

KAMPMEIER & KNUTSEN PLLC

ATTORNEYS AT LAW

BRIAN A. KNUTSEN
Licensed in Oregon & Washington
503.841.6515
brian@kampmeierknutsen.com

September 19, 2018

Via CERTIFIED MAIL – Return Receipt Requested

Garry Arseneault
PUD Commissioner District 1
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Ann Congdon
PUD Commissioner District 3
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Dennis Bolz
PUD Commissioner At-Large District B
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Managing Agent
Rock Island Dam
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Randy Smith
PUD Commissioner District 2
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Steve Mckenna
PUD Commissioner At-Large District A
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Managing Agent
Rocky Reach Dam
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Re: NOTICE OF INTENT TO SUE CHELAN COUNTY PUD UNDER THE CLEAN WATER ACT

Dear Commissioners Gary Arseneault, Randy Smith, Ann Congdon, Steve Mckenna, and Dennis Bolz, and Managing Agent for the Rocky Reach Dam and the Rock Island Dam:

This letter is to provide you with sixty days notice of Columbia Riverkeeper's ("Riverkeeper") intent to file a citizen suit against the Chelan County Public Utility District and Commissioners Gary Arseneault, Randy Smith, Ann Congdon, Steve Mckenna, and Dennis Bolz, in their official capacity as the Commissioners of the Chelan County Public Utility District (collectively, "PUD") under section 505 of the Clean Water Act ("CWA"), 33 U.S.C. § 1365, for

the violations described herein. The CWA prohibits any person from discharging any pollutant to waters of the United States except as authorized by a National Pollutant Discharge Elimination System (“NPDES”) permit. Continuing to discharge pollutants without securing an NPDES permit constitutes an ongoing violation of the CWA.

The PUD has and continues to violate section 301(a) of the CWA, 33 U.S.C. § 1311(a), by discharging pollutants to waters of the United States and to the State of Washington from the Rocky Reach and Rock Island Dams and from their associated structures and facilities (collectively “Dams”).¹ Specifically, the PUD discharges oils (including turbine and transformer oils), greases, other lubricants, and cooling water from the Dams without the authorization of an NPDES permit in violation of the CWA.

This notice of intent to sue is part of Riverkeeper’s effort to protect people who rely on the Columbia River for uses including drinking water, food, and recreation. Riverkeeper’s mission is to protect and restore the water quality of the Columbia River and all life connected to it, from the headwaters to the Pacific Ocean. The organization’s strategy for protecting the Columbia River and its tributaries includes working in river communities and enforcing laws that protect public health, salmon, and other fish and wildlife.

I. Legal Background.

Washington’s rivers, and the use of rivers by people, fish, and wildlife, are protected by both federal and state law. In 1972, Congress passed the CWA to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). The CWA is the cornerstone of surface water quality protection in the United States. In the forty years since its passage, the CWA has dramatically increased the number of waterways that are once again safe for fishing and swimming. Despite the great progress in reducing water pollution, many of the Nation’s waters still do not meet the water quality goals. In fact, the vast majority of rivers and streams in Washington fail to meet basic state water quality standards for pollutants such as toxics and temperature.² These standards are designed to protect designated uses, including aquatic life, fishing, swimming, and drinking water.

The NPDES permitting scheme is the primary means by which discharges of pollutants are controlled. At a minimum, NPDES permits must include technology-based effluent limitations, any more stringent limitations necessary to meet water quality standards, and monitoring and reporting requirements. *See* 33 U.S.C. §§ 1311, 1342, 1318. Every year, EPA and the state of Washington issue hundreds of permits for pollution discharges into the Columbia

¹ The term “Dams,” as used herein, includes the Dams and all associated structures and facilities, including turbines, powerhouses, transformers, spillways, navigation lock systems, fish passage facilities, and cranes. The approximate location of the Dams are identified in Appendices 1 – 2.

