Regular Meeting
Tuesday, June 23, 2020
6:00 p.m.

Unalaska City Hall
Council Chambers
43 Raven Way

Council Members
Thomas D. Bell
Darin Nicholson
David M. Gregory

Council Members
Dennis M. Robinson
Alejandro R. Tungul
Shari Coleman

UNALASKA CITY COUNCIL

P. O. Box 610 ▪ Unalaska, Alaska 99685
(907) 581-1251 ▪ www.ci.unalaska.ak.us

Vincent M. Tutiakoff Sr., Mayor
Erin Reinders, City Manager

Due to recommended social distancing measures to stop the spread of coronavirus and the City Manager's Emergency Order suspending the provisions of UCO § 2.20.075 regarding council member participation by teleconference, this meeting will be conducted via telephone conference call, though a limited number of Council Members may be in Chambers while observing six foot social distancing.

Starting June 23, we will allow a limited number of community members to attend the meeting in person. In order to provide for social distancing, we can accommodate five people in chambers, who will be seated on a first come/first served basis. Coverings over nose and mouth are required to be worn upon entering the building and until seated; and again when exiting chambers and the building.

Members of the public can listen to the meeting on KUCB TV Channel 8 or Radio station 89.7.

Options to provide comments or testimony to City Council regarding items on the agenda:

- Email comments, testimony or questions to the City Clerk no later than 5:00 p.m. on the day of the meeting. Comments, testimony and questions will be read by the clerk during the meeting
- Call in to the meeting (number below)

Copies of the documents related to the meeting are available on the City Website; by email request to the City Clerk; and in the arctic entry area at City Hall on the day of the meeting. Contact City Clerk Marjie Veeder at (907) 581-1251 or by email to mveeder@ci.unalaska.ak.us

MEETING CALL IN NUMBER (toll free) (888) 251-2909, access code 5646150

Please mute your phone until you are ready to speak

AGENDA

1. **Call to order**
2. **Roll call**
3. **Pledge of allegiance**
4. **Recognition of visitors**
5. **Adoption of agenda**
6. **Approve minutes of previous meetings** June 9, 2020
7. **Reports**
    a. Boards and Commissions

i. Library Advisory Committee Minutes (in packet; information only) – January 6; February 3; April 6; May 4, 2020

ii. PCR Committee Minutes (in packet; information only) – January 13; May 18, 2020

b. City Manager

8. **Community Input & Announcements** *Members of the public may make announcements of interest to the community.*

9. **Public testimony on agenda items** *Time for members of the public to testify or provide information to Council regarding items on the agenda. Members of the public may also speak when the issue comes up on the regular agenda by signing up with the City Clerk.*

10. **Public hearing** *Members of the public may testify about any item set for public hearing.*

    a. Ordinance 2020-11: Amending the fee schedule specifying the fees and charges for services, labor and equipment provided by the City

11. **Work session** *Work sessions are for planning purposes, or studying and discussing issues before the Council.*

    a. Presentation and discussion of the financial feasibility and potential risks and rewards related to OC/Chena Power's proposed Makushin Geothermal Power Project

        i. Disclosures by Mayor Tutiakoff and Council Members Robinson and Gregory

        ii. Presentation by Mike Hubbard of the Financial Engineering Company

    b. Discussion of the CARES Act; and the Unalaska CARES Grant Program for local businesses and non-profit organizations

    c. Discussion of City's COVID-19 measures to protect the public health

12. **Regular agenda** *Persons wishing to speak on regular agenda items must sign up with the City Clerk.*

    a. Unfinished Business

        i. Ordinance 2020-11: Amending the fee schedule specifying the fees and charges for services, labor and equipment provided by the City

    b. New Business

        i. Resolution 2020-41: Continuing measures to protect the public health

        ii. Resolution 2020-42: Establishing the sum to be made available for the Unalaska CARES Grant Program for local businesses and non-profit organizations who have experienced economic impacts due to COVID-19

        iii. Approve travel for Mayor and Council to AML's August 2020 meeting

13. **Council Directives to City Manager**

14. **Community Input & Announcements** *Members of the public may make announcements of interest to the community.*

15. **Adjournment**

Regular Meeting
Tuesday, June 9, 2020
6:00 p.m.

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Council Members
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David M. Gregory

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Shari Coleman

Pursuant to the City's Manager's Emergency Order of March 17, 2020, suspending the provisions of UCO §2.20.075 regarding council member participation in meetings by teleconference, and due to recommended social distancing measures to stop the spread of coronavirus, this meeting was conducted via telephone conference call. The call-in number was published with the agenda. Members of the public were encouraged to participate by telephone and to email testimony in advance. Audio of the meeting was broadcast on local television and radio stations.

MINUTES

1. **Call to order**

   Mayor Vincent Tutiakoff, Sr., called the Regular Meeting of the Unalaska City Council to order on Tuesday, June 9, 2020, in the Unalaska City council chambers via telephone conference at 6:01 pm.

2. **Roll call**

   Present in Chambers:
   Vincent Tutiakoff, Sr., Mayor
   Thomas D. Bell
   David Gregory
   Shari Coleman

   Present Telephonically:
   Dennis Robinson
   Darin Nicholson
   Alejandro Tungul

   Absent:
   None

3. **Pledge of allegiance:** Council Member Gregory led the Pledge of Allegiance

4. **Community Input / Announcements:**
   - Shirley Marquardt, SWAMC

5. **Adoption of agenda**

Bell made a motion to adopt agenda; Coleman seconded.
Roll Call Vote: Tungul – yes; Robinson – yes; Nicholson – yes; Gregory – yes; Bell – yes; Coleman – yes.
Motion passed 6-0.

6. **Approve minutes of previous meeting** May 26, 2020

Coleman made a motion to approve the May 26, 2020 meeting minutes; Bell seconded.
Roll Call Vote: Bell – yes; Nicholson – yes; Gregory – yes; Robinson – yes; Coleman – yes; Tungul – yes.
Motion passed 6-0.

7. **Reports**

   a. Financials, April 2020 – Interim Finance Director presented the Financial Report for April 2020 and answered Mayor and Council questions.

   b. City Manager – City Manager provided an update and answered Council questions regarding:
      - CARES ACT Funding
      - Police Chief - final candidates
      - Tustumena Ferry
        - Ports Director answered Council questions

8. **Public hearing**

Mayor Tutiakoff, Sr. opened the Public Hearing on Ordinance 2020-10.

   a. Ordinance 2020-10: Adopting the Fiscal Year 2021 Operating and Capital Budget for the City of Unalaska

Hearing no testimony, the Public Hearing closed.

9. **Work session**

Robinson made a motion to move to Work Session; Coleman seconded.
Roll Call Vote: Tungul – yes; Gregory – yes; Bell – yes; Coleman – yes; Nicholson – yes; Robinson – yes.
Motion passed 6-0.

   a. Presentation: Aerial Salmon Surveys, Summer 2020 – Aleutian Aerial LLC

      Andy Dietrick gave a presentation on aerial salmon surveys in support of authorizing financial support for this project.
      Public Comment given by:
      - Frank Kelty

      City Clerk read into record a comment submitted by
      - Abi Woodbridge

   b. Presentation: City-sponsored 4th of July Parade – Roger Blakeley, PCR Director
      PCR Director presented an outline of mitigations efforts for hosting PCR's annual 4th of July parade.

   c. Update: 2020 Cruise Ship Season – Peggy McLaughlin, Ports & Harbors Director
      Ports Director presented an update on 2020 Cruise Ship season.

   d. Presentation: Capital Project Update and overview of Project Delivery Methods – Tom Cohenour, Public Works Director

Public Works Director presented a Capital Project Update and answered Council questions.

7:55 PM - Meeting in recess

8:04 PM - Meeting back in session

Robinson made a motion to reconvene to Regular Session; Coleman seconded.
Roll Call Vote: Nicholson – yes; Gregory – yes; Coleman – yes; Tungul – yes; Bell – yes; Robinson – yes.
Motion passed 6-0.

10. **Consent agenda**

Bell requested Resolution 2020-33 and Resolution 2020-35 be moved to Regular Agenda.

Bell made a motion to adopt Consent Agenda as amended; Robinson seconded.
Roll Call Vote: Gregory – yes; Coleman – yes; Tungul – yes; Nicholson – yes; Robinson – yes; Bell – yes.
Motion passed 6-0.

a. Resolution 2020-28: Authorizing the City Manager to sign the FY21 Community Schools Agreement between the City of Unalaska and the Unalaska City School District
b. Resolution 2020-33: Authorizing the City Manager to extend the term of the Professional Services Agreement with Brad Gilman of Robertson, Monagle & Eastaugh for an additional term
c. Resolution 2020-35: Authorizing the City Manager to extend the term of the Professional Services Agreement with Dianne Blumer of Blumer & Associates for an additional term

11. **Regular agenda**

a. Unfinished Business

i. Ordinance 2020-10: (Second Reading) Adopting the Fiscal Year 2021 Operating and Capital Budget for the City of Unalaska

Gregory made a motion to adopt Ordinance 2020-10; Coleman seconded.
Coleman made a motion to amend Ordinance 2020-10 as follows:

- Reduce 01019848-49110 Transfers from Special Revenue Fund to $0
- Reduce 01029854-59920 Transfers to Governmental Capital Projects to $1,104,658
- Reduce 11029954-59900 Transfers to General Fund to $0
- Increase 11029954-59920 Transfers to Governmental Capital Projects to $862,135

Robinson seconded.
Roll Call Vote on amended motion: Bell – yes; Coleman – yes; Nicholson – yes; Robinson – yes; Tungul – yes; Gregory – yes.
Motion passed 6-0.

Roll Call Vote on main motion as amended: Coleman – yes; Bell – yes; Gregory – yes; Nicholson – yes; Robinson – yes; Tungul – yes.
Motion passed 6-0.

b. New Business

i. Resolution 2020-33: Authorizing the City Manager to extend the term of the Professional Services Agreement with Brad Gilman of Robertson, Monagle & Eastaugh for an additional term

Gregory made a motion to adopt Resolution 2020-33; Tungul seconded.
Roll Call Vote: Coleman – yes; Gregory – yes; Nicholson – yes; Robinson – yes; Tungul – yes; Bell – yes.
Motion passed 6-0.

ii. Resolution 2020-35: Authorizing the City Manager to extend the term of the Professional Services Agreement with Dianne Blumer of Blumer & Associates for an additional term

Coleman made a motion to adopt Resolution 2020-35; Bell seconded.
Roll Call Vote: Tungul – yes; Gregory – yes; Robinson – yes; Bell – yes; Nicholson – yes; Coleman – yes.
Motion passed 6-0.

iii. Ordinance 2020-11: (First Reading) Amending the fee schedule specifying the fees and charges for services, labor and equipment provided by the City

Coleman made a motion to move Ordinance 2020-11 to Second Reading and Public Hearing on June 23, 2020; Gregory seconded.

Coleman made a motion to amend Ordinance 2020-11 in the section for the Wastewater Utility, Schedule D, paragraph "I", page 34 of the proposed schedule, setting out the fees charged by the Wastewater Lab, to change the fees to the following amounts:

- Dissolved Oxygen, change $25 to $100
- pH $25 to $35
- Chlorine, change $25 to $100
- BOD, change $60 to $100
- COD, change $60 to $55
- TSS, change $25 to $35
- NH3-N, change $25 to $35
- Fecal Coliform, change $25 to $100
- Total Coliform, change $25 to $100
- Sludge Total Solids, change $25 to $35
- Sludge pH, change $25 to $35
- Settleability, change $25 to $100
- Heterotrophic Bacteria, $25 to $100

Bell seconded.
Roll Call Vote on amended motion: Bell – yes; Coleman – yes; Nicholson – yes; Robinson – yes; Tungul – yes; Gregory – yes.
Motion passed 6-0.

Roll Call Vote on main motion as amended: Gregory – yes; Bell – yes; Coleman – yes; Nicholson – yes; Robinson – yes; Tungul – yes.
Motion passed 6-0.

iv. Resolution 2020-38: Continuing measures to protect the public health

Coleman made a motion to adopt Resolution 2020-38; Gregory seconded.

Robinson made a motion to amend Resolution 2020-38 to delete paragraph:

5. ***Traveler Quarantine.***

d. Alaska Marine Highway System day travelers are exempt from required self-quarantine during their stopover in Unalaska/Dutch Harbor, but they are to follow all other local orders and resolutions, and State mandates. Alaska Marine Highway System travelers arriving to Unalaska/Dutch Harbor as their final destination or who are transferring to air travel after arriving to Unalaska/Dutch Harbor must self-quarantine upon arrival.

Coleman seconded.
Roll Call Vote on amended motion: Nicholson – yes; Robinson – yes; Tungul – yes; Coleman – yes; Bell – yes; Gregory – yes.
Motion passed 6-0.

City Clerk read into record public comments submitted by:

- Tom Enlow, CEO and President, UniSea, Inc.
- Peter Hail
- Wilma Adams
- Jacob Whitaker

Roll Call Vote on main motion as amended: Robinson – yes; Tungul – yes; Coleman – yes; Gregory – yes; Bell – yes; Nicholson – yes.
Motion passed 6-0.

v. Resolution 2020-39: Authorizing financial support of aerial salmon surveys during calendar year 2020 by Aleutian Aerial LLC in the amount of $5,000, with funding from FY21 Council Contingency Budget'

Gregory made a motion to adopt Resolution 2020-39; Tungul seconded.

Coleman made a motion to amend Resolution 2020-39 to delete *$5000;* insert *$6550;* Gregory seconded.
Roll Call Vote on amended motion: Tungul – yes; Gregory – yes; Bell – yes; Coleman – yes; Nicholson – yes; Robinson – yes.
Motion passed 6-0.

Roll Call Vote on main motion as amended: Gregory – yes; Coleman – yes; Tungul – yes; Nicholson – yes; Robinson – yes; Bell - yes.
Motion passed 6-0.

12. **Council Directives to City Manager** – None.
Coleman made a motion to meet at a Special Meeting, Monday, June 15, 2020 at 6:00 pm to discuss CARES Act funding and support for local businesses and non-profit organizations; Robinson seconded.
Roll Call Vote: Coleman – yes; Bell – yes; Gregory – yes; Nicholson – yes; Robinson – yes; Tungul – yes.
Motion passed 6-0.

13. **Adjournment**

Coleman made a motion to adjourn meeting; Tungul seconded.
Roll Call Vote: Gregory – yes; Bell – yes; Coleman – yes; Nicholson – yes; Robinson – yes; Tungul – yes.
Motion passed 6-0.
Meeting adjourned at 9:55 pm.

_____
Marjie Veeder, CMC

rfw

UNALASKA PUBLIC LIBRARY
ADVISORY COMMITTEE

Monday, January 6, 2020
5:30 PM

Unalaska Public Library
Dan Masoni Conference Room

Mission:
Unalaska Public Library educates, enriches, and inspires community members by connecting them to the world and each other.

I. **Call to Order and Roll Call** 5:31 PM
Present: Crane, Thompson, Cummings, Hanson-Zueger, Hatfield, Hazen
Absent: Ortiz

II. **Introduction of Visitors** Albert Burnham, Acting PCR Director

III. **Additions or Changes to the Agenda** None

IV. **Public Comment on Agenda Items** None

V. **Minutes of the December 9 Meeting** Hatfield moved to approve the minutes of the December 9 meeting. Hazen seconded. Approved by consensus.

VI. **Librarian's Report** City Librarian Karen Kresh presented the November 2019 Librarian's Report, noting that the library has submitted annual paperwork to maintain its status as a U.S. Passport Acceptance Facility. This includes a training and test component for all regular library staff. Cummings inquired about low attendance and circulation numbers in 2019 compared to 2018, and Kresh noted that this has been a trend throughout 2018. Possible causes include a lower number of transient workers on the island and increasing difficulty of keeping up with bandwidth demands, resulting in a slower public internet experience for patrons.

VII. Old or Unfinished Business

A. **Library Building Improvement Project** Kresh provided an update on the status of the library expansion and renovation project. On Tuesday, January 14, City Council will consider the second reading of a budget amendment to fund construction of the project. ECI Architects and F&W Construction are currently working together to identify areas for savings in the proposed construction budget. They currently estimate that the city could cut $500,000 from the bid amount, and Brian Meissner will attend the January 14 Council Meeting to go over potential savings in more detail.

B. **CY 2019 Report to Council** Kresh provided a draft document with statistics and a brief narrative of Library and Committee activities throughout 2019. Based on Committee members' input, she will make changes and send a revised draft to send to City Council. The Committee will present the report to Council at their February 11, 2020 meeting.

VIII. New Business

A. **Rasmuson Foundation Grant** The Library Building Improvement Project Team is planning to submit a Letter of Inquiry to the Rasmuson Foundation.

This is the first step towards applying for a Tier II Grant request. If granted, the likely funding amount would range from $400,000 – $700,000.

B. **Fundraising Committee** In order to make the Library Project's Rasmuson funding request more viable, the Foundation recommended that we initiate a local fundraising effort. The Library Advisory Committee appointed a subcommittee to work on this effort. Committee members: Crane, Hanson-Zueger, and Hatfield. City Librarian will also ask a member of Friends of the Library to join.

IX. **Announcements:** Bird Club will meet at the Museum of the Aleutians on January 22. Museum Choc-o-lot Event on February 14. USAFV 20/20 Vision Event on January 11, 1-4 PM. Soup-Off March 28.

X. **Next Meeting:** Monday, February 3, 2020, 5:30 PM

XI. **Adjournment** 6:27 PM

Committee Members and Terms:

M. Lynn Crane, Chair - 02/2021 Cyri Thompson, Vice Chair - 02/2022 Debbie Hanson-Zueger - 02/2020
Virginia Hatfield – 02/2022 Lucy Ortiz - 02/2022 Cat Hazen - 02/2021 Robert Cummings - 02/2021

UNALASKA PUBLIC LIBRARY
ADVISORY COMMITTEE

Monday, February 3, 2020
5:30 PM

Unalaska Public Library
Dan Masoni Conference Room

Mission:
Unalaska Public Library educates, enriches, and inspires community members by connecting them to the world and each other.

I. **Call to Order and Roll Call** 5:30 PM
Present: Crane, Thompson, Cummings, Ortiz, Hatfield
Absent: Hanson-Zueger, Hazen

II. **Introduction of Visitors** Roger Blakeley PCR Director

III. **Additions or Changes to the Agenda** None

IV. **Public Comment on Agenda Items** None

V. **Minutes of the January 6, Meeting** Hatfield moved to approve the minutes of the January 6, 2020 Thompson seconded. Approved by consensus.

VI. **Librarian's Report** Roger Blakeley told the group that Karen had a baby boy 7 lbs. 6 oz.

VII. Old or Unfinished Business

A. **Library Building Improvement Project** Roger explained that a number of things needed to be completed before the Library could be moved this included moving the UCB to a new location. On February 11, 2020 Tom Cohenour the Public Works Director will be addressing City Council on the henry Swanson house and letting the Council know that after repairs are made they could move there,. Roger said that PCR has the contract and has to give them 30 days' notice to move. F&W Construction has not produced a work schedule to date and on February 6, 2020 there is a conference call to the construction group to clarify the schedule and to get a firm start time for moving and construction.

B. **CY 2019 Report to Council** The report to City Council was changed to February 28, 2020 and M. Lyn Crane will give the report. Roger had the info graphic and showed the group the amount of use the library had over last year. The Advisory board liked the info graphic however wanted the bottom statement to be bolded if possible.

C. **Fundraising Committee** Is in place and ready to fundraise if we receive word that the Rasmuson Foundation Grant. More will be known by the end of February.

VIII. New Business

A. **Election of Officers** This item was postponed until March 2, 2020

B. .

IX. **Announcements:** Bird Club will meet at the Museum of the Aleutians on January 22. Museum Choc-o-lot Event on February 14. USAFV 20/20 Vision Event on January 11, 1-4 PM. Soup-Off March 28.

X. **Next Meeting:** Monday, March 2, 2020, 5:30 PM

XI. **Adjournment** 5:50 PM

Committee Members and Terms:

M. Lynn Crane, Chair - 02/2021 Cyri Thompson, Vice Chair - 02/2022 Debbie Hanson-Zueger - 02/2020
Virginia Hatfield – 02/2022 Lucy Ortiz - 02/2022 Cat Hazen - 02/2021 Robert Cummings - 02/2021

UNALASKA PUBLIC LIBRARY
ADVISORY COMMITTEE

Monday, April 6, 2020
5:30 PM

Unalaska Public Library
Virtual Meeting by Teleconference

Mission:
Unalaska Public Library educates, enriches, and inspires community members by connecting them to the world and each other.

I. Call to Order and Roll Call **5:35 PM**
Present: Crane, Hanson-Zueger, Ortiz, Cummings, Hatfield
Absent: Thompson, Hazen

II. Introduction of Visitors **Roger Blakeley**

III. Additions or Changes to the Agenda **None**

IV. Public Comment on Agenda Items **None**

V. Minutes of the January 6 and February 3 meetings **Tabled**

VI. Librarian's Report **No written report, referred to discussion items later in the agenda**

VII. Old or Unfinished Business

A. Library Building Improvement Project **City Council voted to terminate the contract with F&W for project construction on recommendation of the City Manager and Public Works Director. This recommendation arose from concerns about public health and budget implications in light of the current COVID-19 pandemic. ECI will complete project design drawings. The future of the project is uncertain, but the city is hoping to rebid when the current situation improves.**

B. CY 2019 Report to Council **For next year, City Librarian recommended setting up a backup committee member who can present the report to Council in the event that the Chair is unable to attend the meeting.**

VIII. New Business

A. Library Services During COVID-19 Epidemic **City Librarian reported that library staff are available by phone from 1 pm – 3 pm daily. Library staff wrote an article for KUCB about how to access eBook downloads and other digital resources. Staff are also recording story time sessions to air on Channel 8 at the library's normal story time hour.**

IX. Announcements: **None**

X. Next Meeting: **Monday, May 4**

XI. Adjournment **6:04 PM**

Committee Members and Terms:

M. Lynn Crane, Chair - 02/2021 Cyri Thompson, Vice Chair - 02/2022 Debbie Hanson-Zueger - 02/2023
Virginia Hatfield – 02/2022 Lucy Ortiz - 02/2022 Cat Hazen - 02/2021 Robert Cummings - 02/2021

UNALASKA PUBLIC LIBRARY
ADVISORY COMMITTEE

Monday, May 4, 2020
5:30 PM

Unalaska Public Library
Teleconference Meeting

Mission:
Unalaska Public Library educates, enriches, and inspires community members by connecting them to the world and each other.

I. Call to Order and Roll Call **5:33 PM**
Present: Crane, Hatfield, Thompson, Hazen, Hanson-Zueger, Ortiz
Absent: Cummings

II. Introduction of Visitors **Roger Blakeley**

III. Additions or Changes to the Agenda **None**

IV. Public Comment on Agenda Items **None**

V. Minutes of the January 6, February 3, and April 6 meetings **Hatfield moved to approve the minutes of the January 6 and April 6 meetings. Hanson-Zueger seconded. Approved by consensus. Approval of minutes of the February 3 meeting tabled.**

VI. Librarian's Report **Kresh presented the March Librarian's Report. Highlights: the library will be entering a new TelAlaska internet contract in partnership with Unalaska City School district on July 1. With OWL and E-Rate funds, we will be able to double the amount bandwidth we previously provided to the public, from 5 Mbps to 10 Mbps. The library has purchased a new book drop, which will arrive mid-June. City Librarian has prepared a business plan, which has been sent out to the Advisory Committee. Paper copies are available on request.**

VII. Old or Unfinished Business
- A. Library Building Improvement Project **Estimated cost that will be paid to F&W for cancelling the construction contract will be $300,000 – 400,000. Crane and Hatfield expressed disappointment at the handling of the artist contracts for the art portion of the expansion. Hatfield suggested that the Museum of the Aleutians may be able to assist with seeking funding to purchase the selected art pieces and potentially display them in the library in the future.**
- B. Library Services During COVID-19 Epidemic **On April 22, the library started a "curbside checkout" service in which patrons can call or email ahead with checkout requests and come to the library to pick them up in the lobby. This service has been well received by the community.**

VIII. New Business
- A. Phased Reopening Plan **Kresh presented a draft reopening plan and shared plans for reopening the library building, including installation of plexiglass barriers, limits on cash handling, limited building capacity, and**

reduced hours to allow for cleaning and sanitizing the library. This plan will have phases that can move forward and backward, depending on the local risk level assessed by the City of Unalaska EOC. Hanson-Zueger said that Administration would be helping city-wide with reopening plans.

B. Election of Officers **Hatfield nominated Crane as Chair and Thompson as Vice Chair. Hanson-Zueger seconded. Unanimous vote in favor of the nominations.**

C. Summer Meeting Schedule The committee will take a break over the summer, meeting only if needed.

IX. Announcements: **Digital Dockside Discovery next week, USAFV reports high demand for food boxes, as well as the addition of a new text crisis line: 359-1500, UCSD Graduation Parade May 16, 6 PM – 7 PM, Museum of the Aleutians will offer curbside service for their gift shop soon.**

X. Next Meeting: **Tentatively September 21; Kresh will check in with Committee in August**

XI. Adjournment **6:23 PM**

Committee Members and Terms:

M. Lynn Crane, Chair - 02/2021 Cyri Thompson, Vice Chair - 02/2022 Debbie Hanson-Zueger - 02/2023
Virginia Hatfield – 02/2022 Lucy Ortiz - 02/2022 Cat Hazen - 02/2021 Robert Cummings - 02/2021

City of Unalaska | Department of Parks, Culture and Recreation
Advisory Committee Meeting Minutes for January 13, 2020

Members present: Jason Gates, Greg Peters, Robert Cummings Jim Morris

The Parks, Culture and Recreation Advisory Board meeting was called to order at 6:30 p.m. on January 13, 2020.

Recognized visitors to the meeting, Albert Burnham, Nick Cron

New Business
Albert talked about the MLK celebration to a community dinner. He noted that this would be a change from all the other programs and that he was planning on having a good dinner for the community and have a keynote speech and then take clips from all the other MLK speeches and play them as part of the

Old Business
Nick presented to the Board the playground bid results. The bids for both playground projects came in over budget. Nick had a line item list of the individual bid items and asked the Advisory Board to make suggestions as to what they would prefer to remove to bring the bids into a balanced budget. The group had a very good thoughtful discussion and believed that these items that should be considered are;

- The wall at Sitka Spruce should be removed from the project
- The guard rail at UCSD should be replaced with large boulders
- All fencing should be removed and done at another time
- Concrete for both projects were extremely high and needs to be revisited
- The price for lines on concrete were too high and needs to be revisited
- Why are we considering new lights at UCSD and we needed to move that cost to the school
- Wood fence and gate at Sitka Spruce could be done in house
- The last thing is that we could remove the field but keep all the underground work drainage

Next meeting will be on March 16, 2020

City of Unalaska | Department of Parks, Culture and Recreation
Advisory Committee Meeting Minutes for May 18, 2020

Members present: Thomas Roufos, Michelle Murdock, Greg Peters, Robert Cummings

The Parks, Culture and Recreation Advisory Board meeting was called to order at 6:30 p.m. on May 18, 2020 in the City Council chambers adhering to social distancing during the COVID-19 pandemic.

Recognized visitors to the meeting, Albert Burnham, Nick Cron, Amanda Schmahl

New Business

Amanda talked about the pool repairs including the draining of the pool and acid washing the entire pool and painting out rust spots. She informed the Board that they had done some deep cleaning including removal stains from the floors and improvements to the showers. They had also installed a new eye washing station in the pump room and had fixed the hand rail to the entrance to the pool. They had also refurbished the stair pads to the slide. She said that the pool could not open today due to they were waiting on sand and gravel to come in order to finish the work on the filtrations systems. They had replaced the safety drain covers and as soon as the sand and gravel were on the island they fill the filters and the pool. It will take three-days to fill the pool and get it running.

The board members asked what was the opening plan as there has been little information to the public on when the Pool and PCR facilities would be open. Amanda explained that the PCR had submitted draft plans to the Emergency Operations Center on reopening the PCR facilities. That the plans were in phases and that right now the pool and the Community Center were in the closed phase. However, if they were to go to the social distancing phase the building would only have a limited number of people in the building. She would also adjust the times to remain open to maximize open times to the public and keeping the pool open when the PCR facility was closed. This would give the community a larger window to use the city facilities.
The board wanted to know what date the facilities would be open and what would that look like and if opening was a high priority to the City Council. Roger said that he would bring this up to the EOC meeting this week.

Albert talked about virtual programing that the PCR coordinators were doing including a 5K run that was going on this week. They had 20 people sign up and would receive medals and a t-shirt for completing the race. Next week they would have a virtual field day. They are working on having virtual classes through zoom and have started a new Instagram account to reach out and communicate better with more people.

The board wanted to know if people could register on line as the phone call did not always get a live person. An on-line fillable PDF might be possible for on line registration form that would help have more people participate in PCR programing. The Board suggested that a virtual hiking program is needed and should be added to the public offering.

Old Business

Nick presented to the Board the playground status and told the Board that the demolition work had started on the UCSD park project. However, they had not removed anything at Sitka Spruce. The construction of the playground would be done by a local company with a playground specialist to be on site and inspect the playground before opening it up to the public. The playground project should be completed by October if everything goes well.

Next regular scheduled meeting is on September 21, 2020. However the board wanted to reserve the right to have an additional set of meetings in the summer if needed.

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Erin Reinders, City Manager
Date: June 23, 2020
Re: City Manager Report

Air Travel Updates: Port Director is putting together a work group with industry partners, airlines representatives and staffers for our federal delegation to continue advocating for reliable and regular passenger air service direct to Anchorage.

Cruise Ships: We have received final confirmation that all scheduled cruise ships have canceled for this season.

Executive Level Searches: We continue our efforts to fill two key positions on a permanent basis with highly competent and qualified people to serve our community.

- *Finance Director*. Application packets have been reviewed. Three applicants have been selected for phone interviews, which are being scheduled for the week of June 22. Jim Sharpe continues to serve as Interim Finance Director, and is also participating in meetings telephonically and is available for staff while off island.

- *Police Chief*. We now have two final Candidates for the Police Chief position. Background checks are now underway for both. Onsite visits for both candidates are scheduled for June 27 – July 1. We are working on ways to engage our community members in that process. John Lucking continues to serve as Interim Police Chief.

Directives to the City Manager: Two directives to the City Manager remain outstanding.

- *Options for Increased Tobacco Tax* (11/27/18). *Ongoing*. Council discussed this in detail at the July 9, 2019 Council Meeting. Future discussions will include additional information on Tobacco Excise Tax, a combination Tobacco Excise Tax with increased sales tax on alcohol and marijuana, fund dedication options, and potential rates. City Clerk, Marjie Veeder is working with our city attorneys and will bring additional information to Council in the coming months. This is in a holding pattern given our current state of emergency.

- *Fiscal Sustainability Plan and Policy* (5/14/19). *Initiated*. Interim Finance Director Jim Sharpe began a discussion with City Council on sustainable long term planning at the December 12, 2019 Council meeting. He provided informational material for Council to review. This is in a holding pattern given our current state of emergency.

CITY OF UNALASKA
UNALASKA, ALASKA

ORDINANCE 2020-11

AN ORDINANCE OF THE UNALASKA CITY COUNCIL AMENDING THE FEE SCHEDULE SPECIFYING THE FEES AND CHARGES FOR SERVICES, LABOR AND EQUIPMENT PROVIDED BY THE CITY

BE IT ENACTED BY THE UNALASKA CITY COUNCIL AS FOLLOWS:

Section 1: Form. This is a Non-Code ordinance.

Section 2: Adoption of a Schedule of Rates and Charges. The Council hereby amends the Fee Schedule Specifying the Fees and Charges for Services, Labor and Equipment provided by the City of Unalaska. The fee schedule to be utilized by each city department is attached to this Ordinance and will remain in effect until such time as it may be amended by subsequent ordinance.

Section 3. Effective Date. This ordinance shall take effect on July 1, 2020.

PASSED AND ADOPTED by a duly constituted quorum of the Unalaska City Council on June 23, 2020.

_____
Vincent M. Tutiakoff, Sr.
Mayor

ATTEST:

_____
Marjie Veeder, CMC
City Clerk

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Marjie Veeder, City Clerk
Through: Erin Reinders, City Manager
Date: June 23, 2020
Re: Ordinance 2020-11 amending the fee schedule specifying the fees and charges for services, labor and equipment provided by the City

Your packet this evening contains the final version of the proposed FY21 Fee Schedule, incorporating all changes suggested by staff as well as the amendment adopted by Council on June 9 changing some fees charged at the wastewater lab.

Only one other item was changed following the June 9 meeting. A typographical error was noted in the Ports and Harbors section, page 20, Section M Wharfage. The Minimum Wharfage at UMC and LCD should be $225.26 rather than $252.42. This error has been corrected.

A separate memo is included responding to Council's question regarding vehicle disposal fees.

STAFF RECOMMENDATION: Staff recommends adoption of Ordinance 2020-11.

PROPOSED MOTION: I move to adopt Ordinance 2020-11.

CITY MANAGER COMMENTS: I support Staff's recommendation.

ATTACHMENTS:

- June 23 Memo from Public Utilities Director Dan Winters
- June 9 Memo from City Clerk regarding proposed changes to the Fee Schedule
- Proposed FY21 Schedule of Fees and Charges for Services, Labor and Equipment

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Dan Winters, Director of Public Utilities
Through: Erin Reinders, City Manager
Date: June 17, 2020
Re: Informational Memo explaining the background of the Vehicle Registration Tax and the Solid Waste Vehicle Disposal Fees

SUMMARY: At the June 9, 2020, Council Meeting, Councilor Coleman requested the City Manager have Staff explain why a resident, who has already paid the Vehicle Registration Tax, also must pay the Landfill disposal tonnage fee for junk vehicles over 1 ton. This Memo is Staff's attempt to answer Councilor Colman's question and give a complete background on the Vehicle Tax Ordinance, UCO 14.04.021, and the Solid Waste Fee Schedule language concerning vehicle disposal fees.

PREVIOUS COUNCIL ACTION: At the February 24, and March 31, 2009 Council meetings, Director Winters presented the Solid Waste Rate Increase Options and Vehicle Registration Tax Option to the Council.

During the March 31, 2009 Council Meeting, Council directed Staff to return with an ordinance to adopt the Vehicle Registration tax.

At the May 26, 2009 Council meeting, Council approved Ordinance 2009-06 the Vehicle Registration Tax and created Unalaska Code of Ordinance 14.04.021.

At the April 27, 2010 Council Meeting, council approved Ordinance 2010-02, which amended UCO 14.04.021, Vehicle Registration Tax.

At the June 9, 2020, Council Meeting, Councilor Coleman requested the City Manager have Staff explain why a resident, who has already paid the vehicle registration tax, also must pay the Landfill disposal tonnage fee for junk vehicles over 1 ton.

BACKGROUND: Council implemented the vehicle tax increase to recover the monetary loss to the Landfill Proprietary Fund associated with shipping abandoned vehicles off island. Council adopted the Vehicle tax Ordinance 2009-06 on May 26, 2009. The Ordinance read as follows:

> *§ 14.04.021 Increase of motor vehicle registration tax.*
>
> *A. There is levied a biennial motor vehicle registration tax of one hundred ($100) dollars per vehicle in addition to the biennial motor vehicle registration tax levied pursuant to AS 28.10.431, Vehicle classes 11 and 45, as such statute may be hereafter amended, revised, or replaced.*

B. The following motor vehicles are exempt only from the additional tax levied under this section: motorcycles, trailers, and commercial vehicles weighing more than 12,000 pounds.

The intent of Ordinance 2009-06, Vehicle Registration Tax, is to collect revenue from all owners of vehicles under 12,000 pounds, exempting motorcycles, trailers, and commercial vehicles, to cover the cost of removing them from the Landfill and shipping them off-Island for disposal.

In February 2010, the Alaska Department of Motor Vehicles (ADMV) contacted staff and informed us that the way Amendment to Ordinance 14.04 was written would not accomplish the City of Unalaska's intent. ADMV has over 100 classifications for vehicles. By the ordinance stating Vehicle Classes 11 and 45 in the ordinance, only those classes would be taxed. Over sixty other classifications for passenger vehicles, pickups, and vans would not be taxed. ADMV recommended that we exclude vehicle classes in the Ordinance.

The Ordinance also stated that commercial vehicles weighing more than 12,000 pounds would be exempt from paying the tax. ADMV informed us that commercial vehicle weights start at 5,001 pounds and recommended that we lower the exemption from more than 12,000 pounds to commercial vehicles weighing more than 5,000 pounds. Any commercial vehicle delivered to the Landfill for disposal weighing more than 5,000 pounds will be charged the per ton weight stated in the rate schedule.

The City Attorney rewrote the ordinance following ADMV's recommendations. The rewritten Ordinance was sent to ADMV for review and was sent back with their approval. The new Ordinance read as follows:

§ 14.04.021 INCREASE OF MOTOR VEHICLE REGISTRATION TAX.

There is levied a biennial motor vehicle registration tax of $100 per vehicle subject to the tax in addition to the biennial motor vehicle registration tax levied pursuant to AS 28.10.431, as such statute may be hereafter amended, revised, or replaced.

The following motor vehicles are exempt only from the additional tax levied under this section: motorcycles; trailers; and, commercial vehicles weighing more than 5,000 pounds.

Council's discussion with Staff consisted of the reasoning behind charging a tonnage fee at the Landfill for commercial vehicles weighing over 5,000 lbs. and not non-commercial vehicles that weighed over 5,000 lbs.

The average sedan passenger vehicle and pickup trucks, up to a 1-ton rating, weigh between 3,000 and 5,000 lbs. The next class of truck above the 1-ton truck is the 2500 class of truck that can weigh up to 10,000 lbs. These higher classes of trucks would cost twice as much to ship off Island since the disposal contract is set up to be paid by the ton. This would also include vehicles such as school busses and motor homes.

Due to this reasoning, Council decided to charge a tonnage fee for non-commercial vehicles above the 1-ton rating. Council approved the amendment of UCO 14.04.021 through Ordinance 20010-02 on April 27, 2010.

The result is the table below, included in the Solid Waste Fee Schedule, for vehicle disposal.

Passenger cars	No Charge
Pick-up trucks & SUV's up to 1 Ton Rating	No Charge
All commercial vehicles	$918.95/ton

DISCUSSION: As stated above in the background narrative, the Fee Schedule language for the disposal of vehicles was the result of discussions between Staff and Council during the implementation of the Vehicle Tax Ordinance. The goal was to capture all of the costs associated with the disposal of vehicles at the Landfill, including the cost of disposing of abandoned vehicles. Junk vehicles and metal disposal historical costs are approximately $450 per ton to load and ship off island.

The structure of the fee schedule for vehicle disposal is as follows. The average passenger cars weighs approximately 3,000 lbs. and is the majority of resident owned vehicles in Unalaska. These classes of vehicle pay the increased vehicle tax and are not charged at the Landfill.

Pickup trucks and SUV's up to 1-ton rating weigh approximately 5,000 lbs. and pay the increased vehicle tax and are not charged for disposal at the Landfill.

Vehicles over the 1-ton rating can weigh as much as 10,000 lbs. and cost up to twice as much to ship off island. These vehicles do pay to be disposed of at the Landfill per the Fee Schedule.

Most commercial vehicles are not brought to the Landfill but shipped off island by the owner to be disposed of. To maintain the momentum of this practice, Staff and Council decided to charge a tonnage fee when commercial vehicles are brought to the Landfill.

Vehicle taxes are collected through the Alaska Department of Motor Vehicles (ADMV) registration renewal process. ADMV has over 100 classifications for vehicles. The language used in UCO 14.04.021 was agreed upon by the City of Unalaska and ADMV to relieve the City of the burdensome task of naming each vehicle class in the ordinance. Changing UCO 14.04.021 would be a long and tedious process and the final product would not accomplish the needs of the City.

ALTERNATIVES: Council could choose to revisit this issue now or in the future.

FINANCIAL IMPLICATIONS: Removing junk vehicles from our island is a costly venture. The most visible cost is the junk vehicle and scrap metal removal costs from the Landfill, for which the Utility budgets $400,000 annually.

The underlying cost for collecting and preparing abandoned vehicles for disposal at the Landfill is substantial. Department of Public Safety budgeted $6,000 for FY2020 for the impounding, title search, and towing of abandoned vehicles to Public Works. Public Works absorbs the cost to remove all garbage, wheels, and liquids from the vehicles before the vehicles are taken to the Landfill. It has been estimated that it costs the City up to $1,500 per abandoned vehicle to prepare it for disposal.

The projected revenue from the vehicle registration tax for FY2020 is $60,000. The Landfill Budget receives $50,000 and the General Fund receives $10,000 of these monies. The revenue received from the Vehicle Registration Tax only pays for 15% of the cost to remove vehicles from the island.

LEGAL: As needed.

STAFF RECOMMENDATION: Staff recommends no changes concerning the Vehicle Tax Ordinance UCO 14.04.021, or the Solid Waste Fee Schedule for vehicle disposal.

PROPOSED MOTION: N/A

CITY MANAGER COMMENTS: I support staff's recommendation.

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Marjie Veeder, City Clerk
Through: Erin Reinders, City Manager
Date: June 9, 2020
Re: Ordinance 2020-11 amending the fee schedule specifying the fees and charges for services, labor and equipment provided by the City

SUMMARY: Each year City Council reviews the fee schedule specifying the fees and charges for services, labor and equipment provided by the City. Attached for your review are the proposed changes to take effect on July 1, 2020 for FY21.

PREVIOUS COUNCIL ACTION: In 1999 Council adopted the fee schedule and each subsequent year has reviewed and approved proposed changes.

BACKGROUND: In the past, the City maintained several different fee schedules and at times, fees were established without Council approval. In an attempt to bring consistency to the schedule, all fees were incorporated into a single fee schedule for Council adoption. Because it was previously connected to AIEDA requirements, the Ports tariff is not included in the fee schedule. During the recodification of the Unalaska Code of Ordinances, all references to fees were removed from the code and included in the fee schedule, which was then adopted by non-code ordinance.

DISCUSSION: A new section was added for the Department of Fire and Emergency Medical Services, and the related fees were transferred to the new section from Public Safety.

Four departments are proposing changes to their fee schedule, as follows:

1. Fire and Emergency Medical Services: FEMS would like to adjust our fee scale for ambulance services. See page 3. Currently, Unalaska's ambulance fees are the lowest in the state. We believe it is in the best interest of the City to have two fee scales, one for local residents and a higher rate for non-residents, following the practice of many departments in the state. The lower proposed rate for our residents is the lowest rate in the state; and the proposed fee scale for non-residents is at the median of rates charged statewide.

