BONNEVILLE POWER ADMINISTRATION

# BONNEVILLE-HOOD RIVER LINE

## A VISUAL TIMELINE

# The Historic Bonneville-Hood River Transmission Line

Bonneville Dam, the first federal dam on the Columbia River, was built during the Great Depression between 1933 and 1937. As part of President Franklin D. Roosevelt's New Deal program, the public works project provided jobs during a time of economic uncertainty. The dam held the promise of electric power distribution and transmission for all people of the Northwest. The Bonneville Dam site, 42 miles east of Portland, was chosen as an ideal place to raise the river over the Cascade Rapids, enabling barge traffic to transport wheat and mined resources downstream. The dam's location would also serve as an origin for electrical distribution in several directions, including eastward on the Oregon side of the river.

The Bonneville Project Act of 1937 created the Bonneville Power Administration to provide electric transmission for the "widest possible use." U.S. Congress charged the agency with distributing electricity primarily for the benefit of the public. This measure signified that nonurban communities would be able to benefit from electricity the same as municipalities, which had higher population concentrations. Rural communities and smaller towns in Oregon and Washington could receive power from Bonneville Dam as soon as they established consumer-owned cooperatives or elected public utility districts (PUDs). Forming their own utilities also allowed these communities to take advantage of the low-cost lending opportunities provided in the Rural Electrification Act of 1936.

The Bonneville-The Dalles transmission line was one of the earliest lines planned for construction and the only one proposed to go east of Bonneville Dam. The towns of Hood River and The Dalles recognized that they would be able to energize their regions through the line if they could garner public support for PUDs. In 1939, The Dalles successfully voted in the Northern Wasco County People's Utility District. The vote led to the construction of The Dalles Substation, which was energized in 1941. Hood River's voters, however, did not approve of the formation of a PUD. This led to the original Bonneville-The Dalles line temporarily bypassing Hood River.

Many Hood River citizens who had campaigned for a PUD still supported bringing power to their community via BPA's transmission lines. Taking an alternate route, these citizens formed the legally recognized Hood River Electric Cooperative (HREC) on June 15, 1945. HREC made it possible to establish a connection along the Bonneville-The Dalles line at Hood River. In 1946, BPA completed its Hood River Substation and connected the 22.61-mile segment of the 36-mile Bonneville-The Dalles line to Hood River, naming it the Bonneville-Hood River transmission line.

The Bonneville-Hood River line demonstrates the expertise of BPA engineering. Though originally planned as a wood pole line, it was determined that the ice loads accumulated on the line would be too heavy for wood poles to support safely. Considering the varied terrain in the Columbia River Gorge landscape, BPA designed steel lattice H-frame towers, which would distribute weight and be durable enough to support the line through harsh winter conditions. These towers were also cost-effective, as the modular components could be transported easily and assembled on-site. The resultant riveted towers became part of the iconic landscape of the Columbia River Gorge.

Photos are from the Bonneville Power Administration records held at the National Archives and Records Administration in Seattle. For a digital copy of a photo, contact the BPA Library & Visitor Center at library@bpa.gov.

# HOOD RIVER COMMUNITY

## September 4, 1940

Hood River Bridge, which was altered in 1938 to accommodate the rising waters due to Bonneville Dam construction.


# HOOD RIVER COMMUNITY

## September 4, 1940

City of Hood River, Oregon.


# DESIGNING THE LINE

## August 8, 1939

Informational sign presented by BPA's chief engineer Charles Carey to reporters, indicating where the Bonneville-The Dalles transmission line will go. Graphic includes Hood River. Signage is onsite where the Works Projects Administration is clearing the right-of-way for the line.