² *See* State of Washington 303(d) List, available at <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d>; State of Oregon 303(d) List, available at <https://www.deq.state.or.us/wq/assessment/rpt2010/results303d10.asp>.

and Snake Rivers. These include permits that regulate the discharge of toxic pollution, hot water, bacteria, and other pollutants. According to EPA, improvements to the quality of water in our rivers are directly linked to the implementation of the NPDES program and the control of pollutants discharged from both municipal and industrial point sources.³

II. The Heavy Toll of Pollution on the Columbia River.

The Columbia River is one of the West's greatest river systems. This river supports rich fishing traditions, provides water for communities and agriculture, recreation opportunities, and power for hydroelectric dams. The river is also severely degraded by pollution. Toxic pollution threatens the health of people that eat local fish and jeopardizes the public's right to eat fish caught locally. Rising water temperatures also threaten the health of salmon and other aquatic life that rely on cool water for survival.

In 2006 EPA designated the Columbia River Basin a Critical Large Aquatic Ecosystem because toxic contamination and other pollution is so severe. In 2009 EPA released an in-depth report on toxic pollution in the Columbia, the *Columbia River Basin: State of River Report for Toxics*.⁴ EPA's report concluded that harmful pollutants are moving up the food chain, impacting humans, fish, and wildlife. As the report explains, "[i]n 1992, an EPA national survey of contaminants in fish in the United States alerted EPA and others to a potential health threat to tribal and other people who eat fish from the Columbia River Basin." This survey prompted further study on the contaminated fish and the potential impacts on tribal members.

In particular, EPA funded four Columbia River tribes, through the Columbia River Intertribal Fish Commission ("CRITFC"), to study contaminant levels in fish caught at traditional fishing sites.⁵ The study demonstrated the presence of 92 toxic chemicals in fish consumed by tribal members, resulting in a 50-fold increase in cancer risk among tribal members whose diets rely on river-caught fish. Contaminants found in these fish include PCBs, dioxins, furans, arsenic, mercury, and DDE, a toxic breakdown product of DDT.⁶

The CRITFC study is not alone in demonstrating the serious problem of toxic contamination. From 1989 to 1995, the Lower Columbia River Bi-State Water Quality Program ("Bi-State Program") generated substantial evidence demonstrating that water and sediment in

³ U.S. EPA, *Water Permitting 101* at 11, <http://www.epa.gov/npdes/pubs/101pape.pdf>.

⁴ U.S. EPA, *Columbia River Basin State of River Report for Toxics* (hereafter *State of the River Report*) (January 2009), <https://www.epa.gov/columbiariver/2009-state-river-report-toxics>.

⁵ *Id.* at 3.

⁶ *Id.* at 19.

the Lower Columbia River and its tributaries have levels of toxic contaminants that are harmful to fish and wildlife.⁷ The Bi-State Program concluded that:

- Dioxins and furans, metals, PCBs, PAHs, and pesticides impair the water sediment, and fish and wildlife;
- Arsenic, a human carcinogen, exceeded both EPA ambient water criteria for protection of human health and the EPA human health advisories for drinking water;
- Beneficial uses such as fishing, shellfishing, wildlife, and water sports are impaired;
- Many toxic contaminants are moving up the food chain and accumulating in the bodies of animals and humans that eat fish;
- People who eat fish from the lower Columbia over a long period of time are exposed to health risks from arsenic, PCBs, dioxins and furans, and DDT and its breakdown products.⁸

Other studies have confirmed and added to the overwhelming scientific evidence on toxic contamination in the Columbia River Basin.⁹

Pollution discharges from the PUD's Dams contribute to the pollution crisis on the Columbia River. According to the National Oceanic & Atmospheric Administration ("NOAA"):

Spilled oil can harm living things because its chemical constituents are poisonous. This can affect organisms both from internal exposure to oil through ingestion or inhalation and from external exposure through skin and eye irritation. Oil can also smother some small species of fish or invertebrates and coat feathers and fur, reducing birds' and mammals' ability to maintain their body temperatures.¹⁰

The impacts of oil pollution are sobering. Yet the PUD discharges oil and other pollution from the Dams without the NPDES permit authorization required by the CWA. In turn, the PUD fails to monitor and report pollution in a manner that enables the public to fully understand the extent and severity of the problem.