2. Ports and Harbors: Ports is proposing four minor housekeeping changes to include:

    a. Page 16 - Section IV, D (3) changing the wharfage rate at CEM from $4.85 to $4.93. This rate was overlooked in the last adjustment. Add the word "crane" to #4.

    b. Page 18 - Section VI to eliminate Spit Dock Crane fee it is already addressed under letter O section VI.

c. Page 20 - Section VI Letter M, define minimum wharfage for UMC and LCD at $252.42; Section O, clarify the dock-mounted crane rate $25.42 per hour

3. Public Works / Public Utilities: Page 24 - added two new pieces of equipment to the fleet.

4. Public Utilities:

a. Wastewater Utility

i. Pages 32 and 33 - Delete outdated rates

ii. Page 34 - Added fees for the Wastewater Laboratory. Occasionally local businesses request that the Wastewater Lab run samples for them when the local labs are out of service. To remain sustainable, the cost of running these samples must be captured. The fees charged are higher than the local commercial lab fees to dispel any idea that the Wastewater Lab is in competition with local labs.

b. Solid Waste Utility

i. Page 35 - Delete outdated rates

ii. Page 36 - Add fees for Mud Gear at page 36 to the Tipping Fee/Minimum charge table. Mud gear is described as floats or tires of any size that are cabled or chained together and used for a various reasons on fishing boats. Extra time and effort are required to handle Mud Gear and are almost impossible to dispose of. The charge of $365 per ton will cover the cost of handling and disposal.

iii. Page 36 - Delete redundant “Pick-Up truck & SUV’s up to 1 Ton Rating”

iv. Page 36 - Delete the $227.59 charge for “Net Compact Fee (per ton)” and added a charge of $300 per ton. Nets are getting difficult to dispose of. According to our last proposal, the handling and disposing of nets and line off island will cost approximately $300 per ton.

v. Page 37 - Changed the first paragraph in this section to read as follows: “Customers responsible for any mixed load arriving at the City’s solid waste disposal facility that includes prohibited items or materials requiring separation and sorting shall be charged $750 per container. This charge will be in addition to the landfill tipping fee in Schedule B above.” The Landfill receives several containers per week that contain hazardous material, toxic waste and material that will harm the Baler. Once these materials are found in the containers, the whole container must be sorted. The charge of $750 per container will cover the cost of Landfill Personnel sorting the container and the disposal of the hazardous waste and material. This $750 charge coincides with fees charged at landfills around the state.

vi. Page 37 - Change the second paragraph to: “Materials requiring separation” include: major items and appliances; pallets and large wood

items; nets and line; fish waste; fish meal; preservative;; tires; wire rope/cables; junk vehicles; and scrap metal. “Prohibited materials” include: creosote or creosote treated items; petroleum products; corrosive materials; toxic materials; liquids; off-island waste; PCB’s; and Asbestos and any material considered a hazardous waste.” The language “galley/restaurant” has been removed from this paragraph, which is not considered a prohibited material. Our ADEC Landfill Permit prohibits the City from accepting Hazardous Waste. The added language “and any material considered a hazardous waste” has been added to the end of the paragraph. This language was added for clarification and better defines our intent to keep all hazardous waste out of the Landfill.

vii. Page 38 - Deleted the last two sentences of this paragraph and added “All tanks and bottles (propane, fuel, oil, Freon, oxygen etc.) must be cut in half.” This new language describes the intent of rule in a clearer sentence. In addition, metal recycling businesses will not accept barges of metal if they see tanks of any nature that are not cut in half.

ALTERNATIVES: Council may choose to adopt the fee schedule as proposed; amend the proposed changes; or to make no changes to the existing fee schedule.

FINANCIAL IMPLICATIONS: Staff does not anticipate significant financial impact.

LEGAL: None.

STAFF RECOMMENDATION: Staff recommends adoption of Ordinance 2020-11.

PROPOSED MOTION: I move to schedule Ordinance 2020-11 for public hearing and second reading on June 23, 2020.

CITY MANAGER COMMENTS: I support Staff’s recommendation.

ATTACHMENT: Proposed FY21 Schedule of Fees and Charges for Services, Labor and Equipment.

CITY OF UNALASKA

FY21 Schedule of Fees and Charges
For Services, Labor and Equipment
Effective July 1, 2020

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GENERAL FEE SCHEDULE

The following fees and services apply to all City of Unalaska departments unless otherwise stated in a specific department's fee schedule.

Photocopies	
1st five copies (letter size)	Free
Six or more copies	$0.25 per copy
1st two copies (11x17 or legal)	Free
Three or more copies (11x17 or legal)	$0.50 per copy
Copies for non-profits	Free unless the document to be copied is available digitally and is over 25 pages in length, in which case, a charge of $0.10 per page will be imposed for each page after the 25th.
Digital copy of audio recording	No charge; recording media provided by patron
Notary Public Services	Free
Non-Sufficient Funds (Bad Check)	$25.00
Interest Rate	Unless a different rate of interest is provided for by ordinance or by agreement, interest shall accrue on obligations owing to the city at the rate of 10.5% per annum from the date that they are due.

CITY CLERK'S DEPARTMENT

Business License	$25.00
Fee for late renewal of business license	$10.00
Taxi Permit	$100.00
Taxi Permit Annual renewal	$100.00
Taxi Permit Transfer fee	$50.00
Faxing for Customers/Patrons	
Receiving	Free with cover sheet (held for 7 days)
Outgoing to Standard Dialed Numbers	$1.00 per page including the required cover page

FIRE AND EMERGENCY MEDICAL SERVICES

EMS CLASS FEES

Heartsaver First Aid CPR AED	$75.00
BLS for Healthcare Providers	$75.00
BLS Instructor	$150.00
ETT	$300.00
EMT I	$400.00
EMT II	$500.00
EMT III	$500.00
EMT I, II, III Refresher	$200.00
All CPR Refreshers	$50.00

AMBULANCE FEES

	Resident	Non-Resident
BLS-NE Basic Life Support Non-Emergency	$300	$ 900
BLS-E Basic Life Support Emergency	$500	$1,000
ALS1-E Advanced Life Support Level 1	$600	$1,200
ALS2-E Advanced Life Support Level 2	$800	$1,500
Specialty Care Transport	$3,000	$3,000
Mileage	$11/mi	$11/mi

PARKS, CULTURE & RECREATION DEPARTMENT

General Fees Statement: The Fee Schedule for programs and services is made through a public process. The PCR Advisory Committee reviews staff recommendations and makes recommendations each year to the City Council for the City Council's review and final approval.

The Department of Parks, Culture, and Recreation (PCR) user fees provide patrons with access to the Aquatics Center and Community Center. User fees at the Community Center are waived for all ages up to 19 years of age, and for those 55 years old and older. The Aquatics Center user fees are waived for children 4 years old and under and those 55 years old and older.

I. PCR USER FEES

Aquatics Center: Pool & Slide, Fitness Center, Sauna, Showers and Mezzanine

Community Center: Art Room, Multipurpose Room, Racquetball Courts, Teen Room, Cardio Room, Music Room, Run/Walking Track, Weight Room, Gymnasium, Showers/Lockers, Commercial Kitchen, Kids Room, Conference Room and Outdoor Playground

Length of Use	Adult (ages 19-54)	Aquatic Center (ages 5-18)	Family (max 3 adults)
12 Month Pass	$270.00	$120.00	$600.00
6 Month Pass	$180.00	$80.00	$350.00
3 Month Pass	$112.50	$50.00	$250.00
1 Month Pass	$45.00	$20.00	$100.00
*20 punch card	$60.00	$25.00	
*10 punch card	$40.00	$13.00	
Daily Admission	$5.00	$2.00	

- All punch passes expire one year from the purchase date.
- Family members utilizing a family pass must reside in the same residence.
- A 25% discount is available to current fulltime college students who present a valid college ID and proof of enrollment at the time of registration.
- No refunds, transfers, or prorating of pass values are permitted without approval from PCR management except for punches on a punch pass.

CORPORATE USER FEES

Corporate pass rates are available for commercial fishing ships/boats, businesses, corporations, nonprofits, etc. Advance daily passes may be purchased at the corporate rate of $3.00 per person, per day. Corporate pass applications may be obtained at the Community Center. A minimum purchase of 100 punches is required for every Corporate Account transaction.

II. FACILITY & ROOM RENTAL RATES

AQUATICS CENTER

Aquatics Center – includes Mezzanine	$60.00 per hour *for a minimum of two hours*
Aquatics Center Mezzanine	$20.00 per hour
Use of Pool Slide with Rental	$20.00 per hour (additional guards required)
BURMA ROAD CHAPEL (includes kitchen)	$40.00 per hour

COMMUNITY CENTER

Conference Room	$20.00 per hour
Gymnasium Rentals are available on Sundays from 12:00 PM – 2:00 PM	$50.00 per hour
Gymnasium, plus one of the following inflatables – Pirate Ship or Bounce Castle	$75.00 per hour and $50.00 for additional hour
Gymnasium plus Obstacle Course Five week advance notice required for scheduling purposes	$125.00 per hour and $50.00 for additional hour

Gymnasium rental will only be available on Sunday from 12:00-2:00p.m., total rental time.

Multipurpose Room Includes Tables/Chairs	$40.00 per hour and $25.00 for every additional hour
Commercial Kitchen	$35.00 for first hour and $15.00 for additional hours
Multipurpose Room & Kitchen	$60.00 for first hour and $40.00 for additional hours

All room rentals require a $50.00 refundable short term damage deposit. Renter will be responsible for the set up and tear down of chairs and tables in rental space. PCR staff will be responsible for moving the correct number of rented chairs and tables to rental space. Cleaning and/or damage fee will be assessed if rooms are left unclean or damaged. Renter must complete a walkthrough of space with PCR staff members before and after each rental to ensure that no damage has occurred and that space has been cleaned to department standards. Failure to complete these walkthroughs will result in the deposit being kept by PCR. No charge for non-profit organizations registered with the City of

Unalaska, the Unalaska City School District, or other city departments.

III. PROGRAM FEES

General Fees Statement: Program fees may vary depending on the length of a program, if it is an adult or youth program, and the varying cost of equipment and supplies. Program fees are published in the PCR Activity Guides, program flyers, and other advertisements and announcements. PCR offers a 10% discount for early bird registrations, which is rounded to the nearest whole dollar amount. Early bird fee is defined as a registration taking place at least two weeks before a program's scheduled start date.

Late Pickup Fee:
6-10 minutes = $5.00
11-15 minutes = $10.00
16-20 minutes = $15.00
21-25 minutes = $20.00
26-30 minutes = $25.00

Scholarships may be available based on financial need. Anyone needing financial assistance in registering for the PCR programs is encouraged to apply at the Community Center. All scholarship information is confidential. For more information, call the PCR Recreation Manager at 581-1297.

IV. LIBRARY FEES

Fines for Overdue Materials

General: Use of a library card to check-out material creates a contract between a library patron and the City of Unalaska. A library patron is financially responsible for all items checked out with their library card. Though some materials may not incur fines if held for extended periods of time, library patrons are responsible for replacement of any materials that are lost if checked out on their library card. The City reserves the right to charge a processing fee to partially offset expenses incurred for re-acquiring and replacing lost materials.

Interlibrary Loan Materials: Libraries that loan materials to patrons in Unalaska determine replacement costs and processing fees if those materials are lost. In addition to a local processing fee, fees imposed by lending libraries are passed through to the borrowing patron by the Unalaska Public Library.

Books and Magazines	No overdue charge
If Materials are Lost	Replacement cost plus $5.00 per item processing fee
Interlibrary Loan Materials	$0.25 per day local overdue charge, maximum overdue charge $5.00

If Materials are Lost	Fines, replacement cost and processing fee as determined by the lending library, plus $5.00 local processing fee and local overdue charge
DVDs	$1.00 per day local overdue charge, maximum overdue charge $5.00
If Materials are Lost	Replacement cost plus $5.00 per item processing fee
Lost or Damaged Items	Replacement cost, plus applicable fines, plus $5.00 per item processing fee
Library Conference Room Rental	$20.00 per hour, with below exception:

Conference Room use is free of charge to non-profit, civic, social, cultural, educational, and government groups, as long as the meetings or programs they hold are open to the public, are free of charge, and are not held with the intention of generating revenue.

Photocopying and printing	$0.10 per page black & white $1.00 per page color (2-sided copies count as two pages)
For school assignments	No charge
Faxing for Customers/Patrons	
Receiving	Free with cover sheet (held for 7 days)
Outgoing to Standard Dialed Numbers	$1.00 per page including the required cover page
Outgoing to Standard Linked to Satellite and Radio Communications Systems	$1.00 per page including the required cover page, plus additional fees based on per minute charges for special telephonic connections
Passport Processing Fees	All fees for passport application and processing, including local processing fees, are set by the U.S. State Department and are not refundable.

Items Available for Purchase at Library

USB Drive	$7.50
Headphones	$5.00
Passport Photos	$15.00

V. PARK USE FEES

PCR programs and co-sponsored activities take priority at all playground and park facilities. Park amenities such as, ball fields, playgrounds, and picnic areas are on a first come basis when PCR or co-sponsored activities have not been scheduled. Please check with the Community Center at 581-1297 for availability before planning any personal events.

Pavilion Rental Fee $10.00 per hour

The pavilions at Community Park/Kelty Field and Expedition Park are available for reservation from the first weekend in May to the last weekend in October. Pavilions must be reserved at least seven days in advance of reservation date. Pavilion rental includes the use of the large charcoal grill beside each pavilion. Pavilions can only be reserved during Community Center operating hours and users must adhere to all park use regulations.

VI. OTHER FEES

Gym floor tarp	$50.00 for set up and take down
I.D. card replacement fee	$5.00
Aquatics Center Lockers	$10.00/month
Lost day-use lock	$5.00
Lost Towel	$5.00
Laminating	$1.00/foot
Clay (25 lb. Block)	$30.00
Helium for Balloons (must provide balloons and string)*	$2.50 for standard latex $12.00 for large Mylar
Color Poster Printing*	
11x17 poster	$2.00 each
18x24 poster	$20.00 each
Two 18x24 posters	$30.00
24x36 poster	$30.00 each

Note: The preferred poster format is a large format JPG, PNG, or BMP file. The suggested pixel dimensions are at least 1700 x 2500, or a file size of at least 3MB. Smaller files may become blurry when enlarged. We can also enlarge Word, PDF, and Publisher files. Files that do not meet the suggested file types or formats may be subject to a $10.00 set up fee. There are no waived or reduced fees for any agencies or non-profit organizations for making posters.

Important: Poster printing is not available as an on demand service. Community Center staff may need up to three business days to process printing requests.

Note: Balloon filling is dependent upon staff and helium availability. Filling of balloons should be scheduled 3 days in advance to ensure availability.

Kiln Firing Fee: $25.00 for any personal firings outside of the PCR's complimentary firing schedule or for pieces requiring firing to specific temperatures outside of the standard PCR fires. This fee may be split amongst a group of patrons.

Popcorn Machine Rental: The PCR popcorn machine is available for rent for $25.00 per hour with a $200.00 deposit. The popcorn machine must be rented at least one week in advance and must be cleaned to staff specifications upon return.

Celebration Tent – 20'x20' includes side walls	$250.00 per day with $200.00 refundable Security and damage deposit. Any damage or lost items that cost more than the $200.00 damage deposit will be charged to the rental party. (Rental party is responsible for pick up, set up, take down, and return.)

The following items require a $50.00 refundable deposit:

Chairs	$1.00 per chair
Tables	$3.00 per day, per table

Other equipment and facilities may be available on a contingent basis with PCR Director's approval.

DEPARTMENT OF PLANNING

Variance/Conditional Use Application	
Residential Structure/Use	$50.00
Commercial/Industrial Structure/Use	$200.00
After-the-Fact Variance/Conditional Use Application	
Residential Structure/Use	$100.00
Commercial/Industrial Structure/Use	$400.00
Plat Application	$250.00
Zone Change Application	$250.00
Appeals	$100.00
Tideland Lease Application	
Category A	$500.00
Category B	$200.00
Large Format Scanning (Labor Cost)	$35.00/hour
Large Format Copies (Black and White)	$0.01 per square inch + labor
Large Format Copies (Color)	$0.02 per square inch + labor
Comprehensive Plan	$20.00
Housing Strategy	$10.00
Title 8 UCO	$15.00
Street Address Map Book	$35.00
Tax Map Book	$50.00
Zoning Map (36x60 Color)	$40.00
Landmarks and Location Map (36x60 Color)	$40.00

DEPARTMENT OF PORTS AND HARBORS

SECTION I: SPIT DOCK HARBOR FACILITY

A. **Definitions**

Moorage: The charge assessed against a vessel for berthing at a space designated as a mooring space or for mooring to a ship so berthed.

VESSEL LENGTH		MONTHLY PREPAY
From	To	
0’	99’	$1,254.50
100’	124’	$1,583.15
125’	149’	$2,459.82
150’	174’	$4,212.46
175’	199’	$6,319.96
200’	224’	$8,778.61
225’	300’	$11,055.37

VESSEL LENGTH		DAILY RATE
From	To	
0’	99’	$57.43
100’	124’	$72.47
125’	149’	$112.60
150’	174’	$192.84
175’	199’	$289.31
200’	224’	$401.87
225’	300’	$506.09

B. **Prepaid Monthly Moorage**

Vessels may prepay at the monthly prepay rate. A month will be considered 30 days. Previous charges on vessel account must be paid in full to qualify for prepayment option and the owner must be in good standing with the Port. Monthly moorage rate vessels that occupy moorage beyond the expiration of their prepaid terms will be charged at the daily rate for that size vessel classification from the day that prepayment of monthly rate expires. Prepayment extensions may be granted prior to expiration of the current agreement.

Note: Due to periods of heavy overflow vessels may be granted permission by the Port Director or Harbormaster to tie up at the UMC Dock at Spit Dock Rates.

For labor, crane, equipment and other charges see Section VI.

SECTION II: BOB STORRS INTERNATIONAL BOAT HARBOR

A. **Definitions**

Long Term Moorage: Moorage for those vessel owners or operators who have a long term slip or are on the wait list.

Transient Moorage: Moorage that is not reserved and the vessel owner is not on the wait list.

Wait List: A list of vessels waiting to be assigned a reserved slip based on length classification and date of application. Owners may request to be placed on the wait list free of charge.

B. **Long Term and Reserved Moorage**

1. Monthly rate:

VESSEL LENGTH		MONTHLY RATE
From	To	
0’	20’	$57.90
21’	25’	$78.05
26’	30’	$90.67
31’	35’	$112.00
36’	40’	$128.99
41’	45’	$145.97
46’	50’	$162.93
51’	55’	$179.93
56’	60’	$196.91

C. **Transient Moorage**

1. Daily rate:

VESSEL LENGTH		DAILY RATE
From	To	
0’	20’	$7.27
21’	25’	$9.76
26’	30’	$11.66
31’	35’	$13.86
36’	40’	$15.76
41’	45’	$17.97
46’	50’	$20.16
51’	55’	$22.05
56’	60’	$24.26

2. For labor, equipment and other fees, see Section VI

3. Transient Vessel Owners may be required to post a deposit.

SECTION III: POT & LIGHT CARGO DOCK

Definitions:

Dockage: The charge assessed against a vessel for berthing at a facility for the purpose of moving cargo. Dockage is assessed every 12 hours.

Moorage: The charge assessed against a vessel for berthing at a facility without conducting cargo operations. Moorage is calculated midnight to midnight.

Wharfage: A charge assessed against all cargo being transferred over a facility or between vessels when berthed at a facility.

A. **Dockage**

Rate: Dockage shall be charged at $.90 per foot per 12 hour period. Vessels Overall Length (LOA) of 150' or greater will be billed per the UMC Tariff Rate.

*Note: Due to periods of heavy overflow, vessels may be granted permission to tie up at the UMC Dock at Spit Dock Rates. In the event that other facilities are over capacity, the Port Director or Harbormaster may honor Spit Dock moorage rates.

For labor, equipment and other charges, please see Section VI.

Moorage Rate per Day

VESSEL LENGTH		DAILY RATE
From	To	
0'	99'	$56.32
100'	124'	$72.47
125'	149'	$112.60
150'	174'	$192.84
175'	199'	$289.31
200'	224'	$401.87
225'	Up to 300'	$506.09
All Dockage and Moorage for vessels greater than 300' will be billed $.90 for each additional foot over 300'.		

D. **Fishing Gear Wharfage**:

1.	Crab Pots/Cod Pots	$2.05 per Pot
2.	Other Pots	$1.17 per 10/ minimum of 10
3.	Trawl Nets	$93.92 each
4.	Trawl Doors	$17.61 each
5.	Longline Modules	$58.71 each
6.	Dockage is assessed when loading and unloading gear	

E. **Other Wharfage**: Section VI

F. **Land Use**:

Cargo Storage Section VI

G. **General Notes**

1. On/off-loading of fishing gear and cargo has priority over moorage and all other non-emergency uses.
2. Vessels must vacate the dock after cargo or gear on/off loads are completed, when requested to do so by the Harbormaster.
3. Moorage at Spit and Cargo Dock is by permission only.
4. For labor, equipment and other fees, see Section VI.

SECTION IV: CARL E. MOSES BOAT HARBOR

A. Definitions

Permanent Moorage: Moorage that has paid the minimum required pre-payment and vessel owner/operator has been assigned a reserved slip.

Transient Moorage: Moorage for vessel without a permanent slip.

Dockage: The charge assessed against a vessel for berthing at a facility for the purpose of transferring cargo or gear.

Waste oil disposal fee: See Section VI.

B. Long Term and Reserved Moorage

1. Annual Rates are based on Length over all x Annual cost per Linear Feet (LF).

Annual Rate:

VESSEL LENGTH		Annual Base Rate
From	To	Per Foot LF x LOA
0’	49’	$43.14
50’	59’	$49.30
60’	69’	$55.46
70’	79’	$67.78
80’	89’	$80.10
90’	99’	$86.27
100’	109’	$92.43
110’	119’	$98.59
120’	129’	$110.91
130’	139’	$123.24
140’	149’	$141.72
150’		$160.21

- Not more than one vessel may be moored in a stall at any one time except with the prior consent of the Harbormaster. The Harbormaster may permit multiple occupancy of a single stall or float area if the Harbormaster determines that multiple occupancy is safe and would facilitate maximum use of the harbor facilities.

- A person who owns or operates more than one vessel is permitted to lease only one exclusive stall unless there is no waiting list for the size of exclusive stall required by the second vessel. The second or other vessel(s) owned or operated by such a person shall be accommodated on a transient basis.

- An entity with multiple vessel(s) that has a permanent slip must indicate which vessel name belonging to that entity will occupy that slip and may substitute only one vessel owned by the entity per annual payment period for that slip. The request must be submitted in writing and pre-approved by the Port Director or Harbormaster.

2. Vessels will not be credited for unused pre-paid moorage time.

C. Transient Moorage

1. Daily Rates are based on Length over all x Daily base cost per Linear Feet (LF).

Daily rate:

VESSEL LENGTH		Daily Base Cost Per Foot LF x LOA
From	To	
0’	49’	$.23
50’	59’	$.28
60’	69’	$.32
70’	79’	$.39
80’	89’	$.44
90’	99’	$.48
100’	109’	$.51
110’	119’	$.55
120’	129’	$.62
130’	139’	$.68
140’	149’	$.80
150’		$.89

2. For labor, equipment and other fees, see Section VI.

D. Drive-Down Float

Definitions:

Wharfage: The charge assessed against all cargo being transferred over a facility or between vessels when berthed at a facility. (See Tariff)

- On/off loading of fishing gear and cargo have priority over moorage and all other non-emergency uses.
- Vessels must vacate the dock after cargo or gear on/off loads are completed, when requested to do so by the Harbormaster.

1. Permanent vessels will be granted a four-hour grace period. Once the vessel exceeds the four-hour grace period, the vessel will be charged the daily rate every four hours.

2. Transient vessels will be charged the transient daily rate every 4 hours.

3. Wharfage Rate: $4.93 per ton.

4. For labor, crane, equipment and other fees see Section VI.

5. Gear will be charged per ton.

SECTION V: EMERGENCY MOORING BUOY

Definitions:

Moorage: The charge assessed against a vessel for berthing at a space designated as a mooring space or for mooring to a ship so berthed.

Fee: Charges are based on a 24 hour period beginning at the time the vessel has secured the mooring pendant until the mooring pendant is released

Mooring Buoy Daily Rates:

BASED ON LENGTH OVER ALL IN FEET		DAILY RATE
FROM	TO	
0’	100’	$176.11
101’	125’	$220.72
126’	150’	$264.16
151’	175’	$349.86
176’	200’	$399.17
201’	225’	$449.66
226’	250’	$498.97
251’	275’	$549.44
276’	300’	$598.77
301’	325’	$649.24
326’	350’	$704.42
351’	375’	$837.09
376’	400’	$892.28
401’	425’	$948.63
426’	450’	$1,003.80
451’	475’	$1,056.64
476’	500’	$1,115.34
501’	525’	$1,174.04
526’	550’	$1,232.74
551’	575’	$1,291.44
576’	600’	$1,350.15
601’	625’	$1,467.56
626’	650’	$1,761.07
651’	675’	$2,054.58
676’	700’	$2,348.09
701’	725’	$2,641.60
726’	750’	$2,935.11
751’	775’	$3,228.63
776’	800’	$3,522.13
Vessels in excess of 800’ will be assessed an additional $4.32 per foot per day		

SECTION VI: APPLIES TO ALL CITY OF UNALASKA PORT FACILITIES

A. **Harbormaster Services, Facilities, and Equipment**

1.	Pump Fee (per day or portion thereof)		$120.00
2.	Harbor Department or other City labor charges		
	Labor:	Straight Time	$118.63 per hour
		Over time	$177.94 per hour
		Double Time	$237.26 per hour
	Materials		Cost plus 18%
3.	Private contractors and their materials and equipment contracted by the City to perform services or repairs chargeable to vessel owner/ operator for owners or operators that damage port facilities through accident, intentional tampering, failure to leave facilities in orderly condition or other acts reimbursable under UCO Title 18.		Cost plus 30%
4.	Mobile Ramps		$190.57 per ramp per day

B. **Port Response Vessel**

1.	Towing of vessels with the Ports patrol vessel, Per UCO Title 18.08.	$725.00 per hour
2.	Miscellaneous vessel operations will be billed at $214 per hour plus labor costs	

C. **Showers**

Shower Cards	$5.00 per use

D. **Responsibility for Charges**

Vessels, their owners, agent masters, and shippers or consignees of goods docking at or using the facilities covered by this fee schedule, agree to be responsible, jointly and severally, for the payment of charges assessed in accordance with this fee schedule. Rates, rules and regulations of this fee schedule and liability for charges apply without regard to the provision of any bills of lading, charter party agreement, third party agreement, contract or any other conflicting documents. Vessel will not be credited for unused, pre-paid moorage time.

E. **Electrical Rates**

Where available, the Port will furnish electrical power to vessels at what the Port is charged plus $0.04 per kWh. In addition, meter maintenance and reading fee will be charged to each meter for $7.12 per month.

F. **Garbage & Refuse**

1. No wood or pallets, metal, heavy plastic such as crab line or poly totes, fish waste, chemical or food additives such as sugar or sorbitol will be allowed in the 50 yard dumpsters. Metal, pallets, plastic, fish waste or food additives or chemicals will be hauled to the landfill separately.

2. The following charges will be made when a ship places refuse in a Port supplied drop box or dumpster:

40 yard dumpster	$1,590.00
¾ (three quarters) of a 40 yard dumpster	$1,192.50
½ (one half) of a 40 yard dumpster	$795.00
¼ (one quarter) of a 40 yard dumpster	$397.50

3. Charges for separately hauled materials are as follows:

Pallets or other wood scraps:	1 flatbed truckload	$710.39
Other waste or scrap:	1 flatbed truckload	Landfill Fees + $209.81 and 18% Admin Fee

Improper disposal of garbage will be charged at cost plus 18%

G. **Fresh Water**

First 1000 Gallons	$62.71
Each additional 1000 gallons or fraction thereof	$7.53

H. **Impound Fee** $24.92 per day

I. **Port Rates for providing security (TWIC)**

(Security that is required by the owner, shipper, agent, or USCG regulations)

Labor:	Straight Time	$118.63 per hour
	Over time	$177.94 per hour
	Double Time	$237.26 per hour

J. **Security Testing Fee** $75.00 per person

K. **Facility Security Preparation** (set up and tear down) $317.60

L. **Waste Oil Disposal Fee** – Waste Oil, plus 18%

• Waste Oil	Cost Plus 18%
• Contaminated Waste Oil	Cost Plus 18%
• Antifreeze	Cost Plus 18%

M.	**Wharfage**		$4.93 per ton $.017 per gallon of fuel
	Minimum Wharfage (UMC & LCD)		$225.26
N.	**Storage**	Daily Rate: Monthly:	$.03 per square foot $.43 per square foot
O.	**Cranes (dock mounted)**		$25.42

DEPARTMENT OF PUBLIC SAFETY

POLICE

Civil Process Service, Served or Unserved	$50.00
Private Party Fingerprints	$25.00
Portable Breath Test (PBT)	$75.00

PUBLIC INFORMATION REQUESTS

Copy of narrative report	$20.00
Copy of DVD/CD	$10.00

CHAUFFEURS LICENSE

Chauffeurs license (Original)	$55.00, plus State of Alaska processing fee for fingerprinting
Renewal	$15.00
Taxi Meter Inspection	$20.00

VEHICLE IMPOUND

Storage of Vehicle	$20.00 per day

TOWING SERVICE

Actual cost of towing service will be as charged by provider

ANIMAL CONTROL

Dog Impound – 1st offense	$25.00
Dog Impound – 2nd offense	$50.00
Dog Impound – 3rd offense	$100.00
Animal License	$5.00
Replace lost tag	$5.00
Kennel Fee	$20.00 per day

DEPARTMENT OF PUBLIC WORKS/PUBLIC UTILITIES

It is recognized that from time to time for various reasons the city shall be called upon to perform services for private individuals and companies using the city labor force and equipment. It is the policy of the city and as such the duty of the Director of Public Works or the Director of Public Utilities, before agreeing to perform such services for a private entity, other than those required to be performed by the city, that the director be assured that all attempts by the applicant to secure such services from the private business sector have been exhausted.

EQUIPMENT RATES DO NOT INCLUDE THE COST OF AN OPERATOR. THE EQUIPMENT WILL BE RENTED WITH A QUALIFIED CITY EMPLOYEE TO OPERATE THE EQUIPMENT. FEES FOR OPERATORS ARE SET OUT BELOW.

LABOR CHARGE OUT RATE

DEPARTMENT OF PUBLIC WORKS

Note: See Utilities specific fee schedules for Public Utilities labor charge out rates.

Straight Time	$85.00 per hour
Over time (time and a half)	$128.00 per hour
Double Time	$170.00 per hour

TRUCKS

10 CY End Dump Truck	$125.00 per hour
10 CY Sand Truck	$140.00 per hour
Truck Tractor to Pull Trailer	$110.00 per hour
Water Truck, 2000 Gallon Capacity	$125.00 per hour
Water Truck, 4000 Gallon Capacity	$140.00 per hour
Terex Rock Hauler 2205B	$180.00 per hour
2½ Ton Flat Bed	$90.00 per hour
Vactor Truck	$200.00 per hour
2½ Ton Flat Bed w/Hydraulic Boom Crane	$150.00 per hour
5 CY End Dump Truck	$90.00 per hour
Street Sweeper	$150.00 per hour
Bucket Truck	$150.00 per hour

TRAILERS

Generator Trailer	$90.00 per hour
Lowboy Trailer, 70,000 lb. capacity	$140.00 per hour
Tilt-Deck Trailer	$100.00 per hour

MOTOR GRADERS

Cat 14H Grader	$220.00 per hour
Cat 14M3 Grader	$220.00 per hour
Volvo G990	$220.00 per hour

BULLDOZERS

Cat D-3C Dozer	$110.00 per hour
Cat D7 Dozer w/ripper	$190.00 per hour
Cat D4 Dozer	$140.00 per hour
Cat D6 Dozer	$160.00 per hour

FRONT END LOADERS

Cat IT28B	$130.00 per hour
Cat 950	$130.00 per hour
Cat 902	$110.00 per hour
Cat 930M	$140.00 per hour
Volvo L-120E	$140.00 per hour

BACKHOES

Case 580 Backhoe	$110.00 per hour
JCB Backhoe	$150.00 per hour
Case 580 Backhoe with hammer attachment	$150.00 per hour
Cat 307C	$100.00 per hour
Volvo EC210CL	$190.00 per hour
Cat M314F Rubber-Tired Excavator	$190.00 per hour

COMPACTORS

Cat CB214D	$90.00 per hour
Ingersol Rand SD100D Vibratory Drum	$125.00 per hour

MISCELLANEOUS

Jack Hammer	$40.00 per hour + supplies
Pickups, 4x4, ½ Ton	$20.00 per hour
Air Compressor, 120 PSI	$50.00 per hour
DXL-750 Air Compressor, 160 PSI	$50.00 per hour
Manitou M40 Lift Truck/Forklift	$100.00 per hour
Bowie Lancer 500 Hydro Seeder	$100.00 per hour
Core Driller	$50.00 per hour
Concrete wall saw	$125.00 per hour + supplies
Stanley Spinax Pneumatic Gun	$50.00 per hour + supplies
Ned-Hut Cement Saw	$125.00 per hour + supplies
Pipeline Video Inspection Unit	$50.00 per hour

Snocrete Snow Blower	$100.00 per hour
Genie Z45/25 Telescoping Man Lift	$75.00 per hour
Genie Scissor Lift	$75.00 per hour

ASPHALT PATCHING – ROAD

Minimum Amount (Up to 200 sq. ft.)	$2,500, plus $20/sq. ft. for each additional sq. ft.

ASPHALT PATCHING – PATHWAY

Minimum Amount (Up to 100 sq. ft.)	$1,000, plus $10/sq. ft. for each additional sq. ft.

BUILDING PERMITS

New Residential Dwelling Unit; Addition to add Second Dwelling Unit; Container Storage Unit; Major Additions (2 or more rooms)	$100.00
Single Family or Duplex Remodel; Minor Additions (less than 2 rooms); Re-roofing; Demolitions; Arctic Entry	$25.00
All commercial; 3 or more dwelling unit residential	
Valuation $0-$50,000	$250.00
Valuation over $50,000	$400.00
After-the-Fact Building Permits Penalty	$500.00 additional

UTILITY INSPECTION CARD DEPOSIT

Residential	$500.00
Commercial	$1,000.00
Replacement Card	$100.00

DEPARTMENT OF PUBLIC UTILITIES

Electric Utility

SCHEDULE A
RESIDENTIAL SERVICE

The Residential Service Rate applies only to service provided exclusively for general domestic purposes, including single family residences, housing units in multi-family residences, and mobile homes.

Customer Charge	$8.00 per month
Energy Charge	$0.23395 per kWh

SCHEDULE B
SMALL GENERAL SERVICE

The Small General Service Rate applies to all non-residential services with 20 kW of demand or less, and does not require demand metering.

Customer Charge	$10.00 per month
Energy Charge	$0.20545 per kWh

SCHEDULE C
LARGE GENERAL SERVICE

The Large General Service Rate applies to all services with demands exceeding 20 kW but less than or equal to 100 kW for a minimum of 6 months per city fiscal year. A review of service classification will be performed annually. The new rate will be applied from that time forward and will not be retroactive.

Customer Charge	$50.00 per meter per month
Demand Charge	$6.70 per kW
Energy Charge	$0.17395 per kWh

SCHEDULE D
INDUSTRIAL SERVICE

The Industrial Service Rate applies to services with demands exceeding 100 kW for a minimum of 6 months per city fiscal year. A review of service classification will be performed annually. The new rate will be applied from that time forward and will not be retroactive.

Customer Charge	$100.00 per meter per month
Demand Charge	$8.00 per kW
Energy Charge	$0.14385 per kWh

SCHEDULE E
STREETLIGHTS

For streetlights with energy meters, the City will charge the rate in effect for Small General Service. Monthly customer charges will be applied to each streetlight meter, and the energy charge shall be applied to the actual amount of energy consumed each month.

For streetlights without energy meters, the monthly charge will be equal to the Small General energy charge multiplied by the actual energy usage of a metered streetlight with similar wattage. A monthly customer charge will not be applied to unmetered streetlights.

SCHEDULE F
COST OF POWER ADJUSTMENT

A surcharge or credit (Cost of Power Adjustment) shall be applied to all energy in Schedule A – E to reflect all Fuel and Purchased Power Cost included in the Energy Charge for Schedules A - E. The City shall calculate the Cost of Power Adjustment on a quarterly or monthly basis with the calculation to take into account the actual costs for the previous period and the estimated costs for the period in which the Cost of Power Adjustment is to be in effect.

SCHEDULE G
STANDBY SERVICE

Standby service means electrical service supplied or made available to load which is serviced all or part of the time by the customer's own electric generation or by any non-City source of power. Standby service will be provided under the Large General Service Rate (Schedule C) except that the minimum payment each month will be equal to the customer charge plus the product of the demand charge and the estimated maximum demand of the load serviced by the standby service. With large loads or special circumstances, the City may require that standby service be supplied by the City only under a special contract specifying the rates, terms and conditions governing such service.

SCHEDULE H
INTERRUPTIBLE SERVICE

Interruptible service means electrical service under which the City retains the right to interrupt service, in whole or in part, at any time, with or without notice, whenever the City deems necessary in order to meet the demand of other customers or for any other reason. Interruptible service may be supplied, at the City's discretion, only under a special contract specifying the rates, terms and conditions governing such service.

SCHEDULE I
FEES AND SPECIAL CHARGES

A.	Billing Deposits	A deposit equal to two months estimated billing is required. Interest in the amount of 3.5% per annum will accrue on billing deposits, and will be paid to customer when deposit is refunded or applied to account.

B. New Service Connection

Labor:	Straight Time	$85.00 per hour
	Over Time	$128.00 per hour
	Double Time	$170.00 per hour
Materials:	Cost plus 15%	

C. Construction Deposit — 50% of City's construction estimate due prior to start of construction. Balance due prior to activation.

D. Service/Reconnection — $80.00

E. Service Call Out:

Labor:	Straight Time	$85.00 per hour
	Over Time	$128.00 per hour
	Double Time	$170.00 per hour
Materials:	Cost plus 15%	

F. Power Factor Adjustment (if demand charge applies) — If the average power factor of the customers' system is less than 90% lagging, the billing demand may be increased by the amount of kW that is required to bring the average power factor to no less than 90% lagging.

For all new services installed after September 30, 2006, if the average power factor of the customers' system is less than 95% lagging, the billing demand may be increased by the amount of kW that is required to bring the average power factor to no less than 95% lagging.

G. Billable Time — In addition to labor time, billable time will include travel time to and from the job site and will be rounded to the nearest hour.

Water Utility

SCHEDULE A
SINGLE FAMILY OR DUPLEX WATER SERVICE MONTHLY CHARGES

Schedule A is restricted to service provided exclusively for unmetered general domestic purposes to single family and duplex dwelling units. The fixed monthly charge includes customer and volume charges. Duplex services will receive two unit charges. Residential units that are also used for commercial purposes are required to be metered and charged in accordance with Schedule B. All new water services will be metered.

COST PER DWELLING UNIT

Single Family/Duplex

Effective 07/01/15
$35.59 per unit per month

SCHEDULE B
METERED WATER SERVICE MONTHLY CHARGE

	Effective 07/01/15	
Meter Size	Fixed Monthly Charge	Charge Per 1,000 Gallons
5/8"	$3.53	$2.51
¾"	$3.74	$2.51
1"	$4.15	$2.51
1.5"	$5.21	$2.51
2"	$6.47	$2.51
3"	$9.40	$2.51
4"	$13.18	$2.51
6"	$24.08	$2.51
8"	$36.67	$2.51
10"	$63.43	$2.51
12"	$100.12	$2.51

SCHEDULE C
SERVICE TO HIGH ELEVATIONS

If pumping is required to serve a customer or subdivision at an elevation too high to be continuously served by gravity, it is the customer's responsibility to meet necessary State requirements to install, to operate, and to maintain such a facility.

SCHEDULE D
FEE FOR SERVICE CONNECTIONS

Fees for new service connections are comprised of two types of charges, costs for the actual physical hook-up and system development charges (SDCs), which pay for system wide capital expansion. SDCs are comprised of both reimbursement (past system expansion) and improvement (future system expansion) fees.

D-1 PHYSICAL HOOK-UP FEES:

Labor:	Straight Time	$85.00 per hour
	Over Time	$128.00 per hour
	Double Time	$170.00 per hour
Materials:	Cost plus 15%	

-All services to be installed by the Utility will be cost estimated at the time of application.
-All estimates will be valid for 30 days.
-A deposit of 50% of the construction estimate is required.
-Deposit must be paid before work can proceed.
-Balance due prior to activation of service.

D-2 SYSTEM DEVELOPMENT CHARGE**:**

D-2a: System development charges are to be assessed and paid prior to service activation. Charges are based on domestic service meter size as follows:

SYSTEM DEVELOPMENT CHARGES SCHEDULE

METER SIZE	SYSTEM DEVELOPMENT CHARGE
Unmetered Residential	$565.00
5/8 inch	$565.00
3/4 inch	$565.00
1 inch	$5,088.00
2 inch	$16,280.00
3 inch	$30,530.00
4 inch	$48,845.00
6 inch	$101,765.00
8 inch	$165,825.00
10 inch	$292,680.00
12 inch	$470,766.00

D-2b: The System Development charge component of the water services connection charge for residential housing shall be waived.

SCHEDULE E
FEES AND SPECIAL CHARGES

A.	Billing Deposits	A deposit equal to two months estimated billing is required. Interest in the amount of 3½% per annum will accrue on billing deposits, and will be paid to customer when deposit is refunded or applied to account.	
B.	Service/Reconnection	$70.00	
C.	Service Call Out		
	Labor:	Straight Time	$85.00 per hour
		Over Time	$128.00 per hour
		Double Time	$170.00 per hour
	Materials:	Cost plus 15%	
D.	Mainline Inspection		
	Labor:	Straight Time	$85.00 per hour
		Over Time	$128.00 per hour
		Double Time	$170.00 per hour
	Materials:	Cost plus 15%	
E.	Billable Time	In addition to labor time, billable time will include travel time to and from the job site and will be rounded to the nearest ½ hour.	

Wastewater Utility

SCHEDULE A
UNMETERED RESIDENTIAL SEWER SERVICE

Schedule A is restricted to service provided exclusively for general domestic purposes to single family, duplex, or individual trailer housing units. Charges for unmetered monthly service are made up of a service charge and a volume charge. Duplex services will receive two unit charges. Residential units that are also used for commercial purposes shall be metered and charged in accordance with Schedule B.

Unmetered

Effective 07/01/20
$114.04 per unit per month

SCHEDULE B
METERED COMMERCIAL SEWER SERVICE

Any service that does not fall into the residential category as defined in Schedule A above or into the industrial category as defined in Schedule C below shall be classified as a commercial service. Commercial sewer service charges are made up of both a fixed service charge and a usage charge. The usage component is based on a volume rate per 1,000 gallons of metered water consumption. The total monthly bill for metered commercial services is comprised of the fixed service charge and volume charge components as detailed below:

Metered Commercial

Effective 07/01/20	
Service Charge	$20.87 per month
Volume Charge	$17.79 per 1000 gallons

Monthly billings may be adjusted for a commercial service that consumes more than 50,000 gallons of water per month that is not returned to the sewer system. To obtain an adjustment, the customer must petition the City, separately meter water usage not entering the sewer system, and demonstrate that the separately metered water will not enter the sewer system. Upon review and approval, the City will deduct the volume of separately metered water which is not returned to the sewer system from the total metered consumption prior to calculation of the volume charge each month.

SCHEDULE C
METERED INDUSTRIAL SEWER SERVICE

Any service which has a current individual NPDES permit, where a plant's metered water use does not accurately reflect sewage flows due to large quantities of water consumption that are not returned to the sewer system, shall be classified as an industrial service. Industrial sewer service charges are made up of both a fixed service charge and a usage charge. The usage component is based on a volume rate per 1,000 gallons of metered water consumption. The total monthly bill for metered industrial services is comprised of the fixed service charge and volume charge components as detailed below:

Metered Industrial

Effective 07/01/20	
Service Charge	$20.87 per month
Volume Charge	$1.13 per 1,000 gallons

SCHEDULE D
FEES AND SPECIAL CHARGES

A. Billing Deposit — A deposit equal to two months estimated billing is required. Interest in the amount of 3.5% per annum will accrue on billing deposits, and will be paid to customer when deposit is refunded or applied to account.