# DESIGNING THE LINE

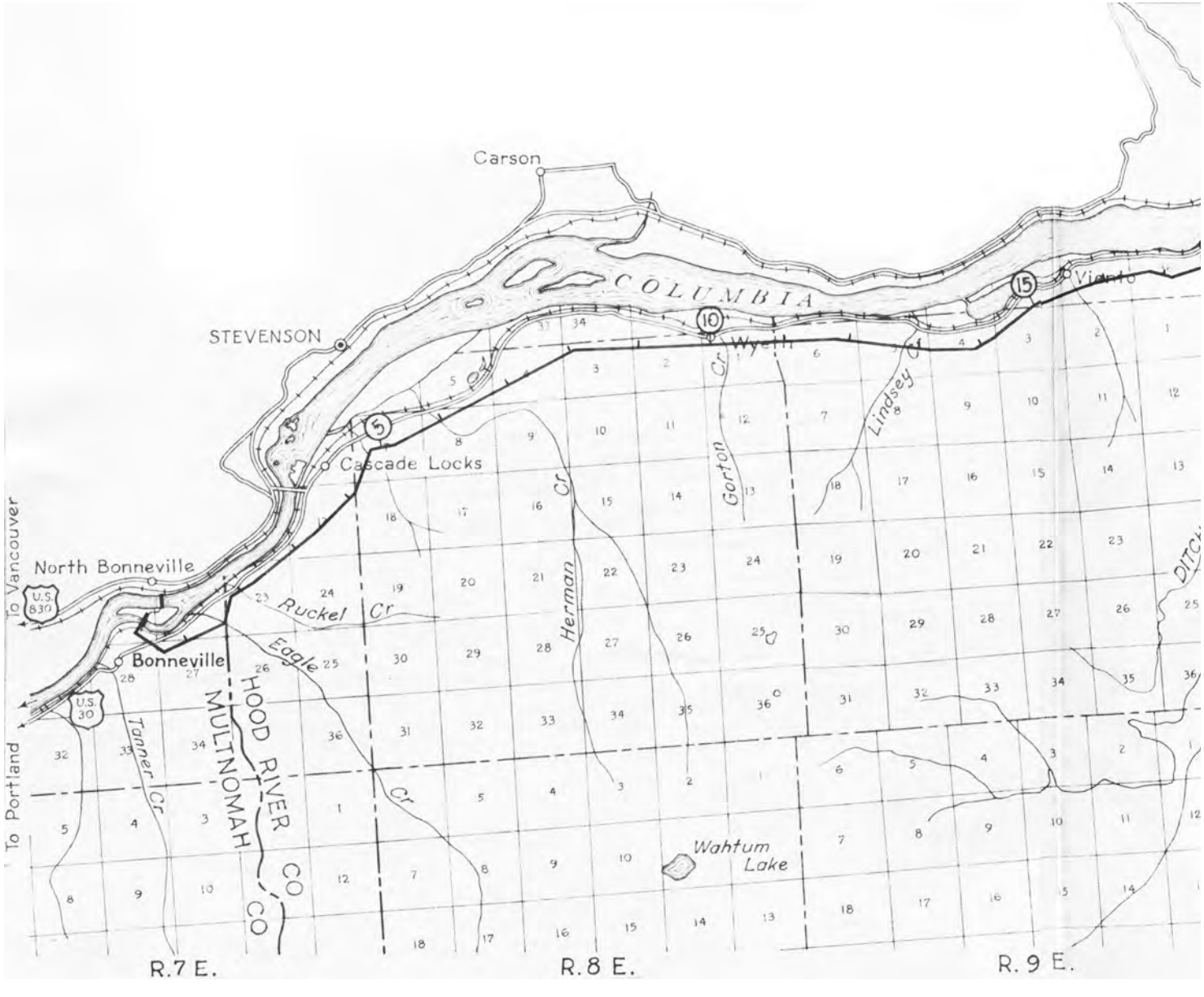
## August 8, 1939

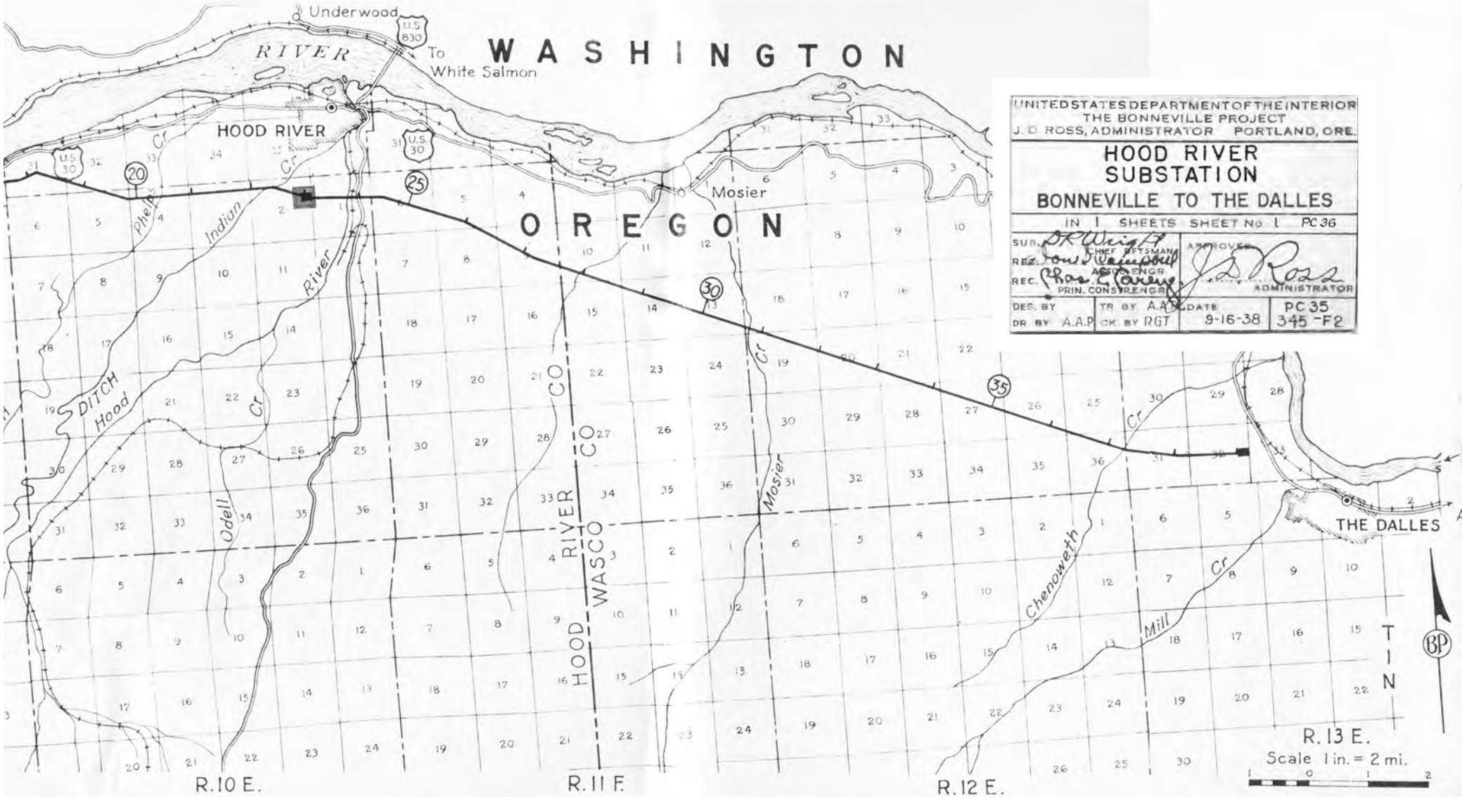
Informational sign presented by BPA's chief engineer Charles Carey where the Works Projects Administration is clearing right-of-way for the line.

# DESIGNING THE LINE

## August 8, 1939

Bonneville Powerhouse-Hood River No. 1 115-kV Transmission Line (official name) represents the western 22.61 miles of the approximately 36 mile-long Bonneville-The Dalles Transmission Line. Original drawing submitted September 16, 1938.






UNITED STATES DEPARTMENT OF THE INTERIOR
THE BONNEVILLE PROJECT
J. D. ROSS, ADMINISTRATOR PORTLAND, ORE.

# HOOD RIVER SUBSTATION
## BONNEVILLE TO THE DALLES

IN 1 SHEETS SHEET No. 1 PC 36

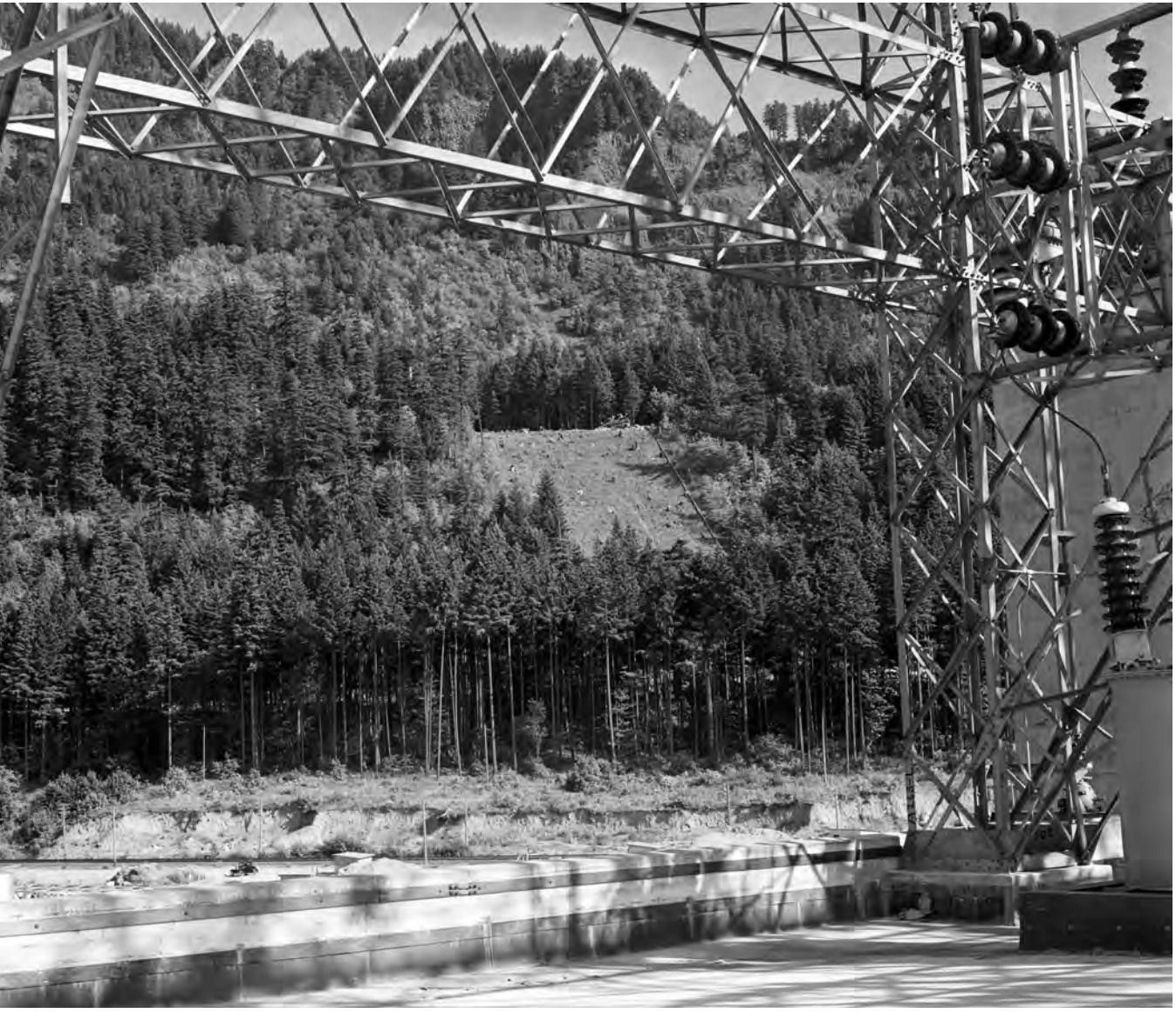
SUB. D.R. Wright CHIEF RIFTSMAN
REC. Lou D. Wainwright ASST. ENGR
REC. Thos. G. Carew PRIN. CONST. ENGR
APPROVED J. D. Ross ADMINISTRATOR