⁷ Lower Columbia River Estuary Partnership. 2007. *Lower Columbia River and Estuary Ecosystem Monitoring: Water Quality and Salmon Sampling Report* at 1.

⁸ *Id.* at 5 - 6.

⁹ *Id.* at 6 (citing studies by USGS, the U.S. Army Corps of Engineers, DEQ, and others); *see generally* U.S. EPA, *State of the River Report*.

¹⁰ NOAA, Office of Response and Restoration, *How Oil Effects Fish and Wildlife in Marine Environments*, <http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/how-oil-harms-animals-and-plants-marine-environments.html>.

III. Unpermitted Pollutant Discharges from the Dams.

Section 301(a) of the CWA prohibits discharges of oils (including turbine and transformer oils), greases, lubricants, cooling water, and other pollutants to the Columbia River from the Dams without NPDES permit authorization. 33 U.S.C. § 1311(a). Without an NPDES permit, the PUD is failing to monitor, report, and reduce pollution discharges pursuant to the CWA and state and federal implementing rules.

A. Chronic Pollutant Discharges from the Dams.

The Rocky Reach Dam utilizes eleven Kaplan turbines¹¹ and the Rock Island Dam utilizes 19 turbines, 11 of which are Kaplan turbines¹². Kaplan turbines have variable pitch blades that can be adjusted to increase efficiency. The shaft and hubs of these turbines are filled with oil or another pollutant. This oil or other pollutant leaks to surface waters from certain locations, including the turbine blade packing/seals. Accordingly, the PUD is in violation of section 301(a) of the CWA by discharging oil or other pollutant from each of the Kaplan turbines at the Dams each and every day for the past five years.

Wicket gates control the amount of water flowing through the turbines at the Dams. The wicket gate bearings are lubricated with grease or another lubricant. This grease or other lubricant is continuously fed into the bearings and discharged into surface waters. The PUD is in violation of section 301(a) of the CWA by discharging grease or another lubricant from the bearings at each of the turbine wicket gates at the Dams each and every day for the past five years.

The Dams discharge oils, greases, lubricants, and other pollutants collected from various sources through sumps, including powerhouse drainage sumps, un-watering sumps, spillway sumps, and other systems. Of these pollutant discharges, none of them are authorized by an NPDES permit. The PUD is in violation of section 301(a) of the CWA by discharging pollutants from these various drainage and/or un-watering sumps and other systems at the Dams. These violations have occurred each and every time the PUD made these discharges in the past five years and continue to occur.

The Dams discharge cooling water, and the heat associated therewith, that has been used to cool a variety of Dam components and materials, including turbines, generators, transformers,

¹¹ ROCKY REACH DAM, CHELAN PUBLIC UTILITY DISTRICT , <http://www.chelanpud.org/hydropower/rocky-reach-dam> (last visited Sept. 4, 2018).

¹² ROCK ISLAND DAM, CHELAN PUBLIC UTILITY DISTRICT, <https://www.chelanpud.org/hydropower/rock-island-dam> (last visited Sept. 4, 2018). The other 8 turbines at Rock Island are horizontal shaft (bulb) generators. The other eight turbines are horizontal shaft (bulb) generators, whose hubs are filled with water instead of oil. *See* Andritz, <https://www.andritz.com/hydro-en/hydroneews/hydro-news-29/hy-news-hn29-13-bulb-turbines-hydro> (last visited Sept. 5, 2018).

and lubricating oils. The PUD is in violation of section 301(a) of the CWA by discharging cooling water, and the associated heat, from the Dams each and every day for the past five years.

B. Acute Pollutant Discharges from the Dams.

The PUD violates section 301(a) of the CWA every time it discharges oil, lubricant, or other pollutants to the Columbia River from the Dams. Riverkeeper requested public records detailing oil spills and other discharges from the Dams. Tables 1 and 2 describe reported acute pollution discharges from the Dams to the Columbia River during the last five years. Riverkeeper does not concede that the amount of pollution reported is, in fact, the amount of pollution actually discharged from the Dams.

