

HYDROELECTRIC COMMISSION OF OREGON

SECOND AMENDED LICENSE

FOR PROJECT NO. 23

THE CALIFORNIA OREGON POWER COMPANY

A MAJOR PROJECT OF

122,079 THEORETICAL HORSEPOWER

WHEREAS, by act of the Legislature of the State of Oregon (Title 119, Chapter 1, O.C.L.A.) hereinafter called the Hydroelectric Act, the Hydroelectric Commission of Oregon, hereinafter called the Commission, is authorized and empowered, inter alia, to issue licenses to appropriate, initiate, perfect, acquire and hold the right to the use of the waters within the State, and to construct, operate and maintain dams, reservoirs, power houses, conduits, transmission lines, and all other works and structures necessary or convenient for the use of such waters in the generation and utilization of electricity, and to approve changes in maps, plans, and specifications, which changes when approved shall become a part of the license; and

WHEREAS, The California Oregon Power Company, hereinafter called the Licensee, a corporation organized under the laws of the State of California, and duly qualified to do business in Oregon with its principal place of business in Medford, Oregon, heretofore was granted a preliminary permit by the Commission, and thereafter, and while such preliminary permit was in full force and effect made application in due and proper form to the Commission for a license for a power project designated as Project No. 23 on the records of the Commission and by the Licensee as Toketee Project and by the Federal Power Commission as Project No. 1927-Oregon,

and for authority to construct, maintain, and operate in the County of Douglas, State of Oregon, certain project works, necessary or convenient for the development, transmission and utilization of electric power, and for the use of the waters of North Umpqua River, a tributary of Umpqua River, for generation of such electric power; and

WHEREAS, the Hydroelectric Commission of Oregon on January 23, 1947 issued a license to the Licensee for the development of major hydroelectric Project No. 23, and on June 18, 1948 issued an amended license therefor; and

WHEREAS, the Licensee heretofore filed with the Commission applications to amend the amended license for Project No. 23 to-wit; on November 26, 1948 to cover the construction of a transmission line from Toketee power plant to Dixonville in Douglas County, Oregon; on May 10, 1949 to cover the Toketee Unit diversion dam relocation; on May 31, 1949 to cover the Toketee Unit power house and penstock relocation; on July 5, 1949 to cover the Slide Creek development; on July 6, 1949 to cover the Soda Springs development; and on September 28, 1949 to cover revised general description of specifications of equipment for the Toketee Unit; and

WHEREAS, this multi-unit project is a major project for development of 122,079 theoretical horsepower with an installed plant capacity of 71,750 kw; the applicant has paid to the Commission all fees required previous to issuance of amended license, in accordance with the provisions of the Hydroelectric Act and the Rules and Regulations of the Commission; and no application for said project or in conflict therewith has been filed by any municipality or public utility district; and

WHEREAS, the Licensee has filed maps, plans, and specifications

as required by Section 119-112, Oregon Compiled Laws Annotated, showing the proposed changes, and the Commission finds that the proposed changes will be well adapted to the utilization of the water power involved and hereby approves the same; and

WHEREAS, the Licensee on the 21st day of December, 1949 accepted in writing all the terms and conditions of this SECOND AMENDED license amending and superseding the license issued January 23, 1947 and amended license issued June 18, 1948 for Project No. 23.

NOW, THEREFORE, the Commission hereby issues this SECOND AMENDED license to the Licensee (which supersedes the license issued for Project No. 23 on January 23, 1947 and the amended license of June 18, 1949) for the purpose of constructing, operating, and maintaining the project works hereinafter described, necessary or convenient for the development, transmission, and utilization of hydroelectric power, and to appropriate, acquire, and hold the right to use the waters of North Umpqua River and Clearwater River, a tributary thereof, to the extent hereinafter set forth. This license is issued on condition that said Licensee shall comply with all the terms and conditions of the Hydroelectric Act and Laws of Oregon relating thereto, and with the Rules and Regulations of the Commission pursuant thereto, as though fully set forth herein, and shall be subject also to the following express conditions, limitations, and exceptions, to-wit:

ARTICLE 1. Definition of Project. The word "project", as used in this license means the complete ultimate units, improvements, and developments, including among other things, the power houses, waterwheels, conduits or pipes, dams and appurtenant works and structures, storage, diverting or forebay reservoirs connected therewith, and primary lines

transmitting power to the point of junction with a distributing system, or with any interconnected primary systems, miscellaneous works and structures used in connection with said units or any part thereof, rights of way, lands, flowage rights and all other properties, rights and structures necessary or appropriate in the use, operation, and maintenance of each unit.