| DES. BY | TR BY A.A.P. | DATE | PC 35 |
|---|---|---|---|
| DR BY A.A.P. | CK. BY RGT | 9-16-38 | 345 - F2 |

# RUGGED TERRAIN: CLEARING THE RIGHT-OF-WAY

## December 10, 1938

Surveyors measure the rugged terrain above the Columbia River on the Oregon side for the line. Steep drop-off behind the men, river in the far upper right.



# RUGGED TERRAIN: CLEARING THE RIGHT-OF-WAY

## June 13, 1939

As seen from the Bonneville Dam power-house. After the line crosses the navigation lock, it runs through rugged terrain above the Columbia River Gorge. This steep terrain rises just above Bonneville Dam.

# RUGGED TERRAIN: CLEARING THE RIGHT-OF-WAY

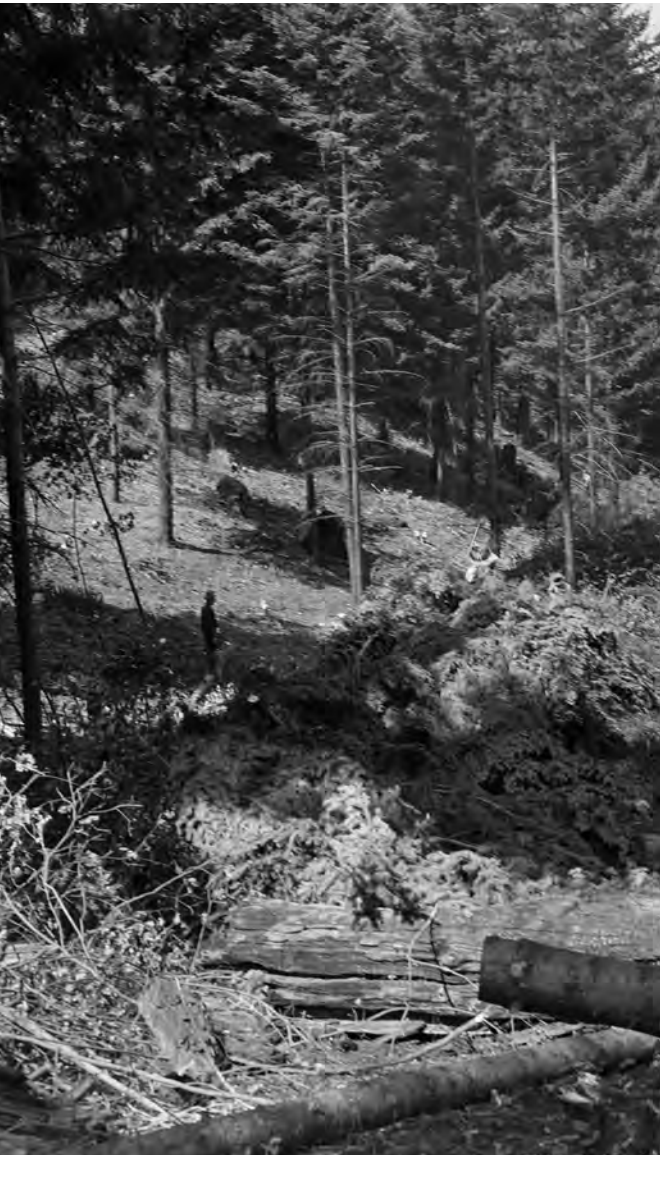
## JULY 18, 1939

In addition to the steep slopes, crews contended with heavily timbered land to clear the right-of-way.

# RUGGED TERRAIN: CLEARING THE RIGHT-OF-WAY

## July 18, 1939

In addition to the steep slopes, the crews contended with heavily timbered land to clear the right-of-way.



# RUGGED TERRAIN: CLEARING THE RIGHT-OF-WAY

## JULY 18, 1939

Heavily timbered, steep locations in the Bonneville-Hood River section.