Table 1 Rocky Reach Dam Reported Discharges			
Reported Date of Discharge	Reported Pollutant Discharged	Reported Amount Discharged	Comments from Discharge Report
1/18/14	Hydraulic Fluid	1 gallon	Pump failure in the powerhouse at the Dam.
3/4/14	Hydraulic Oil	1-100 gallons	Unknown amount of hydraulic fluid released to water inside dam during repair work on a turbine unit.
7/18/14	Hydraulic Oil	50 gallons	Approximately 50 gallons of oil spilled at Rocky Reach Dam fish bypass system.
8/10/14	Hydraulic Oil	2.5 gallons	North Trash Rake's hydraulic system was leaking, no sheen identified.
5/8/17	Oil	10 gallons	Recorded call from Rocky Reach. Lost about 10 gallons of oil into Columbia from tainer gates.
1/15/18	Turbine Oil	N/A	"Caller is reporting that dam C1 unit was leaking turbine oil into the Columbia River."
4/2/18	Hydraulic Oil	<1/2-Cup	Hydraulic oil was released t the fish bypass area due to a loose fitting. Oil was visually observed.

Table 2 Rock Island Dam Reported Discharges			
Reported Date of Discharge	Reported Pollutant Discharged	Reported Amount Discharged	Comments from Discharge Report
10/2/13	Petroleum	1 gallon	1 gallon of petroleum (mixed/waste petroleum) was lost from an oil/water separator due to human error.
10/30/13	Petroleum-based gear box oil	60 gallons	Oil was released to the Columbia River as a result of a broken oil cooler.
9/9/14	Hydraulic Oil	10 gallons	10 gallons of hydraulic oil leaked from a draft tube gate slot and subsequently entered the Columbia River.

11/13/14	Oil	<one cup	Maintenance activity on a runner hub, located under water, resulted in the release of oil.
10/5/15	Hydraulic Oil	<1 gallon	A hydraulic line in Unit 3's Draft Tube Gate burst releasing less than one gallon of hydraulic fluid.
10/23/15	Turbine Oil	N/A	Refilling of a turbine resulted in an over fill causing turbine oil to release into the sump.
12/23/15	Turbine Oil	2 cups	Release of turbine oil from Unit 3 seal on start-up, directly to the Columbia.
2/18/16	Hydraulic Oil	50-130 gallons	"Hydraulic oil discharged from Unit 3 (generator unit) due to a trunnion leak. This incident occurred in a span of 5 days."
1/1/18	Turbine Oil	25-450 gallons	Unit B 8 had oil displacement issues from the trunnion seal that is part of the hub, releasing somewhere between 25 gallons to 450 gallons of turbine oil.
3/29/18	Oil Sheen	N/A	Rainbow sheen covering the width of the Columbia River in several spots.

Riverkeeper provides notice that the PUD has violated section 301(a) of the CWA every time during the last five years the PUD discharged oil, lubricant, or other pollutants to the Columbia River from the Dams. At a minimum, the PUD has violated section 301(a) of the CWA by discharging pollutants at the Dams as described in Tables 1 and 2.

IV. Public Documents Announce the Need for an NPDES Permit for Dam Discharges.

It should be apparent that discharging oil, greases, lubricants, cooling water, and other pollution to the Columbia River from the Dams require NPDES permits. For instance, in 2012, Riverkeeper sued the United States Army Corps of Engineers (the "Corps") for failing to obtain pollution discharge permits for eight Columbia River and Snake River dams (Bonneville, The Dalles, Ice Harbor, John Day, Little Goose, Lower Monumental, McNary, Lower Granit).¹³ As a result, the Corps agreed to settle the case in 2014, which culminated in a consent decree requiring the Corps to:

1. Apply to EPA for NPDES discharge permits;
2. Investigate using less harmful lubricants in dam equipment; and
3. Monitor the type and quantity of pollution being discharged into the rivers.¹⁴

The Corps applied for the NPDES permits and EPA is in the process of drafting permits for the dams at issue. Furthermore, in 2017 Riverkeeper reached a settlement with the U.S. Bureau of Reclamation ("Bureau"), requiring the Bureau to join its federal partners at the Corps to

¹³ COLUMBIA RIVERKEEPER, STOPPING OIL POLLUTION FROM DAMS, <https://www.columbiariverkeeper.org/our-work-saving-salmon/stopping-oil-pollution-dams> (last visited July 24, 2018).