ARTICLE 2. Description of Project. Project No. 23 consists of the Toketee Unit, which is the initial development, and the Slide Creek Unit, the Soda Springs Unit and the Toketee to Dixonville transmission line which, with the Toketee Unit, will comprise the ultimate development or project. These units are described as follows:

Toketee Unit. The Toketee Unit will utilize the waters of North Umpqua and Clearwater Rivers diverted within the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 35, Township 26 South, Range 3 East, W. M. The power house will be located approximately 2 miles downstream within the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 27, said township and range. The normal diversion elevation of the project will be 2430 and the normal static head 448 feet. The water capacity of the plant will be 1,425 cubic feet per second. The theoretical power will be 72,545 horsepower and the installed plant capacity will be 42,500 kw in three units.

Estimated water available 90 per cent of the time with 50 second feet released to the river at the diversion dam is 520 cubic feet per second and the power available 90 per cent of the time is estimated to be 18,556 horsepower.

A concise general description of the Toketee Unit and the unit works is as follows:

(a) Diversion Dam. The diversion dam will consist of a main

earth filled section with a crest length of 1,045 feet and a maximum height of 58 feet. Flanking the main dam on the south bank will be a concrete overflow spillway section about 350 feet long with a channel in concrete and rock leading to the river below the dam and a concrete gravity section about 186 feet long. A reinforced outlet structure will be incorporated in the dam on the north bank of the river.

(b) Water Conduit. Connecting the diversion dam with the power house will be 1663 feet of 12 feet diameter wood stave pipe, 5330 feet of 16.5 feet diameter unlined and 12 feet diameter lined tunnel and approximately 1246 feet of steel penstock varying in diameter from 12 feet to 11 feet. Approximately 135 feet above the power house the penstock divides into 3 lines of branch pipe, each 6 feet 4 inches in diameter. A steel surge tank will be connected to the penstock near its upper end.

(c) Power House and Substation. A power house on concrete foundation with a steel frame superstructure will house three vertical generating units and electrical control and switching equipment. There will be an outdoor substation immediately adjacent to the power house which will step up the voltage for the transmission of the output into the system.

(d) Turbines. The plant will be equipped with three vertical turbines in cast steel spiral scroll settings connected to the penstock leading into the plant. Each unit will have a water capacity of about 470 cubic feet per second when delivering the rated capacity of 18,600 bhp under the minimum effective head of 406 feet. Each turbine will be regulated by an oil pressure governor unit, and a motor operated valve will be provided at the scroll casing entrance.

(e) Generators. The turbines will be direct-connected to alternating current generators with direct-connected exciters and pilot

exciters. These generators will be rated at 16,667 kva, 14,167 kw (0.85 power factor) 6,900 volts, 3 phase, 60 cycles, and will be connected through a 2,000 ampere, 15 kv oil circuit breaker to an outside transformer bank.

(f) Substation. An outside substation will consist of ten (one of which will be a spare) 5555 kva, single phase, 60 cycles, 6.9-76.212/132Y kv units located immediately adjacent to the power house. A two story electrical bay will house the switchboard, switch-gear, and other control equipment and the 50 kw diesel driven generator will be installed as an emergency power source for station use.

(g) Transmission. The electrical energy will be stepped up to 132 kv and transmitted over a transmission line to the Licensee's substation at Dixonville.

(h) Reservoir. The reservoir will store 1440 acre feet of usable water at elevation 2430 to supplement the stream flow of less than 1425 cubic feet per second.

Exhibits. The location and character of the foregoing are more specifically shown and described in the following designated Exhibits filed with the Commission, which are made a part of this license:

- Exhibit B-3: Location of Project Works as Revised
- Exhibit D-3: Supplemental Statement on Nature and Extent of the Proposed Appropriation of Water
- Exhibit E-3: Supplemental Statement of Power Available and Capacity
- Exhibit I-1: Project No. 23, General Map North Umbagog Projects
- Exhibit J-4: Project No. 23 (Topographic Map of Reservoir Site)

- Exhibit J-5: Project No. 23, Topographic Map of Penstock & Power House Location and Penstock Profile
- Exhibit K-5: Sheet No. 1, Project No. 23 Amendment of Plans. Diversion Dam General Plan
- Exhibit K-5: Sheet No. 2, Project No. 23 Amendment of Plans. Diversion Dam Log Borings
- Exhibit K-5: Sheet No. 3, Project No. 23 Amendment of Plans. Diversion Dam Profile and Earth Dam Sections.
- Exhibit K-5: Sheet No. 4, Project No. 23 Amendment of Plans. Diversion Dam Concrete Dam Structure
- Exhibit K-5: Sheet No. 5, Project No. 23 Amendment of Plans. Diversion Dam South Abutment Wall & Spillway Pier
- Exhibit L-2: Circuit diagram entitled "Slide Creek and Soda Springs Development Proposed Circuit Diagram" included in Licensee's application for amendment of License, Project No. 23, dated June 28, 1949
- Exhibit L-4: One typewritten page entitled "Revised General Description and Specifications of Equipment - Toketee Development" included in Licensee's application for amendment of license for Project No. 23, dated September 26, 1949