# RUGGED TERRAIN: CLEARING THE RIGHT-OF-WAY

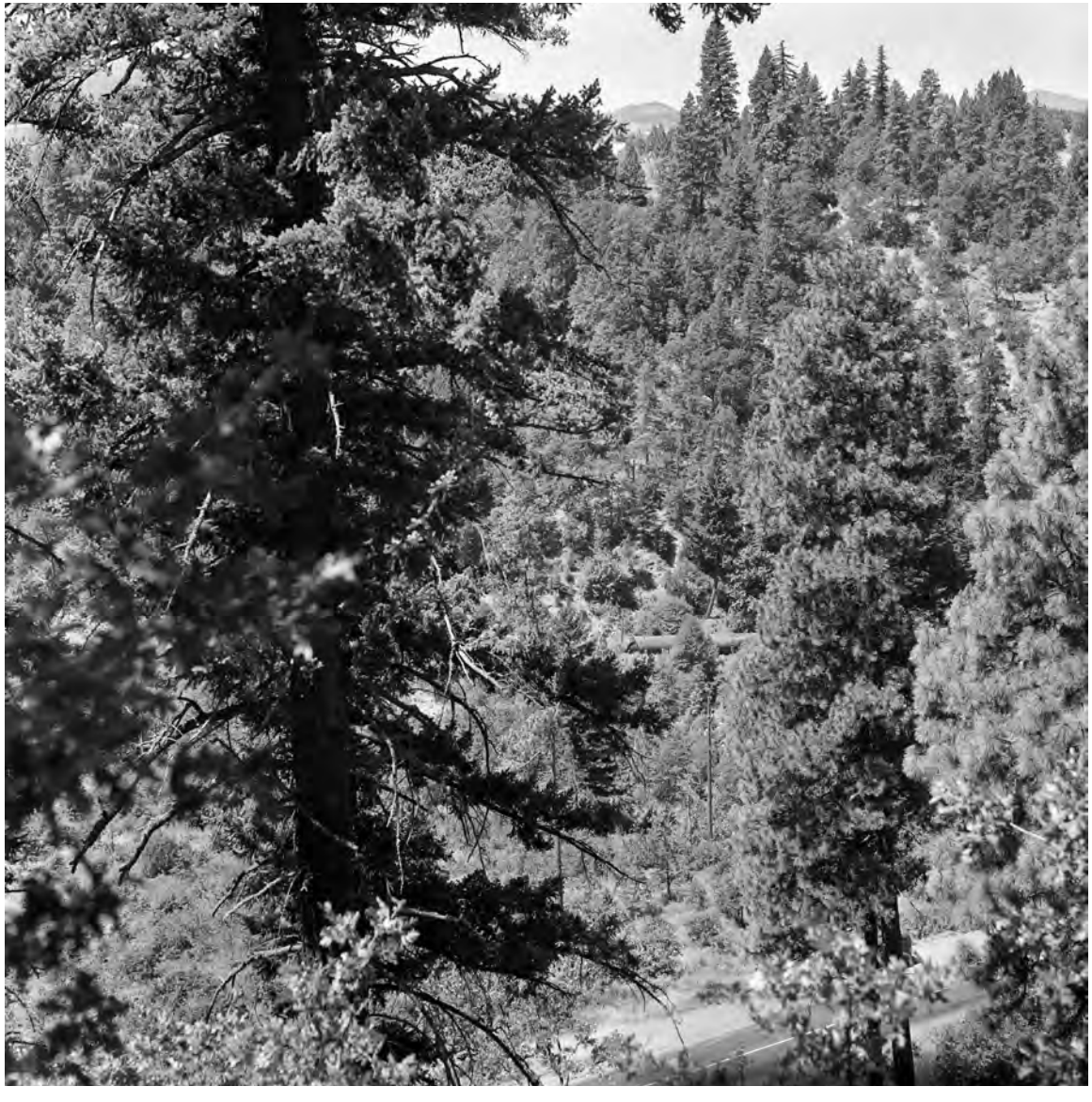
## 1939

Larch Mountain Camp. Construction camp for Works Projects Administration workers clearing right-of way for the Bonneville-The Dalles transmission line.

# RUGGED TERRAIN: SURVEYING THE LINE

## July 18, 1939

A worker on the road is barely visible through the surveying equipment.



# RUGGED TERRAIN: SURVEYING THE LINE

## July 18, 1939

Looking down a steep hillside with the Historic Columbia River Highway below.

# RUGGED TERRAIN: SURVEYING THE LINE

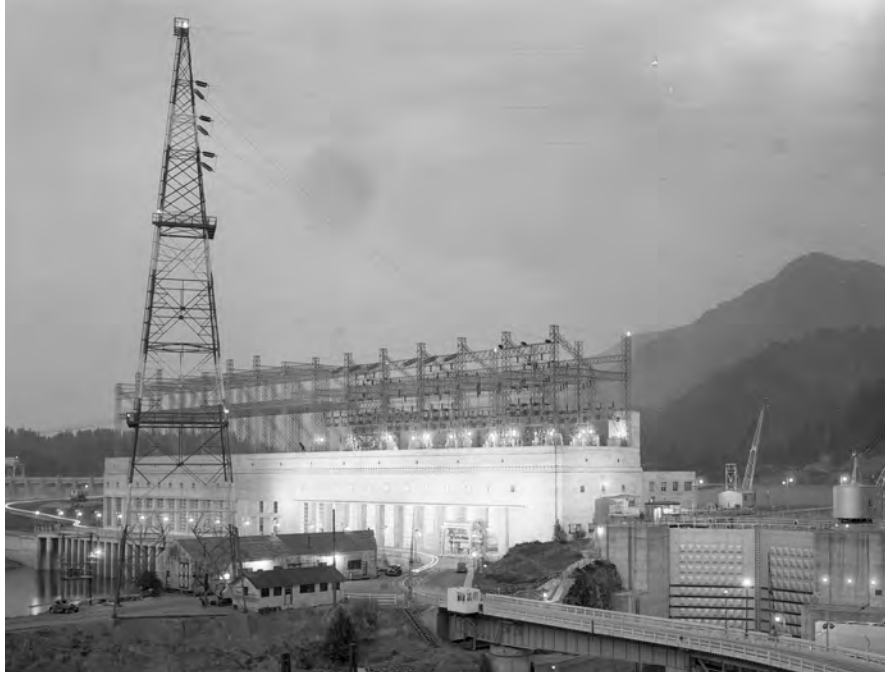
## July 18, 1939

Surveying steep terrain above the Columbia River Gorge.

# RUGGED TERRAIN: SURVEYING THE LINE

## July 18, 1939

Surveying steep terrain above the Columbia River Gorge.



# BONNEVILLE DAM

## Bonneville Dam is the starting point for the Bonneville-Hood River Transmission Line

TOP-LEFT December, 1943. Bonneville Dam powerhouse.

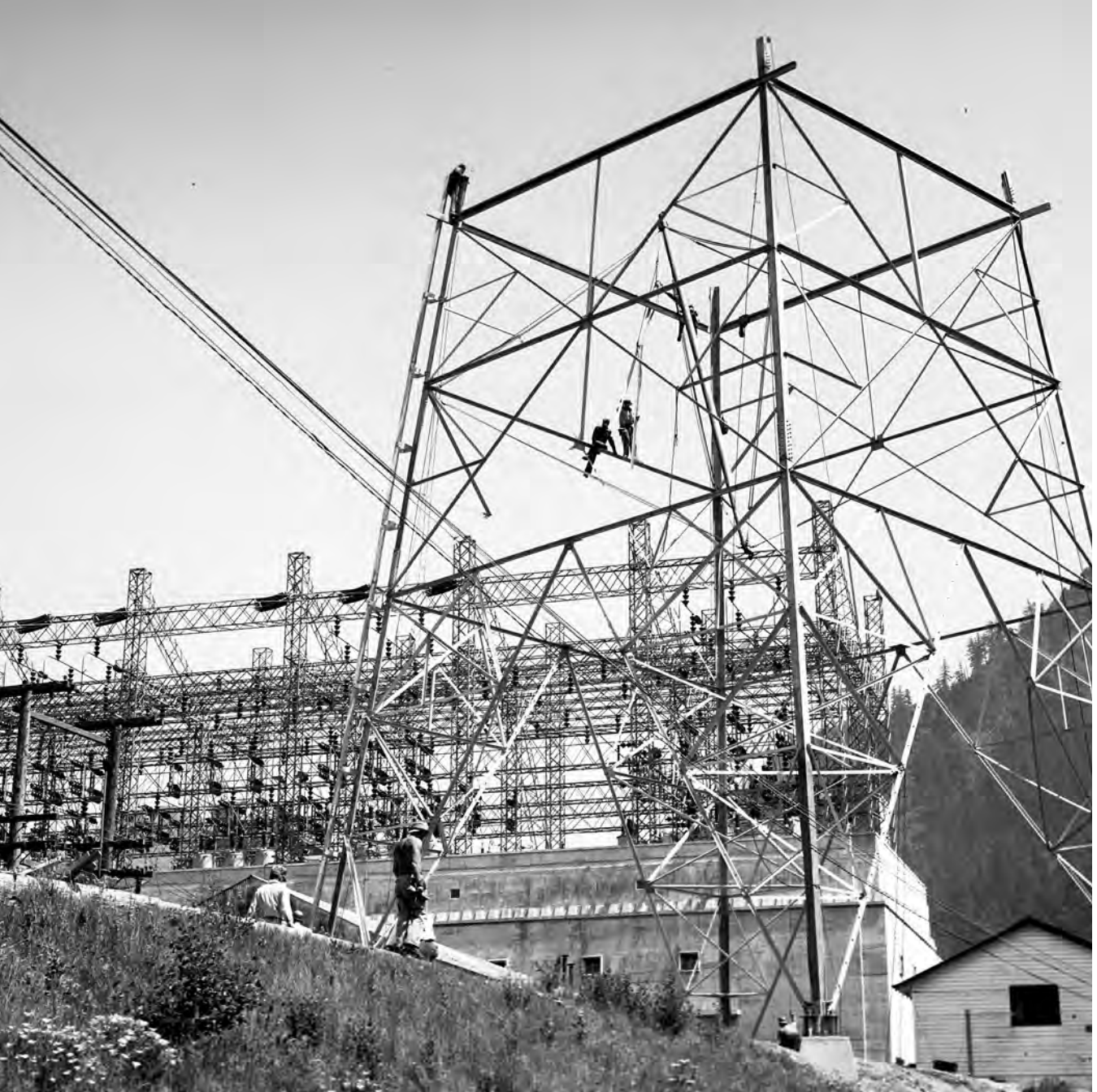
TOP-RIGHT August 20, 1940. Bonneville Dam powerhouse and navigation lock in the evening. Tower near the dam is the beginning of the Bonneville-The Dalles line, which includes Hood River.

