



City and Borough of Sitka

100 Lincoln Street • Sitka, Alaska 99835

MEMORANDUM

To: Mayor Paxton and Assembly Members
Keith Brady, Municipal Administrator

From: Bryan J. Bertacchi, Electric Utility Director

Cc: Brian Hanson, Municipal Attorney

Date: 2/4/2019

Subject: NSRAA Request for Additional Service

Executive Summary

NSRAA is a valued member of our Sitka Community and they have recently requested multiple additional services through the GPIP and CBS. At the same time, much concern exists in the community over electric rates and electric costs. Embedded within this new NSRAA request, is a subsidization by electric customers for NSRAA activities. The CBS, and specifically the Electric Department and its Customers, would benefit from clear direction on a number of key issues from the Assembly with regard to NSRAA. This new request, by NSRAA and through GPIP, should not be granted without resolution of these existing issues. These issues include but are not limited to:

1. **NSRAA has requested an additional 10CFS of water for a proposed new Hatchery at Sawmill Cove and has further proposed, through GPIP for Assembly approval, terms favorable to NSRAA and unfavorable to the Electric Customers.** This water could:
 - a. Not be supplied.
 - b. Be supplied from the Blue Lake powerhouse after-bay
 - c. Be supplied from the Blue Lake high pressure penstock system.

Supplying this water from the Blue Lake Powerhouse after-bay creates a 2.5:1 ratio improvement for electric production over the energy required to pump the water to industrial customers such as NSRAA but could still result in a loss of annual electric sales of approximately \$120,000. Alternatively, supply of this water from the high pressure penstock system will require up to \$590,000 per year in supplemental diesel generation. Either option of supplying water will create associated high costs and risks. Direction is needed from the Assembly as to how the risks and costs should be allocated.

- d. **Supplying NSRAA from the existing pressure penstock** will require up to \$590,000 per year in diesel generation costs which will be, under existing city code, billed to the electric ratepayers as an additional surcharge above the current electric rates (see SGC 15.01.020 section I). This cost will occur annually during: a drought, an extended outage of the Green Lake project, or when additional new load is served such as USCG and the new SEARHC hospital expansion. This impact would occur during the planned outage of Green Lake in FY21.
- e. **Supplying NSRAA from the Blue Lake after-bay** would require the addition of a new pumping system and additional piping with an estimated 2018 initial capital cost of approximately \$965,000 (see TM04 from the Bulk Water Study). This pumping system would be for 20CFS, which is the new combined total requested by NSRAA. The annual cost of electricity for this system is estimated to be approximately \$120,000 per 10 CFS based on a 15 cent electric rate. As load grows, this \$120,000 per year of electricity would not be available to other paying customers. Annual operation and maintenance costs should be low.
- f. **The amount of water-** contractually should be capped by a CFS rate and a daily flow rate to reduce impacts to our isolated electric grid which is normally managed through the Blue Lake penstock flow.
- g. **Water Rights:** The CBS owns a number of specific water rights from the Blue Lake Watershed. CBS is able to manage and provide the best value to the community by structuring alternate uses from multiple delivery points.

Some of these water rights are for power generation, some for domestic water, and some for industrial water. During a drought or other conditions outlined above, the CBS will not have enough water to fully service all the imbedded water rights. This can be resolved if some customers take water from the Blue Lake after-bay. Customers which take water from the after-bay provide for efficient use of our water resource without negatively impacting our power generation. Alternatively, the CBS, during drought or other conditions, may have to selectively reduce water availability to customers. Some current customers may be considering intervening in our CBS water right permits. The potential negative impact for the community should be considered in our written agreements when contracting with these customers.

- h. **Conveyance System:** Separate and distinct from water rights, the Electric Department Customers have funded the water delivery system which provides water from the dam to other customers at Sawmill Cove. Presently, no water customers share in the cost of this delivery system. Again, this delivery system was funded by electric customers, not industrial water users.
2. **NSRAA has no Lease for Operating at the Green Lake Dam Site.** NSRAA operations on Green Lake Road and at the Green Lake dam are creating significant uncompensated and increasing costs to the electric ratepayers with significant liabilities

for the CBS. Additionally, a number of hazardous conditions need to be addressed. Further, the existing lease dated 2/19/1981 (section a. through c.) allows only for a single, marked vehicle. The current NSRAA road use far exceeds the use by CBS.