Slide Creek Unit. The Slide Creek Unit will divert a maximum of 1500 cubic feet per second from the North Umpqua River, by means of a reinforced concrete dam located in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 27, Township 26 South, Range 3 East, W.M., approximately 1,000 feet downstream from the Toketee power plant. The water diverted will include the waters of Fish Creek to be diverted for the proposed Fish Creek development of the Licensee and discharged into the North Umpqua River above the Slide Creek diversion dam. A conduit about 1.9 miles long part of which will be concrete lined canal and the remainder constructed of timber flume will carry the water to a penstock 12' in diameter and approximately 300' long which would receive the discharge of the canal at elevation 1963 and

discharge into the turbine at elevation 1805. The normal tail water elevation at the mouth of Slide Creek would be 1802. The power house will be located at the mouth of Slide Creek in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 21, Township 26 South, Range 3 East, W. M.

It is estimated that 590 cubic feet per second will be available for power development 90 per cent of the time. This will include 70 cubic feet per second to be diverted from Fish Creek which will be available upon the completion of the Licensee's Fish Creek power development and allows for the release to the river of 50 cubic feet per second at the Slide Creek diversion dam.

Power available 90 per cent of the time would be 9,775 horsepower.

Theoretical power developed by 1500 cubic feet per second under a head of 169 feet will be 28,807 horsepower.

A concise general description of the Slide Creek Unit and unit works is as follows:

(a) Diversion Dam. The diversion dam will consist of 2 spillway sections each approximately 31.5 feet wide equipped with Tainter gates. The floor of the spillways will be elevation 1965. The intake will be approximately 19.5 feet wide with the floor elevation 1970.75. A Tainter control gate will be located in a canal section 195 feet below the intake. For a distance of 150 feet this canal will also act as a spillway. A bridge over the diversion works will be about 117 feet in length with the floor elevation 1996 feet.

(b) Conduit. The Conduit below the control gate will consist of 405 feet of concrete flume 20 feet wide carrying water to a depth of 10 feet; 5040 feet of timber flume 20 feet wide carrying water to a depth of 10 feet, 4300 feet of concrete lined canal 10.5 feet wide on the

bottom with 1 1/4 to 1 side slopes carrying water to a depth of 10 feet and 300 feet of 12' steel penstock.

(c) Power House and Substation. The power house will contain a turbine, a generating unit of 18,000 kilowatts and appropriate control equipment. The outdoor substation will be built adjacent to the power house to step up the output of the generator from 6,900 volts to 132,000 volts for transmission to the Toketee plant where it will feed into the Toketee-Dixonville transmission line.

(d) Turbine. The one vertical reaction turbine in a plate steel spiral scroll case setting will be connected to the steel penstock leading into the power house. The turbine will have a full gate water capacity of 1,500 cubic feet per second and will deliver 25,000 bhp when operating under an effective head of 169 feet at a speed of 200 rpm. It will be regulated by an oil pressure governor of the actuator type.

(e) Generator. A three phase, sixty cycle, 6.9 kv generator with direct connected main and pilot exciters will be directly connected to the turbine. This machine will have a rating of 18,000 kw (0.9 power factor) and will be connected through a 2,000 ampere, 15 kv air circuit breaker to an outdoor substation.

(f) Transmission Line. A 132 kv transmission line will connect the Slide Creek substation with the main transmission line from the Toketee unit plant to Dixonville. The transmission line will be of wood pole construction with 250 MCM conductors. General specifications for this line are the same as those for the Toketee to Dixonville transmission line.

Exhibits. The location and character of the foregoing are more specifically shown and described in the following designated Exhibits filed with the Commission, which are made a part of this license:

- Exhibit B-1: Supplemental Statement on Location of Project Works, supplementing Exhibit B.
- Exhibit D-1: Supplemental Statement on the Nature and Extent of the Proposed Appropriation of Water, supplementing Exhibit D.
- Exhibit E-2: Supplemental Statement on Right to Occupy Lands, supplementing Exhibit E and Exhibit E-1.
- Exhibit G-1: Statement on the Effect of the Diversion on Normal Stream Flow, supplementing Exhibit G.
- Exhibit H-1: Estimate of Power Available and Capacity of the Slide Creek Development, supplementing Exhibit H.
- Exhibit I-2: Slide Creek Development, General Map of Project, supplementing Exhibits I and I-1.
- Exhibit J-6: Sheets one and two, Slide Creek Development, Topographic Map of Conduit Location, supplementing Exhibits J, J-1, J-4, and J-5.
- Exhibit K-6: Sheets one to four inclusive, supplementing Exhibits K and K-5.
- Exhibit L-2: General Description and Specifications Slide Creek Development, supplementing Exhibits L and L-1.
- Exhibit M-2: Cost Estimate of Slide Creek Development, supplementing Exhibits M and M-1.
- Exhibit N-1: Statement of Time Desired for Work, Slide Creek Development, supplementing Exhibit N.