B. New Service Connection

Labor:	Straight Time	$85.00 per hour
	Over Time	$128.00 per hour
	Double Time	$170.00 per hour
Materials:	Cost plus 15%	

C. Construction Deposit — 50% of City's construction estimate due prior to start of construction. Balance due prior to activation of service.

D. Service/Reconnection — 70.00

E. Service Call Out

Labor:	Straight Time	$85.00 per hour
	Over Time	$128.00 per hour
	Double Time	$170.00 per hour
Materials:	Cost plus 15%	

F. Service Inspection

Labor:	Straight Time	$85.00 per hour
	Over Time	$128.00 per hour
	Double Time	$170.00 per hour
Materials:	Cost plus 15%	

G. Billable Time

In addition to labor time, billable time will include travel time to and from the job site and will be rounded to the nearest hour.

H. Other Charges

Wastewater Drain Pipe Camera $100.00 per hour
Wastewater Mainline Pipe Camera $150.00 per hour
Wastewater Septic/Septic Tank Pumping $.15 per gallon

I. Lab Fees

The City of Unalaska Wastewater Lab is not in business as a commercial laboratory. However, when the local commercial laboratories are out of service, the Wastewater Lab can run samples on an individual basis. Charges for performing lab samples are as follows:

Parameters	Fee	Parameters	Fee
Dissolved Oxygen	$100	NH3-N	$35
pH	$35	Fecal Coliform	$100
Chlorine	$100	Total Coliform	$100
BOD	$100	Sludge Total Solids	$35
COD	$55	Sludge pH	$35
TSS	$35	Settleability	$100
Heterotrophic bacteria	$100	Algae Counts- fresh water or marine	$300
Whole Effluent Toxicity	$3,000		

Solid Waste

SCHEDULE A
LANDFILL MAINTENANCE FEE

The monthly landfill maintenance fee applies to all metered and non-metered utility locations and any other person or organization that receives landfill services or deposits waste in the landfill. Multi residential unit services will receive maintenance fee charges in accordance with the number of units. This fee is included on each customer's monthly utility bill. In the event a landfill customer does not receive a utility bill, this fee will be assessed at the landfill and billed on a monthly basis.

Effective 07/01/19
$27.97

SCHEDULE B
TIPPING FEE/MINIMUM FEE

The tipping fee applies to all landfill customers other than residential customers depositing their own household refuse and applies to such customers in addition to the landfill maintenance fee in Schedule A above. Such customers will be charged the tipping fee or the minimum fee whichever is greater. If scales are operational at the landfill, the tipping fee will be based on the following rate per ton; otherwise, the rate per cubic yard will apply. Tipping and minimum fees will be assessed at the landfill by the operator on duty and billed on a monthly basis.

For purposes of the tipping fee exemption, household refuse is defined as "refuse generated within a household during normal, day-to-day activities." It does not include furniture, major appliances, construction or demolition debris, large amounts of yard waste, or any other items that, because of their bulk, weight or composition, the landfill staff determines to be chargeable.

Effective 07/01/19

Refuse Type	Tipping Fee	Loose (per cubic yard)	Compacted (per cubic yard)	Minimum Fee
General Refuse	$251.20 per Ton	$12.31	$24.60	$27.87
Batteries	$590.45 per Ton		$339.07	$40.25
Scrap Metal*	$1073.54 per Ton		$408.68	$67.21
Fish Waste	$536.77 per Ton		$115.97	$387.02
Mud Gear	$365.00 per Ton			

*See Schedule G, Paragraph A

SCHEDULE C
VEHICLE DISPOSAL FEE

Any person disposing of a vehicle at the landfill must remove fluids, batteries and tires from the vehicle prior to disposal. If fluids, batteries and tires are not removed from the vehicle prior to disposal, those vehicles will not be accepted. All Commercial Vehicles are defined as commercially licensed or vehicles with a rating of one ton or higher. Vehicles must be clean of all trash prior to disposal. All vehicle parts will be charged at the metal charges in Schedule G.

Effective 07/01/2019	
Passenger Cars	No Charge
Pick-up trucks & SUV's up to 1 Ton Rating	No Charge
All Commercial Vehicles	$918.95/ton

SCHEDULE D
SPECIAL WASTE HANDLING FEES

The special waste handling fees apply to all landfill customers who deposit wastes in the landfill that require special handling to be accommodated. Such customers will be charged the special handling fee in addition to the landfill tipping fee in Schedule B above. Special wastes include trawl nets, and appliances with refrigerant.

Effective 07/01/19	
Trawl Nets (per cubic yard)**	$1,073.54
Nets Compact Fee (per ton)**	$300
Appliance with refrigerant	$107.35 each
** See Schedule G, Paragraph D	

Special handling charges shall not be limited to the items specified above. Any person with other waste materials that require special handling to be accommodated at the landfill shall notify the Department of Public Utilities prior to disposal. Such wastes will be accepted at the discretion of the City, subject to an agreement between the customer and the Director of Public Utilities on charges that will reasonably compensate the City.

SCHEDULE E
SEPARATION FEES

Customers responsible for any mixed load arriving at the City's solid waste disposal facility that includes prohibited items or materials requiring separation and sorting shall be charged $750 per container. This charge will be in addition to the landfill tipping fee in Schedule B above.

"Materials requiring separation" include: major items and appliances; pallets and large wood items; nets and line; fish waste; fish meal; preservative; tires; wire rope/cables; junk vehicles; and scrap metal.

"Prohibited materials" include: creosote or creosote treated items; petroleum products; corrosive materials; toxic materials; liquids; off-island waste; PCB's; Asbestos; and any material considered hazardous waste.

SCHEDULE F
FEES AND SPECIAL CHARGES

A. Billing Deposits — A deposit equal to two months estimated billing is required. Interest in the amount of 3.5% per annum will accrue on billing deposits, and will be paid to customer when deposit is refunded, or applied to account.

B. Labor Charge Out rates:

Labor	Straight Time	$87.40 per hour
	Over Time	$131.10 per hour
	Double Time	$174.80 per hour
Equipment Charge		$166.43 per hour
Materials		Cost plus 15%

C. Billable Time — In addition to labor time, billable time will include travel time to and from the job site and will be rounded to the nearest hour.

SCHEDULE G
OTHER SPECIAL REGULATIONS

A. Scrap Metals. Scrap metals must be cut into less than four foot lengths and be no more than one foot thick. Scrap metals not cut in accordance with the preceding dimensions will be charged a per ton Tipping Fee plus the compacted cubic yard rate fee. In the event the landfill scales are not operating, and the scrap metal is greater than 1 cubic yard, the rate charged shall be two times the compacted cubic yard rate for Scrap Metal. Cubic yard volume is determined by the following formula: (maximum length in feet times maximum width in feet times maximum height in feet divided by 27). All cables and wire rope must be separated from metal deliveries. All webbing, nets, and rope must be removed from crab pots and other metal material.

B. Wood. Wood including demolition and construction materials must be cut into lengths not exceeding four (4) foot lengths and be no more than one (1) foot thickness.

C. Containers. All containers including vans, tanks and other large vessels exceeding fifty five (55) gallons in capacity must be cleaned of any residue and cut into less than four (4) feet lengths and be less than four (4) feet diameter. Containers are defined as: A large reusable receptacle that can accommodate smaller cartons or cases in a single shipment designed for efficient shipment of cargo or is used for the storage of liquid. All valves must be removed from cylinders before disposal. All tanks and bottles (i.e. propane, fuel, oil, Freon, oxygen, etc.) must be cut in half.

D. Nets and Line. Nets and lines must be free of all non-synthetic polymerized materials and must be cut up into tightly bound bundles of less than one (1) cubic yard. Synthetic polymerized materials include, but are not limited to, nylon, polypropylene, polyethylene, and spectra. (Note nets are charged in accordance with Schedule D and Schedule B.) Customers that deliver nets and lines that are in one (1) cubic yard bundles will be charged a per ton tipping fee. Nets and lines that are not cut and tightly bound into one (1) cubic yard bundles will be charged a per ton tipping fee and the cubic yard fee.

E. Other. Other emergency limitations on waste material may be added as authorized by the Director with approval from the City Manager.

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Erin Reinders, City Manager
Date: June 23, 2020
Re: Geothermal Project Analysis

SUMMARY: Mike Hubbard will present his report and cost/benefit/risk analysis regarding a PPA with OCCP for geothermal power at a particular commitment level. This is a complex topic and we are open to feedback and further direction.

PREVIOUS COUNCIL ACTION: The City continues to look to support with reliable and cost effective alternate energy sources, including geothermal. City Council has identified this support as a federal priority. To this end, during the fall lobby trip to Washington DC in 2019, City representatives sat alongside representatives from the Q-tribe and OC in a meeting with Department of Energy demonstrating support for a geothermal project on our island.

November 26, 2019
- Work Session, Presentation from Ounalashka/Chena Power, LLC regarding their Geothermal Project

January 30, 2020
- Special Meeting for a Work Session for an Update on Ounalashka/Chena Power, LLC geothermal project (standalone meeting)

February 25, 2020
- Work Session, Report from Ounalashka/Chena Power, LLC regarding their Makushin geothermal project

March 10, 2020
- Reports, City Attorney conflict of interest opinion related to Ounalashka/Chena Power, LLC
- Executive Session
    - Discussion regarding potential Power Purchase Agreement between City of Unalaska and Ounalashka/Chena Power, LLC
    - Discussion regarding potential Power Sales Agreements between City of Unalaska and local seafood processing facilities

May 26, 2020
- Directive to the Manager: *"Report back to the City Council by June 16, 2020 for possible action committing to a PPA with OCCP at the Council Meeting on June 23, 2020 a cos/benefit/risk analysis for a potential Power Purchase Agreement concept that commits Unalaska for the purchase of 100MkWhr/year, at $0.16/kWh, for 30 years taking into account the probability of securing sufficient load sources by fall of 2023 within the Unalaska City Limits."*

BACKGROUND: City staff began working with the OC/CP LLC team in late 2019 in addressing project planning and development questions and in the drafting of a Power Purchase Agreement. City staff team consisted of City Manager, Assistant City Manager JR Pearson, Public Utilities Director Dan Winters and Deputy Director Steve Tompkins. We have enlisted the support of Mike Hubbard, long time City Consultant with a strong background in public utilities project and analysis. Our attorney was brought on to our City team as well. Both Brooks Chandler and Mike Hubbard have been involved with previous Makushin geothermal efforts. We have the right people engaged to help position this project for success and to develop an agreement that is in the best interests of the citizens of Unalaska.

On January 15 and 16, 2020, the City team met with OCCP representatives for a working meeting in Anchorage. The focus of the meeting was developing framework of general concepts that OCCP can take to its potential lenders to determine if financing can be obtained.

Following this meeting, discussions and work continued. Focus was on the PPA, understanding the project, identifying challenges, mitigating risks, expanding opportunities, identifying what would need to be done should the project move forward, and refining displaced costs. OCCP communicated that they planned to proceed with their fieldwork and research, which will help reduce the number of uncertainties and assumptions. We reached out to processers to garner their interest in the project and encourage them to attend the February 25, 2020 Council meeting, where OCCP would be presenting on their project. The City team, including Brooks Chandler and Mike Hubbard, met with the OCCP team while they were in town that week. Given travel and weather challenges, this meeting was not as in-depth as planned.

City staff met and talked with processers throughout March and April. At that time, processors were unable to make a long term commitment. Mike Hubbard followed up and met with processors to ensure they had an understanding of the overall concept of the project and potential agreements. The City team held a conference call with OCCP on April 24, 2020 and communicated the feedback we were getting from the processors. This was not done in person due COVID related challenges. The next step was for OCCP, along with the City, to meet with the processors.

Those meetings were never held, but OCCP provided a detailed document outlining several concepts for consideration to the City on May 19, 2020. The City responded with some initial thoughts and questions in a timely fashion. Our focus then shifted to the Council Directive issued on May 26, 2020 to provide a report and cost/benefit/risk analysis regarding a PPA at a particular commitment level.

The City Attorney provided the attached Memorandum regarding non-recourse financing.

DISCUSSION: There is much excitement and interest in the potential for a geothermal project and what it might mean for our community. Indeed, this is a very exciting opportunity, but not an opportunity that can be taken lightly. For the past 6 months, your City team has been doing its job in working to come to a tentative agreement to share with Council that we believe would be in the best interest of the community and the rate payers.

On May 26, 2020, City Council issued a directive to provide an analysis of the Makushin Geothermal Power Project for the City of Unalaska. Our long time consultant, Mike Hubbard, has prepared the formal report and analysis. Brooks Chandler, our City Attorney, has provided a memo related to non-recourse financing as another component of the risk assessment. We have made every effort is to provide you with relevant, unbiased, and objective information to help you

in this deliberative process. As always, the City Council's responsibility is to evaluate this information, weigh the potential risks and benefits, and to ultimately make the decision you feel is best for the community as a whole.

Since providing Mike Hubbard's report to Council on June 16, 2020, concerns and questions have been submitted by Council Member Robinson. Our team provides the following responses for your consideration.

Concern that the resource on Makushin is identified as a low temperature resource.

> *Mike Hubbard also clarifies that the report states that the temperature of the resource is 382 degrees Fahrenheit. That equates to 194 degrees Celsius. According to Subir Sanyal (recent author noted in a chart referenced by Council Member Robinson), this puts it along the borderline of Low and Moderate. We should note that this is not a technical feasibility study. OCCP would be the appropriate party to take the temperature into account when performing preliminary design.*

What was the average cost of fuel to the City for the previous 10 years?

> *Just as with any investment, past performance does not predict future results. Mike Hubbard explains that basing the cost of fuel on the previous 10 years would be an assumption based on history with no regard for projections of future consumption, production, etc., which is what Nymex and EIA are based on. The report also provides the breakeven price of fuel so that decision makers can weigh in on their belief if the actual price of fuel will be above or below that amount. Nevertheless, we can make the projection based on the historical average, if directed by Council.*

Has the City offered a price of power to the Processors and if so, what was the price?

> *A price was offered, after much consideration, including the fact that there would be a requirement for them to provide their own spin reserve. There would be no demand charge, a customer charge of $100 per month, a flat rate charge of $0.06 per kWh (increased annually by 1%), plus COPA rate (increased annually by 1%). COPA is either the cost of fuel or purchased power. Based on current rates quoted to City by OCCP, which have not been finalized, COPA would be at $0.16.*

Why were this [sic] costs in this analysis only projected for 20 years when the directive asked for 30 years?

> *The model will be extended to 30 years, this was done in error. Mike Hubbard typically works in 10 to 20-year projections since uncertainty increases and reliability in the projections decreases as the study period is extended. This is based on his experience with lending agencies (bondholders, banks, etc.) that are focused on the initial five or ten years only. Ratepayers typically cannot afford to pay more for a number of years in hopes of lower bills at some point in time in the future.*

What were the reasons the Processors do not want to participate?

> *They have indicated several reasons. First, the projected cost of power would be more expensive than they believe they can produce it for. Second, will not commit to making*

payments over the long-term (20-30 years) when they don't know if they will be in business that long. Finally, when offered that they commit to purchasing power only if they needed it, they were unwilling to lock themselves into that type of arrangement. It is unclear why, but we were told that their Boards would not agree to that. We have suggested to OCCP that they talk directly with the Processors.

If the rate payers are currently paying $0.35 per kwhr and if we kept the rate the same, purchased power at $0.16 per kwhr (leaving the City with $0.19 per kwhr) as well as cutting our production costs, expanding the opportunity for economic diversification. Wouldn't it be good for the City?

The City's NON-PRODUCTION costs are approximately $0.19/kWh. Not all production costs will be eliminated. Some staffing will be required for dispatch. Units cannot be mothballed but instead need to be started and run on a monthly basis. Permits must be maintained. Spinning reserves run. The projections are based on all non-Makushin costs (non-production and the remaining production) being $0.25-$0.26/kWh. Makushin at $0.16/kWh would increase the total rate to over $0.40/kWh.

ALTERNATIVES: There are several next steps that may be considered. Mike Hubbard's presentation notes four primary options, which include:

1. No further work at this time

2. Work in alignment with OCCP in developing agreements, etc.

    a. Council should indicate to staff their risk tolerance (loads, costs, etc.)

3. Request OCCP for a lower rate to reflect Purchasers' (City and self-generators) low cost of fuel and Seller's (OCCP) low cost of capital

4. Sign Power Purchase Agreement now in hopes of securing more loads in near future

ATTACHMENTS:

- Report of Michael D. Hubbard of the Financial Engineering Company (123 pages) regarding the financial feasibility and potential risks/rewards of the proposed Makushin Geothermal Power Project
- PowerPoint Presentation of Michael D. Hubbard of the Financial Engineering Company
- June 17, 2020 Memorandum from City Attorney Brooks W. Chandler regarding Non-Recourse Financing

the Financial Engineering Company

235 Rockland Street, Rockport, Maine 04856

www.FinancialEngineeringCo.com

Phone: (207) 593-9131
Mobile/Text: (207) 691-8347

June 16, 2020

Ms. Erin Reinders, City Manager
City of Unalaska
PO Box 610
Unalaska, AK 99685

Dear Erin:

Attached hereto is my report regarding the financial feasibility and potential risks/rewards of the proposed Makushin Geothermal Power Project. This report was developed in a relatively short period of time, and I wish to thank the quick responses and reviews by City staff during the process.

If you have any questions, please do not hesitate to contact me.

Very truly yours,

THE FINANCIAL ENGINEERING COMPANY

Michael D. Hubbard

MAKUSHIN GEOTHERMAL PROJECT REVIEW

CITY OF UNALASKA

June 16, 2020

the Financial Engineering Company

www.FinEngCo.com

City of Unalaska
Makushin Geothermal Project Review

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City of Unalaska
Makushin Geothermal Project Review

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I. INTRODUCTION AND PURPOSE OF REPORT

History of Project

For more than four decades, the feasibility of developing electric and thermal power from a geothermal resource located near the Makushin volcano has been investigated. Exploratory wells were first drilled by the US Department of Energy in 1982, with one well producing wet steam at 382 degrees F (considered a low temperature in the geothermal industry). Since then, no less than six or seven attempts have been made to develop the resource as an electrical power source for Unalaska.

It is not the intent of this report to focus on why past attempts have not been successful. However, suffice it to say that a resource constructed to produce power from the geothermal fluid would be very capital intensive, and power purchase agreements were sought that would obligate both the City and processors to commit to 20- or 30-year periods to purchase power from the resource. Those commitments could not be obtained.

The title to the land and subsurface materials where the geothermal resource is located has been transferred through various parties over time. Most recently, the title was owned by the Kiigussi Suuluta Land Company, LLC ("KSLC"). With the passing of the majority owner in KSLC, the Ounalashka Corporation ("OC") acquired the title and began investigations into how the resource could be developed. OC, in turn, partnered with Chena Power to form the Ounalashka Corporation/Chena Power, LLC ("OCCP") to develop a resource that could use the geothermal fluid at Makushin and displace not only the diesel used for electric generation but also fuel oil used for space heating (the "Project" or "Makushin").

Recent History

In late 2019, OCCP reached out to the City of Unalaska (the "City") to determine its interest in developing the Project. The City and OCCP have met several times to discuss the Project concept and required commitments.

Originally, OCCP based its concept on bringing geothermal fluid via pipeline to the load center where a power plant would be built. The hot fluid could also be piped to the homes and businesses in the community for space heating. However after further review, OCCP believed it to be much more economic to construct the power plant at the resource and transmit power via a transmission line to a substation near the City's powerhouse where it could then be integrated into the current electric grid. The resource could still be used for space heating by installing air-to-air or air-to-water heat pumps.

There are several concepts that set the Project apart from past development attempts. These include:

- OCCP intends to use non-recourse financing from the federal government where if the Project does not work, debt does not have to be repaid. The City has not seen the terms of this financing, but OCCP has indicated that debt forgiveness applies not only to the initial Project construction but also if it fails at a later date.

- When KSLC owned the property, it desired to receive royalties from a project developer for the use of the geothermal fluid. Additionally, the transmission line from the resource to the City would cross OC land, and they, too, would desire some sort of compensation. With the Project now being developed by OCCP, the development is better streamlined.

- Past developments were based on a "stick construction" where a building would be constructed and individual components installed on site. OCCP intends to use a modular approach where the resource would be constructed at a remote location, shipped to Unalaska, and then installed on site with relatively little effort. The modular concept also better allows for future expansion if desired.

As described later in this report, OCCP's offer regarding size and price has evolved. Its latest offer is based on a fixed monthly payment which escalates at 1 percent per year. The annual payment for the initial year is summarized as follows.

Table 1
OCCP Pricing Offer

Project Size (MW)	Annual Cost (millions)
16	$11.84
18	$12.33
22	$13.37
24	$14.24
26	$14.92
30	$16.02

Although the terms of the financing eliminate a great deal of risk to the OCCP and the City, the lender (the federal government) will not approve the loan until a power purchase agreement ("PPA") is completed that demonstrates the debt will be repaid if all works well. Accordingly, OCCP and the City have started to draft a PPA that would obligate the City to purchase power from the Project over a 30-year period. During the development of this draft, it became evident that favorable economics depend on those Processors now self-generating to participate to some extent in the Project. As such, the City met with the Processors to discuss their interest. Knowing that a 30-year commitment by the Processors was a hurdle in the past that could not be overcome, the City suggested a concept where as long as the Processors were in business and operating, they would be required to purchase nearly all of their power requirements from the City.

The Processors did not express an interest in such a commitment, especially given the Project price and current fuel prices.

The City reported this lack of interest to OCCP, and OCCP asked if they could talk directly to the Processors. The City agreed but asked that they be part of those conversations. Instead of initiating these conversations, OCCP sent the City a PowerPoint presentation that made no mention of OCCP meeting with the Processors but instead stated that if there was no PPA by the end of June, OCCP would find alternative investments to enable development of the Project.

It is also worth mentioning that in late 2019 and early 2020, the City has had to deal with the loss of air service due to a flight with a fatality, a second plane crash, a pandemic, and the bankruptcy of the primary airline serving Dutch Harbor/Unalaska. Even so, work continued.

PURPOSE OF REPORT

At its May 26, 2020, meeting, the City Council directed the City Manager as follows:

> "*I move to direct the City Manager to report back to the City Council by June 16, 2020 for possible action committing to a PPA with OCCP at the Council Meeting on June 23, 2020 a cost / benefit / risk analysis for a potential Power Purchase Agreement core concept that commits Unalaska for the purchase of 100 MkWhr / year, at $0.16/kWh, for 30 years taking into account the probability of securing sufficient load sources by the fall of 2023 within the Unalaska City limits.*"

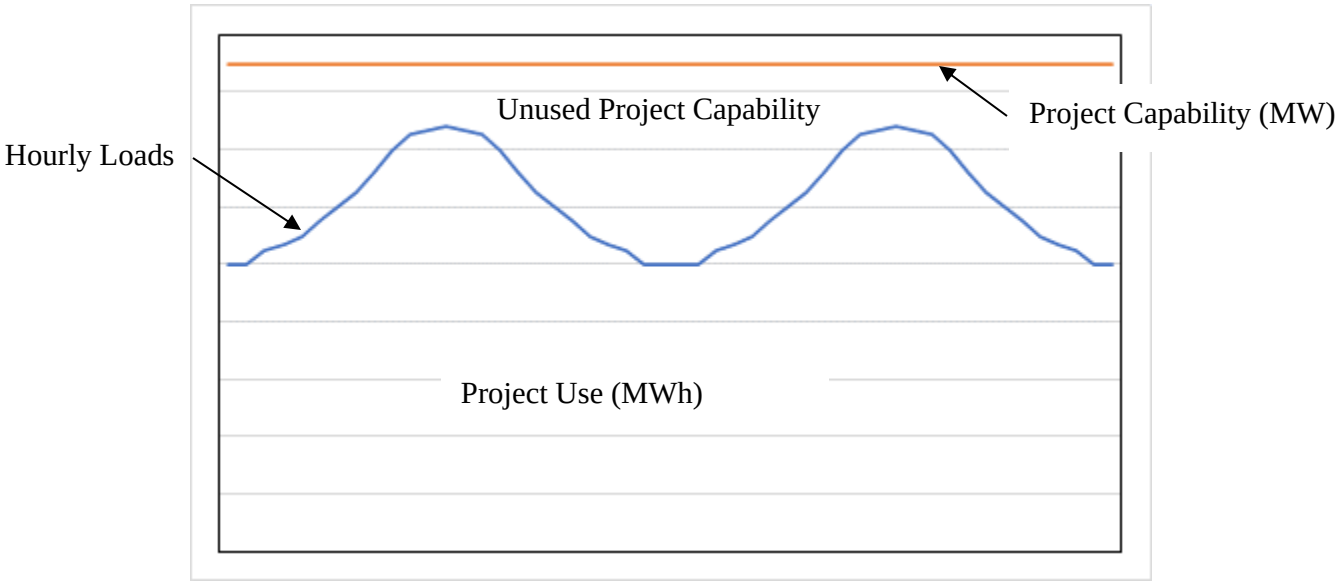
The City has retained the services of the Financial Engineering Company to assist in this report back to the City Council. This report summarizes the analysis and findings of the Financial Engineering Company regarding the potential risks and benefits of the Project.

II. AREA LOADS

GENERAL

The success of Makushin will depend on the amount of power generated and used. Since OCCP's costs will be fixed, the higher the usage, the lower the cost in dollars/kilowatt-hour. The analysis of Makushin must, therefore, begin with an understanding of area loads. Since the resource will be used to provide for all, or nearly all, of the energy requirements of the participants, it must be adequately sized to provide for peak loads. Thus, both energy and peak requirements must be reviewed.

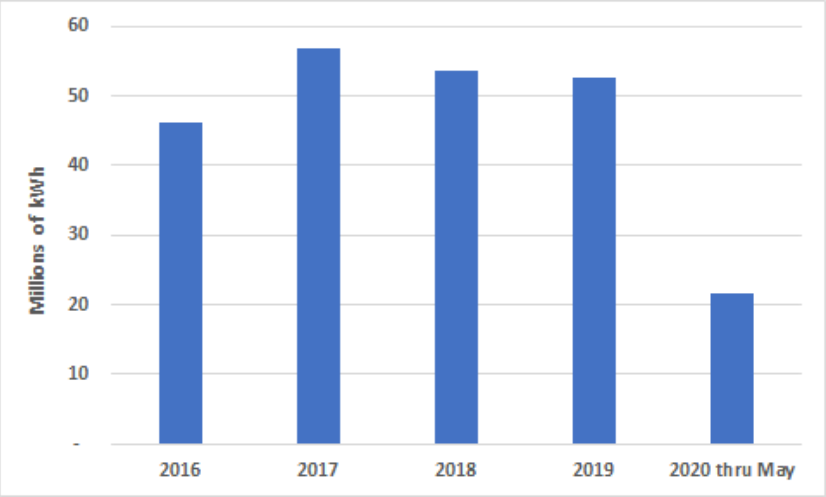
Figure 1
Potential Project Use



CITY

As shown in Figure 2, the City's annual energy sales have been slightly above 50 million kilowatt-hours for the past several years. However, part represents sales to Alyeska Seafoods which is no longer purchasing power from the City for its Industrial account. Those sales totaled approximately 12 million kilowatt-hours, thus a normalized amount of sales by the City closer to 40 million kilowatt-hours. Sales also included approximately 1.4 million kilowatt-hours to Westward Seafoods, who occasionally purchases energy to avoid starting a generating unit. Thus, going forward, it appears to be reasonable to assume 40 million kilowatt-hours of sales by the City while remembering that a small portion of this represents sales to Westward.

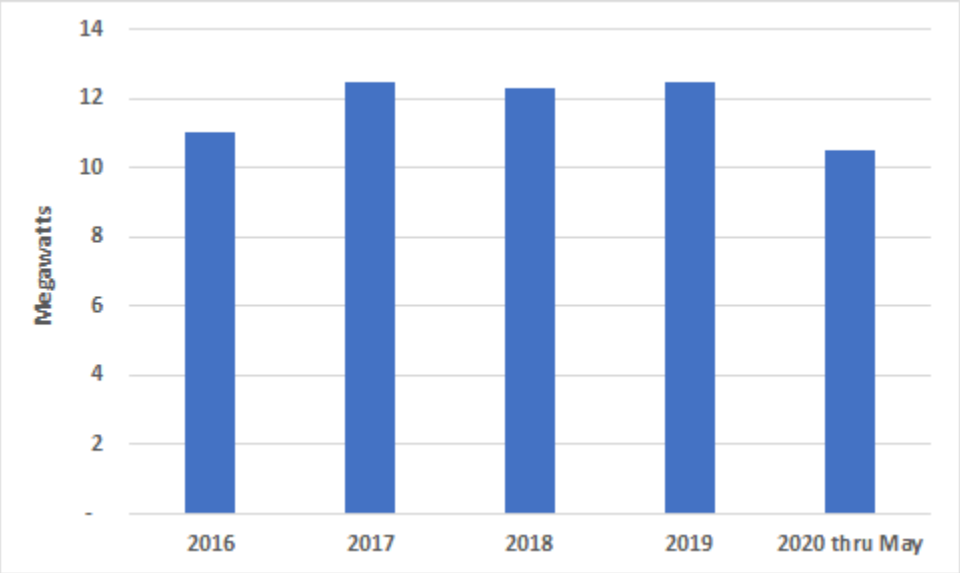
Figure 2
Historical City Sales



Total generating requirements are higher than this to account for distribution losses within the system. Such losses have averaged approximately 3.8 percent over the past several years. Based on an assumed sales level of 40 million kilowatt-hours, total generating requirements would be 41.6 million.

Peak demand on the City system, shown in Figure 3, has exceeded 12 megawatts, but this, too, represents a time with sales to Alyeska. Without those sales, system peak would be expected to be 10 – 11 megawatts

Figure 3
City Peak Demand



PROCESSORS AND OTHER SELF GENERATORS

There are five self-generators in the area, with three representing approximately 85 percent of the energy production. These three, Alyeska Seafoods, Westward Seafoods, and UniSea, are electrically interconnected with the City, although the interconnection between the City and UniSea is limited. The remaining two are not electrically interconnected with the City.

The annual energy requirements of these self-generators prior to any distribution losses are summarized in the following table. The peak demand in the table represents the sum of each individual peak, whereas when the loads are combined on an hourly basis, the combined peak is slightly less. Northland leases their terminal from OSI; and power requirements of the two are, therefore, combined.

Table 2
Summary of Peak and Energy Requirements Prior to Losses

Load	Interconnected With City	Annual Energy (Million kWh)	Annual Peak (MW)
City Sales		40	11
Others			
Westward	Yes	20	7
Alyeska	Yes	12	3
Unisea	Limited	32	4
OSI/Northland	No	8	2
Northern Victor	No	10	4
		122	31

III. PROJECT DESCRIPTION

General Concept

OCCP based its initial Project on a concept similar to that proposed several years ago by Iceland America. Hot water would be gathered from wells at Makushin and then pumped via pipeline to a point near the City's powerhouse. There, the hot water would be used to generate electric power as well as distributed to the area homes and businesses for space heating.

Further review by OCCP led to this concept being abandoned in favor of constructing a powerhouse at Makushin and deliver to the City via a transmission line. Heating could still be accomplished with the use of heat pumps, described later in this section.

Major components of the Project include the wells (production and reinjection), powerhouse, and transmission line.

Due to the relatively low temperature (in geothermal terms) of the resource, the Project will be a binary unit where the hot water will flash a secondary (or binary) fluid to steam. The binary fluid will have a much lower boiling point than water to better harness the energy. OCCP intends to use screw expanders developed and constructed by the Kaishan Group to turn the generators.

Power will be transmitted to the City via an above-ground transmission line to the waters edge at Broad Bay and then via a submarine cable to a point near the City powerhouse. OCCP has verbally stated that it would install two submarine cables with the second for redundancy.

The entire powerhouse will include evaporators, separators, screw expanders, and other miscellaneous items that will be constructed by Kaishan in a modular fashion off-site. The module will then be shipped to the site and interconnected with the well piping and transmission line. The module concept will allow for future expansion if desired, with expansions in 6-megawatt increments.

Load Following

Since the Project will be used to offset most, if not all, of the power requirements of the participants, output must be able to respond quickly to changes in loads. If it does not have that capability, another source of generation must be on-line to respond to load swings. Kaishan has indicated that the Project will be able to sufficiently respond to load changes, but the City has not seen written specifications at this time.

HEAT EXCHANGERS

As described at the beginning of this section, the original concept was to pipe hot fluid to the load center where it could be used for both electric power production and area heating. Since this concept was abandoned in favor of electric production at Makushin, another form of heating must be used.

When discussing electric energy, the unit commonly used in the United States is the watt-hour, with one kilowatt-hour equal to 1,000 watt-hours. When discussing heat energy, we commonly use the British Thermal Unit, or btu. Since both are forms of energy, the two can be compared as:

1 kWh = 3,413 Btu

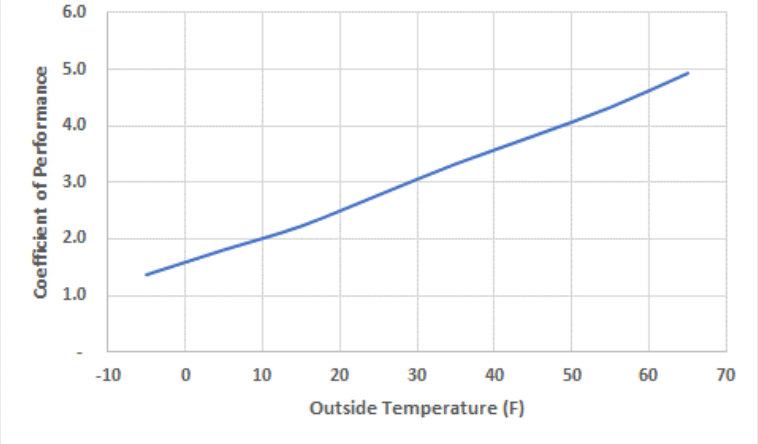
Fuel oil is the typical fuel used for space heating in the area, and one gallon of fuel oil contains approximately 139,000 Btu. Therefore if a house uses 1,000 gallons of fuel oil during the heating season, it would use 139 million Btu's of energy. Actual heating requirements would be something less than that since oil-fired furnaces are not 100 percent efficient with some heat escaping up the chimney, etc. With an efficiency of 85 percent, the actual heating requirements would be approximately 118 million Btu's.

Simply using an electric heater is not economic since that 118 million Btu's would require 34,574 kWh of electricity, a costly amount even at low electric rates.

Air-to-air and air-to-water heat exchangers could provide a solution. Simply put, heat exchangers are the reverse process of a common refrigerator. The outside air is compressed and the heat in that air is extracted for use where it is required. With the air-to-air, the hot air from the heat exchanger is simply blown into a room. With the air-to-water, the hot air is used to heat water (or some fluid) which is then moved through multiple rooms for heating.

Heat exchangers are rated by their Coefficient of Performance (COP) which measures how many kWh of heat is produced from a single kWh of energy use. COP is dependent on the outside air temperature and desired heat extraction. A typical graph is provided below.

Figure 4
COP of Heat Exchanger



The economics of using Makushin for space heating will depend on the end-use rate, cost of heating fuel oil, and the cost of installing and maintaining the heat exchanger system. It is beyond the scope of this report to investigate the feasibility of heat pumps. Even if it were believed to be economic, conversion would occur over several years and would most likely start after Makushin is brought on-line and after the Project has proved itself.

IV. OCCP PRICING OFFER

In late 2019, OCCP provided a pricing offer for Makushin based on the construction of either a 16- or 24-megawatt resource. The price was stated as a rate in $/kilowatt-hour and included a minimum energy purchase amount by the City. Energy usage over the minimum commitment was to be billed at the same rate. Later, the rate for energy delivered over the minimum amount evolved to a lower, but unspecified, rate.

It is important to note that this offer essentially consisted of a fixed price amount (in dollars) for all energy up to the minimum commitment (rate x minimum commitment). OCCP indicated to the City that their costs were primarily fixed, and the incremental cost of producing additional energy is negligible. Therefore, the City suggested a fixed dollar payment regardless of the amount of energy delivered and used. Compared to the initial price offer, the fixed payment could be viewed as rate x minimum commitment with all additional energy at no cost.

OCCP agreed to this concept, and the price now being offered is as follows. The amounts shown in the table are for the initial year and are to escalate at 1 percent per year.

Table 3
Current OCCP Offer

Project Size (MW)	Annual Cost (millions)
16	$11.84
18	$12.33
22	$13.37
24	$14.24
26	$14.92
30	$16.02

OCCP indicated that its offer was tentative, and field work was required to validate its pricing offer. Accordingly, the City included in its draft Power Purchase Agreement a clause that stated the City is not obligated to negotiate a payment structure that increases the fixed payment by more than 5 percent. No obligations were included for OCCP to reduce the price if the costs were less than expected.

The effective rate, in $/kilowatt-hour, of this price offering is dependent on the energy consumed from the Project. As described in Section II, usable energy is dependent not only on the size of the Project but the peak and energy requirements of the various participants. Potential resource sizing and the economics of this offer are explored in detail in the following section.

V. VALUE OF MAKUSHIN

ASSUMPTIONS

The value of Makushin and the savings to energy users will be dependent on a number of future events, none of which can be predicted or forecasted with certainty. Assumptions and considerations used in the analysis summarized in this report are described as follows.

1. *Study Period and Definition of Year.* Although the Project is expected to have a life of 30 or more years, the Study Period is limited to the first 20 years of operation. All years are in calendar years.

2. *Commercial Operation.* The Project is assumed to reach commercial operation at the beginning of 2024.

3. *City Sales.* City sales are assumed to be 40 million kilowatt-hours/year with no increase or decrease over the study period.

4. *Processor Energy Requirements.* Annual energy requirements for all of the self-generators are assumed to total 70 million kilowatt-hours. Although Table 2 indicated this may be as high as 75 million kilowatt-hours, a small portion represented sales to Westward already included in the City sales. Also, energy consumption by the processors fluctuates each year and has been lower in the past.

5. *Losses.* Distribution losses assumed for City sales to its core load are assumed to be 3.8 percent. The average loss factor for energy delivered from the Delivery Point to the Processors is assumed to be 2.0 percent.

6. *Inflation.* Inflation is assumed to be 1.5 percent from 2020 – 2021, 2.0 percent for the next two years, and 2.25 percent thereafter.

7. *Fuel Prices.* The cost of the City's generating fuel dropped to nearly $1.00/gallon early this year but has rebounded to a current price of $1.34/gallon, and this price is used as the average price for 2020. Future prices are escalated based on the forecasted change in price of oil (West Texas Intermediate) using two separate forecasts. Details of these forecasts are provided in Appendix __ and summarized as follows.

   Fuel prices for the Processors are assumed to be 3.0 percent higher than the City to account for taxes.

   a. *Nymex Futures.* The Nymex Futures provides prices for the futures market through the end of February 2031. The assumed rate of general inflation is assumed thereafter.

b. *EIA Forecast.* The US Dept of Energy's Energy Information Administration released a revised Short Term Energy Outlook ("STEO") on June 9, 2020, and provides a forecast of energy prices through the end of 2021. Prices are assumed to quickly increase in 2021 to a price of $50/barrel by the end of the year. The Long-Term Annual Energy Outlook ("AEO") was released in late January 2020, before the effects of the current pandemic were understood (if, indeed, they even are now). Thus, the AEO is not used for long-term pricing, but instead, the 2022 price is assumed to be the end-of-year 2021 price escalated at one half the assumed inflation rate for the year (to gain a mid-year average cost) and escalated at the assumed general inflation rate thereafter.

Table 4
Assumed Fuel Prices

	Nymex		EIA	
	WTI ($/bbl)	Cost of Fuel ($/gal)	WTI ($/bbl)	Cost of Fuel ($/gal)
2020	37.81	1.34	34.25	1.34
2021	40.00	1.42	43.75	1.71
2022	41.60	1.47	50.50	1.98
2023	43.24	1.53	51.51	2.02
2024	44.92	1.59	52.67	2.06
2025	46.62	1.65	53.85	2.11
2026	48.42	1.72	55.07	2.15
2027	50.39	1.79	56.30	2.20
2028	52.39	1.86	57.57	2.25
2029	54.19	1.92	58.87	2.30
2030	55.78	1.98	60.19	2.35
2031	56.71	2.01	61.55	2.41
2032	57.98	2.05	62.93	2.46
2033	59.29	2.10	64.35	2.52
2034	60.62	2.15	65.79	2.57
2035	61.98	2.20	67.27	2.63
2036	63.38	2.25	68.79	2.69
2037	64.80	2.30	70.34	2.75
2038	66.26	2.35	71.92	2.81
2039	67.75	2.40	73.54	2.88
2040	69.28	2.46	75.19	2.94
2041	70.84	2.51	76.88	3.01
2042	72.43	2.57	78.61	3.08
2043	74.06	2.62	80.38	3.14

8. *Generating Efficiency.* The City's generating efficiency is assumed to be 15.7 kilowatt-hours (generated) / gallon, the average attained over the past five years. Efficiency for the Processors is assumed to average 14.0 kilowatt-hours/gallon.

9. *Maintenance Fuel.* Even if all power requirements are provided from the Project, a participant must still maintain its generating units in the event of a Project failure or

curtailment. This requires each unit to be periodically started and run for a period of time. Assumptions of fuel usage for these periodic starts are summarized as follows.

Table 5
Assumed Maintenance Fuel

	City	Westward	Alyeska	UniSea
Hours/Unit/Month	8	8	8	8
Gallons/Hour/Unit	215.6	125	50	125
Number of Units	5	3	6	6

10. *Spinning Reserve.* The responsibility and pricing for spinning reserves could be one of the most complicated issues to be addressed by a joint group of participants. Typically, a utility will operate multiple units at some point less than their maximum capability, with the excess capability representing "spinning reserves" that can quickly provide for part or all of the generation loss in the event of a generation failure. The City is no different, and the Processors may run units dedicated to spinning reserve when certain processing equipment is being operated.

    If the Project is being used to provide for all power requirements of the participants, at least one diesel unit must be on-line for spinning reserves in the event of a transmission or generator failure of the Project. This generator cannot be operated at a high output level where generating efficiency is at its best since it would therefore have no reserve capability. Instead it must be operated at a relatively low level. For purposes of this analysis, it is assumed that the City provides spinning reserve for all participants by operating one unit at its minimum loading which does not curtail Project usage. Spin is assumed to be provided five months of the year during the peak periods of energy usage.

    Specific assumptions regarding spinning reserve is as follows.

    - Number of units: 1
    - Months/year: 5
    - Gallons/Hour: 100

11. *City Costs.* Expenses of the City Electric Utility are based on its draft FY 2021 budget and escalated at the assumed inflation rate thereafter. Makushin is assumed to not affect non-production costs (*i.e.,* such costs are assumed to remain the same with or without the Project). Production costs are adjusted as follows.

    a. *Personnel.* The budget includes $783,859 for Production personnel. These are assumed to decrease by $125,000/year (in 2021 dollars) during years 3, 4, and 5 of Project operation for a total decrease of $375,000. Costs of benefits are assumed to reduce in proportion.

b. *Overtime.* Assumed to be reduced by 50 percent in the first year of Project operations.

c. *Repairs and Maintenance.* Assumed to decrease by 75 percent in the initial year. The amount is not eliminated in its entirety since some of the costs are associated with the powerhouse and other related items.

d. *Supplies.* Assumed to decrease by two thirds in the initial year to account for continued costs of general supplies in the powerhouse.

