** Based on the annual energy consumption for space-heating in a single-family household: 68.2 Million Btus/Year in 2005. (www.eia.doe.gov)

The calculations above are *all aspects being equal, all formulas being equal*. The 240% heat pump saves money over the 97% gas furnace, $257 per year.

In all calculations I use Ellensburg gas and electrical rates, without monthly service fees. Those would be $210.60 for gas service annually, and $336 for electric service, a difference of $125.40 more cost for electricity service. In the above example, monthly fees make the difference total $131.71, instead of $257, *still in favor of the heat pump.*

This following comment gets into the weeds, but as I have discovered, we are all going to have to achieve an understanding of these issues. . .

Carolyn Roos also commented on this comparison:
"The WSU calculator is basically just a conversion to MMBtu and then division by efficiencies. Therms are converted to MMBtu by multiplying by 10 and the kWh is converted to MMBtu by multiplying by 293.08. Then for each one, divide by both efficiencies to get the Space Heating Cost in $ per MMBtu.

Reproducing your results (97% natural gas furnace Vs 240% heat pump, both ducted):
- *For natural gas: 1.1398 x 10 / 0.97 / 0.73 = $16.10 per MMBtu*
- *For electricity: 0.0737 x 293.08 /2.40 /0.73 = $12.33 per MMBtu"*

This analysis uses MMBtu (1 million Btus), not 'cost' for comparisons, but the results are the same. *Again, Carolyn Roos achieves the same results as the calculator. The 240% efficient heat pump costs less to operate than the highest efficiency gas furnace available (97%).*

Here's the link again to the WSU calculator:
https://www.energy.wsu.edu/calcs/fuelcalc/default.asp

WSU provides a link on this page to the actual formulas used for all appliance analyses which provides transparency and verification. The formulas used for the WSU calculator can be seen here: https://www.energy.wsu.edu/calcs/fuelcalc/Inst.stm

What formulas/parameters are the staff using in their presentation? Why are they 'mixing' analyses (some actual appliance ratings and some not)? Are they including ducting losses for the natural gas appliances?

It would be beneficial and accurate to also include ductless systems in the analyses. These are most likely what will be installed going forward in all new electric construction, and have been available for around the 10 years. Ductless systems *automatically add efficiency* because there is no distribution system to lose energy, like ducting.

Analysis 97% gas furnace vs 280% *ductless* heat pump (natural gas is ducted):
If you're still reading ;-), I would also offer this calculation for a ductless system (all calculations do not include monthly fees):

Inputs		
	Your Current System	New System
Heater Type	Natural Gas - Energy Star Furnace	Electric - Energy Star Heat Pump
Fuel Cost $	1.1398 / Therm	0.0737 / kWh
Heater Efficiency %	97	280
Dist Efficiency %	73	100

Results		
	Your Current System	New System
BTU*/Unit of Fuel	100,000	3,413
Space Heating Cost ($ Per Million Btu)	16.10	7.71
Operating Cost/year ($)	1,098.02	525.82

By choosing the new system over the current system, you will save (on average) $572 /year in fuel costs.**

Please note that space heating operating cost and savings numbers are provided for comparison purposes only. Your costs will vary, according to such factors as home insulation, climate, and size of your home.

* British Thermal Unit, a measurement of energy; one BTU is approximately the amount of heat released by burning a wooden kitchen match.
** Based on the annual energy consumption for space-heating in a single-family household: 68.2 Million Btus/Year in 2005. (www.eia.doe.gov)

As you can see, without a distribution system, ("Dist Efficiency %" on the image), the ductless appliance far outperforms the highest efficiency gas furnace available. The total annual cost with monthly service fees included is still $446.80 less annually than the 97% gas furnace. This example is still a ‘middle-of-the-road’ ductless heat pump, with an HSPF of 9.5. Heat pumps today have HSPF ratings of 8.2 - 11 and higher.

As Carolyn Roos also states:
“In the next energy code cycle, which will take effect in 2023, it is likely that “cold climate heat pumps” will be required for new construction in Washington State. These cold climate heat pumps have COPs greater than 200% at 17° F.”

At 17° F, these cold climate heat pumps provide exceptional heating (200% efficient), with even higher efficiencies (up to 400%) in temps above 17° F and are still efficient to -13° F. Of course, they also offer efficient air conditioning. I have one in my home which was installed about 5 years ago.

This isn’t ‘new and untested’ equipment and would therefore be a part of substantial existing inventory. Yet, these appliances are ignored, and/or lumped with the 150% cost reduction analyses.