Soda Springs Unit. The Soda Springs unit will divert a maximum of 1600 cubic feet per second from North Umpqua River in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 17, Township 26 South, Range 3 East, W.M. by means of a thin arch type reinforced concrete diversion dam which also will store 660 acre feet of water. The water diverted will include the waters of Fish Creek to be diverted for the proposed Fish Creek development of the Licensee and will

be discharged into the North Umpqua River above the Slide Creek diversion dam. Water will be diverted at normal elevation 1802 through approximately 1450 feet of concrete lined tunnel 820 feet of steel penstock to a power house located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 18, Township 26 South, Range 3 East, W. M. containing a turbine and generating unit. A steel surge tank will be located in the penstock line. A substation located adjacent to the power house would step up the generator output for transmission to the switch yards adjacent to the Toketee unit power house.

It is estimated that 640 cubic feet per second will be available for power development 90 per cent of the time. This will include 70 feet per second to be diverted from Fish Creek which will be available upon the completion of the Licensees' Fish Creek power development and allows for the release to the river of 50 cubic feet per second at the Soda Springs diversion dam.

The installed capacity of generator will be 11,250 kw. Power available 90 per cent of the time will be 6,300 hp.

Theoretical power developed by 1,600 cubic feet per second under a head of 114 feet will be 20,727 horsepower.

A concise general description of the Soda Springs unit and unit works is as follows:

(a) Diversion Dam. The diversion dam will be of thin arch type 5 feet wide on top. Thickness of the dam at the top of the footings will vary from 5 feet to more than 10 feet, depending upon the elevation of the footings. Maximum height of the dam will be about 71 feet above the river-bed. The overall length of the structure will be about 360 feet. This will include two overflow type spillways, one at each end of the dam, which

will be equipped with Tainter gates.

(b) Conduit. Water for the power plant will be diverted through a concrete lined tunnel 12 feet in diameter and 1450 feet long and a steel penstock 12 feet in diameter and 820 feet long. A steel surge tank 30 feet in diameter and 85 feet high will be connected to the penstock. The elevation of normal water behind the dam will be 1802 and the invert of the tunnel at the dam will be 1749. Normal tail water elevation will be 1688.

(c) Power House. A power house on concrete foundation will house the turbine, governor and generator.

(d) Turbine. The hydraulic equipment will consist of one vertical reaction turbine in plate steel spiral casing setting, connected to the steel penstock leading into the plant. This unit will have a full gate capacity of 16,000 bhp when operating under a net effective head of 107 feet with a discharge of 1,600 second feet, at a speed of 164 rpm. There will be an oil pressure governor of the actuator type for turbine regulation and the turbine will be equipped with a synchronous by-pass that will permit of uninterrupted flow through the plant in the event of turbine shutdown.

(e) Generator and Substation. A three-phase, sixty-cycle, 6.9 kv generator with direct-connected main and pilot exciters will be directly connected to the turbine. This machine will be rated at 11,250 kw. (0.9 power factor) and will be connected through a 1,200 ampere, 15 kv air circuit breaker to an outdoor bank of three single phase 4,166 kva transformers which will step the voltage up to 132 kv. Switch-gear of the cabinet type will be housed in an annex to the main power house building.

(f) Transmission. A 132 kv transmission line will connect the Soda Springs substation with the transmission line from the Slide Creek substation to Toketee. The transmission line will be of wood pole construction with 250 MCM conductors.

(g) Reservoir. The Soda Springs reservoir will have an available storage capacity of 660 acre feet between normal water elevation 1802 and the drawdown limit at elevation 1768. Storage will be used to regulate the fluctuating discharges from Toketee reservoir for the Toketee and Slide Creek units and assure an even flow of water downstream from Soda Springs power house. The normal water level of the reservoir will be elevation 1802 and tail water elevation below the power house will be 1688. Normal water level in the Soda Springs reservoir and normal tail water at the Slide Creek power plant are the same elevation 1802.