12. *Processor Variable O&M.* The decremental non-fuel costs of the Processors are assumed to average $0.0275/kilowatt-hour in 2021 and escalate at the assumed rate of inflation thereafter.

Methodology of Analysis

For the participants as a whole, the Project will offset fuel and variable operating costs. Fixed costs will remain the same, although in the long-term, capital expenditures for generating equipment would be reduced.[1] The Project will, however, provide certain opportunities to the City and its ratepayers. If any of the Processors or self-generators participate in the Project, then the City should charge them an additional amount for the use of its distribution infrastructure as well as a portion of its administrative costs. This, in turn, would reduce the base rate charged to the City customers due to more customers paying a portion of these fixed costs.[2]

Therefore, the analysis looks at the Project benefits for three separate groups: 1) the City, 2) the assumed participation by the Processors or self-generators, and 3) the combined City/Processor group as a whole. The rates charged by the City to the Processors/Self-Generators is separated into two components. The first, the Makushin rate, is treated as a pass-through such that the City charges the same rate it is paying for Makushin power. The second, the base rate, is treated as an input variable that is varied based on intermediate interpretation of results. Benefits are projected by comparing the revenue stream without the Project to the revenue stream with the Project. Costs are projected over the first 20 years of Project operations, although the economic life is expected to be 30 or more years.

Scenarios Tested

As described at the beginning of this section, the benefits of the Project will depend on the outcome of numerous factors that cannot be forecasted with accuracy. Accordingly, a number of different scenarios have been investigated to gain a better insight into the potential risks and rewards of the Project. Each scenario is described in this section, and the projected savings for the first ten years are shown. Summaries of all scenarios are provided

[1] Residents and businesses might also benefit from reduced heating costs, but only if the rate is low enough to offset the heating fuel costs and costs of conversion.

[2] Base rates are the portion of the rates that recover all costs that are not associated with fuel or purchased power.

in Table 11 at the end of this section, and details of each projection are provided in Attachments 1 - 5.

Scenario 1. City Only / 16 MW

For this case, it is assumed the Processors do not participate in the Project, leaving only the City loads. Accordingly, the smallest Project size was selected to minimize capital costs. Even at that size, the Project would be capable of providing for the City's peak load.

Table 6
Summary of Results – City Only
16 MW Project

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Nymex Fuel										
Project Savings (000)	$ (7,945)	$ (7,805)	$ (7,656)	$ (7,243)	$ (6,817)	$ (6,394)	$ (6,243)	$ (6,142)	$ (6,014)	$ (5,883)
Change in Retail Rates ($/kWh)	$ 0.199	$ 0.195	$ 0.191	$ 0.181	$ 0.170	$ 0.160	$ 0.156	$ 0.154	$ 0.150	$ 0.147
EIA Fuel										
Project Savings (000)	$ (6,923)	$ (6,813)	$ (6,700)	$ (6,334)	$ (5,954)	$ (5,560)	$ (5,418)	$ (5,274)	$ (5,126)	$ (4,975)
Change in Retail Rates ($/kWh)	$ 0.173	$ 0.170	$ 0.167	$ 0.158	$ 0.149	$ 0.139	$ 0.135	$ 0.132	$ 0.128	$ 0.124
Breakeven Fuel Price ($/gal)	5.24	5.23	5.23	5.11	4.98	4.85	4.84	4.83	4.81	4.80

The projections in the table above show that inclusion of the Project would increase costs by $7 – 8 million above what they would have been without the Project, and retail rates would have to be increased $0.17 – 0.20. Only if generating fuel prices increased to over $5/gallon would the Project show benefits.

Clearly, the success of the Project is dependent on Processor participation or increased loads.

Scenario 2. 100 million kWh sales / 30 MW

This scenario is based on all three of the large Processors participating at full requirements. It is assumed that the City charges the Processors $0.03/kilowatt-hour escalating at 0.75 percent/year in addition to the cost of Makushin. The Project is assumed to be 30 megawatts which would be five or so megawatts over the combined peak.

The results, summarized in Table 7, show that on a combined basis, the Project begins to provide benefits in the seventh or third year, depending on the fuel forecast assumed. However, that is for the combined benefits. The City attains benefits much earlier due to the revenues collected from the $0.03/kilowatt-hour additional charge whereas the Processors benefits are delayed due to the payment of the additional charge. Under the Nymex fuel scenario, any additional charge by the City to the Processors prior to 2030 would result in net

Project losses to the Processors. Under the EIA fuel case, a small fee could be imposed in 2026, the third year of operation. It is noted that any reduction in fee from the assumed $0.03/kilowatt-hour would result in lower savings to the City from that projected in the table.

Table 7
Summary of Results – City Plus Processors
30 MW Project

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Nymex Fuel										
Project Savings (000)										
City	$ (633)	$ (478)	$ (316)	$ 111	$ 551	$ 988	$ 1,154	$ 1,269	$ 1,412	$ 1,557
Processors	(2,947)	(2,665)	(2,366)	(2,040)	(1,710)	(1,408)	(1,138)	(967)	(742)	(513)
Combined	$ (3,580)	$ (3,143)	$ (2,681)	$ (1,929)	$ (1,159)	$ (420)	$ 16	$ 302	$ 669	$ 1,045
Change in Retail City										
Rates ($/kWh)	$ 0.021	$ 0.017	$ 0.013	$ 0.002	$ (0.009)	$ (0.020)	$ (0.024)	$ (0.027)	$ (0.030)	$ (0.034)
EIA Fuel										
Project Savings (000)										
City	$ 389	$ 513	$ 640	$ 1,020	$ 1,414	$ 1,823	$ 1,978	$ 2,137	$ 2,299	$ 2,465
Processors	(944)	(721)	(492)	(258)	(18)	227	478	735	998	1,267
Combined	$ (555)	$ (207)	$ 149	$ 763	$ 1,396	$ 2,050	$ 2,456	$ 2,872	$ 3,297	$ 3,732
Change in Retail										
Rates ($/kWh)	$ (0.005)	$ (0.008)	$ (0.011)	$ (0.021)	$ (0.031)	$ (0.041)	$ (0.045)	$ (0.049)	$ (0.053)	$ (0.057)
Breakeven Fuel Price ($/gal)	2.15	2.14	2.13	2.08	2.04	1.99	1.97	1.96	1.95	1.94

Scenario 3. 100 million kWh sales / 26 MW

Scenario 3 is the same as the previous with the exception the Project is constructed at a smaller size. As compared to the previous scenario, Project benefits are accelerated by approximately two years.

Table 8
Summary of Results – City Plus Processors
26 MW Project

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Nymex Fuel										
Project Savings (000)										
City	$ (196)	$ (41)	$ 121	$ 548	$ 988	$ 1,425	$ 1,591	$ 1,706	$ 1,849	$ 1,994
Processors	(2,284)	(2,002)	(1,703)	(1,377)	(1,047)	(745)	(475)	(304)	(79)	150
Combined	$ (2,480)	$ (2,043)	$ (1,581)	$ (829)	$ (59)	$ 680	$ 1,116	$ 1,402	$ 1,769	$ 2,145
Change in Retail City										
Rates ($/kWh)	$ 0.009	$ 0.006	$ 0.001	$ (0.009)	$ (0.020)	$ (0.031)	$ (0.035)	$ (0.038)	$ (0.042)	$ (0.045)
EIA Fuel										
Project Savings (000)										
City	$ 826	$ 950	$ 1,077	$ 1,457	$ 1,851	$ 2,260	$ 2,415	$ 2,574	$ 2,736	$ 2,902
Processors	(281)	(58)	171	405	645	890	1,141	1,398	1,661	1,930
Combined	$ 545	$ 893	$ 1,249	$ 1,863	$ 2,496	$ 3,150	$ 3,556	$ 3,972	$ 4,397	$ 4,832
Change in Retail										
Rates ($/kWh)	$ (0.016)	$ (0.019)	$ (0.022)	$ (0.032)	$ (0.042)	$ (0.052)	$ (0.056)	$ (0.060)	$ (0.064)	$ (0.068)
Breakeven Fuel Price ($/gal)	1.98	1.97	1.96	1.91	1.87	1.82	1.80	1.79	1.78	1.77

Scenario 4. Effect of Future Load Reduction

Over the years, the Processors have not displayed any indication that they would be willing to commit to long-term payment obligations regardless of their power usage. As a potential compromise, the City suggested an obligation based on a percentage of power requirements. Thus, if there was a bad fishing year or they simply went out of business, there would be no payment obligation. Such a scenario would certainly have to be further reviewed by the City since it would be assuming the risk of future payments.

Scenario 4 investigates that risk by using the same parameters of Scenario 2 (30-megawatt Project; $0.03/kilowatt-hour base rate to Processors) but with a 30 percent reduction in Processor usage.

Table 9
Summary of Results – City Plus Processors @ 70%
30 MW Project

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Nymex Fuel										
Project Savings (000)										
City	$ (2,625)	$ (2,475)	$ (2,316)	$ (1,894)	$ (1,458)	$ (1,025)	$ (864)	$ (753)	$ (614)	$ (473)
Processors	(3,586)	(3,391)	(3,184)	(2,959)	(2,731)	(2,523)	(2,336)	(2,217)	(2,062)	(1,903)
Combined	$ (6,211)	$ (5,865)	$ (5,500)	$ (4,853)	$ (4,189)	$ (3,547)	$ (3,199)	$ (2,970)	$ (2,677)	$ (2,376)
Change in Retail City										
Rates ($/kWh)	$ 0.070	$ 0.066	$ 0.062	$ 0.051	$ 0.041	$ 0.030	$ 0.026	$ 0.023	$ 0.019	$ 0.016
EIA Fuel										
Project Savings (000)										
City	$ (1,603)	$ (1,483)	$ (1,360)	$ (984)	$ (595)	$ (190)	$ (39)	$ 115	$ 273	$ 435
Processors	(2,204)	(2,049)	(1,891)	(1,729)	(1,563)	(1,394)	(1,220)	(1,043)	(861)	(675)
Combined	$ (3,807)	$ (3,532)	$ (3,251)	$ (2,713)	$ (2,158)	$ (1,584)	$ (1,260)	$ (927)	$ (588)	$ (241)
Change in Retail										
Rates ($/kWh)	$ 0.044	$ 0.041	$ 0.038	$ 0.029	$ 0.019	$ 0.009	$ 0.005	$ 0.001	$ (0.003)	$ (0.007)
Breakeven Fuel Price ($/gal)	2.80	2.80	2.79	2.73	2.67	2.61	2.60	2.59	2.58	2.56

As compared to Scenario 2 in Table 7, the reduced load places an additional $0.05/kilowatt-hour onto retail rates.

Scenario 5 – 30 MW Project with No Processors

The directive to the City Manager described in Section I contemplates entering into a power purchase agreement prior to obtaining commitments by the Processors. While Scenario 4 could be viewed as a somewhat reduced commitment, Scenario 5 investigates what would happen if the City entered into a Power Purchase Agreement and the Processors declined to participate.

The results shown in Table 10 show that in such a scenario, $0.28 - $0.30/kilowatt-hour would be added to a retail bill as compared to $0.17 - $0.20/kilowatt-hour in Scenario 1 with the smaller Project. As stated in Scenario 1, the success of the Project is dependent on participation by the Processors, but even that participation does not guarantee Project benefits accrue to the participants.

Table 10
Summary of Results – City Only
30 MW Project

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Nymex Fuel										
Project Savings (000)	$ (12,125)	$ (11,985)	$ (11,836)	$ (11,423)	$ (10,997)	$ (10,574)	$ (10,423)	$ (10,322)	$ (10,194)	$ (10,063)
Change in Retail Rates ($/kWh)	$ 0.303	$ 0.300	$ 0.296	$ 0.286	$ 0.275	$ 0.264	$ 0.261	$ 0.258	$ 0.255	$ 0.252
EIA Fuel										
Project Savings (000)	$ (11,103)	$ (10,993)	$ (10,880)	$ (10,514)	$ (10,134)	$ (9,740)	$ (9,598)	$ (9,454)	$ (9,306)	$ (9,155)
Change in Retail Rates ($/kWh)	$ 0.278	$ 0.275	$ 0.272	$ 0.263	$ 0.253	$ 0.243	$ 0.240	$ 0.236	$ 0.233	$ 0.229
Breakeven Fuel Price ($/gal)	7.65	7.64	7.64	7.51	7.38	7.24	7.23	7.21	7.20	7.18

SUMMARY OF RESULTS

Each of the five scenarios are summarized in Table 11 on the following page. The projections are included for operational years 1 – 5, 10, 15, and 20. Details of these projections and the full 20-year study period are provided in Attachments 1 - 5.

Table 11
Summary of Results

Scenario	Loads	Project Size	Fuel Forecast	Operational Year 1	2	3	4	5	10	15	20
				2024	2025	2026	2027	2028	2033	2038	2043
				Combined Project Savings (000)							
1	City Only	16	Nymex	$ (7,945)	$ (7,805)	$ (7,656)	$ (7,243)	$ (6,817)	$ (5,883)	$ (5,182)	$ (4,398)
			EIA	(6,923)	(6,813)	(6,700)	(6,334)	(5,954)	(4,975)	(4,167)	(3,264)
2	100 million kWh	30	Nymex	(3,580)	(3,143)	(2,681)	(1,929)	(1,159)	1,045	3,053	5,297
			EIA	(555)	(207)	149	763	1,396	3,732	6,056	8,654
3	100 million kWh	26	Nymex	(2,480)	(2,043)	(1,581)	(829)	(59)	2,145	4,153	6,397
			EIA	545	893	1,249	1,863	2,496	4,832	7,156	9,754
4	82 million kWh	30	Nymex	(6,211)	(5,865)	(5,500)	(4,853)	(4,189)	(2,376)	(771)	1,024
			EIA	(3,807)	(3,532)	(3,251)	(2,713)	(2,158)	(241)	1,616	3,692
5	City Only	30	Nymex	(12,350)	(12,217)	(12,077)	(11,675)	(11,258)	(10,359)	(9,693)	(8,948)
			EIA	(11,394)	(11,290)	(11,183)	(10,824)	(10,451)	(9,510)	(8,744)	(7,887)
				Increase (Decrease) to Retail Rate ($/kWh)							
1	City Only	16	Nymex	$ 0.199	$ 0.195	$ 0.191	$ 0.181	$ 0.170	$ 0.147	$ 0.130	$ 0.110
			EIA	$ 0.173	$ 0.170	$ 0.167	$ 0.158	$ 0.149	$ 0.124	$ 0.104	$ 0.082
2	100 million kWh	30	Nymex	$ 0.021	$ 0.017	$ 0.013	$ 0.002	$ (0.009)	$ (0.034)	$ (0.054)	$ (0.075)
			EIA	$ (0.005)	$ (0.008)	$ (0.011)	$ (0.021)	$ (0.031)	$ (0.057)	$ (0.079)	$ (0.103)
3	100 million kWh	26	Nymex	$ 0.009	$ 0.006	$ 0.001	$ (0.009)	$ (0.020)	$ (0.045)	$ (0.065)	$ (0.086)
			EIA	$ (0.016)	$ (0.019)	$ (0.022)	$ (0.032)	$ (0.042)	$ (0.068)	$ (0.090)	$ (0.115)
4	82 million kWh	30	Nymex	$ 0.070	$ 0.066	$ 0.062	$ 0.051	$ 0.041	$ 0.016	$ (0.003)	$ (0.024)
			EIA	$ 0.044	$ 0.041	$ 0.038	$ 0.029	$ 0.019	$ (0.007)	$ (0.028)	$ (0.052)
5	City Only	30	Nymex	$ 0.303	$ 0.300	$ 0.296	$ 0.286	$ 0.275	$ 0.252	$ 0.234	$ 0.214
			EIA	$ 0.278	$ 0.275	$ 0.272	$ 0.263	$ 0.253	$ 0.229	$ 0.209	$ 0.186
				Breakeven Fuel Price ($/gallon)							
1	City Only	16		$ 5.24	$ 5.23	$ 5.23	$ 5.11	$ 4.98	$ 4.80	$ 4.73	$ 4.64
2	100 million kWh	30		$ 2.15	$ 2.14	$ 2.13	$ 2.08	$ 2.04	$ 1.94	$ 1.88	$ 1.80
3	100 million kWh	26		$ 1.98	$ 1.97	$ 1.96	$ 1.91	$ 1.87	$ 1.77	$ 1.70	$ 1.63
4	82 million kWh	30		$ 2.80	$ 2.80	$ 2.79	$ 2.73	$ 2.67	$ 2.56	$ 2.50	$ 2.43
5	City Only	30		$ 7.65	$ 7.64	$ 7.64	$ 7.51	$ 7.38	$ 7.18	$ 7.10	$ 7.01

VI. SUMMARY AND CONCLUSIONS

Based on the assumptions and analysis summarized in this report, a number of conclusions can be made regarding the Project.

1. Participation by only the City with its current loads is not economically feasible. Such a scenario would cause retail rates to increase by up to $0.20/kilowatt-hour over what they would have been at the time.
2. Present loads on the island are large enough to make the Project economic, but short-term losses would result if fuel prices do not rebound to levels exceeding $2.15/gallon.
3. If the City imposes a fee on the Processors for use of the City's distribution system in delivering Project power, even a very small fee could result in overall losses to the Processors as compared to continued operations without the Project.
4. It may not be economic for all loads to participate in the Project due to the relatively small loads of some self-generators and the high capital cost to electrically interconnect them with the system.
5. The analysis has used certain assumptions for the Processors' fuel consumption, avoided operating costs, and maintenance costs. These assumptions must be reviewed and verified by the Processors before they consider participation in the Project. It is also noted that these assumptions may vary by Processor.
6. Even if the Processors agreed to participate in the Project, agreements between the parties could take several months to negotiate and acquire the necessary approvals. The parties must agree on spinning reserve protocols, installed reserve protocols, operating procedures, and cost allocations.
7. There is significant risk if the City enters into a Power Purchase Agreement without a commitment from the Processors. If they ultimately decided not to participate, the cost to the City is projected to add $0.30/kilowatt-hour above what rates would have been at the time.
8. Although the City has experienced load growth in the past, construction of the Project based on speculative loads represents a high degree of risk for the City ratepayers.
9. Previous discussions with the Processors have shown that they will not make long-term commitments for payment obligations. If they did participate and later withdrew from the Project or curtailed operations for whatever reason, the City would have to make up the difference in payments. The effect on a City ratepayer would vary depending on what the Processor curtailment was, but even if the curtailment is limited to 30 percent, City ratepayers would pay an additional $0.05/kilowatt-hour.
10. Heat loads could add to the City load, but the electric rate must be lower than cost of heating fuel and amortization of the conversion cost. These loads, however, would probably not occur until after the Project is operational.

11. If the City participates in the Project, its bond counsel should review the Power Purchase Agreement to ensure the City will be in compliance with its bond ordinances.

Attachment 1A

Load: City Only

Project Size: 16 MW

Fuel Forecast: Nymex

1	Scenario 1: Nymex Fuel												
2	Makushin Size: 16												
3	Fuel Forecast: Nymex												
4	Sales to Processors: 0												
5													
6													
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
9	Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
11	Cost of Fuel ($/gallon)			.									
12	City	1.42	1.47	1.53	1.59	1.65	1.72	1.79	1.86	1.92	1.98	2.01	2.05
13	Processor	1.46	1.52	1.58	1.64	1.70	1.77	1.84	1.91	1.98	2.04	2.07	2.12
14	Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
15	Fuel Efficiency (kWh/gal)												
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000 gallons)												
19	City												
20	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor												
24	Hours/Unit/Month	-	-	-	-	-	-	-	-	-	-	-	-
25	Gallons/Hour	-	-	-	-	-	-	-	-	-	-	-	-
26	Number of Units	-	-	-	-	-	-	-	-	-	-	-	-
27	Makushin Rate												
28	Fixed Payment - 16 MW (000)	-	-	-	11,840	11,958	12,078	12,199	12,321	12,444	12,568	12,694	12,821

1	Scenario 1: Nymex Fuel											
2	Makushin Size: 16											
3	Fuel Forecast: Nymex											
4	Sales to Processors: 0											
5												
6												
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
9	Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
11	Cost of Fuel ($/gallon)											
12	City	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.46	2.51	2.57	2.62
13	Processor	2.16	2.21	2.26	2.31	2.37	2.42	2.47	2.53	2.59	2.64	2.70
14	Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
15	Fuel Efficiency (kWh/gal)											
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000											
19	City											
20	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor											
24	Hours/Unit/Month	-	-	-	-	-	-	-	-	-	-	-
25	Gallons/Hour	-	-	-	-	-	-	-	-	-	-	-
26	Number of Units	-	-	-	-	-	-	-	-	-	-	-
27	Makushin Rate											
28	Fixed Payment - 16 MW (000)	12,949	13,079	13,210	13,342	13,475	13,610	13,746	13,883	14,022	14,162	14,304

Scenario 1: Nymex Fuel
Makushin Size: 16
Fuel Forecast: Nymex
Sales to Processors: 0

	2021	2022	2023	Geo 2024	Geo 2025	Geo 2026	Geo 2027	Geo 2028	Geo 2029	Geo 2030	Geo 2031	Geo 2032
Without Makushin (Dollars in Thousands)												
Loads (million kWh)												
City												
Sales												
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses												
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	-	-	-	-	-	-	-	-	-	-	-	-
Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors	-	-	-	-	-	-	-	-	-	-	-	-
Costs												
City												
Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
Facilities	145	147	150	153	157	160	164	168	171	175	179	183
Production												
Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
Ops	789	801	817	833	852	871	891	911	931	952	974	995
Fuel	3,754	3,905	4,058	4,216	4,375	4,544	4,729	4,917	5,086	5,235	5,322	5,442
Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
Makushin												
To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
Payments from Processors												
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total City	13,569	13,867	14,220	14,581	14,973	15,381	15,810	16,246	16,670	17,080	17,434	17,826
Processor Costs												
Fuel	-	-	-	-	-	-	-	-	-	-	-	-
Variable O&M	-	-	-	-	-	-	-	-	-	-	-	-
Payments to City												
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total Processor	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs	13,569	13,867	14,220	14,581	14,973	15,381	15,810	16,246	16,670	17,080	17,434	17,826
City Costs @ Production Level ($/kWh)												
Production												
Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.101	$ 0.105	$ 0.109	$ 0.114	$ 0.118	$ 0.122	$ 0.126	$ 0.128	$ 0.131
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
Total												
At Production Level	$ 0.326	$ 0.334	$ 0.342	$ 0.351	$ 0.360	$ 0.370	$ 0.380	$ 0.391	$ 0.401	$ 0.411	$ 0.419	$ 0.429
At Sales Level	$ 0.339	$ 0.347	$ 0.355	$ 0.365	$ 0.374	$ 0.385	$ 0.395	$ 0.406	$ 0.417	$ 0.427	$ 0.436	$ 0.446
Processor Costs ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Scenario 1: Nymex Fuel
Makushin Size: 16
Fuel Forecast: Nymex
Sales to Processors: 0

	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
Without Makushin (Dollars in Thousands)											
Loads (million kWh)											
City											
Sales											
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses											
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	-	-	-	-	-	-	-	-	-	-	-
Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors	-	-	-	-	-	-	-	-	-	-	-
Costs											
City											
Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
Vehicles	83	85	87	89	91	93	95	97	99	101	104
Facilities	187	192	196	200	205	209	214	219	224	229	234
Production											
Personnel	1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
Ops	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
Fuel	5,565	5,690	5,818	5,949	6,083	6,219	6,359	6,502	6,649	6,798	6,951
Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-
Makushin											
To OCCP	-	-	-	-	-	-	-	-	-	-	-
Payments from Processors											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total City	18,227	18,637	19,057	19,486	19,924	20,372	20,831	21,299	21,779	22,269	22,770
Processor Costs											
Fuel	-	-	-	-	-	-	-	-	-	-	-
Variable O&M	-	-	-	-	-	-	-	-	-	-	-
Payments to City											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total Processor	-	-	-	-	-	-	-	-	-	-	-
Total Costs	18,227	18,637	19,057	19,486	19,924	20,372	20,831	21,299	21,779	22,269	22,770
City Costs @ Production Level ($/kWh)											
Production											
Fuel	$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.146	$ 0.150	$ 0.153	$ 0.156	$ 0.160	$ 0.163	$ 0.167
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other Production	0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
Total											
At Production Level	$ 0.438	$ 0.448	$ 0.458	$ 0.469	$ 0.479	$ 0.490	$ 0.501	$ 0.512	$ 0.524	$ 0.536	$ 0.548
At Sales Level	$ 0.456	$ 0.466	$ 0.476	$ 0.487	$ 0.498	$ 0.509	$ 0.521	$ 0.532	$ 0.544	$ 0.557	$ 0.569
Processor Costs ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Scenario 1: Nymex Fuel
Makushin Size: 16
Fuel Forecast: Nymex
Sales to Processors: 0

	2021	2022	2023	Geo 2024	Geo 2025	Geo 2026	Geo 2027	Geo 2028	Geo 2029	Geo 2030	Geo 2031	Geo 2032
With Makushin (Dollars in Thousands)												
Loads (million kWh)												
City												
Sales												
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses												
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	-	-	-	-	-	-	-	-	-	-	-	-
Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors	-	-	-	-	-	-	-	-	-	-	-	-
City Costs												
Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
Facilities	145	147	150	153	157	160	164	168	171	175	179	183
Production												
Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
Ops	789	801	817	434	443	453	463	474	485	495	507	518
Fuel	3,754	3,905	4,058	165	171	178	185	192	199	205	208	213
Spinning Reserve Fuel	-	-	-	581	603	626	652	678	701	722	734	750
Makushin												
To OCCP	-	-	-	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840
Payments from Processors												
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total City	13,569	13,867	14,220	22,526	22,778	23,036	23,053	23,063	23,064	23,323	23,576	23,840
Processor Costs												
Fuel	-	-	-	-	-	-	-	-	-	-	-	-
Variable O&M	-	-	-	-	-	-	-	-	-	-	-	-
Payments to City												
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total Processor	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs	13,569	13,867	14,220	22,526	22,778	23,036	23,053	23,063	23,064	23,323	23,576	23,840
City Costs @ Production Level ($/kWh)												
Production												
Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.018	$ 0.019	$ 0.019	$ 0.020	$ 0.021	$ 0.022	$ 0.022	$ 0.023	$ 0.023
Makushin	-	-	-	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285
Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
Total												
At Production Level	0.326	0.334	0.342	0.542	0.548	0.554	0.554	0.555	0.555	0.561	0.567	0.573
At Sales Level	0.339	0.347	0.355	0.563	0.569	0.576	0.576	0.577	0.577	0.583	0.589	0.596
Processor Costs ($/kWh)	-	-	-	-	-	-	-	-	-	-	-	-

Scenario 1: Nymex Fuel
Makushin Size: 16
Fuel Forecast: Nymex
Sales to Processors: 0

	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
With Makushin (Dollars in Thousands)											
Loads (million kWh)											
City											
Sales											
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses											
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	-	-	-	-	-	-	-	-	-	-	-
Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors	-	-	-	-	-	-	-	-	-	-	-
City Costs											
Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
Vehicles	83	85	87	89	91	93	95	97	99	101	104
Facilities	187	192	196	200	205	209	214	219	224	229	234
Production											
Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
Ops	530	542	554	566	579	592	605	619	633	647	662
Fuel	217	222	227	232	238	243	248	254	260	266	272
Spinning Reserve Fuel	767	784	802	820	838	857	876	896	916	937	958
Makushin											
To OCCP	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840
Payments from Processors											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total City	24,110	24,386	24,668	24,957	25,252	25,554	25,863	26,178	26,501	26,831	27,168
Processor Costs											
Fuel	-	-	-	-	-	-	-	-	-	-	-
Variable O&M	-	-	-	-	-	-	-	-	-	-	-
Payments to City											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total Processor	-	-	-	-	-	-	-	-	-	-	-
Total Costs	24,110	24,386	24,668	24,957	25,252	25,554	25,863	26,178	26,501	26,831	27,168
City Costs @ Production Level ($/kWh)											
Production											
Fuel	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.026	$ 0.027	$ 0.028	$ 0.028	$ 0.029	$ 0.030
Makushin	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285
Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
Total											
At Production Level	0.580	0.586	0.593	0.600	0.607	0.615	0.622	0.630	0.637	0.645	0.653
At Sales Level	0.603	0.610	0.617	0.624	0.631	0.639	0.647	0.654	0.663	0.671	0.679
Processor Costs ($/kWh)	-	-	-	-	-	-	-	-	-	-	-

1	Scenario 1: Nymex Fuel												
2	Makushin Size: 16												
3	Fuel Forecast: Nymex												
4	Sales to Processors: 0												
5													
6													
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	(7,945)	(7,805)	(7,656)	(7,243)	(6,817)	(6,394)	(6,243)	(6,142)	(6,014)
130	Processor	-	-	-	-	-	-	-	-	-	-	-	-
131	Combined	-	-	-	(7,945)	(7,805)	(7,656)	(7,243)	(6,817)	(6,394)	(6,243)	(6,142)	(6,014)
132	$/kWh												
133	City	-	-	-	(0.199)	(0.195)	(0.191)	(0.181)	(0.170)	(0.160)	(0.156)	(0.154)	(0.150)
134	Processor	-	-	-	-	-	-	-	-	-	-	-	-
135	Combined	-	-	-	(0.199)	(0.195)	(0.191)	(0.181)	(0.170)	(0.160)	(0.156)	(0.154)	(0.150)
136	Breakeven Fuel Price ($/gallon)	-	-	-	5.24	5.23	5.23	5.11	4.98	4.85	4.84	4.83	4.81

1	Scenario 1: Nymex Fuel											
2	Makushin Size: 16											
3	Fuel Forecast: Nymex											
4	Sales to Processors: 0											
5												
6												
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
127	**Savings (Losses)**											
128	Dollars (000)											
129	City	(5,883)	(5,749)	(5,612)	(5,472)	(5,328)	(5,182)	(5,032)	(4,879)	(4,722)	(4,562)	(4,398)
130	Processor	-	-	-	-	-	-	-	-	-	-	-
131	Combined	(5,883)	(5,749)	(5,612)	(5,472)	(5,328)	(5,182)	(5,032)	(4,879)	(4,722)	(4,562)	(4,398)
132	$/kWh											
133	City	(0.147)	(0.144)	(0.140)	(0.137)	(0.133)	(0.130)	(0.126)	(0.122)	(0.118)	(0.114)	(0.110)
134	Processor	-	-	-	-	-	-	-	-	-	-	-
135	Combined	(0.147)	(0.144)	(0.140)	(0.137)	(0.133)	(0.130)	(0.126)	(0.122)	(0.118)	(0.114)	(0.110)
136	Breakeven Fuel Price ($/gallon)	4.80	4.79	4.77	4.76	4.74	4.73	4.71	4.69	4.68	4.66	4.64

Attachment 1B

Load: City Only

Project Size: 16 MW

Fuel Forecast: EIA

Scneario 1: EIA Fuel
Makushin Size: 16
Fuel Forecast: EIA
Sales to Processors: 0

	2021	2022	2023	Geo 2024	Geo 2025	Geo 2026	Geo 2027	Geo 2028	Geo 2029	Geo 2030	Geo 2031	Geo 2032
Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
Cost of Fuel ($/gallon)			.									
City	1.71	1.98	2.02	2.06	2.11	2.15	2.20	2.25	2.30	2.35	2.41	2.46
Processor	1.76	2.04	2.08	2.12	2.17	2.22	2.27	2.32	2.37	2.43	2.48	2.54
Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
Fuel Efficiency (kWh/gal)												
City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Fuel Usage With Makushin for Maint/etc. (000 gallons)												
City												
Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Processor												
Hours/Unit/Month	-	-	-	-	-	-	-	-	-	-	-	-
Gallons/Hour	-	-	-	-	-	-	-	-	-	-	-	-
Number of Units	-	-	-	-	-	-	-	-	-	-	-	-
Makushin Rate												
Fixed Payment - 16 MW (000)	-	-	-	11,840	11,958	12,078	12,199	12,321	12,444	12,568	12,694	12,821

1	Scneario 1: EIA Fuel											
2	Makushin Size: 16											
3	Fuel Forecast: EIA											
4	Sales to Processors: 0											
5												
6												
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
9	Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
11	Cost of Fuel ($/gallon)											
12	City	2.52	2.57	2.63	2.69	2.75	2.81	2.88	2.94	3.01	3.08	3.14
13	Processor	2.59	2.65	2.71	2.77	2.83	2.90	2.96	3.03	3.10	3.17	3.24
14	Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
15	Fuel Efficiency (kWh/gal)											
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000											
19	City											
20	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor											
24	Hours/Unit/Month	-	-	-	-	-	-	-	-	-	-	-
25	Gallons/Hour	-	-	-	-	-	-	-	-	-	-	-
26	Number of Units	-	-	-	-	-	-	-	-	-	-	-
27	Makushin Rate											
28	Fixed Payment - 16 MW (000)	12,949	13,079	13,210	13,342	13,475	13,610	13,746	13,883	14,022	14,162	14,304

Scneario 1: EIA Fuel
Makushin Size: 16
Fuel Forecast: EIA
Sales to Processors: 0

	2021	2022	2023	Geo 2024	Geo 2025	Geo 2026	Geo 2027	Geo 2028	Geo 2029	Geo 2030	Geo 2031	Geo 2032
Without Makushin (Dollars in Thousands)												
Loads (million kWh)												
City												
Sales												
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses												
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	-	-	-	-	-	-	-	-	-	-	-	-
Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors	-	-	-	-	-	-	-	-	-	-	-	-
Costs												
City												
Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
Facilities	145	147	150	153	157	160	164	168	171	175	179	183
Production												
Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
Ops	789	801	817	833	852	871	891	911	931	952	974	995
Fuel	4,533	5,233	5,337	5,457	5,580	5,706	5,834	5,965	6,100	6,237	6,377	6,521
Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
Makushin												
To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
Payments from Processors												
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total City	14,348	15,195	15,499	15,822	16,178	16,542	16,914	17,295	17,684	18,082	18,489	18,905
Processor Costs												
Fuel	-	-	-	-	-	-	-	-	-	-	-	-
Variable O&M	-	-	-	-	-	-	-	-	-	-	-	-
Payments to City												
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total Processor	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs	14,348	15,195	15,499	15,822	16,178	16,542	16,914	17,295	17,684	18,082	18,489	18,905
City Costs @ Production Level ($/kWh)												
Production												
Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.131	$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.147	$ 0.150	$ 0.153	$ 0.157
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
Total												
At Production Level	$ 0.345	$ 0.365	$ 0.373	$ 0.381	$ 0.389	$ 0.398	$ 0.407	$ 0.416	$ 0.425	$ 0.435	$ 0.445	$ 0.455
At Sales Level	$ 0.359	$ 0.380	$ 0.387	$ 0.396	$ 0.404	$ 0.414	$ 0.423	$ 0.432	$ 0.442	$ 0.452	$ 0.462	$ 0.473
Processor Costs ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Scneario 1: EIA Fuel
Makushin Size: 16
Fuel Forecast: EIA
Sales to Processors: 0

	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
Without Makushin (Dollars in Thousands)											
Loads (million kWh)											
City											
Sales											
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses											
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	-	-	-	-	-	-	-	-	-	-	-
Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors	-	-	-	-	-	-	-	-	-	-	-
Costs											
City											
Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
Vehicles	83	85	87	89	91	93	95	97	99	101	104
Facilities	187	192	196	200	205	209	214	219	224	229	234
Production											
Personnel	1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
Ops	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
Fuel	6,667	6,817	6,971	7,128	7,288	7,452	7,620	7,791	7,966	8,146	8,329
Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-
Makushin											
To OCCP	-	-	-	-	-	-	-	-	-	-	-
Payments from Processors											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total City	19,330	19,765	20,210	20,664	21,129	21,605	22,091	22,588	23,096	23,616	24,147
Processor Costs											
Fuel	-	-	-	-	-	-	-	-	-	-	-
Variable O&M	-	-	-	-	-	-	-	-	-	-	-
Payments to City											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total Processor	-	-	-	-	-	-	-	-	-	-	-
Total Costs	19,330	19,765	20,210	20,664	21,129	21,605	22,091	22,588	23,096	23,616	24,147
City Costs @ Production Level ($/kWh)											
Production											
Fuel	$ 0.160	$ 0.164	$ 0.168	$ 0.171	$ 0.175	$ 0.179	$ 0.183	$ 0.187	$ 0.192	$ 0.196	$ 0.200
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other Production	0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
Total											
At Production Level	$ 0.465	$ 0.475	$ 0.486	$ 0.497	$ 0.508	$ 0.520	$ 0.531	$ 0.543	$ 0.555	$ 0.568	$ 0.581
At Sales Level	$ 0.483	$ 0.494	$ 0.505	$ 0.517	$ 0.528	$ 0.540	$ 0.552	$ 0.565	$ 0.577	$ 0.590	$ 0.604
Processor Costs ($/kWh)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Scneario 1: EIA Fuel
Makushin Size: 16
Fuel Forecast: EIA
Sales to Processors: 0

	2021	2022	2023	Geo 2024	Geo 2025	Geo 2026	Geo 2027	Geo 2028	Geo 2029	Geo 2030	Geo 2031	Geo 2032
With Makushin (Dollars in Thousands)												
Loads (million kWh)												
City												
Sales												
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses												
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	-	-	-	-	-	-	-	-	-	-	-	-
Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors	-	-	-	-	-	-	-	-	-	-	-	-
City Costs												
Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
Facilities	145	147	150	153	157	160	164	168	171	175	179	183
Production												
Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
Ops	789	801	817	434	443	453	463	474	485	495	507	518
Fuel	4,533	5,233	5,337	213	218	223	228	233	238	244	249	255
Spinning Reserve Fuel	-	-	-	752	769	786	804	822	841	860	879	899
Makushin												
To OCCP	-	-	-	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840
Payments from Processors												
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total City	14,348	15,195	15,499	22,746	22,991	23,242	23,248	23,249	23,244	23,500	23,763	24,031
Processor Costs												
Fuel	-	-	-	-	-	-	-	-	-	-	-	-
Variable O&M	-	-	-	-	-	-	-	-	-	-	-	-
Payments to City												
Makushin	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-
Total Processor	-	-	-	-	-	-	-	-	-	-	-	-
Total Costs	14,348	15,195	15,499	22,746	22,991	23,242	23,248	23,249	23,244	23,500	23,763	24,031
City Costs @ Production Level ($/kWh)												
Production												
Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.023	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.027	$ 0.027	$ 0.028
Makushin	-	-	-	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285
Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
Total												
At Production Level	0.345	0.365	0.373	0.547	0.553	0.559	0.559	0.559	0.559	0.565	0.571	0.578
At Sales Level	0.359	0.380	0.387	0.569	0.575	0.581	0.581	0.581	0.581	0.588	0.594	0.601
Processor Costs ($/kWh)	-	-	-	-	-	-	-	-	-	-	-	-

Scneario 1: EIA Fuel
Makushin Size: 16
Fuel Forecast: EIA
Sales to Processors: 0

	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
With Makushin (Dollars in Thousands)											
Loads (million kWh)											
City											
Sales											
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses											
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	-	-	-	-	-	-	-	-	-	-	-
Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors	-	-	-	-	-	-	-	-	-	-	-
City Costs											
Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
Vehicles	83	85	87	89	91	93	95	97	99	101	104
Facilities	187	192	196	200	205	209	214	219	224	229	234
Production											
Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
Ops	530	542	554	566	579	592	605	619	633	647	662
Fuel	261	266	272	279	285	291	298	304	311	318	325
Spinning Reserve Fuel	919	940	961	982	1,004	1,027	1,050	1,074	1,098	1,123	1,148
Makushin											
To OCCP	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840	11,840
Payments from Processors											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total City	24,305	24,586	24,872	25,166	25,465	25,772	26,085	26,406	26,734	27,069	27,411
Processor Costs											
Fuel	-	-	-	-	-	-	-	-	-	-	-
Variable O&M	-	-	-	-	-	-	-	-	-	-	-
Payments to City											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total Processor	-	-	-	-	-	-	-	-	-	-	-
Total Costs	24,305	24,586	24,872	25,166	25,465	25,772	26,085	26,406	26,734	27,069	27,411
City Costs @ Production Level ($/kWh)											
Production											
Fuel	$ 0.028	$ 0.029	$ 0.030	$ 0.030	$ 0.031	$ 0.032	$ 0.032	$ 0.033	$ 0.034	$ 0.035	$ 0.035
Makushin	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285	0.285
Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
Total											
At Production Level	0.585	0.591	0.598	0.605	0.612	0.620	0.627	0.635	0.643	0.651	0.659
At Sales Level	0.608	0.615	0.622	0.629	0.637	0.644	0.652	0.660	0.668	0.677	0.685
Processor Costs ($/kWh)	-	-	-	-	-	-	-	-	-	-	-

1	Scneario 1: EIA Fuel												
2	Makushin Size: 16												
3	Fuel Forecast: EIA												
4	Sales to Processors: 0												
5													
6													
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	(6,923)	(6,813)	(6,700)	(6,334)	(5,954)	(5,560)	(5,418)	(5,274)	(5,126)
130	Processor	-	-	-	-	-	-	-	-	-	-	-	-
131	Combined	-	-	-	(6,923)	(6,813)	(6,700)	(6,334)	(5,954)	(5,560)	(5,418)	(5,274)	(5,126)
132	$/kWh												
133	City	-	-	-	(0.173)	(0.170)	(0.167)	(0.158)	(0.149)	(0.139)	(0.135)	(0.132)	(0.128)
134	Processor	-	-	-	-	-	-	-	-	-	-	-	-
135	Combined	-	-	-	(0.173)	(0.170)	(0.167)	(0.158)	(0.149)	(0.139)	(0.135)	(0.132)	(0.128)
136	Breakeven Fuel Price ($/gallon)	-	-	-	5.24	5.23	5.23	5.11	4.98	4.85	4.84	4.83	4.81

1	Scneario 1: EIA Fuel											
2	Makushin Size: 16											
3	Fuel Forecast: EIA											
4	Sales to Processors: 0											
5												
6												
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
127	**Savings (Losses)**											
128	Dollars (000)											
129	City	(4,975)	(4,821)	(4,663)	(4,501)	(4,336)	(4,167)	(3,995)	(3,818)	(3,638)	(3,453)	(3,264)
130	Processor	-	-	-	-	-	-	-	-	-	-	-
131	Combined	(4,975)	(4,821)	(4,663)	(4,501)	(4,336)	(4,167)	(3,995)	(3,818)	(3,638)	(3,453)	(3,264)
132	$/kWh											
133	City	(0.124)	(0.121)	(0.117)	(0.113)	(0.108)	(0.104)	(0.100)	(0.095)	(0.091)	(0.086)	(0.082)
134	Processor	-	-	-	-	-	-	-	-	-	-	-
135	Combined	(0.124)	(0.121)	(0.117)	(0.113)	(0.108)	(0.104)	(0.100)	(0.095)	(0.091)	(0.086)	(0.082)
136	Breakeven Fuel Price ($/gallon)	4.80	4.79	4.77	4.76	4.74	4.73	4.71	4.69	4.68	4.66	4.64

Attachment 2A

Load: 100 million kWh

Project Size: 30 MW

Fuel Forecast: Nymex

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
9	Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
11	Cost of Fuel ($/gallon)			.									
12	City	1.42	1.47	1.53	1.59	1.65	1.72	1.79	1.86	1.92	1.98	2.01	2.05
13	Processor	1.46	1.52	1.58	1.64	1.70	1.77	1.84	1.91	1.98	2.04	2.07	2.12
14	Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
15	Fuel Efficiency (kWh/gal)												
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000 gallons)												
19	City												
20	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor												
24	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	-	-	-	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	-	-	-	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate												
28	Fixed Payment - 30 MW (000)	-	-	-	16,020	16,180	16,342	16,505	16,670	16,837	17,006	17,176	17,347