¹⁴ *Id.*

investigate replacing toxic oil at the Grand Coulee Dam, also on the Columbia River, with eco-friendly lubricants or switch to using non-lubricated equipment.¹⁵ The Bureau also agreed to apply for an NPDES permit for pollution discharges from Grand Coulee.

Although the Corps and the Bureau, both federal agencies, agreed to apply for NPDES permits, the PUDs have not applied for any permits.

Furthermore, EPA requires permits for the exact kinds of discharges occurring at the Dams. On April 27, 2018, the EPA promulgated a draft NPDES General Permit for pollutant discharges from hydroelectric generating facilities in Idaho pursuant to the provisions of the CWA, 33 USC §1251.¹⁶ The draft permit authorizes discharges according to five categories. The permit “establishes effluent limitations for:

1. pH, oil and grease, and monitoring requirements for temperature and flow for discharges of noncontact cooling water and equipment-related cooling water systems.
2. pH, oil and grease, and monitoring requirements for flow for discharges from equipment and floor drains.
3. pH, oil and grease, and monitoring requirements for flow for discharges from equipment and facility maintenance-related water.
4. pH, oil and grease, and monitoring requirements for flow for discharges from maintenance-related water during flood/high water events and equipment related back wash water from strainer screens.
5. pH, oil and grease, and monitoring requirements for flow and temperature for discharges from any combination of the following: equipment-related cooling water, equipment and floor drain water, maintenance-related water, maintenance-related water from flood/high water events and for equipment related backwash strainer water.”¹⁷

According to the EPA:

Most discharges that affect water quality are ancillary to the direct process of generating electricity at a hydroelectric facility and result mostly from oil spills, equipment leaks, and improper storage. The General Permit is proposing to require development and implementation

¹⁵ COLUMBIA RIVERKEEPER, GRAND COULEE DAM SETTLEMENT, <https://www.columbiariverkeeper.org/news/2017/1/grand-coulee-dam-settlement> (last visited August 27, 2018).

¹⁶ THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, NPDES FACT SHEET: WASTEWATER DISCHARGES FROM HYDROELECTRIC GENERATING FACILITIES GENERAL PERMIT (2018) available at <https://www.epa.gov/sites/production/files/2018-04/documents/r10-npdes-idaho-hydroelectric-gp-idg360000-fact-sheet-2018.pdf>

¹⁷ *Id.* at 14.

of a Best Management Practices (BMP) Plan to minimize or eliminate the discharge of oil and grease and an annual self-certification report demonstrating compliance with the BMP Plan.¹⁸

In short, the PUD should have been aware long before this notice of intent to sue letter that discharges associated with the Dams require NPDES permits given Riverkeeper's well-publicized lawsuits and settlements with the federal government and given EPA's decision to issue a general permit in Idaho. Upon information and belief, the PUD has neither applied for nor obtained NPDES permits for oils, greases, lubricants, cooling water, and other pollution discharges from the Rocky Reach or Rock Island Dams.

V. Party Giving Notice of Intent to Sue.

The full name, address, and telephone number of the party giving notice is:

Columbia Riverkeeper
407 Portway Ave. Suite 301
Hood River, OR 97031
(541) 387-3030

VI. Attorneys Representing Riverkeeper.

The attorneys representing Riverkeeper in this matter are:

Brian A. Knutsen
Kampmeier & Knutsen, PLLC
U.S. Postal Service Address:
P.O. Box 15099, Portland, Oregon 97293
Location (no U.S. Postal delivery; couriers okay):
221 S.E. 11th Ave., Suite 217, Portland, Oregon 97214
(503) 841-6515
brian@kampmeierknutsen.com
(Licensed in Oregon and Washington)

Lauren Goldberg, Legal and Program Director
Columbia Riverkeeper
407 Portway Ave. Suit 301
Hood River, OR 97031
(541) 965-0985
lauren@columbiariverkeeper.org
(Licensed in Oregon)

¹⁸ *Id.* at 15.