BOTTOM-LEFT Summer 1940. Bonneville Dam powerhouse at night.


# LEAVING BONNEVILLE DAM

## March 21, 1940

Once the line leaves the Bonneville Dam powerhouse, it crosses the dam's navigation lock. The footings have been placed for towers that will carry the line over the navigation lock, with powerhouse in the background.

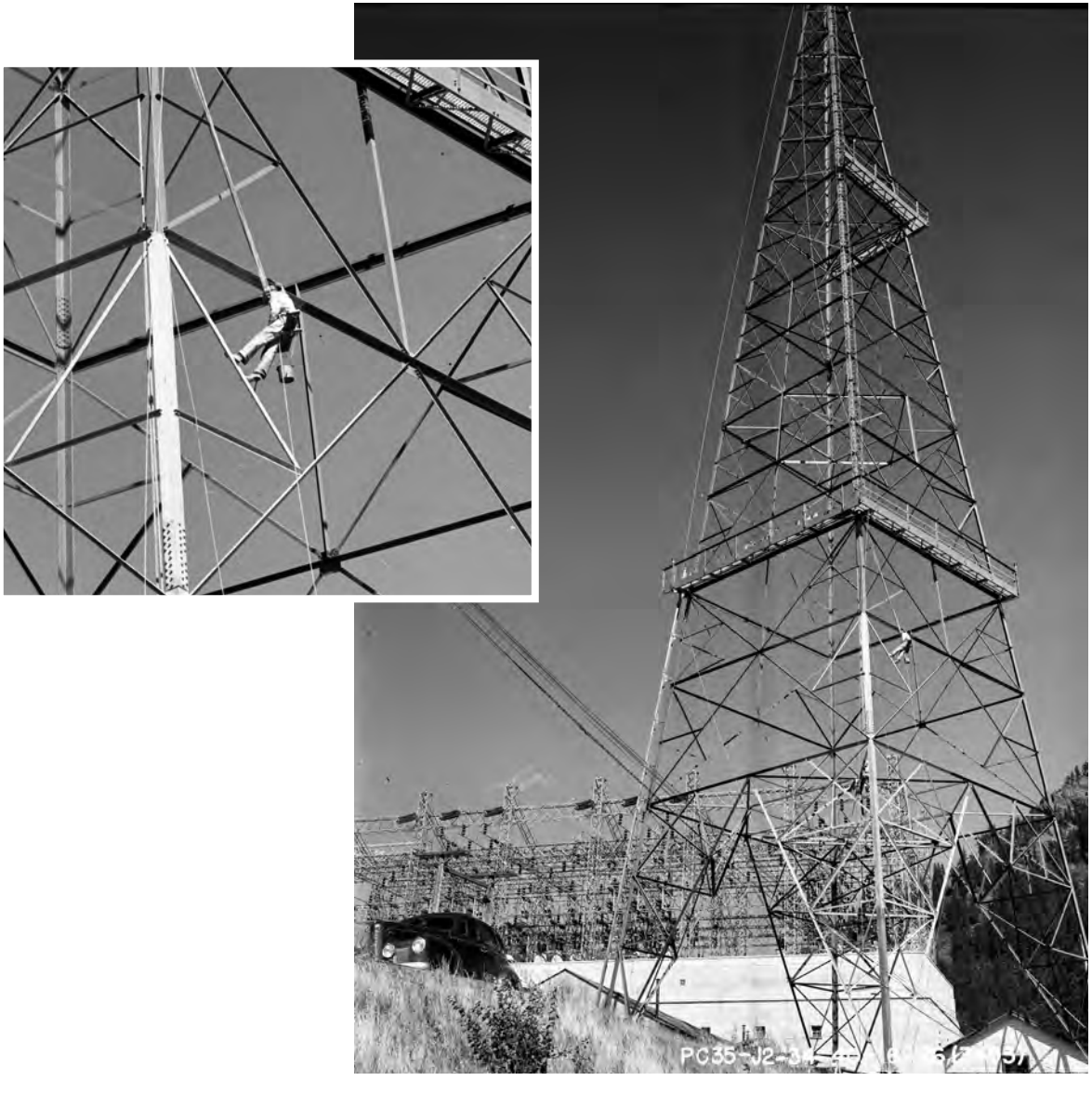




# LEAVING BONNEVILLE DAM

## May 5, 1940

Construction of tower D. Looking northeast.



# LEAVING BONNEVILLE DAM

## June 16, 1940

Painting tower D after tower construction completed. Bonneville Dam powerhouse in background. Looking east.

# LEAVING BONNEVILLE DAM

## July 12, 1940

Stringing conductor to tower E.
Looking north towards Bonneville Dam
and powerhouse.