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
9	Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
11	Cost of Fuel ($/gallon)											
12	City	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.46	2.51	2.57	2.62
13	Processor	2.16	2.21	2.26	2.31	2.37	2.42	2.47	2.53	2.59	2.64	2.70
14	Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
15	Fuel Efficiency (kWh/gal)											
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000											
19	City											
20	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor											
24	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate											
28	Fixed Payment - 30 MW (000)	17,521	17,696	17,873	18,052	18,232	18,415	18,599	18,785	18,973	19,162	19,354

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
29	**Without Makushin (Dollars in Thousands)**												
30	Loads (million kWh)												
31	City												
32	Sales												
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses												
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
42	Costs												
43	City												
44	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
45	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
46	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
47	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
48	Production												
49	Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
50	Ops	789	801	817	833	852	871	891	911	931	952	974	995
51	Fuel	3,754	3,905	4,058	4,216	4,375	4,544	4,729	4,917	5,086	5,235	5,322	5,442
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
53	Makushin												
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors												
56	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-	-
58	Total City	13,569	13,867	14,220	14,581	14,973	15,381	15,810	16,246	16,670	17,080	17,434	17,826
59	Processor Costs												
60	Fuel	6,257	6,509	6,764	7,027	7,293	7,574	7,883	8,195	8,477	8,726	8,871	9,071
61	Variable O&M	1,650	1,675	1,708	1,742	1,782	1,822	1,863	1,905	1,947	1,991	2,036	2,082
62	Payments to City												
63	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	7,907	8,183	8,472	8,769	9,074	9,396	9,746	10,100	10,425	10,717	10,907	11,153
66	Total Costs	21,477	22,050	22,692	23,350	24,047	24,777	25,555	26,346	27,095	27,797	28,341	28,979
67	City Costs @ Production Level ($/kWh)												
68	Production												
69	Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.101	$ 0.105	$ 0.109	$ 0.114	$ 0.118	$ 0.122	$ 0.126	$ 0.128	$ 0.131
70	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
72	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
74	Total												
75	At Production Level	$ 0.326	$ 0.334	$ 0.342	$ 0.351	$ 0.360	$ 0.370	$ 0.380	$ 0.391	$ 0.401	$ 0.411	$ 0.419	$ 0.429
76	At Sales Level	$ 0.339	$ 0.347	$ 0.355	$ 0.365	$ 0.374	$ 0.385	$ 0.395	$ 0.406	$ 0.417	$ 0.427	$ 0.436	$ 0.446
77	Processor Costs ($/kWh)	$ 0.132	$ 0.136	$ 0.141	$ 0.146	$ 0.151	$ 0.157	$ 0.162	$ 0.168	$ 0.174	$ 0.179	$ 0.182	$ 0.186
78													

		Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
	Makushin Size											
	Fuel Forecast											
	Sales to Processors											
	Processor Rate											
	Rate Esc											
Without Makushin (Dollars in Thousands)												
Loads (million kWh)												
City												
Sales												
City Core		40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat		-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors		-	-	-	-	-	-	-	-	-	-	-
Total City Sales		40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses												
Core/Heat		1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors		-	-	-	-	-	-	-	-	-	-	-
Total Generation		41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors		60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Costs												
City												
Admin/Depr/Int		$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
Line Repair		1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
Vehicles		83	85	87	89	91	93	95	97	99	101	104
Facilities		187	192	196	200	205	209	214	219	224	229	234
Production												
Personnel		1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
Ops		1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
Fuel		5,565	5,690	5,818	5,949	6,083	6,219	6,359	6,502	6,649	6,798	6,951
Spinning Reserve Fuel		-	-	-	-	-	-	-	-	-	-	-
Makushin												
To OCCP		-	-	-	-	-	-	-	-	-	-	-
Payments from Processors												
Makushin		-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-
Total City		18,227	18,637	19,057	19,486	19,924	20,372	20,831	21,299	21,779	22,269	22,770
Processor Costs												
Fuel		9,275	9,484	9,697	9,915	10,138	10,366	10,600	10,838	11,082	11,331	11,586
Variable O&M		2,129	2,177	2,226	2,276	2,327	2,379	2,433	2,488	2,543	2,601	2,659
Payments to City												
Makushin		-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-
Total Processor		11,404	11,660	11,923	12,191	12,465	12,746	13,032	13,326	13,625	13,932	14,245
Total Costs		29,631	30,298	30,979	31,676	32,389	33,118	33,863	34,625	35,404	36,200	37,015
City Costs @ Production Level ($/kWh)												
Production												
Fuel		$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.146	$ 0.150	$ 0.153	$ 0.156	$ 0.160	$ 0.163	$ 0.167
Makushin		-	-	-	-	-	-	-	-	-	-	-
Other Production		0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
Other		0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
Revenues from Processor Base Rate		-	-	-	-	-	-	-	-	-	-	-
Total												
At Production Level		$ 0.438	$ 0.448	$ 0.458	$ 0.469	$ 0.479	$ 0.490	$ 0.501	$ 0.512	$ 0.524	$ 0.536	$ 0.548
At Sales Level		$ 0.456	$ 0.466	$ 0.476	$ 0.487	$ 0.498	$ 0.509	$ 0.521	$ 0.532	$ 0.544	$ 0.557	$ 0.569
Processor Costs ($/kWh)		$ 0.190	$ 0.194	$ 0.199	$ 0.203	$ 0.208	$ 0.212	$ 0.217	$ 0.222	$ 0.227	$ 0.232	$ 0.237

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
79	**With Makushin (Dollars in Thousands)**												
80	Loads (million kWh)												
81	City												
82	Sales												
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
86	Total City Sales	40.00	40.00	40.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
87	Losses												
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
90	Total Generation	41.58	41.58	41.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58
91	Processors	60.00	60.00	60.00	-	-	-	-	-	-	-	-	-
92	City Costs												
93	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
94	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
95	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
96	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
97	Production												
98	Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
99	Ops	789	801	817	434	443	453	463	474	485	495	507	518
100	Fuel	3,754	3,905	4,058	165	171	178	185	192	199	205	208	213
101	Spinning Reserve Fuel	-	-	-	581	603	626	652	678	701	722	734	750
102	Makushin												
103	To OCCP	-	-	-	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors												
105	Makushin	-	-	-	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)
106	Other	-	-	-	(1,837)	(1,851)	(1,864)	(1,878)	(1,892)	(1,907)	(1,921)	(1,935)	(1,950)
107	Total City	13,569	13,867	14,220	15,214	15,452	15,696	15,699	15,695	15,682	15,926	16,165	16,415
108	Processor Costs												
109	Fuel	6,257	6,509	6,764	224	233	242	252	262	271	279	283	290
110	Variable O&M	1,650	1,675	1,708	-	-	-	-	-	-	-	-	-
111	Payments to City												
112	Makushin	-	-	-	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656
113	Other	-	-	-	1,837	1,851	1,864	1,878	1,892	1,907	1,921	1,935	1,950
114	Total Processor	7,907	8,183	8,472	11,717	11,739	11,762	11,786	11,810	11,833	11,855	11,874	11,895
115	Total Costs	21,477	22,050	22,692	26,930	27,191	27,458	27,484	27,505	27,515	27,782	28,039	28,310
116	City Costs @ Production Level ($/kWh)												
117	Production												
118	Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.018	$ 0.019	$ 0.019	$ 0.020	$ 0.021	$ 0.022	$ 0.022	$ 0.023	$ 0.023
119	Makushin	-	-	-	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158
120	Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
121	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
122	Revenues from Processor Base Rate	-	-	-	(0.044)	(0.045)	(0.045)	(0.045)	(0.046)	(0.046)	(0.046)	(0.047)	(0.047)
123	Total												
124	At Production Level	0.326	0.334	0.342	0.371	0.376	0.382	0.382	0.382	0.382	0.388	0.393	0.399
125	At Sales Level	0.339	0.347	0.355	0.385	0.391	0.397	0.397	0.397	0.397	0.403	0.409	0.415
126	Processor Costs ($/kWh)	0.132	0.136	0.141	0.195	0.196	0.196	0.196	0.197	0.197	0.198	0.198	0.198

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
79	**With Makushin (Dollars in Thousands)**											
80	Loads (million kWh)											
81	City											
82	Sales											
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
86	Total City Sales	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
87	Losses											
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
90	Total Generation	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58
91	Processors	-	-	-	-	-	-	-	-	-	-	-
92	City Costs											
93	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
94	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
95	Vehicles	83	85	87	89	91	93	95	97	99	101	104
96	Facilities	187	192	196	200	205	209	214	219	224	229	234
97	Production											
98	Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
99	Ops	530	542	554	566	579	592	605	619	633	647	662
100	Fuel	217	222	227	232	238	243	248	254	260	266	272
101	Spinning Reserve Fuel	767	784	802	820	838	857	876	896	916	937	958
102	Makushin											
103	To OCCP	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors											
105	Makushin	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)
106	Other	(1,964)	(1,979)	(1,994)	(2,009)	(2,024)	(2,039)	(2,055)	(2,070)	(2,086)	(2,101)	(2,117)
107	Total City	16,670	16,931	17,199	17,472	17,753	18,039	18,332	18,632	18,940	19,254	19,575
108	Processor Costs											
109	Fuel	296	303	310	316	324	331	338	346	354	362	370
110	Variable O&M	-	-	-	-	-	-	-	-	-	-	-
111	Payments to City											
112	Makushin	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656
113	Other	1,964	1,979	1,994	2,009	2,024	2,039	2,055	2,070	2,086	2,101	2,117
114	Total Processor	11,916	11,938	11,959	11,981	12,003	12,026	12,049	12,072	12,095	12,118	12,142
115	Total Costs	28,586	28,869	29,158	29,454	29,756	30,065	30,381	30,704	31,034	31,372	31,718
116	City Costs @ Production Level ($/kWh)											
117	Production											
118	Fuel	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.026	$ 0.027	$ 0.028	$ 0.028	$ 0.029	$ 0.030
119	Makushin	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158
120	Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
121	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
122	Revenues from Processor Base Rate	(0.047)	(0.048)	(0.048)	(0.048)	(0.049)	(0.049)	(0.049)	(0.050)	(0.050)	(0.051)	(0.051)
123	Total											
124	At Production Level	0.406	0.412	0.418	0.425	0.432	0.438	0.446	0.453	0.460	0.468	0.475
125	At Sales Level	0.422	0.428	0.435	0.442	0.449	0.456	0.463	0.471	0.478	0.486	0.494
126	Processor Costs ($/kWh)	0.199	0.199	0.199	0.200	0.200	0.200	0.201	0.201	0.202	0.202	0.202

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	(633)	(478)	(316)	111	551	988	1,154	1,269	1,412
130	Processor	-	-	-	(2,947)	(2,665)	(2,366)	(2,040)	(1,710)	(1,408)	(1,138)	(967)	(742)
131	Combined	-	-	-	(3,580)	(3,143)	(2,681)	(1,929)	(1,159)	(420)	16	302	669
132	$/kWh												
133	City	-	-	-	(0.021)	(0.017)	(0.013)	(0.002)	0.009	0.020	0.024	0.027	0.030
134	Processor	-	-	-	(0.049)	(0.044)	(0.039)	(0.034)	(0.028)	(0.023)	(0.019)	(0.016)	(0.012)
135	Combined	-	-	-	(0.036)	(0.031)	(0.027)	(0.019)	(0.012)	(0.004)	0.000	0.003	0.007
136	Breakeven Fuel Price ($/gallon)	-	-	-	2.15	2.14	2.13	2.08	2.04	1.99	1.97	1.96	1.95

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
127	**Savings (Losses)**											
128	Dollars (000)											
129	City	1,557	1,706	1,858	2,013	2,171	2,333	2,498	2,667	2,839	3,015	3,194
130	Processor	(513)	(277)	(37)	210	462	720	984	1,254	1,530	1,813	2,103
131	Combined	1,045	1,429	1,821	2,223	2,633	3,053	3,482	3,921	4,369	4,828	5,297
132	$/kWh											
133	City	0.034	0.038	0.042	0.045	0.049	0.054	0.058	0.062	0.066	0.071	0.075
134	Processor	(0.009)	(0.005)	(0.001)	0.003	0.008	0.012	0.016	0.021	0.026	0.030	0.035
135	Combined	0.010	0.014	0.018	0.022	0.026	0.031	0.035	0.039	0.044	0.048	0.053
136	Breakeven Fuel Price ($/gallon)	1.94	1.93	1.91	1.90	1.89	1.88	1.86	1.85	1.83	1.82	1.80

Attachment 2B

Load: 100 million kWh

Project Size: 30 MW

Fuel Forecast: EIA

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
9	Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
11	Cost of Fuel ($/gallon)			.									
12	City	1.71	1.98	2.02	2.06	2.11	2.15	2.20	2.25	2.30	2.35	2.41	2.46
13	Processor	1.76	2.04	2.08	2.12	2.17	2.22	2.27	2.32	2.37	2.43	2.48	2.54
14	Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
15	Fuel Efficiency (kWh/gal)												
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000 gallons)												
19	City												
20	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor												
24	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	-	-	-	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	-	-	-	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate												
28	Fixed Payment - 30 MW (000)	-	-	-	16,020	16,180	16,342	16,505	16,670	16,837	17,006	17,176	17,347

Makushin Size
Fuel Forecast
Sales to Processors
Processor Rate
Rate Esc

	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
Cost of Fuel ($/gallon)											
City	2.52	2.57	2.63	2.69	2.75	2.81	2.88	2.94	3.01	3.08	3.14
Processor	2.59	2.65	2.71	2.77	2.83	2.90	2.96	3.03	3.10	3.17	3.24
Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
Fuel Efficiency (kWh/gal)											
City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Fuel Usage With Makushin for Maint/etc. (00											
City											
Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Processor											
Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Gallons/Hour	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
Number of Units	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Makushin Rate											
Fixed Payment - 30 MW (000)	17,521	17,696	17,873	18,052	18,232	18,415	18,599	18,785	18,973	19,162	19,354

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
29	**Without Makushin (Dollars in Thousands)**												
30	Loads (million kWh)												
31	City												
32	Sales												
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses												
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
42	Costs												
43	City												
44	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
45	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
46	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
47	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
48	Production												
49	Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
50	Ops	789	801	817	833	852	871	891	911	931	952	974	995
51	Fuel	4,533	5,233	5,337	5,457	5,580	5,706	5,834	5,965	6,100	6,237	6,377	6,521
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
53	Makushin												
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors												
56	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-	-
58	Total City	14,348	15,195	15,499	15,822	16,178	16,542	16,914	17,295	17,684	18,082	18,489	18,905
59	Processor Costs												
60	Fuel	7,556	8,722	8,896	9,096	9,301	9,510	9,724	9,943	10,167	10,395	10,629	10,868
61	Variable O&M	1,650	1,675	1,708	1,742	1,782	1,822	1,863	1,905	1,947	1,991	2,036	2,082
62	Payments to City												
63	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	9,206	10,396	10,604	10,839	11,082	11,332	11,587	11,847	12,114	12,387	12,665	12,950
66	Total Costs	23,554	25,591	26,103	26,661	27,261	27,874	28,501	29,142	29,798	30,469	31,154	31,855
67	City Costs @ Production Level ($/kWh)												
68	Production												
69	Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.131	$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.147	$ 0.150	$ 0.153	$ 0.157
70	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
72	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230

Makushin Size
Fuel Forecast
Sales to Processors
Processor Rate
Rate Esc

	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
Without Makushin (Dollars in Thousands)											
Loads (million kWh)											
City											
Sales											
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses											
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	-	-	-	-	-	-	-	-	-	-	-
Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Costs											
City											
Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
Vehicles	83	85	87	89	91	93	95	97	99	101	104
Facilities	187	192	196	200	205	209	214	219	224	229	234
Production											
Personnel	1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
Ops	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
Fuel	6,667	6,817	6,971	7,128	7,288	7,452	7,620	7,791	7,966	8,146	8,329
Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-
Makushin											
To OCCP	-	-	-	-	-	-	-	-	-	-	-
Payments from Processors											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total City	19,330	19,765	20,210	20,664	21,129	21,605	22,091	22,588	23,096	23,616	24,147
Processor Costs											
Fuel	11,113	11,363	11,619	11,880	12,147	12,421	12,700	12,986	13,278	13,577	13,882
Variable O&M	2,129	2,177	2,226	2,276	2,327	2,379	2,433	2,488	2,543	2,601	2,659
Payments to City											
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-
Total Processor	13,242	13,540	13,844	14,156	14,474	14,800	15,133	15,473	15,822	16,178	16,542
Total Costs	32,572	33,305	34,054	34,820	35,604	36,405	37,224	38,061	38,918	39,793	40,689
City Costs @ Production Level ($/kWh)											
Production											
Fuel	$ 0.160	$ 0.164	$ 0.168	$ 0.171	$ 0.175	$ 0.179	$ 0.183	$ 0.187	$ 0.192	$ 0.196	$ 0.200
Makushin	-	-	-	-	-	-	-	-	-	-	-
Other Production	0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294

1														
2	Makushin Size	30												
3	Fuel Forecast	EIA												
4	Sales to Processors	60,000,000												
5	Processor Rate	0.030												
6	Rate Esc	0.75%												
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-	
74	Total													
75	At Production Level	$ 0.345	$ 0.365	$ 0.373	$ 0.381	$ 0.389	$ 0.398	$ 0.407	$ 0.416	$ 0.425	$ 0.435	$ 0.445	$ 0.455	
76	At Sales Level	$ 0.359	$ 0.380	$ 0.387	$ 0.396	$ 0.404	$ 0.414	$ 0.423	$ 0.432	$ 0.442	$ 0.452	$ 0.462	$ 0.473	
77	Processor Costs ($/kWh)	$ 0.153	$ 0.173	$ 0.177	$ 0.181	$ 0.185	$ 0.189	$ 0.193	$ 0.197	$ 0.202	$ 0.206	$ 0.211	$ 0.216	
78														

Makushin Size
Fuel Forecast
Sales to Processors
Processor Rate
Rate Esc

	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
Total											
At Production Level	$ 0.465	$ 0.475	$ 0.486	$ 0.497	$ 0.508	$ 0.520	$ 0.531	$ 0.543	$ 0.555	$ 0.568	$ 0.581
At Sales Level	$ 0.483	$ 0.494	$ 0.505	$ 0.517	$ 0.528	$ 0.540	$ 0.552	$ 0.565	$ 0.577	$ 0.590	$ 0.604
Processor Costs ($/kWh)	$ 0.221	$ 0.226	$ 0.231	$ 0.236	$ 0.241	$ 0.247	$ 0.252	$ 0.258	$ 0.264	$ 0.270	$ 0.276

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
79	**With Makushin (Dollars in Thousands)**												
80	Loads (million kWh)												
81	City												
82	Sales												
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
86	Total City Sales	40.00	40.00	40.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
87	Losses												
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
90	Total Generation	41.58	41.58	41.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58
91	Processors	60.00	60.00	60.00	-	-	-	-	-	-	-	-	-
92	City Costs												
93	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
94	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
95	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
96	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
97	Production												
98	Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
99	Ops	789	801	817	434	443	453	463	474	485	495	507	518
100	Fuel	4,533	5,233	5,337	213	218	223	228	233	238	244	249	255
101	Spinning Reserve Fuel	-	-	-	752	769	786	804	822	841	860	879	899
102	Makushin												
103	To OCCP	-	-	-	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors												
105	Makushin	-	-	-	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)
106	Other	-	-	-	(1,837)	(1,851)	(1,864)	(1,878)	(1,892)	(1,907)	(1,921)	(1,935)	(1,950)
107	Total City	14,348	15,195	15,499	15,433	15,665	15,902	15,894	15,881	15,861	16,104	16,352	16,605
108	Processor Costs												
109	Fuel	7,556	8,722	8,896	290	297	304	310	317	325	332	339	347
110	Variable O&M	1,650	1,675	1,708	-	-	-	-	-	-	-	-	-
111	Payments to City												
112	Makushin	-	-	-	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656
113	Other	-	-	-	1,837	1,851	1,864	1,878	1,892	1,907	1,921	1,935	1,950
114	Total Processor	9,206	10,396	10,604	11,783	11,803	11,824	11,844	11,865	11,887	11,908	11,930	11,952
115	Total Costs	23,554	25,591	26,103	27,216	27,468	27,725	27,738	27,746	27,748	28,012	28,282	28,558
116	City Costs @ Production Level ($/kWh)												
117	Production												
118	Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.023	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.027	$ 0.027	$ 0.028
119	Makushin	-	-	-	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158
120	Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
121	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
122	Revenues from Processor Base Rate	-	-	-	(0.044)	(0.045)	(0.045)	(0.045)	(0.046)	(0.046)	(0.046)	(0.047)	(0.047)
123	Total												

Makushin Size
Fuel Forecast
Sales to Processors
Processor Rate
Rate Esc

With Makushin (Dollars in Thousands)	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
Loads (million kWh)											
City											
Sales											
City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat	-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
Total City Sales	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Losses											
Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
Total Generation	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58
Processors	-	-	-	-	-	-	-	-	-	-	-
City Costs											
Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
Vehicles	83	85	87	89	91	93	95	97	99	101	104
Facilities	187	192	196	200	205	209	214	219	224	229	234
Production											
Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
Ops	530	542	554	566	579	592	605	619	633	647	662
Fuel	261	266	272	279	285	291	298	304	311	318	325
Spinning Reserve Fuel	919	940	961	982	1,004	1,027	1,050	1,074	1,098	1,123	1,148
Makushin											
To OCCP	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
Payments from Processors											
Makushin	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)	(9,656)
Other	(1,964)	(1,979)	(1,994)	(2,009)	(2,024)	(2,039)	(2,055)	(2,070)	(2,086)	(2,101)	(2,117)
Total City	16,865	17,131	17,403	17,681	17,966	18,257	18,555	18,860	19,173	19,492	19,819
Processor Costs											
Fuel	355	363	371	379	388	396	405	415	424	433	443
Variable O&M	-	-	-	-	-	-	-	-	-	-	-
Payments to City											
Makushin	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656	9,656
Other	1,964	1,979	1,994	2,009	2,024	2,039	2,055	2,070	2,086	2,101	2,117
Total Processor	11,975	11,998	12,021	12,044	12,067	12,091	12,116	12,140	12,165	12,190	12,216
Total Costs	28,840	29,128	29,423	29,725	30,033	30,348	30,671	31,001	31,338	31,682	32,035
City Costs @ Production Level ($/kWh)											
Production											
Fuel	$ 0.028	$ 0.029	$ 0.030	$ 0.030	$ 0.031	$ 0.032	$ 0.032	$ 0.033	$ 0.034	$ 0.035	$ 0.035
Makushin	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158
Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
Revenues from Processor Base Rate	(0.047)	(0.048)	(0.048)	(0.048)	(0.049)	(0.049)	(0.049)	(0.050)	(0.050)	(0.051)	(0.051)
Total											

1														
2	Makushin Size	30												
3	Fuel Forecast	EIA												
4	Sales to Processors	60,000,000												
5	Processor Rate	0.030												
6	Rate Esc	0.75%												
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
124	At Production Level	0.345	0.365	0.373	0.376	0.381	0.387	0.387	0.387	0.386	0.392	0.398	0.404	
125	At Sales Level	0.359	0.380	0.387	0.391	0.396	0.402	0.402	0.402	0.401	0.407	0.414	0.420	
126	Processor Costs ($/kWh)	0.153	0.173	0.177	0.196	0.197	0.197	0.197	0.198	0.198	0.198	0.199	0.199	

Makushin Size
Fuel Forecast
Sales to Processors
Processor Rate
Rate Esc

	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
At Production Level	0.410	0.417	0.423	0.430	0.437	0.444	0.451	0.458	0.466	0.473	0.481
At Sales Level	0.426	0.433	0.440	0.447	0.454	0.461	0.469	0.476	0.484	0.492	0.500
Processor Costs ($/kWh)	0.200	0.200	0.200	0.201	0.201	0.202	0.202	0.202	0.203	0.203	0.204

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	389	513	640	1,020	1,414	1,823	1,978	2,137	2,299
130	Processor	-	-	-	(944)	(721)	(492)	(258)	(18)	227	478	735	998
131	Combined	-	-	-	(555)	(207)	149	763	1,396	2,050	2,456	2,872	3,297
132	$/kWh												
133	City	-	-	-	0.005	0.008	0.011	0.021	0.031	0.041	0.045	0.049	0.053
134	Processor	-	-	-	(0.016)	(0.012)	(0.008)	(0.004)	(0.000)	0.004	0.008	0.012	0.017
135	Combined	-	-	-	(0.006)	(0.002)	0.001	0.008	0.014	0.020	0.025	0.029	0.033
136	Breakeven Fuel Price ($/gallon)	-	-	-	2.15	2.14	2.13	2.08	2.04	1.99	1.97	1.96	1.95

Makushin Size
Fuel Forecast
Sales to Processors
Processor Rate
Rate Esc

	Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
Savings (Losses)											
Dollars (000)											
City	2,465	2,634	2,807	2,983	3,164	3,348	3,536	3,728	3,924	4,124	4,328
Processor	1,267	1,542	1,824	2,112	2,407	2,709	3,017	3,333	3,657	3,987	4,326
Combined	3,732	4,176	4,631	5,095	5,570	6,056	6,553	7,061	7,580	8,111	8,654
$/kWh											
City	0.057	0.061	0.065	0.070	0.074	0.079	0.084	0.088	0.093	0.098	0.103
Processor	0.021	0.026	0.030	0.035	0.040	0.045	0.050	0.056	0.061	0.066	0.072
Combined	0.037	0.042	0.046	0.051	0.056	0.061	0.066	0.071	0.076	0.081	0.087
Breakeven Fuel Price ($/gallon)	1.94	1.93	1.91	1.90	1.89	1.88	1.86	1.85	1.83	1.82	1.80

Attachment 3A

Load: 100 million kWh

Project Size: 26 MW

Fuel Forecast: Nymex

1													
2	Makushin Size	26											
3	Fuel Forecast	Nymex											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
9	Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
11	Cost of Fuel ($/gallon)			.									
12	City	1.42	1.47	1.53	1.59	1.65	1.72	1.79	1.86	1.92	1.98	2.01	2.05
13	Processor	1.46	1.52	1.58	1.64	1.70	1.77	1.84	1.91	1.98	2.04	2.07	2.12
14	Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
15	Fuel Efficiency (kWh/gal)												
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000 gallons)												
19	City												
20	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor												
24	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	-	-	-	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	-	-	-	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate												
28	Fixed Payment - 26 MW (000)	-	-	-	14,920	15,069	15,220	15,372	15,526	15,681	15,838	15,996	16,156

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
9	Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
11	Cost of Fuel ($/gallon)											
12	City	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.46	2.51	2.57	2.62
13	Processor	2.16	2.21	2.26	2.31	2.37	2.42	2.47	2.53	2.59	2.64	2.70
14	Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
15	Fuel Efficiency (kWh/gal)											
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000											
19	City											
20	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor											
24	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate											
28	Fixed Payment - 26 MW (000)	16,318	16,481	16,646	16,812	16,980	17,150	17,322	17,495	17,670	17,847	18,025

1													
2	Makushin Size	26											
3	Fuel Forecast	Nymex											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
29	**Without Makushin (Dollars in Thousands)**												
30	Loads (million kWh)												
31	City												
32	Sales												
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses												
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
42	Costs												
43	City												
44	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
45	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
46	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
47	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
48	Production												
49	Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
50	Ops	789	801	817	833	852	871	891	911	931	952	974	995
51	Fuel	3,754	3,905	4,058	4,216	4,375	4,544	4,729	4,917	5,086	5,235	5,322	5,442
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
53	Makushin												
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors												
56	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-	-
58	Total City	13,569	13,867	14,220	14,581	14,973	15,381	15,810	16,246	16,670	17,080	17,434	17,826
59	Processor Costs												
60	Fuel	6,257	6,509	6,764	7,027	7,293	7,574	7,883	8,195	8,477	8,726	8,871	9,071
61	Variable O&M	1,650	1,675	1,708	1,742	1,782	1,822	1,863	1,905	1,947	1,991	2,036	2,082
62	Payments to City												
63	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	7,907	8,183	8,472	8,769	9,074	9,396	9,746	10,100	10,425	10,717	10,907	11,153
66	Total Costs	21,477	22,050	22,692	23,350	24,047	24,777	25,555	26,346	27,095	27,797	28,341	28,979
67	City Costs @ Production Level ($/kWh)												
68	Production												
69	Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.101	$ 0.105	$ 0.109	$ 0.114	$ 0.118	$ 0.122	$ 0.126	$ 0.128	$ 0.131
70	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
72	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
74	Total												
75	At Production Level	$ 0.326	$ 0.334	$ 0.342	$ 0.351	$ 0.360	$ 0.370	$ 0.380	$ 0.391	$ 0.401	$ 0.411	$ 0.419	$ 0.429
76	At Sales Level	$ 0.339	$ 0.347	$ 0.355	$ 0.365	$ 0.374	$ 0.385	$ 0.395	$ 0.406	$ 0.417	$ 0.427	$ 0.436	$ 0.446
77	Processor Costs ($/kWh)	$ 0.132	$ 0.136	$ 0.141	$ 0.146	$ 0.151	$ 0.157	$ 0.162	$ 0.168	$ 0.174	$ 0.179	$ 0.182	$ 0.186
78													

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
29	**Without Makushin (Dollars in Thousands)**											
30	Loads (million kWh)											
31	City											
32	Sales											
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses											
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
42	Costs											
43	City											
44	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
45	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
46	Vehicles	83	85	87	89	91	93	95	97	99	101	104
47	Facilities	187	192	196	200	205	209	214	219	224	229	234
48	Production											
49	Personnel	1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
50	Ops	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
51	Fuel	5,565	5,690	5,818	5,949	6,083	6,219	6,359	6,502	6,649	6,798	6,951
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-
53	Makushin											
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors											
56	Makushin	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-
58	Total City	18,227	18,637	19,057	19,486	19,924	20,372	20,831	21,299	21,779	22,269	22,770
59	Processor Costs											
60	Fuel	9,275	9,484	9,697	9,915	10,138	10,366	10,600	10,838	11,082	11,331	11,586
61	Variable O&M	2,129	2,177	2,226	2,276	2,327	2,379	2,433	2,488	2,543	2,601	2,659
62	Payments to City											
63	Makushin	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	11,404	11,660	11,923	12,191	12,465	12,746	13,032	13,326	13,625	13,932	14,245
66	Total Costs	29,631	30,298	30,979	31,676	32,389	33,118	33,863	34,625	35,404	36,200	37,015
67	City Costs @ Production Level ($/kWh)											
68	Production											
69	Fuel	$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.146	$ 0.150	$ 0.153	$ 0.156	$ 0.160	$ 0.163	$ 0.167
70	Makushin	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
72	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
74	Total											
75	At Production Level	$ 0.438	$ 0.448	$ 0.458	$ 0.469	$ 0.479	$ 0.490	$ 0.501	$ 0.512	$ 0.524	$ 0.536	$ 0.548
76	At Sales Level	$ 0.456	$ 0.466	$ 0.476	$ 0.487	$ 0.498	$ 0.509	$ 0.521	$ 0.532	$ 0.544	$ 0.557	$ 0.569
77	Processor Costs ($/kWh)	$ 0.190	$ 0.194	$ 0.199	$ 0.203	$ 0.208	$ 0.212	$ 0.217	$ 0.222	$ 0.227	$ 0.232	$ 0.237
78												

1													
2	Makushin Size	26											
3	Fuel Forecast	Nymex											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
79	**With Makushin (Dollars in Thousands)**												
80	Loads (million kWh)												
81	City												
82	Sales												
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
86	Total City Sales	40.00	40.00	40.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
87	Losses												
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
90	Total Generation	41.58	41.58	41.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58
91	Processors	60.00	60.00	60.00	-	-	-	-	-	-	-	-	-
92	City Costs												
93	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
94	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
95	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
96	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
97	Production												
98	Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
99	Ops	789	801	817	434	443	453	463	474	485	495	507	518
100	Fuel	3,754	3,905	4,058	165	171	178	185	192	199	205	208	213
101	Spinning Reserve Fuel	-	-	-	581	603	626	652	678	701	722	734	750
102	Makushin												
103	To OCCP	-	-	-	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920
104	Payments from Processors												
105	Makushin	-	-	-	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)
106	Other	-	-	-	(1,837)	(1,851)	(1,864)	(1,878)	(1,892)	(1,907)	(1,921)	(1,935)	(1,950)
107	Total City	13,569	13,867	14,220	14,777	15,015	15,259	15,262	15,258	15,245	15,489	15,728	15,978
108	Processor Costs												
109	Fuel	6,257	6,509	6,764	224	233	242	252	262	271	279	283	290
110	Variable O&M	1,650	1,675	1,708	-	-	-	-	-	-	-	-	-
111	Payments to City												
112	Makushin	-	-	-	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993
113	Other	-	-	-	1,837	1,851	1,864	1,878	1,892	1,907	1,921	1,935	1,950
114	Total Processor	7,907	8,183	8,472	11,054	11,076	11,099	11,123	11,147	11,170	11,192	11,211	11,232
115	Total Costs	21,477	22,050	22,692	25,830	26,091	26,358	26,384	26,405	26,415	26,682	26,939	27,210
116	City Costs @ Production Level ($/kWh)												
117	Production												
118	Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.018	$ 0.019	$ 0.019	$ 0.020	$ 0.021	$ 0.022	$ 0.022	$ 0.023	$ 0.023
119	Makushin	-	-	-	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147
120	Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
121	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
122	Revenues from Processor Base Rate	-	-	-	(0.044)	(0.045)	(0.045)	(0.045)	(0.046)	(0.046)	(0.046)	(0.047)	(0.047)
123	Total												
124	At Production Level	0.326	0.334	0.342	0.360	0.365	0.371	0.371	0.371	0.371	0.377	0.383	0.389
125	At Sales Level	0.339	0.347	0.355	0.374	0.380	0.386	0.386	0.386	0.386	0.392	0.398	0.404
126	Processor Costs ($/kWh)	0.132	0.136	0.141	0.184	0.185	0.185	0.185	0.186	0.186	0.187	0.187	0.187

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
79	**With Makushin (Dollars in Thousands)**											
80	Loads (million kWh)											
81	City											
82	Sales											
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
86	Total City Sales	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
87	Losses											
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
90	Total Generation	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58
91	Processors	-	-	-	-	-	-	-	-	-	-	-
92	City Costs											
93	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
94	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
95	Vehicles	83	85	87	89	91	93	95	97	99	101	104
96	Facilities	187	192	196	200	205	209	214	219	224	229	234
97	Production											
98	Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
99	Ops	530	542	554	566	579	592	605	619	633	647	662
100	Fuel	217	222	227	232	238	243	248	254	260	266	272
101	Spinning Reserve Fuel	767	784	802	820	838	857	876	896	916	937	958
102	Makushin											
103	To OCCP	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920
104	Payments from Processors											
105	Makushin	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)
106	Other	(1,964)	(1,979)	(1,994)	(2,009)	(2,024)	(2,039)	(2,055)	(2,070)	(2,086)	(2,101)	(2,117)
107	Total City	16,233	16,494	16,762	17,035	17,315	17,602	17,895	18,195	18,503	18,817	19,138
108	Processor Costs											
109	Fuel	296	303	310	316	324	331	338	346	354	362	370
110	Variable O&M	-	-	-	-	-	-	-	-	-	-	-
111	Payments to City											
112	Makushin	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993
113	Other	1,964	1,979	1,994	2,009	2,024	2,039	2,055	2,070	2,086	2,101	2,117
114	Total Processor	11,253	11,275	11,296	11,318	11,340	11,363	11,386	11,409	11,432	11,455	11,479
115	Total Costs	27,486	27,769	28,058	28,354	28,656	28,965	29,281	29,604	29,934	30,272	30,618
116	City Costs @ Production Level ($/kWh)											
117	Production											
118	Fuel	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.026	$ 0.027	$ 0.028	$ 0.028	$ 0.029	$ 0.030
119	Makushin	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147
120	Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
121	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
122	Revenues from Processor Base Rate	(0.047)	(0.048)	(0.048)	(0.048)	(0.049)	(0.049)	(0.049)	(0.050)	(0.050)	(0.051)	(0.051)
123	Total											
124	At Production Level	0.395	0.401	0.407	0.414	0.421	0.428	0.435	0.442	0.449	0.457	0.465
125	At Sales Level	0.410	0.417	0.424	0.430	0.437	0.445	0.452	0.459	0.467	0.475	0.483
126	Processor Costs ($/kWh)	0.188	0.188	0.188	0.189	0.189	0.189	0.190	0.190	0.191	0.191	0.191

1													
2	Makushin Size	26											
3	Fuel Forecast	Nymex											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	(196)	(41)	121	548	988	1,425	1,591	1,706	1,849
130	Processor	-	-	-	(2,284)	(2,002)	(1,703)	(1,377)	(1,047)	(745)	(475)	(304)	(79)
131	Combined	-	-	-	(2,480)	(2,043)	(1,581)	(829)	(59)	680	1,116	1,402	1,769
132	$/kWh												
133	City	-	-	-	(0.009)	(0.006)	(0.001)	0.009	0.020	0.031	0.035	0.038	0.042
134	Processor	-	-	-	(0.038)	(0.033)	(0.028)	(0.023)	(0.017)	(0.012)	(0.008)	(0.005)	(0.001)
135	Combined	-	-	-	(0.025)	(0.020)	(0.016)	(0.008)	(0.001)	0.007	0.011	0.014	0.018
136	Breakeven Fuel Price ($/gallon)	-	-	-	1.98	1.97	1.96	1.91	1.87	1.82	1.80	1.79	1.78

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
127	**Savings (Losses)**											
128	Dollars (000)											
129	City	1,994	2,143	2,295	2,450	2,608	2,770	2,935	3,104	3,276	3,452	3,631
130	Processor	150	386	626	873	1,125	1,383	1,647	1,917	2,193	2,476	2,766
131	Combined	2,145	2,529	2,921	3,323	3,733	4,153	4,582	5,021	5,469	5,928	6,397
132	$/kWh											
133	City	0.045	0.049	0.053	0.057	0.061	0.065	0.069	0.073	0.077	0.082	0.086
134	Processor	0.003	0.006	0.010	0.015	0.019	0.023	0.027	0.032	0.037	0.041	0.046
135	Combined	0.021	0.025	0.029	0.033	0.037	0.042	0.046	0.050	0.055	0.059	0.064
136	Breakeven Fuel Price ($/gallon)	1.77	1.76	1.74	1.73	1.72	1.70	1.69	1.68	1.66	1.65	1.63

Attachment 3B

Load: 100 million kWh

Project Size: 26 MW

Fuel Forecast: EIA

1													
2	Makushin Size	26											
3	Fuel Forecast	EIA											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
9	Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
11	Cost of Fuel ($/gallon)			.									
12	City	1.71	1.98	2.02	2.06	2.11	2.15	2.20	2.25	2.30	2.35	2.41	2.46
13	Processor	1.76	2.04	2.08	2.12	2.17	2.22	2.27	2.32	2.37	2.43	2.48	2.54
14	Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
15	Fuel Efficiency (kWh/gal)												
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000 gallons)												
19	City												
20	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor												
24	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	-	-	-	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	-	-	-	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate												
28	Fixed Payment - 26 MW (000)	-	-	-	14,920	15,069	15,220	15,372	15,526	15,681	15,838	15,996	16,156

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
9	Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
11	Cost of Fuel ($/gallon)											
12	City	2.52	2.57	2.63	2.69	2.75	2.81	2.88	2.94	3.01	3.08	3.14
13	Processor	2.59	2.65	2.71	2.77	2.83	2.90	2.96	3.03	3.10	3.17	3.24
14	Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
15	Fuel Efficiency (kWh/gal)											
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000											
19	City											
20	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor											
24	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate											
28	Fixed Payment - 26 MW (000)	16,318	16,481	16,646	16,812	16,980	17,150	17,322	17,495	17,670	17,847	18,025

1													
2	Makushin Size	26											
3	Fuel Forecast	EIA											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
29	**Without Makushin (Dollars in Thousands)**												
30	Loads (million kWh)												
31	City												
32	Sales												
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses												
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
42	Costs												
43	City												
44	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
45	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
46	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
47	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
48	Production												
49	Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
50	Ops	789	801	817	833	852	871	891	911	931	952	974	995
51	Fuel	4,533	5,233	5,337	5,457	5,580	5,706	5,834	5,965	6,100	6,237	6,377	6,521
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
53	Makushin												
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors												
56	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-	-
58	Total City	14,348	15,195	15,499	15,822	16,178	16,542	16,914	17,295	17,684	18,082	18,489	18,905
59	Processor Costs												
60	Fuel	7,556	8,722	8,896	9,096	9,301	9,510	9,724	9,943	10,167	10,395	10,629	10,868
61	Variable O&M	1,650	1,675	1,708	1,742	1,782	1,822	1,863	1,905	1,947	1,991	2,036	2,082
62	Payments to City												
63	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	9,206	10,396	10,604	10,839	11,082	11,332	11,587	11,847	12,114	12,387	12,665	12,950
66	Total Costs	23,554	25,591	26,103	26,661	27,261	27,874	28,501	29,142	29,798	30,469	31,154	31,855
67	City Costs @ Production Level ($/kWh)												
68	Production												
69	Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.131	$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.147	$ 0.150	$ 0.153	$ 0.157
70	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
72	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
74	Total												
75	At Production Level	$ 0.345	$ 0.365	$ 0.373	$ 0.381	$ 0.389	$ 0.398	$ 0.407	$ 0.416	$ 0.425	$ 0.435	$ 0.445	$ 0.455
76	At Sales Level	$ 0.359	$ 0.380	$ 0.387	$ 0.396	$ 0.404	$ 0.414	$ 0.423	$ 0.432	$ 0.442	$ 0.452	$ 0.462	$ 0.473
77	Processor Costs ($/kWh)	$ 0.153	$ 0.173	$ 0.177	$ 0.181	$ 0.185	$ 0.189	$ 0.193	$ 0.197	$ 0.202	$ 0.206	$ 0.211	$ 0.216
78													

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
29	**Without Makushin (Dollars in Thousands)**											
30	Loads (million kWh)											
31	City											
32	Sales											
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses											
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
42	Costs											
43	City											
44	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
45	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
46	Vehicles	83	85	87	89	91	93	95	97	99	101	104
47	Facilities	187	192	196	200	205	209	214	219	224	229	234
48	Production											
49	Personnel	1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
50	Ops	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
51	Fuel	6,667	6,817	6,971	7,128	7,288	7,452	7,620	7,791	7,966	8,146	8,329
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-
53	Makushin											
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors											
56	Makushin	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-
58	Total City	19,330	19,765	20,210	20,664	21,129	21,605	22,091	22,588	23,096	23,616	24,147
59	Processor Costs											
60	Fuel	11,113	11,363	11,619	11,880	12,147	12,421	12,700	12,986	13,278	13,577	13,882
61	Variable O&M	2,129	2,177	2,226	2,276	2,327	2,379	2,433	2,488	2,543	2,601	2,659
62	Payments to City											
63	Makushin	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	13,242	13,540	13,844	14,156	14,474	14,800	15,133	15,473	15,822	16,178	16,542
66	Total Costs	32,572	33,305	34,054	34,820	35,604	36,405	37,224	38,061	38,918	39,793	40,689
67	City Costs @ Production Level ($/kWh)											
68	Production											
69	Fuel	$ 0.160	$ 0.164	$ 0.168	$ 0.171	$ 0.175	$ 0.179	$ 0.183	$ 0.187	$ 0.192	$ 0.196	$ 0.200
70	Makushin	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
72	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
74	Total											
75	At Production Level	$ 0.465	$ 0.475	$ 0.486	$ 0.497	$ 0.508	$ 0.520	$ 0.531	$ 0.543	$ 0.555	$ 0.568	$ 0.581
76	At Sales Level	$ 0.483	$ 0.494	$ 0.505	$ 0.517	$ 0.528	$ 0.540	$ 0.552	$ 0.565	$ 0.577	$ 0.590	$ 0.604
77	Processor Costs ($/kWh)	$ 0.221	$ 0.226	$ 0.231	$ 0.236	$ 0.241	$ 0.247	$ 0.252	$ 0.258	$ 0.264	$ 0.270	$ 0.276
78												