Simone Anter, Associate Attorney
Columbia Riverkeeper
407 Portway Ave. Suit 301
Hood River, OR 97031
(541) 399-5312
simone@columbiariverkeeper.org
(Licensed in Washington)

VII. Conclusion.

The violations described herein reflect those indicated by the information currently available to Riverkeeper. Riverkeeper intends to sue for all violations, including those yet to be uncovered and those committed after the date of this notice of intent to sue.

Under Section 309(d) of the CWA, 33 U.S.C § 1319(d), the PUD is subject to a separate daily penalty assessment for each violation (the current maximum daily penalty assessment is \$53,484 for each violation). In addition to civil penalties, Riverkeeper will seek injunctive relief to prevent further CWA violations under Sections 505(a) and (d) of the CWA, 33 U.S.C § 1365(a) and (d), and such other relief as is permitted by law. Also, Section 505(d) of the CWA, 33 USC § 1365(d), permits prevailing parties to recover costs, including attorney's fees.

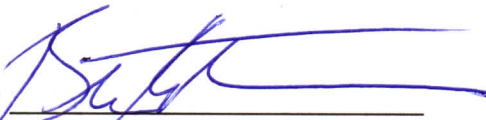
Riverkeeper believes that this notice of intent to sue sufficiently states grounds for filing suit. Riverkeeper intends to file a citizen suit against the Chelan County Public Utility District and Commissioners Gary Arseneault, Randy Smith, Ann Congdon, Steve Mckenna, and Dennis Bolz, in their official capacity as the Commissioners of the Chelan County Public Utility District, under section 505(a) of the CWA, 33 U.S.C. § 1365(a), for violations at the expiration of the sixty-day notice period or shortly thereafter.

Riverkeeper is willing to discuss effective remedies for the violations addressed in this letter and appropriate settlement terms during the sixty-day notice period. Such discussions should be initiated within ten days of receipt of this letter if there is an interest in attempting to resolve this matter in the absence of litigation. Riverkeeper does not intend to delay the filing of a complaint if discussions are continuing when the notice period ends. Please direct all correspondence to Brian A. Knutsen at (503) 841-6515 or brian@kampmeierknutsen.com.

Very truly yours,

KAMPMEIER & KNUTSEN, PLLC

By:



Brian A. Knutsen
Lauren Goldberg
Simone Anter

CERTIFICATE OF SERVICE

I, Brian A. Knutsen, declare under penalty of perjury of the laws of Washington and the United States that I am counsel for Columbia Riverkeeper and that on September 19, 2018, I caused copies of the foregoing Notice of Intent to Sue Chelan County PUD Under the Clean Water Act to be served on the following by depositing it with the United States Postal Service, certified mail, return receipt requested, postage prepaid:

Garry Arseneault
PUD Commissioner District 1
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Ann Congdon
PUD Commissioner District 3
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Dennis Bolz
PUD Commissioner At-Large District B
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Managing Agent
Rock Island Dam
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Acting Regional Administrator Chris Hladick
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue, Mail Code RA-210
Seattle, WA 98101

Randy Smith
PUD Commissioner District 2
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Steve Mckenna
PUD Commissioner At-Large District A
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Managing Agent
Rocky Reach Dam
Chelan County Public Utility District
P.O. Box 1231
Wenatchee, WA 98807-1231

Acting Administrator Andrew Wheeler
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Ave., N.W., Mail Code 1101A
Washington DC 20460

Director Maia D. Bellon
Washington Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600