WSU Energy Services has been responsible for a host of varied energy work. They have performed numerous state-mandated analyses. You can view their home page here:
https://www.energy.wsu.edu

Concluding, it only makes sense to me that *any public communication regarding energy systems be from an independent consultant only*. I offer this assessment based on the evidence provided here. Getting public communication correct the first time will be of high importance. It is unfortunate that this slide will remain uncorrected, since it is part of the public record, in my view.

I’d like to make a few further comments on some general aspects of recent UAC meetings.

First, the format being used at UAC meetings seems to vary. The staff powerpoint was not part of the agenda packet. I would think that having full knowledge of the information being presented (agenda packet) before the UAC meeting would be preferred so that all could ask informed questions.

Second, the *zoom link and announcement* has disappeared from the UAC website:
https://ci.ellensburg.wa.us/97/Utility-Advisory-Committee

For those hard of hearing, zoom attendance is preferred. Zoom meeting access also facilitates broad engagement with the public in general. I am hopeful that the zoom announcement and meeting links will be reinstated for all meetings.

Thank you again for your detailed explanation review and response! I am grateful! I realize you have many tasks on your plates. . .I hope redundancy was minimal.

I also appreciate having access to the zoom recording and audio, which Kim Bowie sent out, on request, for the June UAC meeting. It is great to have audio and video for study.

Thank you also for reading this further email and for your important work.
Sincerely,
Meghan Anderson • 6083 Secret Canyon Rd • Ellensburg
509-591-7874 • Cwclimatenews@gmail.com

Meg Ludlum
6720 E Green Lake Way N, Apt 623
Seattle, WA 98103

July 7, 2022

Mayor Nancy Lilquist
Councilmember Nancy Goodloe
City Manager Heidi Behrends-Cerniwey
City of Ellensburg
501 N Anderson St
Ellensburg, WA 98926

Dear Ladies:

From afar in Seattle, I've been following Meghan Anderson's concerns about the slide in last month's Utility Advisory Committee presentation on gas incentives. I watched the presentation and discussion, and I greatly appreciate your support for ending the requirement to extend gas mains and for future actions to reduce the City's emissions from natural gas. Clearly, you understand the urgency of the need to reduce emissions rather than buy allowances, as well as the need to involve the community in the discussion. (A moratorium on new gas service might be more palatable than a ban.)

Meghan and I delved into AFUE, HSPF, SEER, and COP and now better understand that, for electricity, we should be using HSPF converted to seasonal COP. We believe an HSPF of about 8/seasonal COP of about 2.4 is a reasonable assumption for purposes of the slide. I can't overemphasize the importance of both staff and community members grasping that electric heat pumps are in fact cheaper to use for space heating than natural gas – and with cleanly-sourced electricity will also reduce emissions. The upfront cost of heat pumps may be higher but, in my opinion, any incentives the City provides should be directed at reducing that burden rather than encouraging continued use of gas.

I request that this letter be included as public comment in the next Utilities Advisory Committee agenda. Thank you for your important work.

Sincerely,

/s/ Meg Ludlum

Ellensburg Utility Advisory Committee
Telecommunication Issues and Updates
July 21, 2022

- Construction has begun to relocate the Lincoln Elementary School Fiber.
- Fiber Construction to build fiber to the Gas shop has been completed.
-

AGENDA REPORT

Meeting Date:	July 21, 2022
Agenda Subject:	Water, Wastewater, Electric, & Natural Gas Rate Study
Submitted by:	Buddy Stanavich Public Works & Utilities
Recommended Action or Motion:	Staff requests the UAC forward a favorable recommendation to Council on the proposed rate increases and phase-in strategy presented.

Background/Summary:

To continue providing quality service, maintaining the reliability of utility systems, and equitably cover the costs associated with significant infrastructures upgrades, FCS Group was retained to complete a Water, Wastewater, Electric, & Natural Gas Rate Study. FCS Group representatives will be present at the meeting to make presentations on their analysis.

The Ellensburg City Code Chapter 9.30.030 (B) "It is intended that all utility rates be based on cost-of-service principles. Subsidies between rate schedules shall be avoided except for low-income senior citizen, low-income disabled citizen and nonprofit agency serving the disadvantaged rate schedules."

FCS Group completed a Cost of Service Analysis (COSA) for the Water, Wastewater, & Electric utilities in 2018 and for the Natural Gas utility in 2022. The rate studies presented as part of the 2019-20 budgeting process incorporated the capital and maintenance needs for the utilities and put together a phased-in approach to bring the various customer classes into cost of service over six (6) years. No rate increases were adopted as part of the 2021-22 budget development.

Previous Council Action:	None
Analysis:	N/A

Financial Impact: Rate impacts and phase-in strategies will be presented by FCS Group at the meeting. This rate study continues work to enhance financial outlooks extending out several years as a tool to better manage the financial needs of the Water, Wastewater, Electric, & Natural Gas utilities.