1													
2	Makushin Size	26											
3	Fuel Forecast	EIA											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
79	**With Makushin (Dollars in Thousands)**												
80	Loads (million kWh)												
81	City												
82	Sales												
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
86	Total City Sales	40.00	40.00	40.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
87	Losses												
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
90	Total Generation	41.58	41.58	41.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58
91	Processors	60.00	60.00	60.00	-	-	-	-	-	-	-	-	-
92	City Costs												
93	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
94	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
95	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
96	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
97	Production												
98	Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
99	Ops	789	801	817	434	443	453	463	474	485	495	507	518
100	Fuel	4,533	5,233	5,337	213	218	223	228	233	238	244	249	255
101	Spinning Reserve Fuel	-	-	-	752	769	786	804	822	841	860	879	899
102	Makushin												
103	To OCCP	-	-	-	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920
104	Payments from Processors												
105	Makushin	-	-	-	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)
106	Other	-	-	-	(1,837)	(1,851)	(1,864)	(1,878)	(1,892)	(1,907)	(1,921)	(1,935)	(1,950)
107	Total City	14,348	15,195	15,499	14,996	15,228	15,465	15,457	15,444	15,424	15,667	15,915	16,168
108	Processor Costs												
109	Fuel	7,556	8,722	8,896	290	297	304	310	317	325	332	339	347
110	Variable O&M	1,650	1,675	1,708	-	-	-	-	-	-	-	-	-
111	Payments to City												
112	Makushin	-	-	-	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993
113	Other	-	-	-	1,837	1,851	1,864	1,878	1,892	1,907	1,921	1,935	1,950
114	Total Processor	9,206	10,396	10,604	11,120	11,140	11,161	11,181	11,202	11,224	11,245	11,267	11,289
115	Total Costs	23,554	25,591	26,103	26,116	26,368	26,625	26,638	26,646	26,648	26,912	27,182	27,458
116	City Costs @ Production Level ($/kWh)												
117	Production												
118	Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.023	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.027	$ 0.027	$ 0.028
119	Makushin	-	-	-	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147
120	Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
121	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
122	Revenues from Processor Base Rate	-	-	-	(0.044)	(0.045)	(0.045)	(0.045)	(0.046)	(0.046)	(0.046)	(0.047)	(0.047)
123	Total												
124	At Production Level	0.345	0.365	0.373	0.365	0.371	0.376	0.376	0.376	0.375	0.381	0.387	0.393
125	At Sales Level	0.359	0.380	0.387	0.379	0.385	0.391	0.391	0.391	0.390	0.396	0.402	0.409
126	Processor Costs ($/kWh)	0.153	0.173	0.177	0.185	0.186	0.186	0.186	0.187	0.187	0.187	0.188	0.188

		Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
79	**With Makushin (Dollars in Thousands)**											
80	Loads (million kWh)											
81	City											
82	Sales											
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
86	Total City Sales	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
87	Losses											
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22	1.22
90	Total Generation	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58	101.58
91	Processors	-	-	-	-	-	-	-	-	-	-	-
92	City Costs											
93	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
94	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
95	Vehicles	83	85	87	89	91	93	95	97	99	101	104
96	Facilities	187	192	196	200	205	209	214	219	224	229	234
97	Production											
98	Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
99	Ops	530	542	554	566	579	592	605	619	633	647	662
100	Fuel	261	266	272	279	285	291	298	304	311	318	325
101	Spinning Reserve Fuel	919	940	961	982	1,004	1,027	1,050	1,074	1,098	1,123	1,148
102	Makushin											
103	To OCCP	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920	14,920
104	Payments from Processors											
105	Makushin	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)	(8,993)
106	Other	(1,964)	(1,979)	(1,994)	(2,009)	(2,024)	(2,039)	(2,055)	(2,070)	(2,086)	(2,101)	(2,117)
107	Total City	16,428	16,694	16,966	17,244	17,529	17,820	18,118	18,423	18,736	19,055	19,382
108	Processor Costs											
109	Fuel	355	363	371	379	388	396	405	415	424	433	443
110	Variable O&M	-	-	-	-	-	-	-	-	-	-	-
111	Payments to City											
112	Makushin	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993	8,993
113	Other	1,964	1,979	1,994	2,009	2,024	2,039	2,055	2,070	2,086	2,101	2,117
114	Total Processor	11,312	11,335	11,358	11,381	11,404	11,428	11,453	11,477	11,502	11,527	11,553
115	Total Costs	27,740	28,028	28,323	28,625	28,933	29,248	29,571	29,901	30,238	30,582	30,935
116	City Costs @ Production Level ($/kWh)											
117	Production											
118	Fuel	$ 0.028	$ 0.029	$ 0.030	$ 0.030	$ 0.031	$ 0.032	$ 0.032	$ 0.033	$ 0.034	$ 0.035	$ 0.035
119	Makushin	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147	0.147
120	Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
121	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
122	Revenues from Processor Base Rate	(0.047)	(0.048)	(0.048)	(0.048)	(0.049)	(0.049)	(0.049)	(0.050)	(0.050)	(0.051)	(0.051)
123	Total											
124	At Production Level	0.399	0.406	0.412	0.419	0.426	0.433	0.440	0.447	0.455	0.463	0.470
125	At Sales Level	0.415	0.422	0.429	0.436	0.443	0.450	0.457	0.465	0.473	0.481	0.489
126	Processor Costs ($/kWh)	0.189	0.189	0.189	0.190	0.190	0.190	0.191	0.191	0.192	0.192	0.193

1													
2	Makushin Size	26											
3	Fuel Forecast	EIA											
4	Sales to Processors	60,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	826	950	1,077	1,457	1,851	2,260	2,415	2,574	2,736
130	Processor	-	-	-	(281)	(58)	171	405	645	890	1,141	1,398	1,661
131	Combined	-	-	-	545	893	1,249	1,863	2,496	3,150	3,556	3,972	4,397
132	$/kWh												
133	City	-	-	-	0.016	0.019	0.022	0.032	0.042	0.052	0.056	0.060	0.064
134	Processor	-	-	-	(0.005)	(0.001)	0.003	0.007	0.011	0.015	0.019	0.023	0.028
135	Combined	-	-	-	0.005	0.009	0.012	0.019	0.025	0.031	0.036	0.040	0.044
136	Breakeven Fuel Price ($/gallon)	-	-	-	1.98	1.97	1.96	1.91	1.87	1.82	1.80	1.79	1.78

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
127	**Savings (Losses)**											
128	Dollars (000)											
129	City	2,902	3,071	3,244	3,420	3,601	3,785	3,973	4,165	4,361	4,561	4,765
130	Processor	1,930	2,205	2,487	2,775	3,070	3,372	3,680	3,996	4,320	4,650	4,989
131	Combined	4,832	5,276	5,731	6,195	6,670	7,156	7,653	8,161	8,680	9,211	9,754
132	$/kWh											
133	City	0.068	0.072	0.077	0.081	0.086	0.090	0.095	0.100	0.105	0.110	0.115
134	Processor	0.032	0.037	0.041	0.046	0.051	0.056	0.061	0.067	0.072	0.078	0.083
135	Combined	0.048	0.053	0.057	0.062	0.067	0.072	0.077	0.082	0.087	0.092	0.098
136	Breakeven Fuel Price ($/gallon)	1.77	1.76	1.74	1.73	1.72	1.70	1.69	1.68	1.66	1.65	1.63

Attachment 4A

Load: 82 million kWh

Project Size: 30 MW

Fuel Forecast: Nymex

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	42,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
9	Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
11	Cost of Fuel ($/gallon)			.									
12	City	1.42	1.47	1.53	1.59	1.65	1.72	1.79	1.86	1.92	1.98	2.01	2.05
13	Processor	1.46	1.52	1.58	1.64	1.70	1.77	1.84	1.91	1.98	2.04	2.07	2.12
14	Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
15	Fuel Efficiency (kWh/gal)												
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000 gallons)												
19	City												
20	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor												
24	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	-	-	-	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	-	-	-	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate												
28	Fixed Payment - 30 MW (000)	-	-	-	16,020	16,180	16,342	16,505	16,670	16,837	17,006	17,176	17,347

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
9	Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
11	Cost of Fuel ($/gallon)											
12	City	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.46	2.51	2.57	2.62
13	Processor	2.16	2.21	2.26	2.31	2.37	2.42	2.47	2.53	2.59	2.64	2.70
14	Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
15	Fuel Efficiency (kWh/gal)											
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000											
19	City											
20	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor											
24	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate											
28	Fixed Payment - 30 MW (000)	17,521	17,696	17,873	18,052	18,232	18,415	18,599	18,785	18,973	19,162	19,354

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	42,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
29	**Without Makushin (Dollars in Thousands)**												
30	Loads (million kWh)												
31	City												
32	Sales												
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses												
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
42	Costs												
43	City												
44	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
45	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
46	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
47	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
48	Production												
49	Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
50	Ops	789	801	817	833	852	871	891	911	931	952	974	995
51	Fuel	3,754	3,905	4,058	4,216	4,375	4,544	4,729	4,917	5,086	5,235	5,322	5,442
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
53	Makushin												
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors												
56	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-	-
58	Total City	13,569	13,867	14,220	14,581	14,973	15,381	15,810	16,246	16,670	17,080	17,434	17,826
59	Processor Costs												
60	Fuel	4,380	4,556	4,735	4,919	5,105	5,302	5,518	5,737	5,934	6,108	6,210	6,350
61	Variable O&M	1,155	1,172	1,196	1,220	1,247	1,275	1,304	1,333	1,363	1,394	1,425	1,457
62	Payments to City												
63	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	5,535	5,728	5,931	6,139	6,352	6,577	6,822	7,070	7,297	7,502	7,635	7,807
66	Total Costs	19,104	19,595	20,151	20,719	21,325	21,958	22,631	23,316	23,968	24,582	25,069	25,633
67	City Costs @ Production Level ($/kWh)												
68	Production												
69	Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.101	$ 0.105	$ 0.109	$ 0.114	$ 0.118	$ 0.122	$ 0.126	$ 0.128	$ 0.131
70	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
72	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
74	Total												
75	At Production Level	$ 0.326	$ 0.334	$ 0.342	$ 0.351	$ 0.360	$ 0.370	$ 0.380	$ 0.391	$ 0.401	$ 0.411	$ 0.419	$ 0.429
76	At Sales Level	$ 0.339	$ 0.347	$ 0.355	$ 0.365	$ 0.374	$ 0.385	$ 0.395	$ 0.406	$ 0.417	$ 0.427	$ 0.436	$ 0.446
77	Processor Costs ($/kWh)	$ 0.132	$ 0.136	$ 0.141	$ 0.146	$ 0.151	$ 0.157	$ 0.162	$ 0.168	$ 0.174	$ 0.179	$ 0.182	$ 0.186
78													

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
29	**Without Makushin (Dollars in Thousands)**											
30	Loads (million kWh)											
31	City											
32	Sales											
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses											
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
42	Costs											
43	City											
44	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
45	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
46	Vehicles	83	85	87	89	91	93	95	97	99	101	104
47	Facilities	187	192	196	200	205	209	214	219	224	229	234
48	Production											
49	Personnel	1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
50	Ops	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
51	Fuel	5,565	5,690	5,818	5,949	6,083	6,219	6,359	6,502	6,649	6,798	6,951
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-
53	Makushin											
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors											
56	Makushin	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-
58	Total City	18,227	18,637	19,057	19,486	19,924	20,372	20,831	21,299	21,779	22,269	22,770
59	Processor Costs											
60	Fuel	6,492	6,638	6,788	6,941	7,097	7,256	7,420	7,587	7,757	7,932	8,110
61	Variable O&M	1,490	1,524	1,558	1,593	1,629	1,665	1,703	1,741	1,780	1,820	1,861
62	Payments to City											
63	Makushin	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	7,982	8,162	8,346	8,534	8,726	8,922	9,123	9,328	9,538	9,752	9,972
66	Total Costs	26,210	26,799	27,402	28,019	28,649	29,294	29,953	30,627	31,316	32,021	32,741
67	City Costs @ Production Level ($/kWh)											
68	Production											
69	Fuel	$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.146	$ 0.150	$ 0.153	$ 0.156	$ 0.160	$ 0.163	$ 0.167
70	Makushin	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
72	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
74	Total											
75	At Production Level	$ 0.438	$ 0.448	$ 0.458	$ 0.469	$ 0.479	$ 0.490	$ 0.501	$ 0.512	$ 0.524	$ 0.536	$ 0.548
76	At Sales Level	$ 0.456	$ 0.466	$ 0.476	$ 0.487	$ 0.498	$ 0.509	$ 0.521	$ 0.532	$ 0.544	$ 0.557	$ 0.569
77	Processor Costs ($/kWh)	$ 0.190	$ 0.194	$ 0.199	$ 0.203	$ 0.208	$ 0.212	$ 0.217	$ 0.222	$ 0.227	$ 0.232	$ 0.237
78												

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	42,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
79	**With Makushin (Dollars in Thousands)**												
80	Loads (million kWh)												
81	City												
82	Sales												
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
86	Total City Sales	40.00	40.00	40.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00
87	Losses												
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
90	Total Generation	41.58	41.58	41.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58
91	Processors	42.00	42.00	42.00	-	-	-	-	-	-	-	-	-
92	City Costs												
93	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
94	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
95	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
96	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
97	Production												
98	Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
99	Ops	789	801	817	434	443	453	463	474	485	495	507	518
100	Fuel	3,754	3,905	4,058	165	171	178	185	192	199	205	208	213
101	Spinning Reserve Fuel	-	-	-	581	603	626	652	678	701	722	734	750
102	Makushin												
103	To OCCP	-	-	-	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors												
105	Makushin	-	-	-	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)
106	Other	-	-	-	(1,286)	(1,295)	(1,305)	(1,315)	(1,325)	(1,335)	(1,345)	(1,355)	(1,365)
107	Total City	13,569	13,867	14,220	17,206	17,448	17,697	17,703	17,704	17,695	17,944	18,187	18,441
108	Processor Costs												
109	Fuel	4,380	4,556	4,735	224	233	242	252	262	271	279	283	290
110	Variable O&M	1,155	1,172	1,196	-	-	-	-	-	-	-	-	-
111	Payments to City												
112	Makushin	-	-	-	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215
113	Other	-	-	-	1,286	1,295	1,305	1,315	1,325	1,335	1,345	1,355	1,365
114	Total Processor	5,535	5,728	5,931	9,725	9,743	9,761	9,781	9,801	9,820	9,838	9,852	9,869
115	Total Costs	19,104	19,595	20,151	26,930	27,191	27,458	27,484	27,505	27,515	27,782	28,039	28,310
116	City Costs @ Production Level ($/kWh)												
117	Production												
118	Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.018	$ 0.019	$ 0.019	$ 0.020	$ 0.021	$ 0.022	$ 0.022	$ 0.023	$ 0.023
119	Makushin	-	-	-	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192
120	Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
121	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
122	Revenues from Processor Base Rate	-	-	-	(0.031)	(0.031)	(0.031)	(0.032)	(0.032)	(0.032)	(0.032)	(0.033)	(0.033)
123	Total												
124	At Production Level	0.326	0.334	0.342	0.418	0.424	0.430	0.430	0.430	0.430	0.436	0.441	0.447
125	At Sales Level	0.339	0.347	0.355	0.434	0.440	0.447	0.447	0.447	0.446	0.453	0.459	0.465
126	Processor Costs ($/kWh)	0.132	0.136	0.141	0.232	0.232	0.232	0.233	0.233	0.234	0.234	0.235	0.235

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
79	**With Makushin (Dollars in Thousands)**											
80	Loads (million kWh)											
81	City											
82	Sales											
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
86	Total City Sales	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00
87	Losses											
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
90	Total Generation	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58
91	Processors	-	-	-	-	-	-	-	-	-	-	-
92	City Costs											
93	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
94	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
95	Vehicles	83	85	87	89	91	93	95	97	99	101	104
96	Facilities	187	192	196	200	205	209	214	219	224	229	234
97	Production											
98	Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
99	Ops	530	542	554	566	579	592	605	619	633	647	662
100	Fuel	217	222	227	232	238	243	248	254	260	266	272
101	Spinning Reserve Fuel	767	784	802	820	838	857	876	896	916	937	958
102	Makushin											
103	To OCCP	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors											
105	Makushin	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)
106	Other	(1,375)	(1,385)	(1,396)	(1,406)	(1,417)	(1,427)	(1,438)	(1,449)	(1,460)	(1,471)	(1,482)
107	Total City	18,700	18,966	19,238	19,516	19,801	20,092	20,390	20,695	21,006	21,325	21,651
108	Processor Costs											
109	Fuel	296	303	310	316	324	331	338	346	354	362	370
110	Variable O&M	-	-	-	-	-	-	-	-	-	-	-
111	Payments to City											
112	Makushin	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215
113	Other	1,375	1,385	1,396	1,406	1,417	1,427	1,438	1,449	1,460	1,471	1,482
114	Total Processor	9,886	9,903	9,920	9,937	9,955	9,973	9,991	10,009	10,028	10,047	10,066
115	Total Costs	28,586	28,869	29,158	29,454	29,756	30,065	30,381	30,704	31,034	31,372	31,718
116	City Costs @ Production Level ($/kWh)											
117	Production											
118	Fuel	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.026	$ 0.027	$ 0.028	$ 0.028	$ 0.029	$ 0.030
119	Makushin	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192
120	Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
121	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
122	Revenues from Processor Base Rate	(0.033)	(0.033)	(0.034)	(0.034)	(0.034)	(0.034)	(0.035)	(0.035)	(0.035)	(0.035)	(0.036)
123	Total											
124	At Production Level	0.454	0.460	0.467	0.473	0.480	0.487	0.494	0.502	0.509	0.517	0.525
125	At Sales Level	0.472	0.478	0.485	0.492	0.499	0.506	0.514	0.521	0.529	0.537	0.545
126	Processor Costs ($/kWh)	0.235	0.236	0.236	0.237	0.237	0.237	0.238	0.238	0.239	0.239	0.240

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	42,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	(2,625)	(2,475)	(2,316)	(1,894)	(1,458)	(1,025)	(864)	(753)	(614)
130	Processor	-	-	-	(3,586)	(3,391)	(3,184)	(2,959)	(2,731)	(2,523)	(2,336)	(2,217)	(2,062)
131	Combined	-	-	-	(6,211)	(5,865)	(5,500)	(4,853)	(4,189)	(3,547)	(3,199)	(2,970)	(2,677)
132	$/kWh												
133	City	-	-	-	(0.070)	(0.066)	(0.062)	(0.051)	(0.041)	(0.030)	(0.026)	(0.023)	(0.019)
134	Processor	-	-	-	(0.085)	(0.081)	(0.076)	(0.070)	(0.065)	(0.060)	(0.056)	(0.053)	(0.049)
135	Combined	-	-	-	(0.076)	(0.072)	(0.067)	(0.059)	(0.051)	(0.043)	(0.039)	(0.036)	(0.033)
136	Breakeven Fuel Price ($/gallon)	-	-	-	2.80	2.80	2.79	2.73	2.67	2.61	2.60	2.59	2.58

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
127	**Savings (Losses)**											
128	Dollars (000)											
129	City	(473)	(329)	(181)	(31)	123	280	441	605	772	943	1,118
130	Processor	(1,903)	(1,741)	(1,574)	(1,404)	(1,229)	(1,051)	(868)	(682)	(490)	(295)	(94)
131	Combined	(2,376)	(2,069)	(1,755)	(1,435)	(1,106)	(771)	(428)	(77)	282	649	1,024
132	$/kWh											
133	City	(0.016)	(0.012)	(0.009)	(0.005)	(0.001)	0.003	0.007	0.011	0.015	0.019	0.024
134	Processor	(0.045)	(0.041)	(0.037)	(0.033)	(0.029)	(0.025)	(0.021)	(0.016)	(0.012)	(0.007)	(0.002)
135	Combined	(0.029)	(0.025)	(0.021)	(0.017)	(0.013)	(0.009)	(0.005)	(0.001)	0.003	0.008	0.012
136	Breakeven Fuel Price ($/gallon)	2.56	2.55	2.54	2.53	2.51	2.50	2.48	2.47	2.46	2.44	2.43

Attachment 4B

Load: 82 million kWh

Project Size: 30 MW

Fuel Forecast: EIA

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	42,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
9	Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
11	Cost of Fuel ($/gallon)			.									
12	City	1.71	1.98	2.02	2.06	2.11	2.15	2.20	2.25	2.30	2.35	2.41	2.46
13	Processor	1.76	2.04	2.08	2.12	2.17	2.22	2.27	2.32	2.37	2.43	2.48	2.54
14	Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
15	Fuel Efficiency (kWh/gal)												
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000 gallons)												
19	City												
20	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor												
24	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	-	-	-	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	-	-	-	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate												
28	Fixed Payment - 30 MW (000)	-	-	-	16,020	16,180	16,342	16,505	16,670	16,837	17,006	17,176	17,347

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
9	Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
11	Cost of Fuel ($/gallon)											
12	City	2.52	2.57	2.63	2.69	2.75	2.81	2.88	2.94	3.01	3.08	3.14
13	Processor	2.59	2.65	2.71	2.77	2.83	2.90	2.96	3.03	3.10	3.17	3.24
14	Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
15	Fuel Efficiency (kWh/gal)											
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (00(											
19	City											
20	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor											
24	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate											
28	Fixed Payment - 30 MW (000)	17,521	17,696	17,873	18,052	18,232	18,415	18,599	18,785	18,973	19,162	19,354

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	42,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
29	**Without Makushin (Dollars in Thousands)**												
30	Loads (million kWh)												
31	City												
32	Sales												
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses												
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
42	Costs												
43	City												
44	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
45	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
46	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
47	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
48	Production												
49	Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
50	Ops	789	801	817	833	852	871	891	911	931	952	974	995
51	Fuel	4,533	5,233	5,337	5,457	5,580	5,706	5,834	5,965	6,100	6,237	6,377	6,521
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
53	Makushin												
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors												
56	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-	-
58	Total City	14,348	15,195	15,499	15,822	16,178	16,542	16,914	17,295	17,684	18,082	18,489	18,905
59	Processor Costs												
60	Fuel	5,289	6,105	6,227	6,367	6,511	6,657	6,807	6,960	7,117	7,277	7,440	7,608
61	Variable O&M	1,155	1,172	1,196	1,220	1,247	1,275	1,304	1,333	1,363	1,394	1,425	1,457
62	Payments to City												
63	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	6,444	7,277	7,423	7,587	7,758	7,932	8,111	8,293	8,480	8,671	8,866	9,065
66	Total Costs	20,792	22,472	22,922	23,409	23,936	24,474	25,025	25,588	26,164	26,753	27,354	27,970
67	City Costs @ Production Level ($/kWh)												
68	Production												
69	Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.131	$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.147	$ 0.150	$ 0.153	$ 0.157
70	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
72	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
29	**Without Makushin (Dollars in Thousands)**											
30	Loads (million kWh)											
31	City											
32	Sales											
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses											
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
42	Costs											
43	City											
44	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
45	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
46	Vehicles	83	85	87	89	91	93	95	97	99	101	104
47	Facilities	187	192	196	200	205	209	214	219	224	229	234
48	Production											
49	Personnel	1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
50	Ops	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
51	Fuel	6,667	6,817	6,971	7,128	7,288	7,452	7,620	7,791	7,966	8,146	8,329
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-
53	Makushin											
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors											
56	Makushin	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-
58	Total City	19,330	19,765	20,210	20,664	21,129	21,605	22,091	22,588	23,096	23,616	24,147
59	Processor Costs											
60	Fuel	7,779	7,954	8,133	8,316	8,503	8,694	8,890	9,090	9,295	9,504	9,718
61	Variable O&M	1,490	1,524	1,558	1,593	1,629	1,665	1,703	1,741	1,780	1,820	1,861
62	Payments to City											
63	Makushin	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	9,269	9,478	9,691	9,909	10,132	10,360	10,593	10,831	11,075	11,324	11,579
66	Total Costs	28,599	29,243	29,901	30,573	31,261	31,965	32,684	33,419	34,171	34,940	35,726
67	City Costs @ Production Level ($/kWh)											
68	Production											
69	Fuel	$ 0.160	$ 0.164	$ 0.168	$ 0.171	$ 0.175	$ 0.179	$ 0.183	$ 0.187	$ 0.192	$ 0.196	$ 0.200
70	Makushin	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
72	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294

1														
2	Makushin Size	30												
3	Fuel Forecast	EIA												
4	Sales to Processors	42,000,000												
5	Processor Rate	0.030												
6	Rate Esc	0.75%												
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-	
74	Total													
75	At Production Level	$ 0.345	$ 0.365	$ 0.373	$ 0.381	$ 0.389	$ 0.398	$ 0.407	$ 0.416	$ 0.425	$ 0.435	$ 0.445	$ 0.455	
76	At Sales Level	$ 0.359	$ 0.380	$ 0.387	$ 0.396	$ 0.404	$ 0.414	$ 0.423	$ 0.432	$ 0.442	$ 0.452	$ 0.462	$ 0.473	
77	Processor Costs ($/kWh)	$ 0.153	$ 0.173	$ 0.177	$ 0.181	$ 0.185	$ 0.189	$ 0.193	$ 0.197	$ 0.202	$ 0.206	$ 0.211	$ 0.216	
78														

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
74	Total											
75	At Production Level	$ 0.465	$ 0.475	$ 0.486	$ 0.497	$ 0.508	$ 0.520	$ 0.531	$ 0.543	$ 0.555	$ 0.568	$ 0.581
76	At Sales Level	$ 0.483	$ 0.494	$ 0.505	$ 0.517	$ 0.528	$ 0.540	$ 0.552	$ 0.565	$ 0.577	$ 0.590	$ 0.604
77	Processor Costs ($/kWh)	$ 0.221	$ 0.226	$ 0.231	$ 0.236	$ 0.241	$ 0.247	$ 0.252	$ 0.258	$ 0.264	$ 0.270	$ 0.276
78												

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	42,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
79	**With Makushin (Dollars in Thousands)**												
80	Loads (million kWh)												
81	City												
82	Sales												
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
86	Total City Sales	40.00	40.00	40.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00
87	Losses												
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
90	Total Generation	41.58	41.58	41.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58
91	Processors	42.00	42.00	42.00	-	-	-	-	-	-	-	-	-
92	City Costs												
93	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
94	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
95	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
96	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
97	Production												
98	Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
99	Ops	789	801	817	434	443	453	463	474	485	495	507	518
100	Fuel	4,533	5,233	5,337	213	218	223	228	233	238	244	249	255
101	Spinning Reserve Fuel	-	-	-	752	769	786	804	822	841	860	879	899
102	Makushin												
103	To OCCP	-	-	-	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors												
105	Makushin	-	-	-	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)
106	Other	-	-	-	(1,286)	(1,295)	(1,305)	(1,315)	(1,325)	(1,335)	(1,345)	(1,355)	(1,365)
107	Total City	14,348	15,195	15,499	17,425	17,661	17,902	17,899	17,889	17,874	18,121	18,373	18,631
108	Processor Costs												
109	Fuel	5,289	6,105	6,227	290	297	304	310	317	325	332	339	347
110	Variable O&M	1,155	1,172	1,196	-	-	-	-	-	-	-	-	-
111	Payments to City												
112	Makushin	-	-	-	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215
113	Other	-	-	-	1,286	1,295	1,305	1,315	1,325	1,335	1,345	1,355	1,365
114	Total Processor	6,444	7,277	7,423	9,791	9,807	9,823	9,840	9,857	9,874	9,891	9,909	9,926
115	Total Costs	20,792	22,472	22,922	27,216	27,468	27,725	27,738	27,746	27,748	28,012	28,282	28,558
116	City Costs @ Production Level ($/kWh)												
117	Production												
118	Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.023	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.027	$ 0.027	$ 0.028
119	Makushin	-	-	-	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192
120	Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
121	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
122	Revenues from Processor Base Rate	-	-	-	(0.031)	(0.031)	(0.031)	(0.032)	(0.032)	(0.032)	(0.032)	(0.033)	(0.033)
123	Total												

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
79	**With Makushin (Dollars in Thousands)**											
80	Loads (million kWh)											
81	City											
82	Sales											
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
86	Total City Sales	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00	82.00
87	Losses											
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
90	Total Generation	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58	83.58
91	Processors	-	-	-	-	-	-	-	-	-	-	-
92	City Costs											
93	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
94	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
95	Vehicles	83	85	87	89	91	93	95	97	99	101	104
96	Facilities	187	192	196	200	205	209	214	219	224	229	234
97	Production											
98	Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
99	Ops	530	542	554	566	579	592	605	619	633	647	662
100	Fuel	261	266	272	279	285	291	298	304	311	318	325
101	Spinning Reserve Fuel	919	940	961	982	1,004	1,027	1,050	1,074	1,098	1,123	1,148
102	Makushin											
103	To OCCP	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors											
105	Makushin	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)	(8,215)
106	Other	(1,375)	(1,385)	(1,396)	(1,406)	(1,417)	(1,427)	(1,438)	(1,449)	(1,460)	(1,471)	(1,482)
107	Total City	18,895	19,166	19,442	19,725	20,014	20,310	20,613	20,922	21,239	21,564	21,895
108	Processor Costs											
109	Fuel	355	363	371	379	388	396	405	415	424	433	443
110	Variable O&M	-	-	-	-	-	-	-	-	-	-	-
111	Payments to City											
112	Makushin	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215	8,215
113	Other	1,375	1,385	1,396	1,406	1,417	1,427	1,438	1,449	1,460	1,471	1,482
114	Total Processor	9,944	9,963	9,981	10,000	10,019	10,039	10,058	10,078	10,098	10,119	10,139
115	Total Costs	28,840	29,128	29,423	29,725	30,033	30,348	30,671	31,001	31,338	31,682	32,035
116	City Costs @ Production Level ($/kWh)											
117	Production											
118	Fuel	$ 0.028	$ 0.029	$ 0.030	$ 0.030	$ 0.031	$ 0.032	$ 0.032	$ 0.033	$ 0.034	$ 0.035	$ 0.035
119	Makushin	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192	0.192
120	Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
121	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
122	Revenues from Processor Base Rate	(0.033)	(0.033)	(0.034)	(0.034)	(0.034)	(0.034)	(0.035)	(0.035)	(0.035)	(0.035)	(0.036)
123	Total											

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	42,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
124	At Production Level	0.345	0.365	0.373	0.423	0.429	0.434	0.434	0.434	0.434	0.440	0.446	0.452
125	At Sales Level	0.359	0.380	0.387	0.440	0.446	0.452	0.452	0.451	0.451	0.457	0.463	0.470
126	Processor Costs ($/kWh)	0.153	0.173	0.177	0.233	0.233	0.234	0.234	0.235	0.235	0.236	0.236	0.236

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
124	At Production Level	0.458	0.465	0.472	0.478	0.485	0.492	0.500	0.507	0.515	0.523	0.531
125	At Sales Level	0.476	0.483	0.490	0.497	0.504	0.512	0.519	0.527	0.535	0.543	0.551
126	Processor Costs ($/kWh)	0.237	0.237	0.238	0.238	0.239	0.239	0.239	0.240	0.240	0.241	0.241

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	42,000,000											
5	Processor Rate	0.030											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	(1,603)	(1,483)	(1,360)	(984)	(595)	(190)	(39)	115	273
130	Processor	-	-	-	(2,204)	(2,049)	(1,891)	(1,729)	(1,563)	(1,394)	(1,220)	(1,043)	(861)
131	Combined	-	-	-	(3,807)	(3,532)	(3,251)	(2,713)	(2,158)	(1,584)	(1,260)	(927)	(588)
132	$/kWh												
133	City	-	-	-	(0.044)	(0.041)	(0.038)	(0.029)	(0.019)	(0.009)	(0.005)	(0.001)	0.003
134	Processor	-	-	-	(0.052)	(0.049)	(0.045)	(0.041)	(0.037)	(0.033)	(0.029)	(0.025)	(0.021)
135	Combined	-	-	-	(0.046)	(0.043)	(0.040)	(0.033)	(0.026)	(0.019)	(0.015)	(0.011)	(0.007)
136	Breakeven Fuel Price ($/gallon)	-	-	-	2.80	2.80	2.79	2.73	2.67	2.61	2.60	2.59	2.58

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
127	**Savings (Losses)**											
128	Dollars (000)											
129	City	435	599	768	940	1,115	1,295	1,478	1,665	1,857	2,052	2,252
130	Processor	(675)	(485)	(290)	(91)	113	321	535	753	977	1,206	1,440
131	Combined	(241)	114	477	849	1,228	1,616	2,013	2,419	2,834	3,258	3,692
132	$/kWh											
133	City	0.007	0.011	0.015	0.019	0.024	0.028	0.033	0.038	0.042	0.047	0.052
134	Processor	(0.016)	(0.012)	(0.007)	(0.002)	0.003	0.008	0.013	0.018	0.023	0.029	0.034
135	Combined	(0.003)	0.001	0.006	0.010	0.015	0.020	0.025	0.029	0.035	0.040	0.045
136	Breakeven Fuel Price ($/gallon)	2.56	2.55	2.54	2.53	2.51	2.50	2.48	2.47	2.46	2.44	2.43

Attachment 5A

Load: City Only

Project Size: 30 MW

Fuel Forecast: Nymex

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	-											
5	Processor Rate	-											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
9	Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
11	Cost of Fuel ($/gallon)			.									
12	City	1.42	1.47	1.53	1.59	1.65	1.72	1.79	1.86	1.92	1.98	2.01	2.05
13	Processor	1.46	1.52	1.58	1.64	1.70	1.77	1.84	1.91	1.98	2.04	2.07	2.12
14	Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
15	Fuel Efficiency (kWh/gal)												
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000 gallons)												
19	City												
20	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor												
24	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	-	-	-	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	-	-	-	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate												
28	Fixed Payment - 30 MW (000)	-	-	-	16,020	16,180	16,342	16,505	16,670	16,837	17,006	17,176	17,347

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
9	Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
11	Cost of Fuel ($/gallon)											
12	City	2.10	2.15	2.20	2.25	2.30	2.35	2.40	2.46	2.51	2.57	2.62
13	Processor	2.16	2.21	2.26	2.31	2.37	2.42	2.47	2.53	2.59	2.64	2.70
14	Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
15	Fuel Efficiency (kWh/gal)											
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000											
19	City											
20	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor											
24	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate											
28	Fixed Payment - 30 MW (000)	17,521	17,696	17,873	18,052	18,232	18,415	18,599	18,785	18,973	19,162	19,354

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	-											
5	Processor Rate	-											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
29	**Without Makushin (Dollars in Thousands)**												
30	Loads (million kWh)												
31	City												
32	Sales												
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses												
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	-	-	-	-	-	-	-	-	-	-	-	-
42	Costs												
43	City												
44	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
45	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
46	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
47	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
48	Production												
49	Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
50	Ops	789	801	817	833	852	871	891	911	931	952	974	995
51	Fuel	3,754	3,905	4,058	4,216	4,375	4,544	4,729	4,917	5,086	5,235	5,322	5,442
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
53	Makushin												
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors												
56	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-	-
58	Total City	13,569	13,867	14,220	14,581	14,973	15,381	15,810	16,246	16,670	17,080	17,434	17,826
59	Processor Costs												
60	Fuel	-	-	-	-	-	-	-	-	-	-	-	-
61	Variable O&M	-	-	-	-	-	-	-	-	-	-	-	-
62	Payments to City												
63	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	-	-	-	-	-	-	-	-	-	-	-	-
66	Total Costs	13,569	13,867	14,220	14,581	14,973	15,381	15,810	16,246	16,670	17,080	17,434	17,826
67	City Costs @ Production Level ($/kWh)												
68	Production												
69	Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.101	$ 0.105	$ 0.109	$ 0.114	$ 0.118	$ 0.122	$ 0.126	$ 0.128	$ 0.131
70	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
72	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
74	Total												
75	At Production Level	$ 0.326	$ 0.334	$ 0.342	$ 0.351	$ 0.360	$ 0.370	$ 0.380	$ 0.391	$ 0.401	$ 0.411	$ 0.419	$ 0.429
76	At Sales Level	$ 0.339	$ 0.347	$ 0.355	$ 0.365	$ 0.374	$ 0.385	$ 0.395	$ 0.406	$ 0.417	$ 0.427	$ 0.436	$ 0.446
77	Processor Costs ($/kWh)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
78													

		Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
	Makushin Size											
	Fuel Forecast											
	Sales to Processors											
	Processor Rate											
	Rate Esc											
Without Makushin (Dollars in Thousands)												
Loads (million kWh)												
City												
Sales												
City Core		40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat		-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors		-	-	-	-	-	-	-	-	-	-	-
Total City Sales		40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses												
Core/Heat		1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors		-	-	-	-	-	-	-	-	-	-	-
Total Generation		41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors		-	-	-	-	-	-	-	-	-	-	-
Costs												
City												
Admin/Depr/Int		$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
Line Repair		1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
Vehicles		83	85	87	89	91	93	95	97	99	101	104
Facilities		187	192	196	200	205	209	214	219	224	229	234
Production												
Personnel		1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
Ops		1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
Fuel		5,565	5,690	5,818	5,949	6,083	6,219	6,359	6,502	6,649	6,798	6,951
Spinning Reserve Fuel		-	-	-	-	-	-	-	-	-	-	-
Makushin												
To OCCP		-	-	-	-	-	-	-	-	-	-	-
Payments from Processors												
Makushin		-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-
Total City		18,227	18,637	19,057	19,486	19,924	20,372	20,831	21,299	21,779	22,269	22,770
Processor Costs												
Fuel		-	-	-	-	-	-	-	-	-	-	-
Variable O&M		-	-	-	-	-	-	-	-	-	-	-
Payments to City												
Makushin		-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-
Total Processor		-	-	-	-	-	-	-	-	-	-	-
Total Costs		18,227	18,637	19,057	19,486	19,924	20,372	20,831	21,299	21,779	22,269	22,770
City Costs @ Production Level ($/kWh)												
Production												
Fuel		$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.146	$ 0.150	$ 0.153	$ 0.156	$ 0.160	$ 0.163	$ 0.167
Makushin		-	-	-	-	-	-	-	-	-	-	-
Other Production		0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
Other		0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
Revenues from Processor Base Rate		-	-	-	-	-	-	-	-	-	-	-
Total												
At Production Level		$ 0.438	$ 0.448	$ 0.458	$ 0.469	$ 0.479	$ 0.490	$ 0.501	$ 0.512	$ 0.524	$ 0.536	$ 0.548
At Sales Level		$ 0.456	$ 0.466	$ 0.476	$ 0.487	$ 0.498	$ 0.509	$ 0.521	$ 0.532	$ 0.544	$ 0.557	$ 0.569
Processor Costs ($/kWh)		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	-											
5	Processor Rate	-											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
79	**With Makushin (Dollars in Thousands)**												
80	Loads (million kWh)												
81	City												
82	Sales												
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
86	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
87	Losses												
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	-	-	-	-	-	-	-	-	-
90	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
91	Processors	-	-	-	-	-	-	-	-	-	-	-	-
92	City Costs												
93	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
94	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
95	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
96	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
97	Production												
98	Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
99	Ops	789	801	817	434	443	453	463	474	485	495	507	518
100	Fuel	3,754	3,905	4,058	165	171	178	185	192	199	205	208	213
101	Spinning Reserve Fuel	-	-	-	581	603	626	652	678	701	722	734	750
102	Makushin												
103	To OCCP	-	-	-	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors												
105	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
106	Other	-	-	-	-	-	-	-	-	-	-	-	-
107	Total City	13,569	13,867	14,220	26,706	26,958	27,216	27,233	27,243	27,244	27,503	27,756	28,020
108	Processor Costs												
109	Fuel	-	-	-	224	233	242	252	262	271	279	283	290
110	Variable O&M	-	-	-	-	-	-	-	-	-	-	-	-
111	Payments to City												
112	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
113	Other	-	-	-	-	-	-	-	-	-	-	-	-
114	Total Processor	-	-	-	224	233	242	252	262	271	279	283	290
115	Total Costs	13,569	13,867	14,220	26,930	27,191	27,458	27,484	27,505	27,515	27,782	28,039	28,310
116	City Costs @ Production Level ($/kWh)												
117	Production												
118	Fuel	$ 0.090	$ 0.094	$ 0.098	$ 0.018	$ 0.019	$ 0.019	$ 0.020	$ 0.021	$ 0.022	$ 0.022	$ 0.023	$ 0.023
119	Makushin	-	-	-	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
120	Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
121	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
122	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
123	Total												
124	At Production Level	0.326	0.334	0.342	0.642	0.648	0.655	0.655	0.655	0.655	0.661	0.668	0.674
125	At Sales Level	0.339	0.347	0.355	0.668	0.674	0.680	0.681	0.681	0.681	0.688	0.694	0.701
126	Processor Costs ($/kWh)	-	-	-	-	-	-	-	-	-	-	-	-

		Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
79	**With Makushin (Dollars in Thousands)**											
80	Loads (million kWh)											
81	City											
82	Sales											
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
86	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
87	Losses											
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	-	-	-	-	-	-	-	-
90	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
91	Processors	-	-	-	-	-	-	-	-	-	-	-
92	City Costs											
93	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
94	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
95	Vehicles	83	85	87	89	91	93	95	97	99	101	104
96	Facilities	187	192	196	200	205	209	214	219	224	229	234
97	Production											
98	Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
99	Ops	530	542	554	566	579	592	605	619	633	647	662
100	Fuel	217	222	227	232	238	243	248	254	260	266	272
101	Spinning Reserve Fuel	767	784	802	820	838	857	876	896	916	937	958
102	Makushin											
103	To OCCP	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors											
105	Makushin	-	-	-	-	-	-	-	-	-	-	-
106	Other	-	-	-	-	-	-	-	-	-	-	-
107	Total City	28,290	28,566	28,848	29,137	29,432	29,734	30,043	30,358	30,681	31,011	31,348
108	Processor Costs											
109	Fuel	296	303	310	316	324	331	338	346	354	362	370
110	Variable O&M	-	-	-	-	-	-	-	-	-	-	-
111	Payments to City											
112	Makushin	-	-	-	-	-	-	-	-	-	-	-
113	Other	-	-	-	-	-	-	-	-	-	-	-
114	Total Processor	296	303	310	316	324	331	338	346	354	362	370
115	Total Costs	28,586	28,869	29,158	29,454	29,756	30,065	30,381	30,704	31,034	31,372	31,718
116	City Costs @ Production Level ($/kWh)											
117	Production											
118	Fuel	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.026	$ 0.027	$ 0.028	$ 0.028	$ 0.029	$ 0.030
119	Makushin	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
120	Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
121	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
122	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
123	Total											
124	At Production Level	0.680	0.687	0.694	0.701	0.708	0.715	0.723	0.730	0.738	0.746	0.754
125	At Sales Level	0.707	0.714	0.721	0.728	0.736	0.743	0.751	0.759	0.767	0.775	0.784
126	Processor Costs ($/kWh)	-	-	-	-	-	-	-	-	-	-	-