Exhibits. The location and character of the foregoing are more specifically shown and described in the following designated Exhibits filed with the Commission which are made a part of this license:

- Exhibit B-2: Supplemental Statement on Location of Project Works, supplementing Exhibit B, and Exhibit B-1.
- Exhibit D-2: Supplemental Statement on the Nature and Extent of the Proposed Appropriation of Water, supplementing Exhibits D and D-1.
- Exhibit E-3: Supplemental Statement on Right to Occupy lands, supplementing Exhibits E, E-1, and E-2.
- Exhibit G-2: Statement on the Effect of the Diversion on Normal Stream Flow, supplementing Exhibits G and G-1.
- Exhibit H-2: Estimate of Power Available and Capacity of the Soda Springs Development, supplementing Exhibits H and H-1.

- Exhibit I-3: Soda Springs Development, General Map of Project, supplementing Exhibits I, I-1 and I-2.
- Exhibit J-7: Sheets one and two, topographic maps of Soda Springs Development, supplementing Exhibits J, J-1, J-4, J-5 and J-6.
- Exhibit K-7: Sheets one to three inclusive, supplementing Exhibits K, K-5 and K-6.
- Exhibit L-3: General Description and Specifications Soda Springs Development, supplementing Exhibits L, L-1 and L-2.
- Exhibit M-3: Cost Estimate of Soda Springs Development, supplementing Exhibits M, M-1 and M-2.
- Exhibit N-2: Statement of Time Desired for Work, Soda Springs Development, supplementing Exhibits N and N-1.

Transmission Line. The transmission line which will be connected to the Soda Springs, Slide Creek and Toketee Units, extends from the switch yard adjacent to the plant of the Toketee unit 49.1 miles to Dixonville connecting the three units of Project No. 23 with the applicant's primary transmission system. The line will be operated at approximately 132 kv. The line consists of treated fir pole H-frames with steel cross arm, 24 feet long, supporting 250 MCM 19 strand hard drawn copper conductors, strung to medium loading. The average span is about 840 feet. Suspension insulators with 10 inch standard discs were used.

The eastern part of the line is located in the Umpqua National Forest and the western part crosses for the most part lands in State or private ownership and a few scattered tracts administered by the Oregon and California Revested Lands Administration. Perpetual rights of way or easements for the transmission line have been obtained from owners of all lands crossed with the exception of lands owned by the Federal Government.

Exhibits. The location and character of the foregoing are more

Amendment Issued July 5, 1958

specifically shown and described in the following designated Exhibits filed with the Commission, which are made a part of this license:

Exhibit E-1: Supplemental Statement on Ownership of Lands.

Exhibit I-1: One sheet, Transmission Line, General Map.

Exhibit J-1: Eleven sheets, Transmission Line, Detail Map.

Exhibit L-1: Transmission Line Specifications.

Exhibit M-1: Transmission Line Costs.

ARTICLE 3. Special Conditions.

(a) Sufficient water shall be by-passed at the Toketee unit diversion and storage dam to sustain fish life in the river below the falls and to maintain, if and when required, the scenic attractiveness of Toketee Falls. Sufficient water shall be by-passed at the diversion dams of the Slide Creek and Soda Springs units to sustain fish life in the river below said dams. The exact amount of water to be by-passed shall be determined by tests satisfactory to the Commission after completion of the diversion works, but shall not be more than 50 cubic feet per second.

(b) The Licensee, if required by the Commission, shall make additional studies of the character of the soil and material to be placed in the earth dam, and other factors bearing upon the maximum dam height and shall prepare and submit in detail, further data bearing upon such matters, and upon the size of the power installation, diameter and design of the water conduits, design and method of construction proposed for the penstocks, and the thickness of steel to be used in the penstocks, and in general shall furnish such maps, plans, specifications and other complete information and data as may be required to enable the Commission, with the information and data already submitted, to pass upon the safety

and adequacy of all structures proposed.

(c) The Licensee shall not commence construction of a dam, power house, water conduits, or appurtenant structures without approval by the Commission of the plans therefor prepared in conformity with the information and data called for in the preceding paragraph.

14-3165
(d) To prevent the loss of young salmonids by stranding due to changes in water level, the fluctuation of the water level at U.S.G.S. water recorder station 7425 (North Umpqua River above Copeland Creek) below the Soda Springs power house resulting from the operation of the several units of the project shall never be allowed to exceed one foot vertically nor shall such operational fluctuation ever exceed four inches vertically in any one hour period, provided that the foregoing restrictions shall not apply when conditions beyond the control of the Licensee threaten the safety of the Toketee, Slide Creek or Soda Springs Units.

(e) The Licensee shall furnish such other facilities for the protection of fish life in connection with the operation of the several units of the project as may prove necessary, when required by the Commission.

(f) The Licensee shall measure leakage from the Toketee dam and submit monthly reports thereof to the Commission. The Licensee also shall install a sufficient number of well points in said dam to determine the line of saturation. The water level in the wells and corresponding water surface elevation shall be read at least once each month and these data submitted to the Commission.