- a. **Road Maintenance**: The cost of road maintenance continues to increase and is presently at about \$100,000 per year. The use by NSRAA is significant and includes the section from the Medvejie hatchery to the Green Lake dam. Presently, NSRAA road use exceeds the limitations in the existing Medvejie Hatchery lease and no compensation to CBS for road maintenance is paid by NSRAA.
- b. **Snow Removal**: As the CBS owns the road and access by our lessee NSRAA and by CBS staff is required, the annual snow removal contract is approximately \$25,000. Presently, NSRAA does not share in this cost.
- c. **Access to the Dam Structure**: Presently, without CBS supervision, NSRAA utilizes a crane and other heavy equipment on the top of the dam to access their fish pens. The design of the dam structure, is susceptible to damage from untrained personnel operating heavy equipment. Eliminating or restricting access to the dam would significantly lower the risk to CBS for damage to the dam structure, damage to the turbines, lowering the risk of equipment falling off either side, and damage to the safety boom.
- d. **Access through the Safety Boom**: Presently, without CBS supervision, NSRAA is disconnecting sections of the CBS Electric Department safety boom to access their fish pens. This has created equipment damage, equipment risk, electric system outages, a high level of personnel risk for the public, and is an overall dangerous position for NSRAA personnel and the CBS personnel who make repairs in adverse conditions.
- e. **Access to the Lake**: Alternatively, the maintenance road (on the left as you approach the lake) could be cleaned, improved, and maintained. Additionally, a ramp and staging area could be constructed to allow NSRAA to access the lake outside of the safety boom and dam superstructure, eliminating their need to access the dam. This would significantly lower the risk to CBS for damage to the dam structure, damage to the turbines, lower the risk of equipment falling off either side, and significantly reduce damage to the safety boom.

Note: Estimates for the road work from a local contractor have been on the order of \$20,000. Annual maintenance would also be required.

3. **Existing 10 CFS to Sawmill Creek Hatchery**

- a. **Under the existing contract**, the CBS has the right to determine the source of water for NSRAA. Due to the near drought condition of 2018, and the impending outage of the Green Lake project. The electric department has given notice to NSRAA that they will need to begin taking water from the Blue Lake after-bay as early as the summer of 2019 (see the "Water Delivery Agreement" dated 10/11/2012). Field testing and engineering analysis, has determined that a change to the existing hatchery controls is required for the existing after-bay pumps to supply the 10CFS.

- b. **Backup System:** The backup system which will be available when water exists in the penstock and when Blue Lake power plant is shut down, will be the existing penstock high pressure system. This system is currently the primary system, but will be converted to the backup water system. The new NSRAA request to increase the size of this system should be modified to allow this system only as a back-up to the after-bay system.

4. **Summary of Questions:**

NSRAA NEW SUPPLY REQUEST –

- a. Should the CBS commit to supply NSRAA an additional 10CFS of industrial water?
- b. Should the supply come from the CBS Electric Department high pressure penstock or from the after-bay?
- c. Who should pay for the capital cost, ongoing maintenance, and operations?
- d. If pumped from the after-bay, who pays the electric meter cost of pumping?
- e. If diesel generation is required due to the NSRAA water source, who is responsible to pay?

NEED FOR A LEASE AT THE GREEN LAKE DAM SITE:

- f. Should a Lease with typical CBS terms and conditions including liability be implemented with NSRAA to allow them to continue to operate at the Green Lake dam site?
- g. How should road maintenance costs of the Green Lake Road be shared with NSRAA?
- h. How should the snow removal costs of Green Lake Road be shared with NSRAA?
- i. Should CBS allow NSRAA access to the dam superstructure?
- j. Should CBS allow NSRAA to disable the safety boom and pass through the safety boom?
- k. Should NSRAA access to the lake be off the dam and on the northern access road? If so, who pays the initial cost, and who provides the annual maintenance costs.

THE EXISTING NSRAA SUPPLY

- l. Should NSRAA operate primarily from the after-bay pumps for the existing 10CFS connection or should we subject the electric customers to the risk of the \$590,000 per year cost of diesel generation?
- m. Should the NSRAA request to increase the size of the existing penstock connection be restricted to emergency backup only (should the normal take for water be from the after-bay?).