1													
2	Makushin Size	30											
3	Fuel Forecast	Nymex											
4	Sales to Processors	-											
5	Processor Rate	-											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	(12,125)	(11,985)	(11,836)	(11,423)	(10,997)	(10,574)	(10,423)	(10,322)	(10,194)
130	Processor	-	-	-	(224)	(233)	(242)	(252)	(262)	(271)	(279)	(283)	(290)
131	Combined	-	-	-	(12,350)	(12,217)	(12,077)	(11,675)	(11,258)	(10,845)	(10,701)	(10,605)	(10,483)
132	$/kWh												
133	City	-	-	-	(0.303)	(0.300)	(0.296)	(0.286)	(0.275)	(0.264)	(0.261)	(0.258)	(0.255)
134	Processor	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
135	Combined	-	-	-	(0.309)	(0.305)	(0.302)	(0.292)	(0.281)	(0.271)	(0.268)	(0.265)	(0.262)
136	Breakeven Fuel Price ($/gallon)	-	-	-	7.65	7.64	7.64	7.51	7.38	7.24	7.23	7.21	7.20

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
127	**Savings (Losses)**											
128	Dollars (000)											
129	City	(10,063)	(9,929)	(9,792)	(9,652)	(9,508)	(9,362)	(9,212)	(9,059)	(8,902)	(8,742)	(8,578)
130	Processor	(296)	(303)	(310)	(316)	(324)	(331)	(338)	(346)	(354)	(362)	(370)
131	Combined	(10,359)	(10,231)	(10,101)	(9,968)	(9,832)	(9,693)	(9,550)	(9,405)	(9,256)	(9,104)	(8,948)
132	$/kWh											
133	City	(0.252)	(0.248)	(0.245)	(0.241)	(0.238)	(0.234)	(0.230)	(0.226)	(0.223)	(0.219)	(0.214)
134	Processor	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
135	Combined	(0.259)	(0.256)	(0.253)	(0.249)	(0.246)	(0.242)	(0.239)	(0.235)	(0.231)	(0.228)	(0.224)
136	Breakeven Fuel Price ($/gallon)	7.18	7.17	7.15	7.13	7.12	7.10	7.08	7.07	7.05	7.03	7.01

Attachment 5B

Load: City Only

Project Size: 30 MW

Fuel Forecast: EIA

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	-											
5	Processor Rate	-											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
9	Inflation		1.50%	2.00%	2.00%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.000	1.015	1.035	1.056	1.080	1.104	1.129	1.154	1.180	1.207	1.234	1.262
11	Cost of Fuel ($/gallon)			.									
12	City	1.71	1.98	2.02	2.06	2.11	2.15	2.20	2.25	2.30	2.35	2.41	2.46
13	Processor	1.76	2.04	2.08	2.12	2.17	2.22	2.27	2.32	2.37	2.43	2.48	2.54
14	Processor VOM ($/kWh)	0.028	0.028	0.028	0.029	0.030	0.030	0.031	0.032	0.032	0.033	0.034	0.035
15	Fuel Efficiency (kWh/gal)												
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000 gallons)												
19	City												
20	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	-	-	-	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	-	-	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor												
24	Hours/Unit/Month	-	-	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	-	-	-	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	-	-	-	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate												
28	Fixed Payment - 30 MW (000)	-	-	-	16,020	16,180	16,342	16,505	16,670	16,837	17,006	17,176	17,347

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
9	Inflation	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
10	Price Level	1.290	1.319	1.349	1.379	1.410	1.442	1.474	1.508	1.541	1.576	1.612
11	Cost of Fuel ($/gallon)											
12	City	2.52	2.57	2.63	2.69	2.75	2.81	2.88	2.94	3.01	3.08	3.14
13	Processor	2.59	2.65	2.71	2.77	2.83	2.90	2.96	3.03	3.10	3.17	3.24
14	Processor VOM ($/kWh)	0.035	0.036	0.037	0.038	0.039	0.040	0.041	0.041	0.042	0.043	0.044
15	Fuel Efficiency (kWh/gal)											
16	City	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
17	Processor	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
18	Fuel Usage With Makushin for Maint/etc. (000											
19	City											
20	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
21	Gallons/Hour	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6	215.6
22	Number of Units	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
23	Processor											
24	Hours/Unit/Month	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
25	Gallons/Hour	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
26	Number of Units	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
27	Makushin Rate											
28	Fixed Payment - 30 MW (000)	17,521	17,696	17,873	18,052	18,232	18,415	18,599	18,785	18,973	19,162	19,354

2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	-											
5	Processor Rate	-											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
29	**Without Makushin (Dollars in Thousands)**												
30	Loads (million kWh)												
31	City												
32	Sales												
33	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
34	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
35	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
36	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
37	Losses												
38	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
39	Processors	-	-	-	-	-	-	-	-	-	-	-	-
40	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
41	Processors	-	-	-	-	-	-	-	-	-	-	-	-
42	Costs												
43	City												
44	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
45	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
46	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
47	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
48	Production												
49	Personnel	1,444	1,465	1,494	1,524	1,559	1,594	1,630	1,666	1,704	1,742	1,781	1,821
50	Ops	789	801	817	833	852	871	891	911	931	952	974	995
51	Fuel	4,533	5,233	5,337	5,457	5,580	5,706	5,834	5,965	6,100	6,237	6,377	6,521
52	Spinning Reserve Fuel	-	-	-	-	-	-	-	-	-	-	-	-
53	Makushin												
54	To OCCP	-	-	-	-	-	-	-	-	-	-	-	-
55	Payments from Processors												
56	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
57	Other	-	-	-	-	-	-	-	-	-	-	-	-
58	Total City	14,348	15,195	15,499	15,822	16,178	16,542	16,914	17,295	17,684	18,082	18,489	18,905
59	Processor Costs												
60	Fuel	-	-	-	-	-	-	-	-	-	-	-	-
61	Variable O&M	-	-	-	-	-	-	-	-	-	-	-	-
62	Payments to City												
63	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
64	Other	-	-	-	-	-	-	-	-	-	-	-	-
65	Total Processor	-	-	-	-	-	-	-	-	-	-	-	-
66	Total Costs	14,348	15,195	15,499	15,822	16,178	16,542	16,914	17,295	17,684	18,082	18,489	18,905
67	City Costs @ Production Level ($/kWh)												
68	Production												
69	Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.131	$ 0.134	$ 0.137	$ 0.140	$ 0.143	$ 0.147	$ 0.150	$ 0.153	$ 0.157
70	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
71	Other Production	0.054	0.054	0.056	0.057	0.058	0.059	0.061	0.062	0.063	0.065	0.066	0.068
72	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
73	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
74	Total												
75	At Production Level	$ 0.345	$ 0.365	$ 0.373	$ 0.381	$ 0.389	$ 0.398	$ 0.407	$ 0.416	$ 0.425	$ 0.435	$ 0.445	$ 0.455
76	At Sales Level	$ 0.359	$ 0.380	$ 0.387	$ 0.396	$ 0.404	$ 0.414	$ 0.423	$ 0.432	$ 0.442	$ 0.452	$ 0.462	$ 0.473
77	Processor Costs ($/kWh)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
78													

		Geo 2033	Geo 2034	Geo 2035	Geo 2036	Geo 2037	Geo 2038	Geo 2039	Geo 2040	Geo 2041	Geo 2042	Geo 2043
	Makushin Size											
	Fuel Forecast											
	Sales to Processors											
	Processor Rate											
	Rate Esc											
Without Makushin (Dollars in Thousands)												
Loads (million kWh)												
City												
Sales												
City Core		40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
City Heat		-	-	-	-	-	-	-	-	-	-	-
City Sales to Processors		-	-	-	-	-	-	-	-	-	-	-
Total City Sales		40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Losses												
Core/Heat		1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
Processors		-	-	-	-	-	-	-	-	-	-	-
Total Generation		41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
Processors		-	-	-	-	-	-	-	-	-	-	-
Costs												
City												
Admin/Depr/Int		$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
Line Repair		1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
Vehicles		83	85	87	89	91	93	95	97	99	101	104
Facilities		187	192	196	200	205	209	214	219	224	229	234
Production												
Personnel		1,862	1,904	1,947	1,991	2,036	2,081	2,128	2,176	2,225	2,275	2,326
Ops		1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216	1,243	1,271
Fuel		6,667	6,817	6,971	7,128	7,288	7,452	7,620	7,791	7,966	8,146	8,329
Spinning Reserve Fuel		-	-	-	-	-	-	-	-	-	-	-
Makushin												
To OCCP		-	-	-	-	-	-	-	-	-	-	-
Payments from Processors												
Makushin		-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-
Total City		19,330	19,765	20,210	20,664	21,129	21,605	22,091	22,588	23,096	23,616	24,147
Processor Costs												
Fuel		-	-	-	-	-	-	-	-	-	-	-
Variable O&M		-	-	-	-	-	-	-	-	-	-	-
Payments to City												
Makushin		-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-
Total Processor		-	-	-	-	-	-	-	-	-	-	-
Total Costs		19,330	19,765	20,210	20,664	21,129	21,605	22,091	22,588	23,096	23,616	24,147
City Costs @ Production Level ($/kWh)												
Production												
Fuel		$ 0.160	$ 0.164	$ 0.168	$ 0.171	$ 0.175	$ 0.179	$ 0.183	$ 0.187	$ 0.192	$ 0.196	$ 0.200
Makushin		-	-	-	-	-	-	-	-	-	-	-
Other Production		0.069	0.071	0.072	0.074	0.076	0.077	0.079	0.081	0.083	0.085	0.087
Other		0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
Revenues from Processor Base Rate		-	-	-	-	-	-	-	-	-	-	-
Total												
At Production Level		$ 0.465	$ 0.475	$ 0.486	$ 0.497	$ 0.508	$ 0.520	$ 0.531	$ 0.543	$ 0.555	$ 0.568	$ 0.581
At Sales Level		$ 0.483	$ 0.494	$ 0.505	$ 0.517	$ 0.528	$ 0.540	$ 0.552	$ 0.565	$ 0.577	$ 0.590	$ 0.604
Processor Costs ($/kWh)		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	-											
5	Processor Rate	-											
6	Rate Esc	0.75%											
79	**With Makushin (Dollars in Thousands)**												
80	Loads (million kWh)												
81	City												
82	Sales												
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-	-
86	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
87	Losses												
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	-	-	-	-	-	-	-	-	-
90	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
91	Processors	-	-	-	-	-	-	-	-	-	-	-	-
92	City Costs												
93	Admin/Depr/Int	$ 6,024	$ 6,115	$ 6,237	$ 6,362	$ 6,505	$ 6,651	$ 6,801	$ 6,954	$ 7,110	$ 7,270	$ 7,434	$ 7,601
94	Line Repair	1,349	1,369	1,396	1,424	1,456	1,489	1,522	1,557	1,592	1,627	1,664	1,701
95	Vehicles	64	65	67	68	70	71	73	74	76	78	79	81
96	Facilities	145	147	150	153	157	160	164	168	171	175	179	183
97	Production												
98	Personnel	1,444	1,465	1,494	1,499	1,533	1,568	1,353	1,127	891	911	931	952
99	Ops	789	801	817	434	443	453	463	474	485	495	507	518
100	Fuel	4,533	5,233	5,337	213	218	223	228	233	238	244	249	255
101	Spinning Reserve Fuel	-	-	-	752	769	786	804	822	841	860	879	899
102	Makushin												
103	To OCCP	-	-	-	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors												
105	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
106	Other	-	-	-	-	-	-	-	-	-	-	-	-
107	Total City	14,348	15,195	15,499	26,926	27,171	27,422	27,428	27,429	27,424	27,680	27,943	28,211
108	Processor Costs												
109	Fuel	-	-	-	290	297	304	310	317	325	332	339	347
110	Variable O&M	-	-	-	-	-	-	-	-	-	-	-	-
111	Payments to City												
112	Makushin	-	-	-	-	-	-	-	-	-	-	-	-
113	Other	-	-	-	-	-	-	-	-	-	-	-	-
114	Total Processor	-	-	-	290	297	304	310	317	325	332	339	347
115	Total Costs	14,348	15,195	15,499	27,216	27,468	27,725	27,738	27,746	27,748	28,012	28,282	28,558
116	City Costs @ Production Level ($/kWh)												
117	Production												
118	Fuel	$ 0.109	$ 0.126	$ 0.128	$ 0.023	$ 0.024	$ 0.024	$ 0.025	$ 0.025	$ 0.026	$ 0.027	$ 0.027	$ 0.028
119	Makushin	-	-	-	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
120	Other Production	0.054	0.054	0.056	0.046	0.048	0.049	0.044	0.039	0.033	0.034	0.035	0.035
121	Other	0.182	0.185	0.189	0.193	0.197	0.201	0.206	0.210	0.215	0.220	0.225	0.230
122	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-	-
123	Total												
124	At Production Level	0.345	0.365	0.373	0.648	0.653	0.659	0.660	0.660	0.660	0.666	0.672	0.678
125	At Sales Level	0.359	0.380	0.387	0.673	0.679	0.686	0.686	0.686	0.686	0.692	0.699	0.705
126	Processor Costs ($/kWh)	-	-	-	-	-	-	-	-	-	-	-	-

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
79	**With Makushin (Dollars in Thousands)**											
80	Loads (million kWh)											
81	City											
82	Sales											
83	City Core	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
84	City Heat	-	-	-	-	-	-	-	-	-	-	-
85	City Sales to Processors	-	-	-	-	-	-	-	-	-	-	-
86	Total City Sales	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
87	Losses											
88	Core/Heat	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
89	Processors	-	-	-	-	-	-	-	-	-	-	-
90	Total Generation	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58	41.58
91	Processors	-	-	-	-	-	-	-	-	-	-	-
92	City Costs											
93	Admin/Depr/Int	$ 7,772	$ 7,947	$ 8,126	$ 8,309	$ 8,496	$ 8,687	$ 8,882	$ 9,082	$ 9,287	$ 9,496	$ 9,709
94	Line Repair	1,740	1,779	1,819	1,860	1,902	1,944	1,988	2,033	2,079	2,125	2,173
95	Vehicles	83	85	87	89	91	93	95	97	99	101	104
96	Facilities	187	192	196	200	205	209	214	219	224	229	234
97	Production											
98	Personnel	974	995	1,018	1,041	1,064	1,088	1,113	1,138	1,163	1,189	1,216
99	Ops	530	542	554	566	579	592	605	619	633	647	662
100	Fuel	261	266	272	279	285	291	298	304	311	318	325
101	Spinning Reserve Fuel	919	940	961	982	1,004	1,027	1,050	1,074	1,098	1,123	1,148
102	Makushin											
103	To OCCP	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020	16,020
104	Payments from Processors											
105	Makushin	-	-	-	-	-	-	-	-	-	-	-
106	Other	-	-	-	-	-	-	-	-	-	-	-
107	Total City	28,485	28,766	29,052	29,346	29,645	29,952	30,265	30,586	30,914	31,249	31,591
108	Processor Costs											
109	Fuel	355	363	371	379	388	396	405	415	424	433	443
110	Variable O&M	-	-	-	-	-	-	-	-	-	-	-
111	Payments to City											
112	Makushin	-	-	-	-	-	-	-	-	-	-	-
113	Other	-	-	-	-	-	-	-	-	-	-	-
114	Total Processor	355	363	371	379	388	396	405	415	424	433	443
115	Total Costs	28,840	29,128	29,423	29,725	30,033	30,348	30,671	31,001	31,338	31,682	32,035
116	City Costs @ Production Level ($/kWh)											
117	Production											
118	Fuel	$ 0.028	$ 0.029	$ 0.030	$ 0.030	$ 0.031	$ 0.032	$ 0.032	$ 0.033	$ 0.034	$ 0.035	$ 0.035
119	Makushin	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385	0.385
120	Other Production	0.036	0.037	0.038	0.039	0.040	0.040	0.041	0.042	0.043	0.044	0.045
121	Other	0.235	0.241	0.246	0.252	0.257	0.263	0.269	0.275	0.281	0.287	0.294
122	Revenues from Processor Base Rate	-	-	-	-	-	-	-	-	-	-	-
123	Total											
124	At Production Level	0.685	0.692	0.699	0.706	0.713	0.720	0.728	0.736	0.743	0.752	0.760
125	At Sales Level	0.712	0.719	0.726	0.734	0.741	0.749	0.757	0.765	0.773	0.781	0.790
126	Processor Costs ($/kWh)	-	-	-	-	-	-	-	-	-	-	-

1													
2	Makushin Size	30											
3	Fuel Forecast	EIA											
4	Sales to Processors	-											
5	Processor Rate	-											
6	Rate Esc	0.75%											
7					Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
127	**Savings (Losses)**												
128	Dollars (000)												
129	City	-	-	-	(11,103)	(10,993)	(10,880)	(10,514)	(10,134)	(9,740)	(9,598)	(9,454)	(9,306)
130	Processor	-	-	-	(290)	(297)	(304)	(310)	(317)	(325)	(332)	(339)	(347)
131	Combined	-	-	-	(11,394)	(11,290)	(11,183)	(10,824)	(10,451)	(10,064)	(9,930)	(9,793)	(9,653)
132	$/kWh												
133	City	-	-	-	(0.278)	(0.275)	(0.272)	(0.263)	(0.253)	(0.243)	(0.240)	(0.236)	(0.233)
134	Processor	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
135	Combined	-	-	-	(0.285)	(0.282)	(0.280)	(0.271)	(0.261)	(0.252)	(0.248)	(0.245)	(0.241)
136	Breakeven Fuel Price ($/gallon)	-	-	-	7.65	7.64	7.64	7.51	7.38	7.24	7.23	7.21	7.20

1												
2	Makushin Size											
3	Fuel Forecast											
4	Sales to Processors											
5	Processor Rate											
6	Rate Esc											
7		Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo	Geo
8		2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
127	**Savings (Losses)**											
128	Dollars (000)											
129	City	(9,155)	(9,001)	(8,843)	(8,681)	(8,516)	(8,347)	(8,175)	(7,998)	(7,818)	(7,633)	(7,444)
130	Processor	(355)	(363)	(371)	(379)	(388)	(396)	(405)	(415)	(424)	(433)	(443)
131	Combined	(9,510)	(9,363)	(9,214)	(9,060)	(8,904)	(8,744)	(8,580)	(8,413)	(8,241)	(8,066)	(7,887)
132	$/kWh											
133	City	(0.229)	(0.225)	(0.221)	(0.217)	(0.213)	(0.209)	(0.204)	(0.200)	(0.195)	(0.191)	(0.186)
134	Processor	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
135	Combined	(0.238)	(0.234)	(0.230)	(0.227)	(0.223)	(0.219)	(0.214)	(0.210)	(0.206)	(0.202)	(0.197)
136	Breakeven Fuel Price ($/gallon)	7.18	7.17	7.15	7.13	7.12	7.10	7.08	7.07	7.05	7.03	7.01

Makushin Geothermal Project Review

the Financial Engineering Company

June 23, 2020

Brief History

- Project has been studied and pursued for over 40 years
- Exploratory wells drilled in 1982
  - Focus has been on the ST-1 which showed 390 degree F fluid at 1,950 feet
  - Commercial flow tests have not been performed
- Six or seven past attempts for development
- Failed for number of reasons, but lack of load or lack of long-term commitments primary reasons

Is This Time Different?

- OCCP joint venture between Ounalashka Corporation and Chena Power
- With OCCP as developer and owner of the steam rights, no additional royalties for fluid
- Availability of relatively inexpensive non-recourse financing
  - If Project does not work now or in future due to system failure, no payment
  - Eliminates much of capital risk
  - Risk of lower loads in future remains

Pricing Offer

- Original offer was for rate x energy but with minimum energy take
- Modified to fixed payment (equal to minimum energy take x rate)
- Price to escalate at 1%/year
- OCCP responsible for O&M

Project Size (MW)	Annual Cost (millions)	$ Per Installed kW
16	$11.84	$740.00
18	$12.33	$685.00
22	$13.37	$607.73
24	$14.24	$593.33
26	$14.92	$573.85
30	$16.02	$534.00

How Will Makushin Be Used and Effect on Costs?

- Offset most or all of City diesel generation
  - Fuel costs reduced
  - Maintenance overhauls eliminated
  - Supplies, etc., reduced
- City will still have to maintain diesel units in event of Project curtailment
- City may have to have spinning reserves to avoid blackouts in event of Project curtailment

How Will Makushin Change Rates

Customer Charge	→	No Change
Demand/Energy Charge	→	Reduced due to elimination of overhauls, reduced supplies, etc.
COPA	→	Fuel component reduced, purchased power component increased

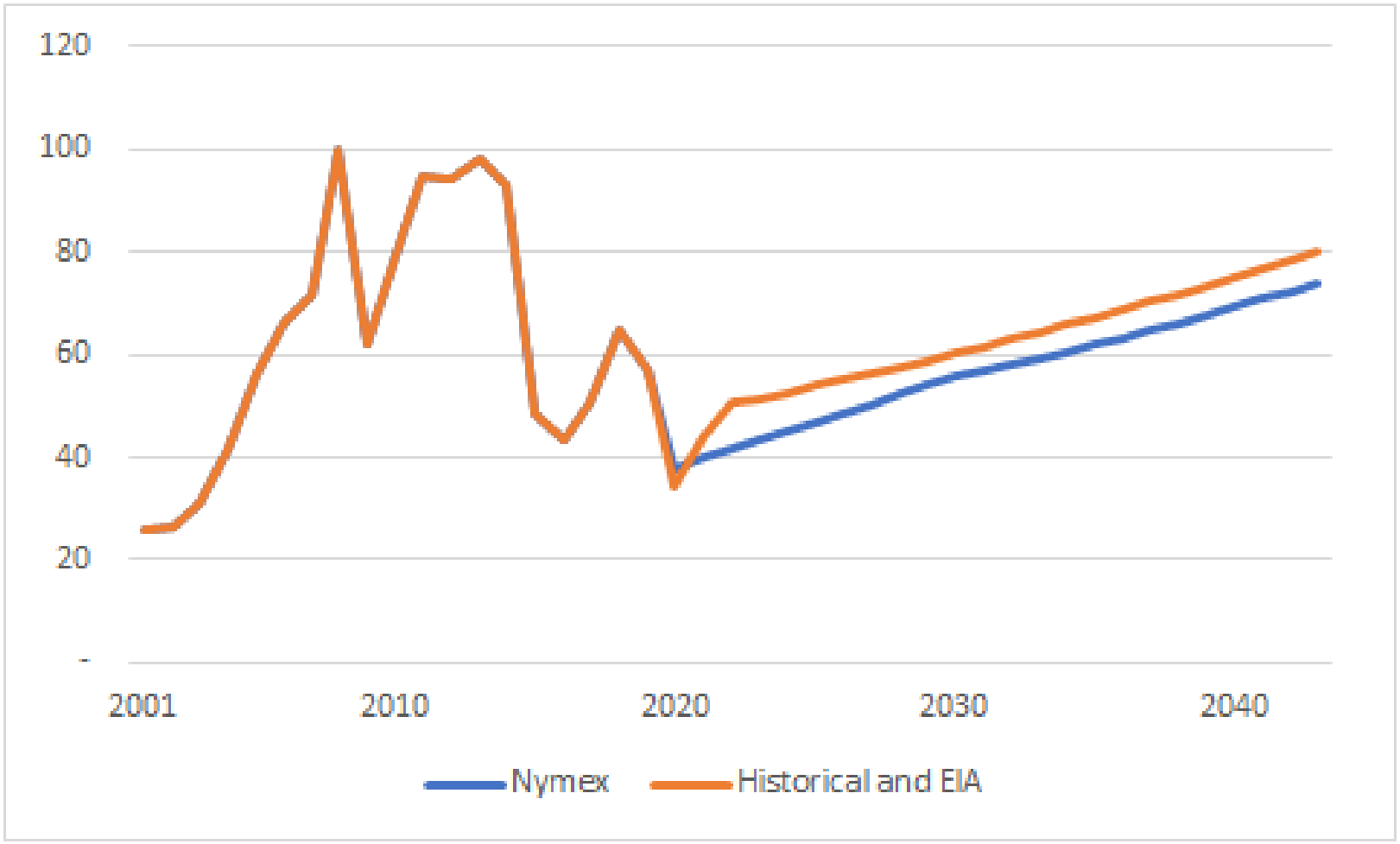
- *As we shall see, the net effect depends on Project usage*

City Loads

- CY 2019 Sales ≈ 52.7 million kWh
- Of this:
  - Slightly under 12 million kWh were sales to Processor that is no longer purchasing power from City
  - 1.4 million kWh to another Processor so they don't have to start a unit at times
- City core load ≈ 40 million kWh

Does Makushin Work With City Core Loads?

- Remember, Project won't be operational for several years, and rate escalates
- Therefore, must make projections over a period of time
- Numerous assumptions, but primary is that of cost of fuel
  - Current fuel cost: $1.34/gallon
  - Nymex Futures:
    - Futures of WTI Oil out to 2031
    - $37.81/bbl average for 2020; $56.71/bbl in 2031 (Assume inflation thereafter)
  - US EIA STEO
    - Oil rebounds to $50/bbl by end of 2021 (Assume inflation thereafter)


120
100
80
60
40
20
-
2001
2010
2020
2030
2040
Nymex
Historical and EIA

City Load Only

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Nymex Fuel										
Project Savings (000)	$ (7,945)	$ (7,805)	$ (7,656)	$ (7,243)	$ (6,817)	$ (6,394)	$ (6,243)	$ (6,142)	$ (6,014)	$ (5,883)
Change in Retail Rates ($/kWh)	$ 0.199	$ 0.195	$ 0.191	$ 0.181	$ 0.170	$ 0.160	$ 0.156	$ 0.154	$ 0.150	$ 0.147
EIA Fuel										
Project Savings (000)	$ (6,923)	$ (6,813)	$ (6,700)	$ (6,334)	$ (5,954)	$ (5,560)	$ (5,418)	$ (5,274)	$ (5,126)	$ (4,975)
Change in Retail Rates ($/kWh)	$ 0.173	$ 0.170	$ 0.167	$ 0.158	$ 0.149	$ 0.139	$ 0.135	$ 0.132	$ 0.128	$ 0.124
Breakeven Fuel Price ($/gal)	5.24	5.23	5.23	5.11	4.98	4.85	4.84	4.83	4.81	4.80

- *With City loads only, would increase City rates by up to $0.20/kWh*
- *Breakeven price of generating fuel well over historical amounts*

What Size Makes Sense?

- The chart below shows the average increase to City rates during the initial five years over what they would have been without Makushin

Does not include additional revenues gained from other customers (i.e., Processors) paying for use of distribution system

Project Size	Fuel Forecast	Sales Over City Core Load (GWh) 10	20	30	40	50	60
16	Nymex	0.130	0.091	0.063	0.042	0.026	0.012
	EIA	0.106	0.067	0.040	0.018	0.002	(0.011)
18	Nymex	0.140	0.099	0.070	0.048	0.031	0.018
	EIA	0.116	0.076	0.047	0.025	0.008	(0.006)
22	Nymex	0.161	0.117	0.085	0.062	0.043	0.028
	EIA	0.137	0.093	0.062	0.038	0.019	0.004
24	Nymex	0.178	0.132	0.098	0.073	0.053	0.037
	EIA	0.155	0.108	0.074	0.049	0.029	0.013
26	Nymex	0.192	0.143	0.108	0.081	0.061	0.044
	EIA	0.168	0.119	0.084	0.058	0.037	0.020
30	Nymex	0.214	0.162	0.124	0.095	0.073	0.055
	EIA	0.190	0.138	0.100	0.072	0.049	0.032

Shaded cells represent Project size is not adequate for expected peak load

- Based on the previous slide, City ratepayers would see a rate increase unless:
  - Additional loads of 40 million kWh/year or more can be added
  - Those additional loads pay the City for the use of the distribution system in delivering Project power
    - Such payments would decrease Project economics to the additional loads

Summary of Results – Combined Systems

- Includes a $0.03/kWh fee imposed by the City which escalates at 0.75%/year

Combined Project Savings (City and Self-Generators)

Scenario	Loads	Project Size	Fuel Forecast	Operational Year 1	2	3	4	5	10	15	20
				2024	2025	2026	2027	2028	2033	2038	2043
				Combined Project Savings (000)							
1	City Only	16	Nymex	$ (7,945)	$ (7,805)	$ (7,656)	$ (7,243)	$ (6,817)	$ (5,883)	$ (5,182)	$ (4,398)
			EIA	(6,923)	(6,813)	(6,700)	(6,334)	(5,954)	(4,975)	(4,167)	(3,264)
2	100 million kWh	30	Nymex	(3,580)	(3,143)	(2,681)	(1,929)	(1,159)	1,045	3,053	5,297
			EIA	(555)	(207)	149	763	1,396	3,732	6,056	8,654
3	100 million kWh	26	Nymex	(2,480)	(2,043)	(1,581)	(829)	(59)	2,145	4,153	6,397
			EIA	545	893	1,249	1,863	2,496	4,832	7,156	9,754
4	82 million kWh	30	Nymex	(6,211)	(5,865)	(5,500)	(4,853)	(4,189)	(2,376)	(771)	1,024
			EIA	(3,807)	(3,532)	(3,251)	(2,713)	(2,158)	(241)	1,616	3,692
5	City Only	30	Nymex	(12,350)	(12,217)	(12,077)	(11,675)	(11,258)	(10,359)	(9,693)	(8,948)
			EIA	(11,394)	(11,290)	(11,183)	(10,824)	(10,451)	(9,510)	(8,744)	(7,887)

Increase (Decrease) to City Rates

Scenario	Loads	Project Size	Fuel Forecast	Operational Year 1 — 2024	2 — 2025	3 — 2026	4 — 2027	5 — 2028	10 — 2033	15 — 2038	20 — 2043
				Increase (Decrease) to Retail Rate ($/kWh)							
1	City Only	16	Nymex	$ 0.199	$ 0.195	$ 0.191	$ 0.181	$ 0.170	$ 0.147	$ 0.130	$ 0.110
			EIA	$ 0.173	$ 0.170	$ 0.167	$ 0.158	$ 0.149	$ 0.124	$ 0.104	$ 0.082
2	100 million kWh	30	Nymex	$ 0.021	$ 0.017	$ 0.013	$ 0.002	$ (0.009)	$ (0.034)	$ (0.054)	$ (0.075)
			EIA	$ (0.005)	$ (0.008)	$ (0.011)	$ (0.021)	$ (0.031)	$ (0.057)	$ (0.079)	$ (0.103)
3	100 million kWh	26	Nymex	$ 0.009	$ 0.006	$ 0.001	$ (0.009)	$ (0.020)	$ (0.045)	$ (0.065)	$ (0.086)
			EIA	$ (0.016)	$ (0.019)	$ (0.022)	$ (0.032)	$ (0.042)	$ (0.068)	$ (0.090)	$ (0.115)
4	82 million kWh	30	Nymex	$ 0.070	$ 0.066	$ 0.062	$ 0.051	$ 0.041	$ 0.016	$ (0.003)	$ (0.024)
			EIA	$ 0.044	$ 0.041	$ 0.038	$ 0.029	$ 0.019	$ (0.007)	$ (0.028)	$ (0.052)
5	City Only	30	Nymex	$ 0.303	$ 0.300	$ 0.296	$ 0.286	$ 0.275	$ 0.252	$ 0.234	$ 0.214
			EIA	$ 0.278	$ 0.275	$ 0.272	$ 0.263	$ 0.253	$ 0.229	$ 0.209	$ 0.186

Breakeven Price of Fuel

Scenario	Loads	Project Size	Fuel Forecast	Operational Year 1	2	3	4	5	10	15	20
				2024	2025	2026	2027	2028	2033	2038	2043
				Breakeven Fuel Price ($/gallon)							
1	City Only	16		$ 5.24	$ 5.23	$ 5.23	$ 5.11	$ 4.98	$ 4.80	$ 4.73	$ 4.64
2	100 million kWh	30		$ 2.15	$ 2.14	$ 2.13	$ 2.08	$ 2.04	$ 1.94	$ 1.88	$ 1.80
3	100 million kWh	26		$ 1.98	$ 1.97	$ 1.96	$ 1.91	$ 1.87	$ 1.77	$ 1.70	$ 1.63
4	82 million kWh	30		$ 2.80	$ 2.80	$ 2.79	$ 2.73	$ 2.67	$ 2.56	$ 2.50	$ 2.43
5	City Only	30		$ 7.65	$ 7.64	$ 7.64	$ 7.51	$ 7.38	$ 7.18	$ 7.10	$ 7.01

Take-Aways

- Participation by self-generators required
- Decreases in City rates shown for Scenarios 2 – 4 are based on City charging for distribution system use.
  - This reduces benefits to self-generator, sometimes to the point where the Project no longer shows benefits to the self-generator
- Negotiating agreements with self-generators will take several months
  - Convincing them it is economic (if it is)
  - Spinning reserve responsibilities/costs
  - Installed reserve responsibilities/costs
  - Approvals

- Potential Risks
  - Project built, oil prices stay below breakeven price
  - City backstops self-generator loads and those loads decrease in the future
  - Project built for loads that do not materialize

- Potential Benefits
  - Cost savings if oil prices consistently above breakeven price
  - More stable cost of power
  - Reduced oil consumption

Paths Forward

1. No further work at this time
2. Work in alignment with OCCP in developing agreements, etc.
   a. Council should indicate to staff what risk tolerance is (loads, costs, etc.)
3. Request OCCP for a lower rate to reflect Purchasers' (City and self-generators) low cost of fuel and Seller's (OCCP) low cost of capital
4. Sign Power Purchase Agreement now in hopes of securing more loads in near future

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MEMORANDUM

TO: **Erin Reinders**

FROM: **Brooks W. Chandler**

DATE: **June 17, 2020**

SUBJECT: **Non-Recourse Financing**

You asked us to examine whether the potential availability of non-recourse financing to OCCP for construction of a geothermal power plant would reduce the City's legal risk in entering into a fixed price thirty year contract to purchase electricity from OCCP. The answer is NO given the current proposed language of the PPA as explained in greater detail below.

Non-Recourse Financing

Non-recourse financing is a type of commercial lending that limits the legal remedies available to the lender in the case of a default. The City has been told OCCP has access to non-recourse financing but has not been provided information as to how the prospective lender would limit its remedies should OCCP default on the loan.

One standard limitation is for a lender to agree that the only source for loan repayment would be the revenues generated by the project. Another possible limitation would be for the lender to agree to secure the loan only with a deed of trust against the plant and the real estate on which it is constructed and to not pursue other assets either of OCCP or the members of OCCP i.e. no personal guarantees. In either case, the city should anticipate that any PPA it signed with OCCP would be assigned to the lender as collateral for the loan. If the PPA is assigned to the lender as collateral, should OCCP default the lender would step into OCCP's shoes and be able to enforce the terms of the PPA against the City and apply that money to reduce the balance owed on the loan.

PPA Obligation of the City

The current draft of the PPA obligates the City to make a fixed payment to OCCP each year for 30 years. Like a mortgage except what is being bought is electricity not real estate. There is no "non-recourse" provision in the PPA. Everything owned by Unalaska- all the city's money; all the city's physical assets is "at risk". If the City failed to make the payments as promised OCCP would be able to obtain a judgment against the City equal to what OCCP was owed and collect that judgment from any available city funds. The City's obligation to pay OCCP under the PPA is not impacted by OCCP's non-recourse financing.

Best Case Scenario

There is one scenario in which risk to the City is potentially impacted by OCCP's non-recourse financing. The City's obligation to pay OCCP for electricity depends on OCCP actually producing electricity. It is theoretically possible that the City's failure to pay OCCP could result in OCCP shutting down the power plant and then defaulting on its loan. In order to continue to generate annual payments from the City the lender would then be obligated to take over operation of the plant (most likely by hiring a third party operator) and continue to generate electricity. If the lender failed to do that the City would be able to claim it was no longer obligated to make the annual payments because no electricity was being produced.

But the lender would have a fairly strong argument that the City's original failure to make payments is what caused the plant to shut down thereby prohibiting the City from using the shutdown of the plant as an excuse for non-payment. Needless to say- the resulting legal mess would take years to resolve with a strong likelihood of an unfavorable outcome for the City. This "best case" scenario should not be considered to significantly reduce the risk to the City of a thirty year commitment to OCCP.

Conclusion

A decision on whether to approve a 30 year contract to buy electricity should not be based on an assumption the city could "get out of" the contract if it did not need or was unable to resell all the electricity it promised to buy. Instead, the decision must be based on how much money the city is obligated to pay by the terms of the contract as written, an assessment of the likelihood the city would be able to use or sell all the electricity it is obligated to purchase and an assessment of the risk to city finances if the city was unable to do so.

CITY OF UNALASKA
UNALASKA, ALASKA

RESOLUTION 2020-42

ESTABLISHING THE SUM TO BE MADE AVAILABLE FOR THE FIRST DISTRIBUTION UNDER THE UNALASKA CARES GRANT PROGRAM FOR LOCAL BUSINESSES AND NON-PROFIT ORGANIZATIONS EXPERIENCING NEGATIVE ECONOMIC IMPACT DUE TO COVID-19

WHEREAS, the City of Unalaska adopted Resolution 2020-37 on May 26, 2020, accepting Coronavirus Relief Funds made available by the Department of the Treasury to the State of Alaska, to be passed through to the City of Unalaska through the CARES Act; and

WHEREAS, the City of Unalaska wishes to provide financial aid to qualifying non-profit organizations and commercial businesses in Unalaska that have been negatively impacted by COVID-19; and

WHEREAS, the City of Unalaska requested preliminary applications from non-profit organizations and commercial businesses seeking funds from the Unalaska Cares Grant Program for local businesses and non-profit organizations; and

WHEREAS, the City of Unalaska's online application portal opened on June 17 at 8:00 a.m. and closed at June 22 at noon, to provide time for staff to review and summarize applications in time for the City Council meeting on Tuesday, June 23; and

WHEREAS, staff reviewed all applications received during the pre-application process and is providing a summary of those applications, including a recommendation for funding by qualified and eligible applicants, to be presented at the June 23 City Council meeting; and

WHEREAS, the City Council is approving preliminary funding in the amount of $_____ for the first distribution under the Unalaska Cares Grant Program for local businesses and non-profit organizations who submitted applications, distributed according to this Resolution.

NOW THEREFORE BE IT RESOLVED that the Unalaska City Council approves distribution of funding to the following applicants in the amount designated:

Unalaska Cares Grant Applicant	**Amount**
Business or NPO Name	$_____
Business or NPO Name	$_____
Business or NPO Name	$_____
Business or NPO Name	$_____
Business or NPO Name	$_____
Business or NPO Name	$_____
Business or NPO Name	$_____

PASSED AND ADOPTED by a duly constituted quorum of the Unalaska City Council on June 23, 2020.

_____
Vincent M. Tutiakoff, Sr.
Mayor

ATTEST:

_____
Marjie Veeder, CMC
City Clerk

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Jim Sharpe, Interim Finance Director
Through: Erin Reinders, City Manager
Date: June 23, 2020
Re: CARES Act Overview - Update

SUMMARY: The City of Unalaska is receiving CARES Act funding, of which $5,477,777 was received in early June. The staff team continues to work diligently to develop a responsible spending plan. Tonight, the team will provide additional information regarding the Act, provide an update regarding the spending plan and report on grant applications received to date.

PREVIOUS COUNCIL ACTION: City Council approved Resolution 2020-37 entering into an agreement with the State of Alaska to receive CARES Act funding. At their June 9, 2020 Council meeting, Council called for a Special Meeting on June 15, 2020 to discuss the CARES Act and requested City Staff to solicit applications from local businesses and non-profits and report back at the June 23, 2020 regularly scheduled meeting.

BACKGROUND: The City will to receive up to $13,453,952 in CARES Act monies from the Federal Government, passed through the State of Alaska.

A team of staff have been assembled to gain a better understanding of the CARES Act and also develop parameters on how the monies received can be utilized to meet the needs of the City and in the future. In essence, the CARES Act guidance indicates funds should be used for the following purposes:

- Provide grant funding to City residents, businesses and not-for-profits negatively impacted by COVID-19 (Grants)
- Cover the cost associated with the City's response to the Pandemic (Response)
- Cover costs associated with the prevention and anticipation of future COVID-19 related outbreaks (Prevention)

DISCUSSION: As a result of internal meetings and research, the following items, including amount and percentage of total budget, are proposed:

Grants – Planning Director, Bil Homka will provide an update regarding applications received to date and seek guidance going forward with respect to grant program parameters, will be the focus of tonight's discussion.

- Grants to local not-for-profits
- Grants to local businesses

Response – The City of Unalaska has incurred, and will continue to incur expenses associated with responding to this public health emergency, and these funds will address those expenses.

- Public Safety personnel costs from March 27, 2020 through December 30, 2020 – the Act allows for personnel costs for all public safety personnel (police and fire) to be paid from the grant; currently, it is our expectation that amounts will be spent in other areas that the full amount of these costs ($5,000,000) will not be covered by the CARES Act

- Personnel costs associated with response – these costs include re-deploying staff to address COVID-19 related tasks (i.e. food program development, quarantine site preparation) and staying home to limit the amount of close contact and reduce the potential spread of COVID-19

- Goods and services costs associated with response – these costs include, but are not limited to, cleaning supplies, plexiglass to protect employees and residents in situations when proper social distancing cannot be maintained

- Improved technology so employees can work from home – this area is a critical piece of the City's response as well as prevention going forward

    - Increased bandwidth to improve ability for employees to effectively work remotely.

    - Improved remote network connectivity allowing employees to work from home, reducing foot traffic in City Hall in prevention of future outbreaks

- Emergency Support to Clinic – already provided in April 2020

- Cancel library construction contract

- Increased legal and insurance costs; currently, these are estimated at $50,000 combined

- Preparation of and continued cleaning of the quarantine site

- Stretchers for EMS – EMS purchased new power packs for existing stretchers (approximately 10-15 years old) in early FY 2020; however, due to COVID-19, the technician was not able to travel to Unalaska to install them; the power packs were essentially a band aid as the remaining stretcher components had reached the end of their useful life; the new stretchers will allow bariatric patients, which was not possible previously.

Prevention – The City of Unalaska provides essential services to the community as a whole. This funding will help to ensure the health and safety of our workforce so that we can continue meeting the needs of the community moving forward.

- Improved bandwidth so employees can effectively work from home – the goal is to reduce exposure to employees through interactions with fellow employees in close quarters

- Backup generators for certain public buildings – continued electrical service is critical to operate technology within public buildings; loss of power when employees are on-site and working remotely (in the case of a health crisis, for example) would prohibit an employee to effectively complete their job tasks

- Replace old and outdated first responder radio equipment – the current equipment is approximately 15 years old and, while it remains functional, does not meet current

regulatory requirements. Without proper and reliable communication equipment, the City's ability to properly respond to any public health emergency in the future is severely hampered.