Not required until further notice 1-5-52

(g) To the extent any change in maps, plans, or specifications is hereafter approved by the Commission, the approval of such change shall be deemed to amend the description of the project.

ARTICLE 4. Period of License. This license is effective as of January 23, 1947 and shall terminate December 31, 1996, unless the whole net investment of the project under this license shall be

amortized and repaid prior thereto.

ARTICLE 5. Jurisdiction. In consideration of this amended license and of the benefits and advantages accruing thereunder to the Licensee, it is expressly agreed by the Licensee that the entire project, project area, and project works as hereinafter designated and described whether or not upon lands of the United States, shall be subject to all provisions, terms, and conditions of this amended license. Should the Licensee be prevented from compliance with any provisions of this amended license or of the Hydroelectric Act by the operation of any valid Federal law or the lawful order, rule or regulation of any Federal governmental agency exercising exclusive jurisdiction in the premises, it shall not be deemed to be in default or under any liability to the State of Oregon for failure to perform the same during the period of such disability.

ARTICLE 6. Time for Completion of Work. The Licensee shall complete the construction of the project works, on or before January 1, 1952, unless for good cause shown, the Commission shall order and allow an extension of time for such completion.

ARTICLE 7. Water Right Granted. Subject to the provisions of ARTICLE 3, this license grants the Licensee the right to store, divert and use the water of Clearwater River and North Umpqua River for the development of hydroelectric power at the Toketee, Slide Creek and Soda Springs units of the Project as follows:

Toketee Unit: To store at Toketee reservoir not to exceed 1440 acre feet of the water of North Umpqua River and Clearwater River, a tributary thereof, in any 24 hour period and to divert the direct flow of North Umpqua River, and Clearwater River, a tributary thereof, not to exceed 1425

Extended to
1/1/52 on
1-3-52

cubic feet per second, provided, that the total quantity diverted from storage and direct flow shall not exceed 1425 cubic feet per second, said waters to be used for the development of 72,545 theoretical horsepower under a normal static head of 448 feet with the following dates of priority for the right to the use thereof:

August 13, 1930 for 600 cubic feet per second of direct flow
January 18, 1945 for 250 cubic feet per second of direct flow
January 18, 1945 for 400 acre feet of storage
March 22, 1947 for 550 cubic feet per second of direct flow
March 22, 1947 for 1040 acre feet of storage
August 31, 1949 for 25 cubic feet per second of direct flow

The right to the use of such waters shall be further limited to the amount which the installed plant will utilize efficiently. The point of diversion in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 35, Township 26 South, Range 3 East, W.M. is hereby fixed at the Toketee unit storage and diversion dam, and the point of return hereby is fixed where the water is returned to North Umpqua River at the power house in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 27 said township and range, as described herein and more specifically shown by maps and exhibits designated in ARTICLE 2.

Slide Creek Unit: To divert not to exceed 1500 cubic feet per second of water from North Umpqua River, which will include water diverted from Fish Creek by the Licensee for its proposed Fish Creek development and discharged into the North Umpqua River above the diversion dam of the Slide Creek Unit, said water to be used for the development of 28,807 theoretical horsepower under a head of 169 feet, with a date of priority of July 5, 1949 for the right to the use thereof. The right to the use of such water shall further be limited to the amount which the installed plant will utilize efficiently. The point of diversion of said water in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 27, Township 26 South, Range 3 East, W. M. is hereby

fixed as the Slide Creek diversion dam and the point where water is returned to North Umpqua River in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 21, said township and range is fixed as the Slide Creek power house as described herein and more specifically shown on maps and exhibits designated in ARTICLE 2.

Soda Springs Unit: To store and use not to exceed 660 acre feet of the water of North Umpqua River in any 24 hour period and to divert the direct flow of North Umpqua River not to exceed 1600 cubic feet per second, provided; that the total quantity diverted from storage and direct flow shall not exceed 1600 cubic feet per second, said waters to be used for the development of 20,727 theoretical horsepower under a head of 114 feet with a date of priority of July 6, 1949 for the right to the use thereof. The right to the use of such waters shall be further limited to the amount which the installed plant will use efficiently. The point of diversion of said water in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 17, Township 26 South, Range 3 East, T. N. hereby is fixed as the Soda Springs diversion dam and the point where the water is returned to the North Umpqua River in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 18 said township and range is fixed as the Soda Springs power house, as described herein and more specifically shown by the maps and exhibits designated in ARTICLE 2.

ARTICLE 8. Period of Water Right. The right to the use of the waters in connection with the development of this project shall be vested with the Licensee during the time this amended license or any lawful renewal or extension thereof is in force.

ARTICLE 9. Annual License Fee. An annual license fee of \$3,627.25 shall be paid by the Licensee for the calendar year 1950 being 5 cents for

each of the 72,545 theoretical horsepower authorized herein for the Toketes unit.