# LEAVING BONNEVILLE DAM

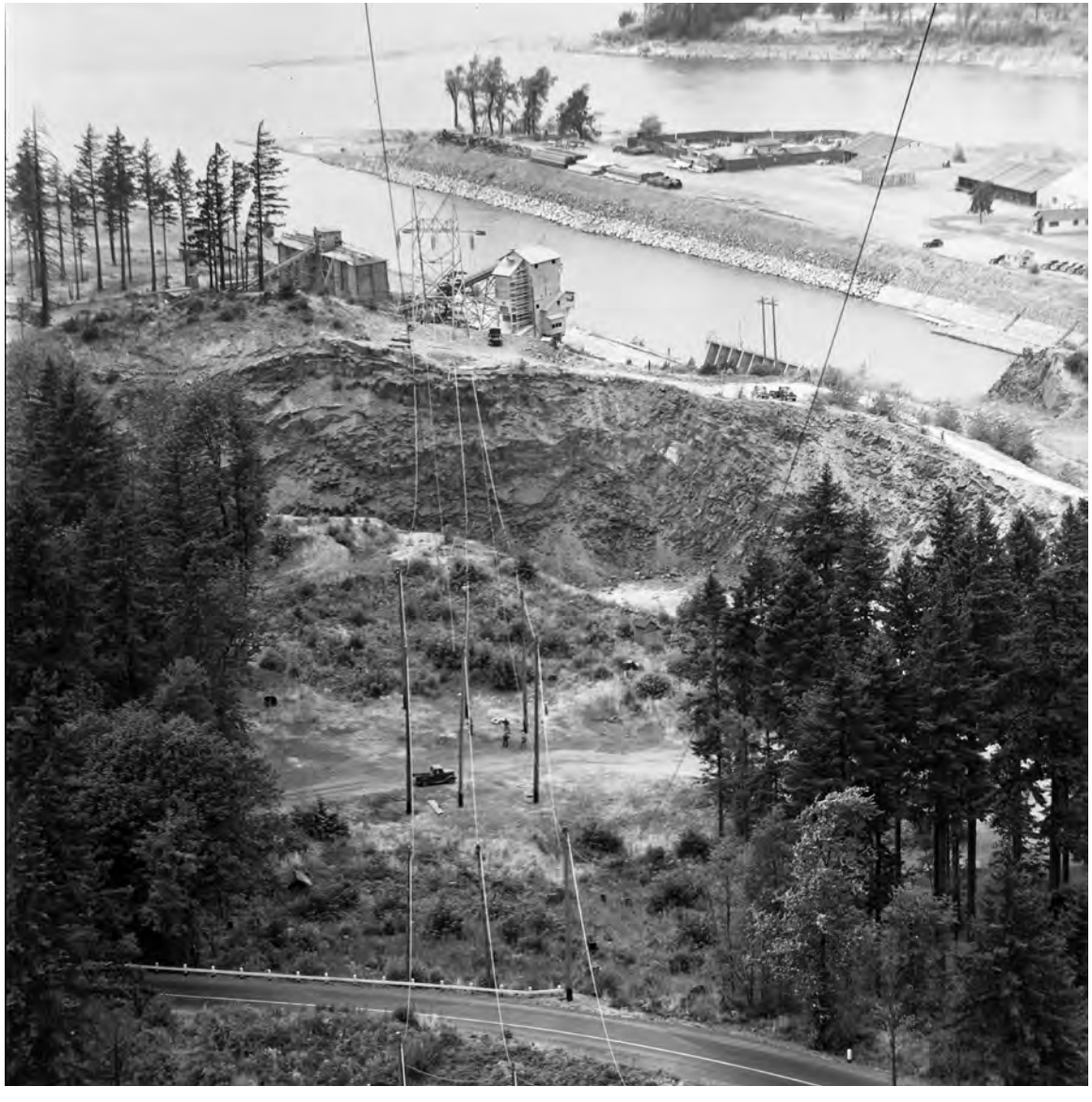
## July 23, 1940

Installing jumper on tower E.
Bonneville Dam and powerhouse below.


# LEAVING BONNEVILLE DAM

## September 17, 1940

Tower F, looking northwest. Bonneville Dam powerhouse below.



# LEAVING BONNEVILLE DAM

## July 16, 1940

Guards used for stringing conductor across transmission line and road. Looking northwest, toward tower E.


# LEAVING BONNEVILLE DAM

## July 22, 1940

Partially completed tower D and Bonneville Dam powerhouse. Looking north.


# DEAD-END TOWER

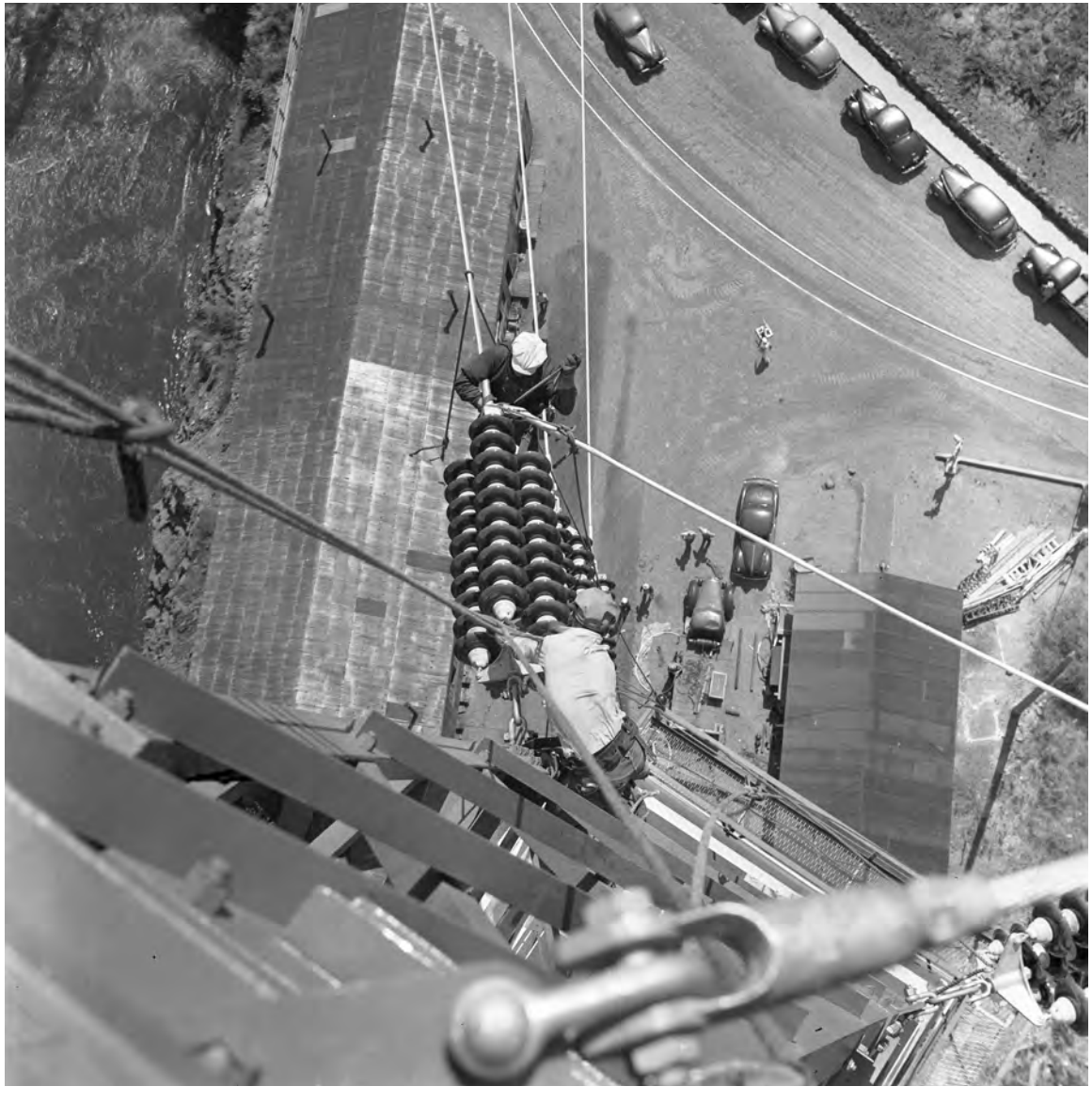
## 1940

Dead-end tower with Bonneville Dam in the background. Dead-end towers are heavier and used where the transmission line loads the tower with tension (pull), such as turning corners or entering a substation.


# DEAD-END TOWER

## July 7, 1940

Installing jumper on tower D.
Looking south.



# DEAD-END TOWER

## July 23, 1940

Connecting jumper on tower D.

# CONSTRUCTION IN THE COLUMBIA RIVER GORGE

## December 11, 1940

Bonneville-Hood River section.
Columbia River and Gorge in distance.


# CONSTRUCTION: POURING THE FOOTINGS

## March 14, 1941

Pouring concrete for tower 23 footings. Note the extreme angle of mountain slope, Columbia River and Gorge. Looking east.

# CONSTRUCTION: POURING THE FOOTINGS

## March 14, 1941

After the right-of-way was cleared, there were more challenges, including how to get the construction materials to the tower sites. A worker transports concrete via a narrow trail on Shellrock Mountain.