- Install cardlock system in City buildings to reduce foot traffic, manage access, and mitigate the impact of future outbreaks

- Improve Council Chambers to better allow for social distancing – New/updated software, hardware, microphones, audio and visual systems, and speakers would reduce the requirement for community members to be physically present to attend Council Meetings thus reducing exposure and risk of contamination in the future

- Improve airflow and air cleaning in City buildings – Improved airflow and filtration will help prevent/reduce the spread of any future airborne illness

- Update and improve the City's Emergency Operations Center – The layout and current use of the Public Safety building does not properly allow for social distancing; in the event of any future health crises the current design increases the risk that staff will be exposed to undue risk; it will also allow for updated equipment, which is currently out of date (radio and computers)

- Engineering designs of the new Public Safety Building – The layout and current use of the Public Safety building does not properly allow for social distancing; in the event of any future health crises the current design increases the risk that staff will be exposed to undue risk; a new building will allow for more appropriate distancing and employee segregation

- Engineering designs in converting public safety building to Fire only – The layout and current use of the Public Safety building does not properly allow for social distancing; in the event of any future health crises the current design increases the risk that staff will be exposed to undue risk

ALTERNATIVES: A vast number of alternatives exist, but spending would need to be done in accordance with the Treasury Guidelines. Staff is open to feedback.

All spending must be completed prior to December 30, 2020 and certain items above require lead time for completion; therefore, staff requests that a special Council Meeting (work session only) be held in order to discuss the items above.

CITY MANAGER COMMENTS: Thank you for this opportunity to discuss this important and complex issue. Staff requests your feedback and direction on the CARES Act spending and how local businesses and non-profit organizations might be supported in these challenging times.

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: William Homka, Planning Director
Through: Erin Reinders, City Manager
Date: June 23, 2020
Re: Resolution 2020-42: Establishing the sum to be made available for the first distribution under the Unalaska CARES Grant Program for local businesses and non-profit organizations experiencing negative economic impact due to COVID-19.

SUMMARY: The City is eligible to receive up to $13,453,952 in CARES Act monies from the Federal Government and has received over $5 million thus far. Among other things, the City can use money received from the CARES Act to financially assist local nonprofits and businesses impacted by COVID-19.

PREVIOUS COUNCIL ACTION: On May 26, 2020, Council approved Resolution 2020-37 authorizing the City Manager to sign a Grant Agreement with the State of Alaska DCCED and accepting Coronavirus Relief Funds. On June 15, 2020, Council held a special meeting to discuss CARES Act funding and ways it can be used to assist local non-profits and businesses.

BACKGROUND: On March 27, 2020 Congress passed the federal act known as the Coronavirus Aid Relief and Economic Security Act (CARES Act). Section 601 of this Act established the Coronavirus Relief Fund (CRF) with the stated purpose of distributing $150,000,000,000 to states for "necessary expenditures incurred due to the public health emergency with respect to the Coronavirus Disease 2019 (COVID-19)".

The State of Alaska subsequently announced it would distribute CARES Act money to communities throughout the state, and proposed Unalaska would receive $13,453,952. The money can be used for COVID-19 related expenses or damages resulting from responding to the disease, preparing for the disease, and for lost revenues and income streams caused to non-profits and businesses as a result of COVID.

DISCUSSION: At its meeting on June 15, 2020 Council decided to seek applications from Unalaska non-profit organizations and businesses to assist in its determination about how to best use CARES Act funding. The funds are unique because a broad range of uses are eligible as long as they relate to COVID-19. Many non-profits and businesses were negatively impacted by measures implemented by state and local emergency declarations starting around March 17, 2020. Some declarations effectively closed, minimized or cancelled various fundraising and commercial activities which created financial hardships for affected businesses and non-profit organizations.

City Council wanted to establish a method to quickly respond to severely impacted businesses and organizations. The Planning Department committed to develop an on-line application portal to expedite pre-applications for CARES Act funds so that City Council could review applications at the next meeting on June 23, 2020.

Applications submitted to the Unalaska Cares Grant Program pre-application portal have been summarized and presented by the Planning Department. Exhibit A will be provided at the City Council meeting with detailed information about the applications including the applicant name, requested amount, and a description of the request. The Planning Department will also include a recommendation of whether the applications are eligible for funding according to the CARES Act eligible uses provided from the State of Alaska and the U.S. Treasury Department.

ALTERNATIVES: City Council can choose to fund all, some or none of the applications received via the Pre-Application process.

FINANCIAL IMPLICATIONS: Whatever amount the City Council chooses to fund the Pre-Applications will be subtracted from the total amount available to the City for other eligible COVID related purposes.

STAFF RECOMMENDATION: See Exhibit A to be provided at the City Council meeting.

PROPOSED MOTION: An initial motion to adoption Resolution 2020-42 should be made. After discussion, it is anticipated that a motion to amend will be made, to insert a total amount for the first grant distribution, with names of receiving entities and corresponding grant amounts.

CITY MANAGER COMMENTS: Thank you to the Planning team for their hard work on this. Creating a new grant program from scratch is a complex undertaking. We look forward to addressing the need of local businesses and non-profit organizations in these challenging times.

CITY OF UNALASKA
UNALASKA, ALASKA

RESOLUTION 2020-41

A RESOLUTION OF THE UNALASKA CITY COUNCIL CONTINUING MEASURES TO PROTECT PUBLIC HEALTH

WHEREAS, the COVID-19 pandemic has generated a public health emergency that threatens to overwhelm the City of Unalaska health system and economy of our community, endangering the lives and wellbeing of our citizens; and

WHEREAS, on March 11, 2020, the World Health Organization ("WHO") declared the virus a pandemic; and

WHEREAS, on March 11, 2020, the State of Alaska declared a public health emergency in response to the anticipated outbreak of the virus in Alaska and Governor Dunleavy has implemented several health mandates such as the closure of schools, services and businesses to help reduce the spread of COVID-19; and

WHEREAS, on March 13, 2020, President Donald J. Trump declared a national emergency in response to the virus pandemic; and

WHEREAS, on March 15, 2020, Mayor Vincent M. Tutiakoff, Sr. declared a local emergency in the City of Unalaska, authorizing the City Manager to take necessary actions to reduce the impact and spread of the coronavirus known as COVID-19 through the City of Unalaska; and

WHEREAS, on March 18, 2020, the Unalaska City Council passed Resolution 2020-16, declaring a local emergency to remain in effect for so long as the declaration of a Public Health Disaster in the State of Alaska Remains in effect; and

WHEREAS, on March 24, 2020, the Unalaska City Council passed Resolution 2020-17, requiring certain quarantine measures, closing non-essential businesses and requiring that residents "hunker down" and stay at home as much as possible; and

WHEREAS, that order expired automatically, by its terms on April 15, 2020; and

WHEREAS, on April 14, 2020, the Unalaska City Council passed Resolution 2020-19, extending the requirements in Resolution 2020-17 and instituting additional measures to protect the public health; and

WHEREAS, that order expired automatically, by its terms on April 29, 2020; and

WHEREAS, on April 28, 2020, the Unalaska City Council passed Resolution 2020-25, extending the requirements that apply locally to protect the public health; and

WHEREAS, that order expired automatically, by its terms on May 13, 2020; and

WHEREAS, on May 12, 2020, the Unalaska City Council passed Resolution 2020-34, extending certain requirements that apply locally to protect the public health; and

WHEREAS, that order expired automatically, by its terms on May 27, 2020; and

WHEREAS, on May 26, 2020, the Unalaska City Council passed Resolution 2020-36, extending certain requirements that apply locally to protect the public health; and

WHEREAS, that order expired automatically, by its terms on June 10, 2020; and

WHEREAS, on June 9, 2020, the Unalaska City Council passed Resolution 2020-38, extending certain requirements that apply locally to protect the public health; and

WHEREAS, that order expires automatically, by its terms on June 24, 2020; and

WHEREAS, as of June 19, 2020, there were 722 cumulative known COVID-19 cases in the state, including a travel-related case in Bethel, and cases in Nome, and Kotzebue, all geographically isolated, rural communities; and

WHEREAS, there have been cases of seasonal non-resident workers, such as in Cordova and Dillingham, which have not been counted toward state totals, and which have been effectively contained due to effective quarantine measures; and

WHEREAS, as of June 19, 2020, there were 8 known positive test results in the City of Unalaska; and

WHEREAS, COVID-19 continues to pose a grave and imminent threat to the health, safety, order and welfare to the residents of the City; and

WHEREAS, on April 3, 2020, the Center for Disease Control (CDC) recommended everyone wear a cloth face covering when in public settings where other social distancing measures are difficult to maintain; and

WHEREAS, local health officials have advised that in addition to practicing social distancing and staying at home as much as possible, additional measures that include the covering of an individual's nose and mouth will prevent asymptomatic individuals with COVID-19 from unknowingly spreading the disease; and

WHEREAS, local health officials have advised that stronger protective measures are required given Unalaska’s remoteness, lack of road access to the mainland, and the fact that the majority of our community’s businesses are designated as essential, critical or support critical infrastructure; and

WHEREAS, local health officials have advised that stronger protective measures are required to conserve limited local healthcare resources, as they strive meet the needs of all community members and essential workforce employees; and

WHEREAS, this resolution shall have the same effect as a rule issued by the City Manager pursuant to Unalaska Code of Ordinances §2.96.040.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL:

1. **Governor Mandates.** Everyone in the City must follow all health mandates issued by Governor Dunleavy, the Alaska Department of Health and Social Services (DHSS), and the Centers for Disease Control (CDC).

2. **CDC Guidance.** It is strongly recommended, in accordance with CDC guidance, that certain individuals within the City should take even greater precautions:

a. Anyone particularly at-risk from COVID-19 should reduce exposure by staying at home, not physically going to work, and not doing their own shopping if possible. People particularly at risk of complications from COVID-19 include those 60 years and older and individuals of any age with a serious underlying medical condition. Household members of those who are at elevated risk should implement these more stringent guidelines as well, to the extent possible.

b. Anyone more likely to be contagious with COVID-19 should not leave home except to obtain medical care or to get fresh air. People who are more likely to be contagious include individuals exhibiting symptoms of COVID-19, including coughing, shortness of breath, and fever.

3. **Social Distancing.** Everyone currently in the City of Unalaska (the "City") has the personal responsibly to limit the number of contacts with individuals outside their household. Limited activity outside of the residence is recommended. When leaving their residence, individuals should continue to follow state mandates and maintain social distancing of at least six feet from any person outside their household, whenever possible. Individuals are also encouraged to practice recommended hygiene, including regular hand washing.

4. **Face Coverings.** All customers and visitors of businesses and organizations that are open and operating must wear face masks covering their nose and mouth to provide additional protection for employees and customers. The face coverings need not be medical-grade masks or N95 respirators, but can be cloth face coverings. Face masks may be temporarily removed as necessary and incidental to utilizing the business or service.

A cloth face covering is a material that covers the nose and mouth. It can be secured to the head with ties or straps or simply wrapped around the lower face. It can be made of a variety of materials, such as cotton, silk, or linen. A cloth face covering may be factory-made or sewn by hand, or can be improvised from household items such as scarfs, T-shirts, sweatshirts or towels.

A business owner or operator may refuse admission or service to any individual who fails to wear a face covering as required by this resolution.

5. **Traveler Quarantine.** A person traveling into the City of Unalaska by vessel or airplane must self-quarantine for 14 days upon arriving at their destination and monitor for symptoms of illness. During travel and following the quarantine period, adherence to CDC guidance, State of Alaska mandates, and local orders or resolutions is required. This includes appropriate social distancing measures and adherence to face covering requirements. People traveling for critical business purposes are required to follow all State of Alaska health mandates including complying with their approved state plans.

a. Critical workforce employees must self-quarantine immediately upon arrival unless their employer has filed the required protocol with the City as required at paragraph 6.

b. All workers under the critical workforce exception are required to self-quarantine during non-work hours within the 14 day time period.

c. Patients or travelers whose final destination is not Unalaska/Dutch Harbor are required to self-quarantine during their stopover in Unalaska/Dutch Harbor, but not remain here for the entire 14 day time period. This includes, but is not limited to, air travel.

d. Anyone who is required to self-quarantine must adhere to the following:

    1) You may leave your designated quarantine location only for medical emergencies or to seek medical care.

    2) Do not visit any public spaces, including, but not limited to stores, pools, meeting rooms, fitness centers or restaurants.

    3) Do not allow visitors in or out of your designated quarantine location other than a physician, healthcare provider, or individual authorized to enter the designated quarantine location by Unified Command.

    4) Comply with all rules or protocols related to your quarantine as set forth by your hotel or rented lodging.

    5) If you are required to self-quarantine and there are other individuals in your residence, hotel room, or rented lodging, you are required to comply with social distancing guidelines, sanitize regularly touched surfaces, and follow CDC best practices for hand washing.

6. **Essential Services/Critical Infrastructure State Protocols.** Businesses identified as "essential services" or as "critical infrastructure" and operating in the City shall submit all protocols or plans required by State of Alaska Health Mandates to the Unalaska Department of Public Safety. These plans are to be submitted as soon as possible after filing these protocols or plans with the State of Alaska and regardless of whether the State review of those protocols or plans has been completed. Businesses shall also provide the City confirmation of the State's approval of its plan or protocol no more than three days after receiving such approval. In the event a business plan or protocol requires amendment or is rejected by the State, the business submitting that plan or protocol must notify the City no more than 48 hours after receiving the State's notification of deficiency. Such businesses shall submit their plans, protocols, or relevant notifications to the City of Unalaska by email to COVID19PLANS@ci.unalaska.ak.us. The definitions of "essential services" and "critical infrastructure" may be found in the Alaska Essential Services and Critical Workforce Order, Amended May 5, 2020. The plan submission requirements and definitions in the May 5 Order apply to businesses doing business in Unalaska regardless of any modifications or revocations of the Order or Health Mandates 10, 10.1 or 18.

7. **Business COVID-19 Protection Measures and Protocols**. All businesses and organizations open and operating within the City shall comply with all relevant State of Alaska Health Mandates. All businesses and organizations which are open to members of the public at a physical location within the City, shall post "COVID-19 Protection Measures and Procedures"

on all entrances to and exits from the business. The “COVID-19 Protection Measures and Procedures” shall include, at minimum:

a. The sanitation measures taken by the business or organization to prevent the spread of COVID-19.

b. The social distancing measures taken by the business or organization to prevent the spread of COVID-19.

c. The description of a process for obtaining goods or services from the business or organization without entering the business, if such a process is at all feasible.

d. A contact number for individuals to report any violations of these measures to the owner or designee.

e. Clearly state that any person with symptoms consistent with COVID-19 may not enter the premises.

f. Shuttles, van services and taxis shall clearly state that the total number of passengers shall be limited to three.

A “business” for purposes of this rule does not include state, federal or municipal government operations or facilities.

This resolution shall expire on July 15, 2020. The City Council may extend it as necessary, or the City Manager may extend it or amend it pursuant to the emergency management powers under Unalaska Code of Ordinances § 2.96 and Resolution 2020-16.

Violation of this resolution is punishable as a misdemeanor under Unalaska Code of Ordinances § 2.96.090 and is a Public Nuisance, subject to the remedies in Unalaska Code of Ordinances, Title 11, Chapter 8, including prosecution as a minor offense.

Effective Date. This resolution shall be effective noon on June 24, 2020.

PASSED AND ADOPTED by a duly constituted quorum of the Unalaska City Council on June 23, 2020.

_____
Vincent M. Tutiakoff, Sr.
Mayor

ATTEST:

_____
Marjie Veeder, CMC
City Clerk

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Erin Reinders, City Manager
Date: June 23, 2020
Re: Resolution 2020-41 Continuing Measures to Protect Public Health

PREVIOUS COUNCIL ACTION: Council approved Resolution 2020-17 on March 24, 2020. The focus of Resolution 2020-17 was on hunkering down, traveler quarantine and the closure of non-essential businesses. The resolution expired April 15. The date was set so that Council could reconsider the action at the April 14 Council Meeting.

Council approved Resolution 2020-19 on April 14, extending and clarifying the orders outlined in Resolution 2020-17, and instituted additional measures protecting the public health. The resolution expired April 29, 2020. The date was set so that Council could reconsider the action at the April 28 Council Meeting.

Council approved Resolution 2020-25 on April 28, extending the orders in Resolution 2020-19. This resolution expired May 13, 2020. The date was set so that Council could reconsider the action at the May 12 Council Meeting.

Council approved Resolution 2020-34 on May 12, extending the orders in Resolution 2020-25 and replacing the "Hunker Down" section with a "Social Distancing" section. This resolution expired May 27, 2020. The date was set so that Council could reconsider the action at the May 26 Council Meeting. Also on May 12, Council discussed the topic of Cruise Ships and passengers of the Alaska Marine Highway System.

Council approved Resolution 2020-36 on May 26, extending and clarifying the orders in Resolution 2020-34 and specifically addressing the Alaska Marine Highway System. This resolution expired June 10, 2020. The date was set so that Council could reconsider the action at the June 9 Council Meeting.

Council approved Resolution 2020-38 on June 9, extending and clarifying the orders the orders in Resolution 2020-36 and removed reference to the Alaska Marine Highway System. This resolution expires June 24, 2020. The date was set so that Council could reconsider the action at the June 23 Council Meeting.

BACKGROUND: The nation, State and our City are in a state of emergency and in the midst of a public health crisis. New and updated State Mandates are coming out on a regular basis, and the State has eased back on a number of the state wide restrictions.

The state has significantly loosened restrictions in an effort to restart the economy, but State Health Mandates still provide protective requirements that apply locally. Of particular interest is Mandate 10.1, regarding traveler quarantine requirements that went into effect on June 6, 2020. It still contains a 14 day quarantine requirement for those coming in from out of state, but provides exceptions for people who provide negative SARS-CoV2 PCR tests, and for critical

workforce following an approved plan. Companies with workers deemed critical under the Alaska Essential Services and Critical Workforce Infrastructure Order who travel from out of state must remain subject to the Protective Plan requirements of State Health Mandate 10.1. A quarantine during nonworking hours is still required, even for critical workers. Health Mandate 10, Appendix 1 applies to all workers traveling into Alaska to work in a seafood processing plant, or onboard a processor or catcher-processor vessel. It provides six alternatives methods to quarantine, depending in part on whether the processing workers are shore-based or working on processor vessels. Appendix 1 contains detailed screening requirements for seafood processing workers, and also adopts by reference the CDC and OSHA requirements for Meat and Poultry Processing Workers and Employers.

Other State Health Mandates remain in effect as well. Health Mandate 15 regulates certain local healthcare practices. It contains detailed guidance as to certain types of procedures and types of practices. It requires “universal masking procedures” and other strict testing, screening and distancing measures to protect providers and patients.

Health Mandate 17 and Appendix 1 regulate independent commercial fishing vessels. Appendix 1 reiterates the 14 day quarantine requirement and outlines not just onboard conduct, but also contains a detailed list of requirements to limit interaction with the public at times when the fishing vessels are in communities. All fishing vessels should have a completed, signed acknowledgment of Health Mandate 17, which is found at Appendix 2.

Health Mandate 18 governs intrastate travel. As a community on the Alaska Marine Highway system, there is essentially no restriction on travel to Unalaska. The mandate does expressly allow communities to enact local travel restrictions, but the local restrictions cannot require automatic quarantine or measures that prevent travel for critical personal needs or conduct of essential services and critical infrastructure.

As with previous Council Resolutions addressing protective measures, Resolution 2020-41 addresses what is different locally from statewide mandates or additional protective measures specific to our community.

DISCUSSION: The proposed resolution is set expire July 15, 2020 but may be amended or extended as necessary, and will be revisited at the July 14, 2020 Council meeting.

The following items from previous resolutions remain in Resolution 2020-41, with the revisions noted:

- **Face Coverings** - Customers and visitors of businesses and organizations must wear a covering over their noses and mouth *(no change).*

- **14 Day Traveler Self Quarantine** - Individuals traveling into the City by vessel or airplane must self-quarantine, with limited exceptions *(no change).*

- **State Approved Plan Submittal -** Business that are required to submit plans to the State, must submit those to the City *(no change).*

- **Protective Protocols** - All business open to the public must post their basic measures to protect the public health on their doors *(no change).*

All along we have noted that the **14 Day Traveler Self Quarantine** is one of the most effective protective measures for our community. This remains so and is still supported by our local health care professionals. Given our unique location, limited access to urgent and long term health care facilities, and the fact that we have new positive cases on island, this protective measure is also supported by members of the local Unified Commend at this time. Although alternatives that incorporate testing and reduce the self-quarantine time period do exist, they are not as effective and would increase pressure for testing supplies and local medical capabilities.

Much as we experienced with the re-opening of businesses, the more we stray from State Mandates regarding the **14 Day Traveler Self Quarantine**, the more challenging the related messaging and implementation becomes. This not only adds to the City team's workload but potentially to the frustration, confusion and economic well-being of our local community members, even as this is action remains a key protective measure for our community. Our local Traveler Self Quarantine requirement is now not only in addition to the State Mandate but totally different from it. When the State had been requiring 14 days for out of state travelers, Council expanded that to include those traveling from in state as well. It should be noted that even when these measures are in place, there were numerous special exceptions to this requirement particularly as they apply to employees of essential services and critical infrastructure being allowed to work with protective measures in place during that 14 day time period. The fact is that the majority of our community's businesses are designated as essential, critical or support critical infrastructure. Those that actually have to follow the 14 day self-quarantine and not work are a limited few. This 14 day period then becomes particularly challenging for those just traveling to and from Anchorage for medical appointments and who do not currently fall under the Alaska Essential Services and Critical Workforce Infrastructure Order.

As we have discussed in the past, community outreach, education and voluntary compliance remain our primary means of enforcement and implementation of these resolutions outlining protective measures. In fact, these have been the primary tools throughout the State. One can recognize that as state reduces restrictions and as local protection measures are extended this voluntary compliance may become challenging. This resolution maintains wording that provided the ability for citations to be issued if necessary.

Based on the discussion at the June 9, 2020 Council Meeting, the Department of Public Safety patrol team met and discussed the importance of bolstering their response to COVID violations. As a result, they have expanded their educational COVID outreach, and increased their contact with the community in support of promoting compliance. City personnel continue to greet arriving flights, providing incoming passengers with written information about self-quarantine requirements, and answering questions in regard to our locally mandated protective measures. A violation hotline was established to receive and respond to complaints, and on call pay has been approved to ensure that callers get the opportunity to talk with an officer in person to address their concerns. These calls and other COVID complaints that are received through the dispatch center are promptly being followed up on with officer responses and intervention. In addition, officers have committed to and are making regular contacts with all observed face-mask violations, conducting business checks to ensure that businesses are complying with locally required COVID door postings, and checking to ensure that mitigation plans are on file in instances when complaints or investigations involve critical infrastructure components.

If Council wishes for more proactive enforcement methods, we can do that. We would ask for clear guidance on what is desired. Additional resources and personnel are required to proactively look for violations, and to issue and process citations. This is not without risks to our employees. In a time of vitally important national discussions regarding the role of policing in our

communities, putting our officers in this position should not be considered lightly. At the same time, supporting measures that protect the public heath are indeed a public safety concern.

In the end, it is about finding balance and identifying a sustainable approach for the community. At the same time, we must acknowledge that many of these protective measures need not be forever. It is ultimately up to the City Council to consider the health, economic, and societal impacts of these protective measures, and to adopt what you see as the best approach for our community.

ALTERNATIVES: Council may choose to approve, amend or disapprove this resolution.

In regards to local Traveler Self Quarantine, the following are additional alternatives for consideration or to generate discussion now and in the future:

1. Delete Section 5 altogether. The City would only be following state mandates in regard to quarantine and testing requirements.

2. Council may wish to leave the local 14 Day Traveler Self Quarantine (section 5) in the resolution. If City Council wants to then allow for essential day travels on the Alaska Marine Highway System, potential wording for a subsection to section 5 of the resolution is provided below. The next ferry is currently scheduled for July 18, following the next Council meeting.

   Alaska Marine Highway System day travelers obtaining essential goods or services in Unalaska are exempt from required self-quarantine during their stopover in Unalaska/Dutch Harbor, but they are to follow all other local orders and resolutions, and State mandates. Alaska Marine Highway System travelers arriving in Unalaska/Dutch Harbor as their final destination or who are transferring to air travel after arriving to Unalaska/Dutch Harbor must self-quarantine upon arrival.

3. Add a new sub-section to Section 5 to provide an alternative to the 14 day traveler self-quarantine. Potential additional wording is as follows:

   f. Self-quarantine may be reduced to 7 days, if upon arrival in Unalaska the traveler tests negative for COVID-19 and tests negative again at the end of the 7 day period.

4. Health Mandate 10.1 addressed International and Interstate Travel. Council could expand this locally to apply to intrastate travel as well. Without local rules, intrastate travel is governed by Health Mandate 18, which has little or no restriction on intrastate travel. Council could replace the current Section 5 with wording similar to what is provided below:

   Intrastate Travel. A person traveling from within the State of Alaska to Unalaska must self-quarantine for 14 days. An intrastate traveler to Unalaska may shorten the self-quarantine by meeting the SARS-CoV2 testing requirements in State Health Mandate 10.1, subsection a, b, or c. Those testing options are incorporated by reference for intrastate travel to Unalaska. Unalaska residents returning from trips of five days or less may shorten their quarantine by following the testing protocol in d.ii. of Health Mandate 10.1. The exception in Health

Mandate 10.1 for Critical Infrastructure employees also applies to intrastate travelers to Unalaska.

This section does not create redundant requirements for people traveling to Unalaska from out of state who have entered Alaska through Anchorage or other communities, and who are following State Health Mandate 10.1. It is intended to allow Alaskans to travel to Unalaska and potentially limit the fourteen day self-quarantine by following the procedures established in Health Mandate 10.1

FINANCIAL IMPLICATIONS: Unknown at this time.

LEGAL: This resolution, like all the other resolutions Council has considered during this pandemic, was drafted in close collaboration with Sam Severin, one of our City Attorneys. Mr. Severin plans to be on the line for any necessary discussion during the Council meeting.

STAFF RECOMMENDATION: With heavy consideration of our local health care professionals, the City Manager recommends approval.

PROPOSED MOTION: I move to approve Resolution 2020-41.

AML Summer Legislative Conference August 11-13 in Fairbanks

The Alaska Conference of Mayors (ACoM) and the Alaska Municipal League (AML) Summer Conference will take place August 11-13, 2020 in Fairbanks Alaska.

This event is planned as both a virtual and physical conference, taking into account those members who are interested in remote participation or who otherwise may not be able to attend an in-person meeting.

Virtual Participation: Virtual participation will feature a plenary Zoom opportunity, with the chat function enabled and some scheduled times to contribute virtually. Small group meetings will be built into the agenda and will also be organized to allow for participation by subject area. Portions of this conference will be televised on public TV, in cooperation with Gavel to Gavel/360 North.

Physical Participation: The hotel and conference venue will be the Wedgewood Resort in Fairbanks.

Hotel accommodations: Room blocks available at the Wedgewood Resort and Bear Lodge.

- For reservations call 907-456-3642, toll free 800-528-4916 or book online at www.foutainheadhotels.com
- Use group code: AML2020
- Rates/night: $154 – Does not include 8% bed tax. Additional guests in room are charged $10/person
- Reservations must be made by 07/27/2020, unreserved rooms will be released after this date.

Schedule for travel arrangements (Draft Agenda):

- Remote Seller Sales Tax commission - Tuesday, August 11 | 10 am – 12:00 pm
- Alaska Conference of Mayors - Tuesday, August 11 | 12 – 4:30 pm
- AML Legislative Conference - Wednesday, August 12 | 8:30 am - 4:30 pm & Thursday, August 13 | 8:30 am - 12:00 pm
- AML Board of Directors - Thursday, August 13 | 12:00 pm - 3:00 pm

Printable form: Summer 2020

For more information and online registration, visit our website at this link.

If you want to register now but not pay until FY21, select "please invoice" on the registration form and then email Shawn at shawn@akml.org or call the office, and he will wait until after July 1st to invoice you.

Draft

Alaska Municipal League Summer Legislative Conference
Fairbanks, Alaska ~ August 11-13, 2020
All meetings held at the Wedgewood Resort

Draft Agenda: The following is provided for planning purposes.

August 11 — Alaska Conference of Mayors - Summer Meeting

10am — **Remote Seller Sales Tax Commission**
- Status report and update

Noon — **Lunch and Speaker**
- Mayor **Bryce Ward**, Fairbanks North Star Borough
- Senator **Lisa Murkowski**, U.S. Senate (*to be invited*)

1pm — **Alaska Conference of Mayors – COVID and CARES Act**
- Response – success and challenges
- Implementation of CARES Act funded activities
- Recovery – service delivery and economic rebound

3pm — **Alaska Conference of Mayors – Legislative Priorities**
- Bills – changes needed to Statutes
- Budget – reductions and revenues

4:30pm — **Adjourn**

Dinner on your own

August 12 — Alaska Municipal League - Summer Legislative Conference

8:30am — **Welcome and Introductions**
- Mayor **Jim Matherly**, City of Fairbanks
- **Stu Graham**, President, Alaska Municipal League

9am — **Director's Update – Legislative Review**
- Nils Andreassen, Executive Director
- **Dianne Blumer** and **Heather Brakes**

10am — Break

10:30am — **District Priorities – Report from District Meetings**

Noon — **Lunch and Speaker**
- Governor **Mike Dunleavy**, State of Alaska (*to be invited*)

1pm — **Agency Collaboration**
- Office of the Governor

- DOT&PF
- DCCED
- DEC
- DF&G
- DHSS
- DOC
- DPS

4:30pm **Adjourn**

Outside Social Event – organized in collaboration with city and borough officials

August 13 Alaska Municipal League - Summer Legislative Conference

8:30am **Position Statement and Resolutions – small groups**

10am **Plenary Discussion and Prioritization**

11am **Closing Comments**

Noon **Lunch and AML Board Meeting**

3pm **Adjourn**

MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Michelle Price, Administrative Coordinator
Through: Erin Reinders, City Manager
Date: June 23, 2020
Re: Alaska Municipal League Summer Legislative Conference

The Alaska Municipal League will have its Annual Summer Legislative Conference on August 11-13, 2020 at the Wedgewood Resort in Fairbanks, Alaska.

This event is planned as both a virtual and physical conference, taking into account those members who are interested in remote participation or who otherwise may not be able to attend an in-person meeting.

Estimated travel costs for one traveler are:

Air Fare	$	1,585.00
Lodging in Fairbanks	$	616.00
Lodging in Anchorage	$	318.00
Vehicle Rental	$	350.00
Registration	$	150.00
Per Diem	$	750.00
TOTAL	$	3,769.00

As of June 17, 2020, the available funds in the Council travel budget is $16,053.71.

The Travel Policy for the Mayor and Council indicates that no more than three Council Members are to travel to the same meeting or conference; that travel to be conducted in the most direct and economic manner possible to accomplish City business; and that at least twenty-one days prior to an upcoming trip, the council will discuss the travel, identify the Council Members to travel, and approve the travel by motion.

February 10, 2020

To: City Clerk, City of Unalaska

From: Vincent M. Tutiakoff, Sr., Mayor, City of Unalaska

Regarding: Disclosure Statement

To Whom it May Concern:

I'm writing to you and the Council regarding my involvement as a City of Unalaska representative concerning the negotiations of a Power Purchase Agreement between the Ounalashka Corporation/Chena Power, LLC (OCCP) and the City of Unalaska.

I am a Shareholder of the Ounalashka Corporation (OC) and own 70 shares of OC stock representing 26,900 of the outstanding shares of OC stock. I am also a Director on the OC Board and also serve as OC's Chair. I do not receive a bonus as the Chair or Director of OC. The OC Board historically has declared a discretionary quarterly dividend, which I receive as an OC shareholder. I am also a Trustee and Beneficiary of the Ounalashka Settlement Trust, from which I receive quarterly distributions.

Although OC owns a majority of OCCP, I am neither a Director nor Officer of the OCCP.

As for fiduciary duty to the corporation, it is to protect the assets of the shareholders. As to the fiduciary duty to the city, it is as a resident and voter, I will vote for what is good for the city as a whole.

Vincent M. Tutiakoff Sr -2-10-2020

RECEIVED
FEB 10 ~~2019~~ 2020
BY: MVeeder

2/10/2020

Declaration of Financial Interest

Marjie,

I am writing this in response to Brooks regarding a potential conflict with the Makushin Geothermal project.

I am a shareholder of The Ounalashka Corporation (OC). I own 75.89 shares of stock.

I also sit on the board of directors of OC.

Ounalashka Corporation is the majority owner of Ounalashka Corporation/Chena Power LLC. (OCCP) of which I do not serve as a director.

OC has 26,900 outstanding shares of stock.

I do not receive any bonuses on the performance of OC.

Regarding my fiduciary duty and my belief in how I handle myself when the matter comes up.

When I am at a duly convened meeting of the City of Unalaska my fiduciary duty is to the City of Unalaska as a City Council member. I am one of six Council members

When I am at a duly convened meeting of The Ounalashka Corporation my fiduciary duty is to the shareholders of The Ounalashka Corporation. I am one of nine board members.

Dennis Robinson

TO: Unalaska City Clerk – Marjorie Veeder
FROM: Councilman David M. Gregory
DATE: February 19, 2020
REF: Declaration of Financial Interest

With respect to my involvement with the OC/CP LLC I offer the following.

I am an employee of The Ounalashka Corporation, my title is Lands Manager, I am a salaried employee.

My wife Okalena Patricia Lekanoff Gregory is a shareholder in the Corporation and owns 95 shares of OC Stock out of a total of 26,900 total shares available. She is also a Director on the OC Board.

My Son, James Gregory and my daughter Delores Gregory are both Shareholders who own 10 shares of OC stock each.

I work for the Ounalashka Corporation which is the majority owner of the OC/CP LLC developing the Makushin Geothermal Project.

As an employee of the Ounalashka Corporation I am eligible for an annual bonus and have received bonuses in the past from OC.

I regard my fiduciary duty to the City of Unalaska as my number One duty while sitting as a Council Member during Council Meetings. I am one of six members of the Unalaska City Council.

In my role of Lands Manager for OC I am called upon to provide support to the OC/CP LLC in the form of providing maps, Drone Imagery, exhibits and expertise on the use of OC lands.

I am not involved in any final decision making in either the OC/CP project or other OC projects.

David M Gregory

RECEIVED
FEB 19 ~~2019~~ 2020
BY: mveeder

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MEMORANDUM

TO: **Erin Reinders**
City Manager

FROM: **Brooks W. Chandler**
City Attorney

DATE: **November 25, 2019**

SUBJECT: **Geothermal Project Conflict of Interest**

At Mayor Tutiakoff's request, we have examined whether either his status as a shareholder or his role as chairman of the Ouhnalashka Corporation ("OC") creates a conflict of interest prohibiting his participation in Council consideration of matters pertaining to a geothermal project being pursued by Ounalashka/Chena Power, LLC ("the LLC") including a potential power purchase agreement between the LLC and the City. Based on our understanding of OC's involvement with the LLC, general information about the OC shareholder dividend program, the conflict of interest provisions of the Unalaska Code of Ordinances and relevant Alaska Supreme Court decisions on conflict of interest we have concluded no OC shareholder, employee or board member on the City Council including Mayor Tutiakoff has a disqualifying conflict of interest. However, because city code requires "declaration" of "any" financial interest a declaration should be made by the Mayor and Council members Gregory and Robinson prior to participating in council discussions about the project. This memorandum supplies the reasons for this recommendation.

FACTS.

The Unalaska City Council is being asked to support and will be asked to approve a negotiated contract for the purchase of energy from a geothermal power project ("the Project"). The Project will be developed and owned by the LLC. OC owns 51% of the LLC.

Should the LLC successfully develop the Project some of OC's LLC distributions would

potentially be added to the principal held in an OC fund called the Ounalashka Shareholder's Trust[1] ("OST"). Earnings from OST are distibuted to unit holders in the trust. The recently announced 2019 distribution was $19 per unit. Mayor Tutiakoff and council member Robinson are unit holders as is council member Gregory's wife. Future contributions to the Trust from OC's share of LLC profits are contingent on overall development and operating costs associated with the Project. They can fairly be described as speculative.

Council member Gregory is currently employed by OC at a middle management level. His pay may include an annual bonus based on how well OC performs financially. Council member Robinson is a member of the OC Board of Directors as is the Mayor. Members of the Board are not paid other than stipends for attendance at each board meeting. Board member payments are not tied to OC's annual profit.

There will be two types of anticipated city council action within the next three months: 1) issuing a general letter of support for the Project and; 2) a vote on whether to approve a power purchase agreement.

ANALYSIS.

Unalaska's conflict of interest ordinance applies both to City employees and elected officials. UCO 2.88.030(a) prohibits a City Council member from voting on any question in which the Council member "has a substantial financial interest".

A substantial financial interest in the making of "[a] contract" does not include being an employee of the person with whom the contract will be made where the "remuneration of employment will not be directly affected" by the contract. UCO 2.88.020(B)(1). Accordingly, a Council member who is an OC employee will have a substantial financial interest in the negotiated purchase of electricity from the LLC only if their OC salary is "directly affected" by the amount of profit OC will realize from the LLC. Any profit is likely years in the future. It is unlikely a bonus based on corporate income will be immediately impacted by a contract for the sale of power from the Project.

Owning shares in a company contracting with the City only constitutes a "substantial financial interest" when the council member owns more than 5% of the outstanding shares.

[1] Contributions to OST principal are generated from six other OC subsidiaries whose primary historical business has been real estate development and leasing (Aleutian Development Co, Dutch Harbor Aggregate, Dutch Harbor Development, FDOC, Inc., Little Brazil Corp. , Uknadax Corporation and OC Communications, Inc.). The amount of such contributions is not fixed in stone but is dependent on profitability from year to year.

UCO 2.88.020(B)(3)(b). Since OC only owns 51% of the LLC a council member would need to own more than 10% of the outstanding OC shares in order to have more than a 5% interest in the LLC. It is extremely unlikely OC share ownership constitutes a "substantial financial interest" in any contract between the City and the LLC[2]. However, as discussed below, all three city officials should declare a financial interest.

The conflict of interest ordinance anticipates a two step process. The first step is for the council member to "make known"; "any financial interest" the Council member has in a contract or matter being voted on. UCO 2.88.040(a). The second step is a determination by the city attorney regarding whether the council member may vote or participate[3] in the matter. UCO 2.88.040(c). Thus, the ordinance anticipates the city attorney making the determination regarding whether a declared financial interest is a "substantial" financial interest "direct or indirect".

The requirement of a "declaration" of a "substantial" financial interest is required by state law. AS 29.20.010. State law does not mandate declarations of "any" financial interest, but the City is free to have stricter conflict of interest requirement than the minimum requirements established by state law. Unalaska has chosen to do so. Any financial interest in a City Council action must be declared. This also extends to any financial interest the spouse of a City Council member has in a matter being considered by the City Council.

In our opinion, City Council members who are OC employees, and who have in the past received annual bonus payments based in part on OC's annual income or profit, have some financial interest in the purchase of electricity by the City from the LLC. Similarly, elected officials who are OC shareholders have "some" financial interest in the commercial success of the LLC.

For these reasons, OC employees or shareholders who are elected officials should declare the fact they are OC employees or shareholders, and also identify how frequently they have received bonus payments from OC based on OC's financial performance (OC employee), the

[2] It is our understanding that the "standard" number of OC shares held by those eligible to be OC shareholders is 100 shares. Shares can be acquired through inheritance or gift. Per the original articles of incorporation OC is authorized to issue up to 100,000 shares. We do not know if OC limits the total number of shares that may be held by any one eligible shareholder. As a practical matter it is virtually impossible for one individual to accumulate an ownership interest of 10% in OC.

[3] Participation includes a broader range of activities than voting. Participation would include discussions related to the proposed contract and the Project that occur at City Council meetings.

number of OC shares they own and the total number of issued OC shares (shareholders). This disclosure can be made orally at a public meeting or in writing directed to the City Clerk. Once the declarations have been made we can finalize the opinion required by UCO 2.88.040(C).

There is another issue related to the conflict of interest question. This involves the legal concept of fiduciary duty. Council members owe a fiduciary duty to Unalaska residents. OC board members owe a fiduciary duty to OC shareholders. In some instances what is in the best interest of OC shareholders (such as the LLC receiving a high price for electricity sold to the City) will not be in the best interest of city residents (who are customers of the city's electric utility). This is not addressed by city code provisions or Title 29. It is a matter for individual consideration of each official as to what is "right". Presumably the contract will be negotiated at arm's length and will result in an agreement being recommended for approval by city staff. Nevertheless, OC board members who also serve the public as elected officials will need to think long and hard as to whether there is a conflict in their fiduciary duties which requires them to request to be excused from voting on an LLC-City contract for purchase of energy from the Project.

If you, the Mayor or the City Council have any questions about this topic, please let me know.

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MEMORANDUM

TO: **Erin Reinders**
City Manager

FROM: **Brooks W. Chandler**
City Attorney

DATE: **March 5, 2020**

SUBJECT: **Geothermal Project Conflict of Interest Rulings**

We previously provided general advice on the above-referenced matter. (See November 22, 2019 memorandum). The background facts and analysis discussed in that memorandum will not be repeated here. In summary we recommended formal disclosures by Mayor Tutiakoff and two council members related to ownership of shares in and payments received from Ouhnalashka Corporation ("OC") whether as an employee or as a corporate director. In our opinion stock ownership and employment constituted a "financial interest" in a potential contract between the City and an LLC 51% of which is owned by OC. Those disclosures have been made and reviewed. The purpose of this memorandum is to provide the city attorney ruling required by UCO 2.88.040(C) as to whether the financial interest is a "substantial financial interest" precluding participation in discussions about a power purchase agreement and voting on whether to approve a power purchase agreement between the City and the LLC.

OC has a 51% ownership interest in an LLC which is proposing to sell geothermal power to the City. OC has 26,900 issued shares of stock. Mayor Tutiakoff owns 70 shares (.26% of the corporation). Council member Robinson owns 75.89 shares (.28% of the corporation). Council member Gregory's immediate family members own a total of 115 shares (.42% of the corporation). This ownership interest of less than one half of one percent is well below the 5% ownership threshold which city code defines as a "substantial financial interest" in a contract with the City. UCO 2.88.020(B)(3)(b). The Mayor and council members are not precluded from participation and voting on a power purchase agreement between the City and the LLC by

reason of stock ownership in OC.

Mayor Tutiakoff and council member Robinson are members of the OC Board of Directors. Mayor Tutiakoff serves as the chair of the OC Board. Neither the Chair nor Directors are paid by OC. Therefore there is no substantial financial interest in the potential power sales agreement resulting from serving on the OC board or as chairman of the board of directors. The Mayor and council member Robinson are not disqualified from participation and voting on a power purchase agreement between the City and the LLC by reason of their serving as members of the OC board of directors.

Council member Gregory is employed by OC as its lands manager. He is eligible for and has received annual bonus payments in addition to his regular salary. Neither his salary nor bonus payments are directly tied to the success of any particular OC investment, operation or project including the geothermal power project. Therefore by definition his employment by OC does not constitute a substantial financial interest in the geothermal project or potential power purchase agreement between the City and the LLC. UCO 2.88.020(B)(1)(no substantial financial interest unless salary payments "directly affected" by proposed contract).

Similarly, the fact OC pays discretionary dividends from general funds of the corporation does not constitute a disqualifying conflict of interest for either council member or the Mayor. Such dividend payments are not directly tied to the geothermal project. The theoretical possibility dividends could be increased by an unknown amount should the geothermal power project be profitable is not sufficent to establish a "substantial financial interest".

This ruling is specific to discussions of the potential purchase of geothermal power from the LLC including votes on whether to approve a power purchase agreement. This ruling does not mean that a ruling is required or if so what that ruling would be on any other matters coming before the city council involving OC.

If you, council member Robinson, council member Gregory or Mayor Tutiakoff have any questions regarding this ruling please let me know.