An annual fee of \$6,103.95 shall be paid by the Licensee for each of the calendar years 1951 to 1954 inclusive being 5 cents for each of the 122,079 theoretical horsepower authorized herein.

An annual fee of \$12,207.90 shall be paid by the Licensee for each of the calendar years 1955 to 1959 inclusive being 10 cents for each of the 122,079 theoretical horsepower authorized herein.

An annual fee of \$18,311.85 shall be paid by the Licensee for each of the calendar years 1960 to 1996 inclusive being 15 cents for each of the 122,079 theoretical horsepower authorized herein.

Should the terms and conditions of this license be extended at its expiration, the Licensee shall pay such annual fees as the Hydro-electric Commission of Oregon, or its successor having jurisdiction in the matter at the time, shall fix.

ARTICLE 10. Expenses of Examination. The Licensee shall pay to the State of Oregon in accordance with the provisions of Section 119-111, O.C.L.A., the expenses incurred and to be incurred by the Commission in examining into the application for license, and maps, plans, specifications, cost estimates and other matters relating to the project, and the investigations from time to time of acts done and work carried forward under the license until December 31, 1950; provided, that the total of such shall not exceed \$2,500 during any one year.

ARTICLE 11. Depreciation. The amount of the annual charges for depreciation expenses to be included in the cost of operation shall be determined on a straight line basis computed by use of service lives as

determined by the Public Utilities Commissioner of Oregon, subject to the approval of the Commission. The service lives of the original units of property in the initial development and ultimate project shall not exceed the unexpired period of the license. In determining the amount of the annual charges for depreciation expense to be included in the cost of operation prior to the time of final action of the Commission in fixing the actual legitimate cost of the original project as provided for in ARTICLE 12 of this license, the original legitimate cost of the items in each account number as set forth in the "Initial Cost Statement" to be filed by the Licensee, as provided for in said Article, shall be used.

ARTICLE 12. Determination of Cost of Project.

(a) Initial Cost Statements: The Licensee shall file within one year after the time the initial development is ready for service, an initial statement, under oath, with three additional conformed copies thereof showing the amount claimed by the Licensee as the actual legitimate cost of the initial development, as defined in Section 119-115, O.C.L.A., on forms as now prescribed by the Federal Power Commission for this purpose, otherwise on forms approved by the Commission. Similar statements with respect to net additions and betterments to the initial development shall be filed in the same manner before April 1 of each and every succeeding year during the term of this license or any lawful extension thereof, unless the Commission shall otherwise direct. The same procedure will be followed upon the completion of each of the other units of the ultimate project.

(b) Substance: Each statement so filed shall give full, adequate, and complete information with respect to the cost of the initial development

① Typographical error. Should be "of". See original license - 15019-

and ultimate project or additions and betterments as the case may be. Any statement which does not contain sufficient information will be returned to the Licensee for such additional information as the Commission may deem necessary.

(c) Report on Project: When a satisfactory statement shall have been filed with the Commission, the Commission will file one copy of such with the Public Utilities Commissioner of Oregon, and the Commission's representatives will make an audit of the accounts, will analyze the books, cost records, engineering reports, and other records supporting such statement or pertaining to the project, will inspect the project works, and will prepare a report setting forth their findings and recommendations with respect to the cost as claimed.

(d) Service of Report: Copies of such report and of the final report provided for in sub-section (g) of this ARTICLE 12, will be served by registered mail upon the Licensee at its principal place of business in Oregon and copies will be sent to the Public Utilities Commissioner of Oregon, the Federal Power Commission and such other parties as the Commission may prescribe.

(e) Time of Filing of Protest: Thirty days after service thereof will be allowed to the Licensee within which to file a protest to such report. If no protest is filed within the time allowed, the Commission will issue such orders as may be appropriate. If a protest is filed a hearing will be ordered, such hearing to be held within 90 days from the filing of the protest with the Commission.

(f) Burden of Proof: The burden of proof to sustain each item of the statement of claimed cost as filed shall be upon the Licensee and

only such items as are in the opinion of the Commission supported by satisfactory proof may be entered in the project accounts of the Licensee.

(g) Finding and Final Statement: Final action by the Commission will be in the form of a finding and order entered upon its minutes and served upon the Licensee, Public Utilities Commissioner of Oregon, the Federal Power Commission and such other parties as the Commission may prescribe. The Licensee shall thereafter file a final statement, under oath, in duplicate, with two additional copies thereof, showing the net investment revised in conformity with the order of the Commission, together with a statement showing that its records have been revised in conformity with such order.