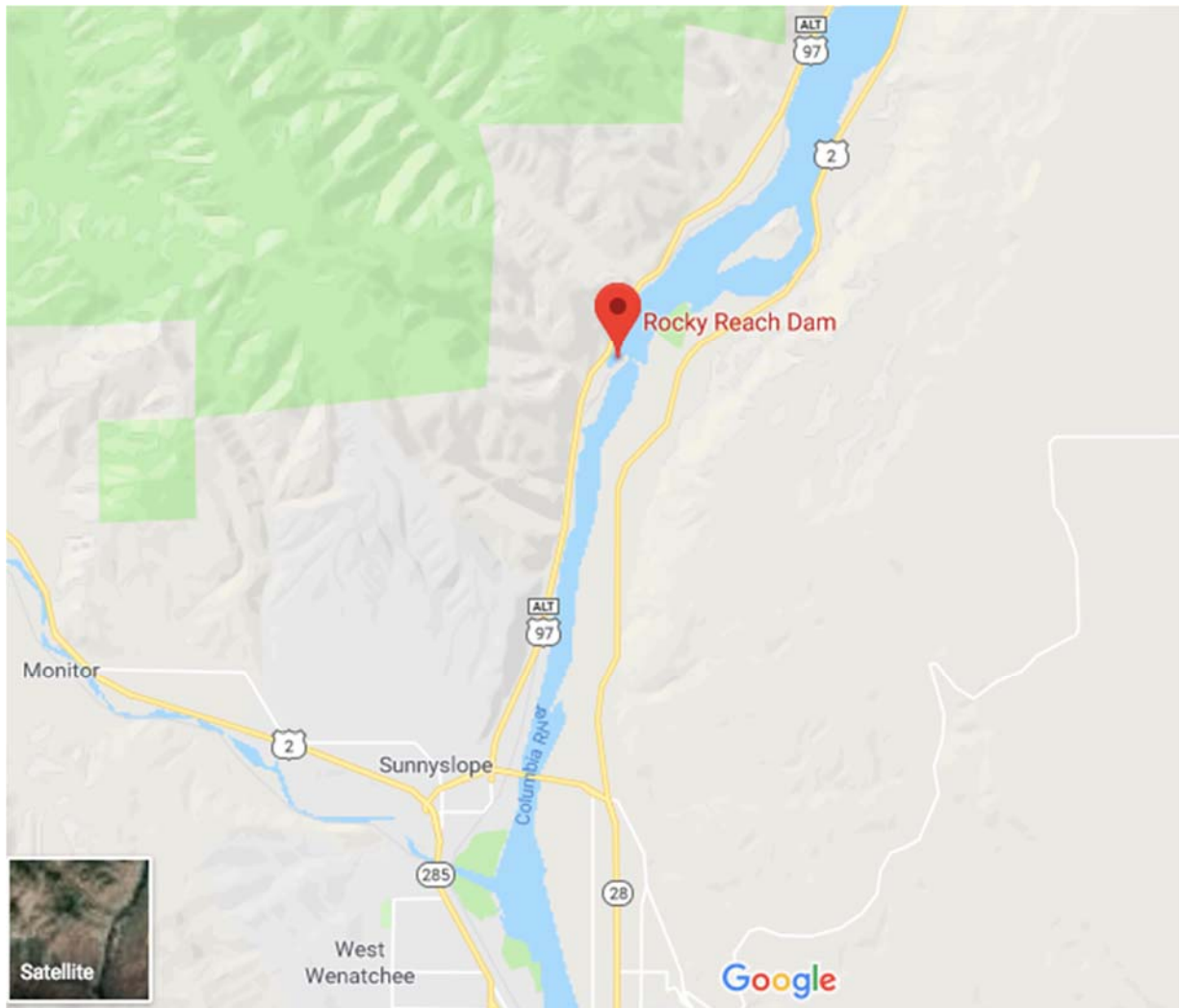
Brian A. Knutsen

APPENDIX 1

Location: Rocky Reach Dam is located in East Wenatchee, Washington

47° 31' 59" N, 120° 17' 39" W

Map:



APPENDIX 2

Location: Rock Island Dam is located in Malaga, Washington
47° 20' 34" N, 120° 5' 38" W

Map:

