

# Allison Creek, Moving From Paper to Concrete



Until now, the Allison Creek Hydroelectric Project, which will displace 725,000 gallons of fuel annually and increase CVEA's renewable energy portfolio from 50-64 percent, has been moving forward on paper. The Cooperative has documented the results of fish, bird and mammal studies, applied for licenses and permits, and written a multitude of plans to protect wildlife, water quality, personnel safety, wetlands, and more.

Every aspect of the project from the density of the concrete to the size of every bolt, nut and screw has been designed. Long-lead-time equipment has been ordered, landowner agreements are being put in place, and a team of contractors has been hired to begin construction. Over \$17 million in grants has been received and the plan of finance for construction of the project is in place about complete.

In August 2013, CVEA received the original license to construct the project from the Federal Energy Regulatory Commission (FERC) and authorization to take this project from paperwork to moving dirt this spring.

As soon as weather permits, the project will transition from paper to tractors, cranes, dynamite, building forms, hauling materials, building roads, mobilizing materials, erecting buildings, install-

ing new power lines and much, much more. Local resources will play a big part in the entire effort. From heavy equipment rental to personnel being hired, Valdez will be involved. Here's a glance at what lies ahead.

## **Mobilization**

Contractors and materials will begin to arrive in Valdez early this spring. Storage areas have been arranged for all of the equipment and office space has been rented.

## **Ground Clearing, Access Road and Tunnel**

As soon as snow-melt permits, crews will clear foliage at the powerhouse location and begin building the temporary access road and tunnel. The tunnel is a key element in the project as it's needed to get heavy equipment to the diversion structure site. It will take a few months to build the access road and blast the tunnel. At best, we hope that the tunnel is complete and the upper access road is started in 2014.

## **Powerhouse**

The powerhouse foundation will also be poured and set in 2014. This part of the project needs to be very

precise and match perfectly to the Pelton Turbine and generator that will be installed. We expect the powerhouse to be “weathered in” before the snow flies in late 2014 to allow winter construction inside.

### Equipment Installation

Some of the equipment for this project is extremely specialized and needs to be ordered well in advance; it’s called long-lead-time equipment because it takes many months to manufacture.

There is only one manufacturer in the United States, located in Deming, Washington, that can build it. CVEA hired this company in May 2013 to design and build the equipment needed for the project. This long-lead-time equipment is on track to meet our winter 2014/2015 installation deadline.

### Upper Access Road and Diversion Structure

As soon as weather permits in the spring of 2015, the upper access road will be finished and the diversion structure started. As with most hydropower projects, the creek water will be re-channeled to allow construction of the diversion structure in the creek bed. We will use “Coffer Dams” to achieve this. If all goes as planned, the diversion structure will be completed in 2015.

### Penstock and Transmission Line

Concurrent to building the diversion structure, the penstock, a 7,000 foot long, 36-40 inch diameter pipe that carries the water from the diversion structure to the powerhouse, will be buried. This work will take the entire 2015 construction season to complete.

The transmission line construction will also take place in 2015. This line originates at the powerhouse and travels 3.8 miles to the CVEA switchstation located across Dayville Road from the Refinery.

### Watering and Spin-up

In 2016, final construction activities will be completed. Water will be diverted into the penstock and the turbine will be allowed to spin for the first time. The system will be gradually brought on line and a system of checks will be completed.

When the flows in Allison Creek increase enough to hit 100 percent of the generator output, the project will be fully commissioned and CVEA will take control from the contractor.

Permitting, designing, and constructing a hydro-



**Opposite, the water that rages down Allison Creek will soon be used for additional hydropower**  
**Top, long-leadtime equipment similar to what was purchased for the Allison Creek Hydroelectric Project**  
**Above, a Pelton Wheel similar to what will be used for the project**

Above photos courtesy Canyon Hydro

electric project in today’s environment is no easy task, but it is the vision of the Cooperative to reduce or eliminate our dependence on fossil fuel and to stabilize the Cooperative’s cost of generation with regional, sustainable resources.

The addition of Allison Creek moves us one step closer to this vision. Since 2008 when we started this project, your Cooperative has been diligent, persistent and precise in moving it forward. This project creates a tremendous benefit for all CVEA members, and we are truly excited to begin the move from a project on paper to pouring concrete! ■