ARTICLE 13. Reasonable Rate of Return. A reasonable rate of return on the net investment in the project shall be that established by the Public Utilities Commissioner of Oregon, subject to the approval of the Commission, but shall not exceed 6 per cent per annum. The surplus earned and accumulated in excess of the reasonable rate of return for this project will be in proportion to the total surplus earned and accumulated by the Licensee, as determined by the Public Utilities Commissioner of Oregon, and any surplus earnings shall be apportioned on the basis that the net investment in this project, as determined by the Commission, bears to the total net investment of Licensee in its electric utilities properties and such determination shall be subject to the approval of the Commission.

The formula to be used to determine the surplus earned and accumulated for this project as set out above will be as follows:

$$a = \frac{bx}{y}$$

in which

a = the surplus earned and accumulated in excess of a reasonable rate of return for this project.

b = total surplus earned and accumulated by the Licensee as determined by the Public Utilities Commissioner of Oregon.

x = total net investment of Licensee in this project as determined by the commission.

y = total net investment of Licensees in his electric utilities properties as determined by the Public Utilities Commissioner.

The determination of the Public Utilities Commissioner with respect to "b" and "y" shall be subject to the approval of the Commission.

ARTICLE 14. Amortization Reserve. Any earnings in excess of said reasonable rate of return as determined by the Public Utilities Commissioner of Oregon and as approved by the Hydroelectric Commission, shall be set up in Account 258-2, Miscellaneous Reserve, as a credit to the Amortization Reserve, as provided for in Section 119-114, O.C.L.A., of the Hydroelectric Act, to be disposed of in accordance with order of the Commission.

ARTICLE 15. Accounting. For the purpose of this amended license and the accounting to be followed by the Licensee, the Commission adopts the Uniform System of Accounts prescribed by the Public Utilities Commissioner of Oregon for Class A and B Electric Utilities, effective January 1, 1937, and reserves the right to approve any revisions or modifications thereof.

ARTICLE 16. Bond of Licensee to Protect Laborers and Materialmen. Before entering upon the construction of this project the Licensee shall

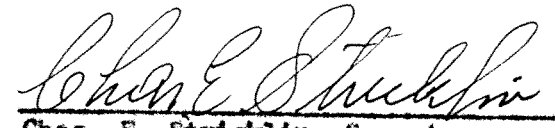
execute a bond as required by Section 119-126, O.C.L.A., in an amount of \$10,000, the form of which is to be approved by the Attorney General of Oregon, which bond shall be in addition to and not in lieu of any other liability of the Licensee principal.

IN WITNESS WHEREOF, the Hydroelectric Commission of Oregon has caused its name to be signed hereto at Salem, Oregon, this 28th day of December 1949.

HYDROELECTRIC COMMISSION OF OREGON


Geo. W. Joseph, II, Chairman


F. C. Dillard, Vice Chairman


Ches. E. Stricklin, Secretary

IN TESTIMONY OF ACCEPTANCE of all the terms and conditions of the Hydroelectric Act, and of the further conditions imposed in the foregoing second amended license, the Licensee, this 21st day of December , 1949, has caused its corporate name to be signed by A. S. Cummins, its President, and its corporate seal to be affixed hereto and attested by E. L. Lenox, its Secretary, pursuant to the resolution of its board of directors, duly adopted on the 21st day of December , 1949, a certified copy of the record of which is attached hereto.

By A. S. Cummins
President

SEAL

Attest:

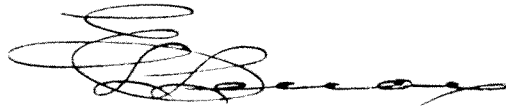
E. L. Lenox
Secretary

THE CALIFORNIA OREGON POWER COMPANY
CERTIFIED COPY OF RESOLUTION ADOPTED BY
THE BOARD OF DIRECTORS

RESOLVED, That the President, A. S. Cummins, and the Secretary, E. L. Lenox, of this Corporation be and they hereby are authorized, empowered and directed for and on behalf of this Corporation, and as its corporate act and deed, to execute an acceptance of "Second Amended License for a Major Hydroelectric Project - The California Oregon Power Company - Project No. 23," which said license provides for the construction, operation and maintenance of the Toketee Unit, Slide Creek Unit, Soda Springs Unit and Toketee Dixonville Transmission line Hydroelectric Project on the North Umpqua River in Douglas County, Oregon, and said officials are authorized to do and perform any and all acts necessary or desirable to effectuate the purpose of this resolution.

I, E. L. Lenox, Secretary of The California Oregon Power Company, hereby certify the above and foregoing to be a full, true and correct copy of a resolution adopted by the Board of Directors of said Corporation at a meeting thereof held on December 21, 1949; that there was then and there present and voted thereon a quorum of said Board; and that said resolution is in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation this 21st day of December, 1949.



Secretary

SEAL