Ellensburg Utility Advisory Committee
Public Works & Utilities Issues and Updates
July 21, 2022

Consent Items

Agenda Reports for items approved by the City Council since our last meeting are attached.

All Utilities

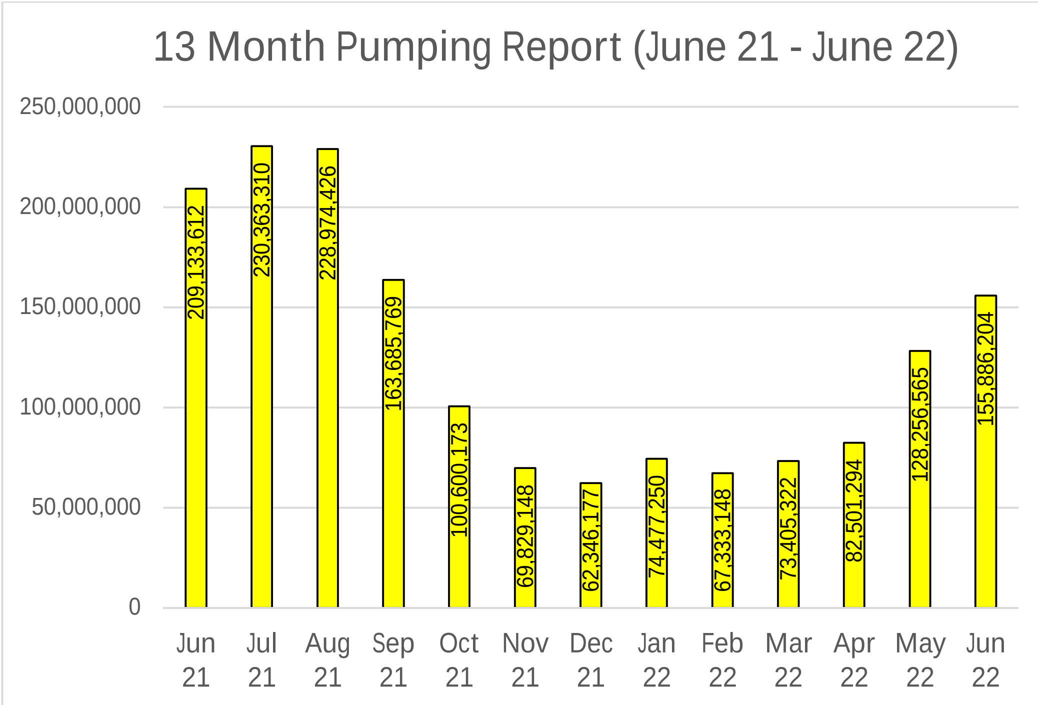
-

Sewer

- The Bureau of Reclamation's Schaake Project continues to make progress. The Bureau and staff are working on final details. The land exchange is currently anticipated late summer 2022.
- Staff was informed that the aerator motor that was sent off to be inspected will be repaired and covered by warranty.
- City staff have reviewed the video inspections of the lines repaired during the 2022 Cured-In-Place project. Staff are pleased with the results of the project but did have two concerns (taps) that are being discussed with Insituform, LLC. We hope to have those two taps repaired by the contractor in the near future.
- Operations and Lab personnel conducted influent testing requested by Kennedy Jenks to provide information for the General Sewer Plan Update. The samples were taken on ten consecutive days and needed to be delivered daily to Cascade Analytical in Wenatchee.
- Staff met with Kennedy Jenks at the WWTF to discuss two projects that are budgeted for design in 2022. Those projects include rebuilding the clarifiers and electrical upgrades in the digester/gravity belt thickener building.
- Collections staff are very busy with jetting and flushing, inspections, and locate requests.

Water

- Water pumped for June 2022 was 155,886,204 gallons, which is considerably less then June 2021 which was 209,133,612 gallons. This reflects the relationship between warmer temperatures and precipitation on water usage. We had a mild June with more rain than last year which dramatically impacts the amount of City provided water used for irrigation.



- Staff continue to work with Connetix Engineering and Consolidated Communications to find solutions to reoccurring communication failures at the three wells (Hayward, Route 10, Airport #3) on lease lines owned by Consolidated. Different options are being explored. Communication failures interfere with the ability to run these wells automatically with the telemetry system.
- Staff picked up the rebuilt motor for Whitney Well and installed it. Whitney Well is now operating as expected.
- Water Division crews are fixing leaks discovered during phase 1 of leak survey.
- Water crews continue to provide vac-truck excavations for other City divisions when requested.
- The Outfitting of the Illinois Well project is underway, and all underground utility work is nearly complete at the well site. The Contractor will begin construction of the well house building shortly. As expected, the contractor is experiencing lengthy lead time issues with specialty material and equipment for this project. Due to this, completion of the project is not expected until early 2023. We will keep UAC updated as this project moves forward.

Storm

- Gateway 1 bids were opened on June 16th, 2022 and the bid award for Rotschy Inc. will be on the July 18th Council Agenda for acceptance. If awarded construction will likely begin August 15, 2022.
- Gateway 2 design is on hold until a design contract for widening the road can go before Council for authorization. In order to design the stormwater, grant reimbursable part of the project, the road will need to be brought up to standards and widened. The design, widening and grant reimbursable part of the project would be constructed as one project.
- The bridge and levee are on schedule to go to add on July 14, 2022, open bids on August 2, 2022 and award at the August 15th Council meeting. We hope to wrap up construction by October 31, 2022.
- Staff continues to conduct field work sampling Wilson Creek twice a week, inspecting outfalls and storm features that were constructed on commercial plats as a part of permit compliance.

Electric

- The City of Ellensburg is at 105% of our Chapter 80.60 RCW required interconnections, which is relative to our 1996 peak demand. Our 1996 peak demand was 37,210 kW and 4% of that peak demand is 1,488kW. There are currently 1,562 kW of interconnected solar customers, which is 4% more than the requirement. There are 133 systems interconnected, which does not include the Renewable Energy Park.
- We continue to advertise for vacant Journeyperson Lineperson positions and a Temporary Lineperson.
- Potelco is on the property and filling the void of our understaffing issues. They are focusing on customer driven work as well as maintenance work.
- City crews have been focusing on day-to-day operations as well as smaller maintenance and service jobs.
- Staff has been contacted by and is working with developers on two projects near Dolarway Rd. and the west interchange. These two projects combined, are forecasting 10MW of load which would exceed the capacity of the existing feeder serving that area. Staff is working with the developers to determine how best to serve the developments, likely requiring the installation of a new feeder.
- D'Hittle is continuing to make progress on the Dolarway Substation project. Given the large customers mentioned above it is expected that additional scope will be added to the project to address feeder improvements.
- Staff has discussed the above data center project with our consultant performing the South Substation Sighting Study; this project can have significant impact to the location of a future substation.

<u>Gas</u>

- Climate Commitment Act (CCA) – Staff continues engagement in Ecology's rulemaking process. Staff is preparing estimated cost models for compliance obligations.
- A natural gas purchase commitment to Shell Energy North America for 78,999 MMBtu's at $6.9000/MMBtu for an in-ground storage transfer to fill the City's Clay Basin storage account. The total value of the contract purchase is $545,093.
- A natural gas purchase commitment to Shell Energy North America for 242,000 MMBtu's at $5.350/MMBtu for delivery starting November 2022 through June 2023. The total value of the contract purchase is $1,294,700.
- A natural gas purchase commitment to Shell Energy North America for 152,000 MMBtu's at $5.960/MMBtu for delivery starting November 2023 through March 2024. The total value of the contract purchase is $905,920.
- Crews performed scheduled monthly maintenance tasks and installed new customer requested main and service lines. Crews finished the annual atmospheric corrosion survey and are now performing annual valve maintenance.
- Chet Weekes & Kody Graham attended the National Welding Inspection School in Burton, TX. They attained the status of Certified Pipeline Welding Inspector (CPWI+V) by attending and successfully passing the course "Welding Inspection for Pipelines".
- Kody Graham has successfully completed Step 3 of the Gas Mainfitter Apprenticeship. He has moved to Step 4 as of July 1, 2022.
- MESA Products Inc. finished the Walnut Street Rectifier & Deep Well Anodes – Relocation & Replacement project. The contractor started on June 6th and commissioned the new rectifier on June 16th. Project closeout is still in progress.
- Staff continues to review material inventory and projected needs in anticipation of supply chain issues.
- A digital advertising campaign has begun to enhance the Public Awareness and Damage Prevention Program. Both May and June's advertising had an emphasis on "Gas Safety". July's advertising emphasis is on appliance efficiency upgrade rebates.

- No bids were received for the 2022-07 Bid Call "Meter Set Assemblies". Staff has moved forward with quotes and has an order in with AYMcDonald.
- Staff participated in a Natural Gas Operations & Maintenance (O&M) Manual Review audit; a Natural Gas Annual Review Inspection audit; and a Natural Gas Distribution Section 114 (PIPES Act of 2020) Compliance Review from the Washington Utilities and Transportation Commission (UTC) on June 7, 2022. No apparent violations were discovered during these inspections and letters were received from the UTC closing the inspections.
- Marcello Martinez and Logan Graham are attended the Western Gas Measurement Short Course in Victoria, B.C. July 12-15, 2022.