# CONSTRUCTION: POURING THE FOOTINGS

## March 14, 1941

Placing concrete for tower 23 footing.
Note the extreme angle of mountain slope.
Looking northeast.

# CONSTRUCTION: POURING THE FOOTINGS

## March 14, 1941

A concrete buggy is used to carry concrete to top of Shellrock Mountain. Looking north straight down to the highway and the Columbia River.


# CONSTRUCTION: POURING THE FOOTINGS

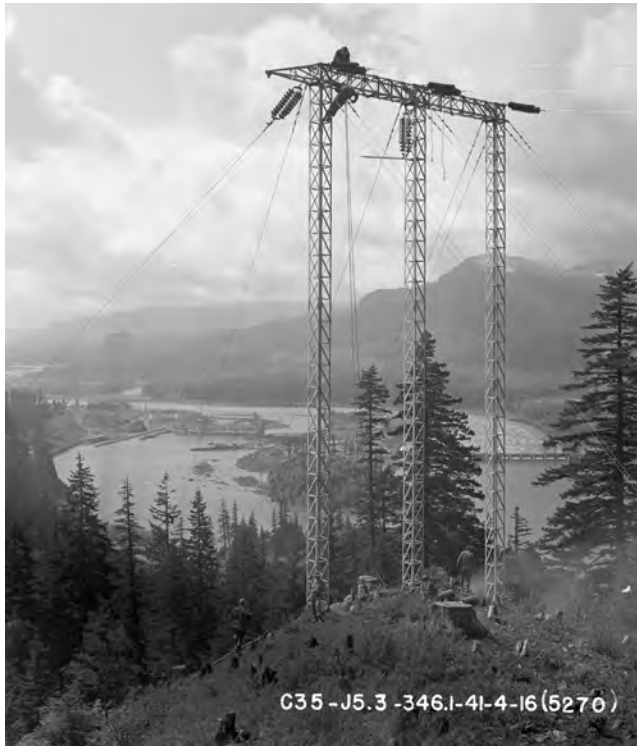
## March 14, 1941

A concrete buggy is used to carry concrete to top of Shellrock Mountain. Looking northwest straight down to the highway and the Columbia River.

# STEEL TOWER CONSTRUCTION

## April 16, 1941

Pulling conductor across Eagle Creek in the Columbia River Gorge. Tower 8. Columbia River and Bonneville Dam in the background.




Looking northwest.


Looking northeast.


# STEEL TOWER CONSTRUCTION

## April 16, 1941

Donkey engine used to pull straw line back across Eagle Creek. Tower 4.


# STEEL TOWER CONSTRUCTION

## April 16, 1941

Pulling conductor across Eagle Creek. Tower 8. Looking northwest. Columbia River and Bonneville Dam in the background.


# STEEL TOWER CONSTRUCTION

## April 16, 1941

Pulling conductor to tower 8. The winch is located on Eagle Creek Road. Looking east.

# STEEL TOWER CONSTRUCTION

## July 8, 1941

Completed tower 8. Looking northwest. Bonneville Dam and Columbia River in the background.

# STEEL TOWER CONSTRUCTION

## July 8, 1941

Completed tower 9. Looking east.

# STEEL TOWER CONSTRUCTION

## March 14, 1941

Installing palnuts to completes tower construction. Tower 21, looking north.

# STEEL TOWER CONSTRUCTION

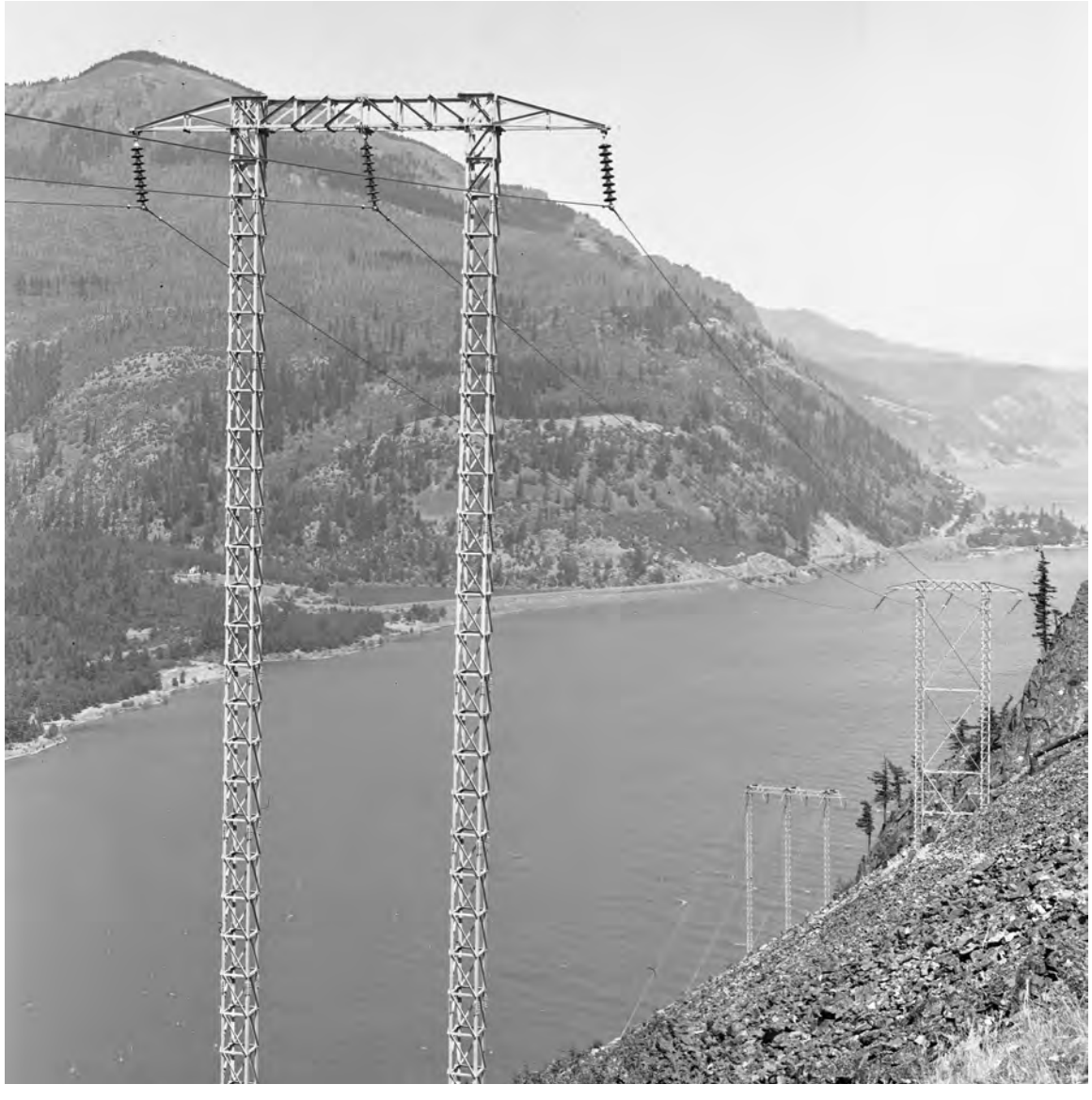
## March 18, 1941

Erection of tower 25, an H-frame steel structure on a steep slope on Shellrock Mountain. Looking east.

# STEEL TOWER CONSTRUCTION

## July 8, 1941

Completed towers 25 and 26. Looking east.



# STEEL TOWER CONSTRUCTION

## July 8, 1941

Completed towers. Looking east.

# SCENIC BEAUTY: COLUMBIA GORGE

## April 16, 1941

View from one of the towers on the Bonneville-Hood River line.


# SCENIC BEAUTY: COLUMBIA GORGE

## April 16, 1941

View from the Bonneville-Hood River line.

# H-FRAME STEEL TOWER CONSTRUCTION

## February 13, 1941

Raising first section of bridge H-frame steel tower, looking northeast. The BPA-designed H-frame steel towers were used on rugged terrain.

# H-FRAME STEEL TOWER CONSTRUCTION

## February 13, 1941

The BPA-designed H-frame steel towers were used on rugged terrain.

# H-FRAME STEEL TOWER CONSTRUCTION

## February 13, 1941

Completed steel H-frame tower.
Looking northeast.

# WOOD POLE CONSTRUCTION

## December 1940

Standard wood pole H-frame towers were also constructed on the line in locations where the terrain and weather did not require steel towers.

# WOOD POLE CONSTRUCTION

## July 10, 1941

Bonneville-The Dalles line, Bonneville-Hood River section. Looking east.

# WOOD POLE CONSTRUCTION

## July 10, 1941

Bonneville-The Dalles line,
Bonneville-Hood River section.
Looking west.

# WOOD POLE CONSTRUCTION

## July 10, 1941

Bonneville-The Dalles line, Bonneville-Hood River section. Completed Mile 5, structure 5/7. Looking east.

# POST-CONSTRUCTION: THE CHALLENGES CONTINUE

## September 25, 1944

Even after construction finished, there were still adjustments and fixes needed on unique towers.

Bonneville-The Dalles line, Bonneville-Hood River section. Diagonal brace buckled due to upper leg sliding down hill and pinching bottom of frame together. Structure 12/6. Looking northeast.

# POST-CONSTRUCTION: THE CHALLENGES CONTINUE

## Summer 1943

Lineworkers working on Bonneville-The Dalles line, Bonneville-Hood River section.
Columbia River Highway, Columbia River and Bonneville Dam in the distance.


# HOOD RIVER SUBSTATION SITE

## July 17, 1939

Equipment was purchased for the Hood River Substation in 1939 and stored at the future site. Hood River Substation site with Mt. Hood in background. Looking west.


# HOOD RIVER SUBSTATION SITE

## November 5, 1939

Circuit breakers, transformers, and other equipment at the Hood River Substation site. Mt. Hood visible in the background.


# HOOD RIVER SUBSTATION SITE

## December 5, 1939

Hood River Substation. Temporary field office, circuit breakers, and transformers. South of Hood River, Oregon, looking east.


# HOOD RIVER SUBSTATION SITE

## January 28, 1941

In 1941, the equipment was moved for use at other BPA substations. Circuit breakers, transformers, and other equipment on the Hood River Substation site as viewed from the road.


# HOOD RIVER SUBSTATION SITE

May 27, 1941

Hood River Substation site.


# HOOD RIVER SUBSTATION SITE

May 27, 1941

Hood River Substation site.

# HOOD RIVER SUBSTATION SITE

## March 3, 1946

Hood River Substation construction. Adding the 115-12.47-kV equipment for service to the Hood River Electric Co-op. Looking southeast.

# HOOD RIVER SUBSTATION SITE

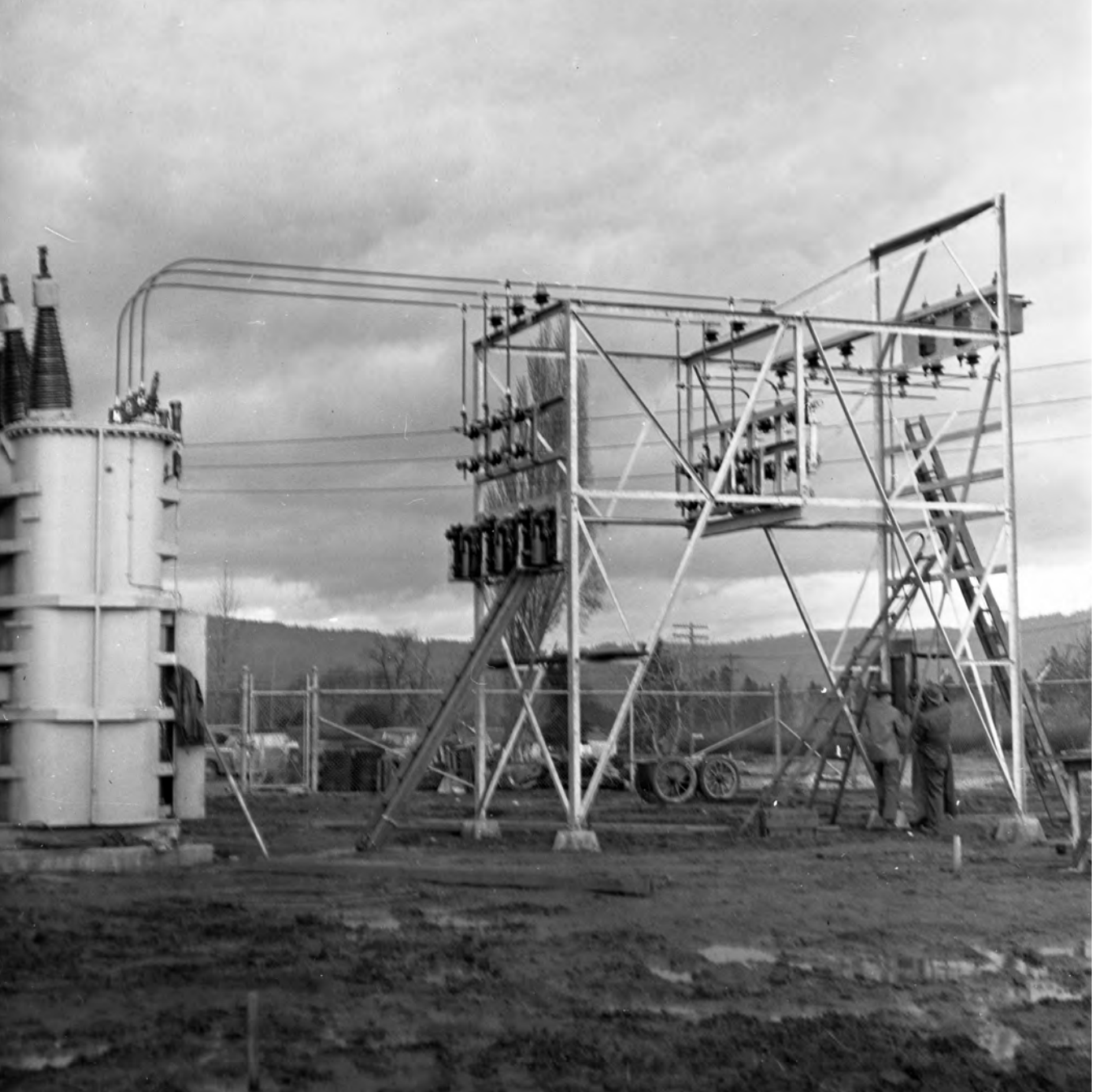
## March 3, 1946

Hood River Substation construction. Looking east of the 115-kV structure and disconnecting switch.

# HOOD RIVER SUBSTATION SITE

March 3, 1946

Hood River Substation construction.



# HOOD RIVER SUBSTATION SITE

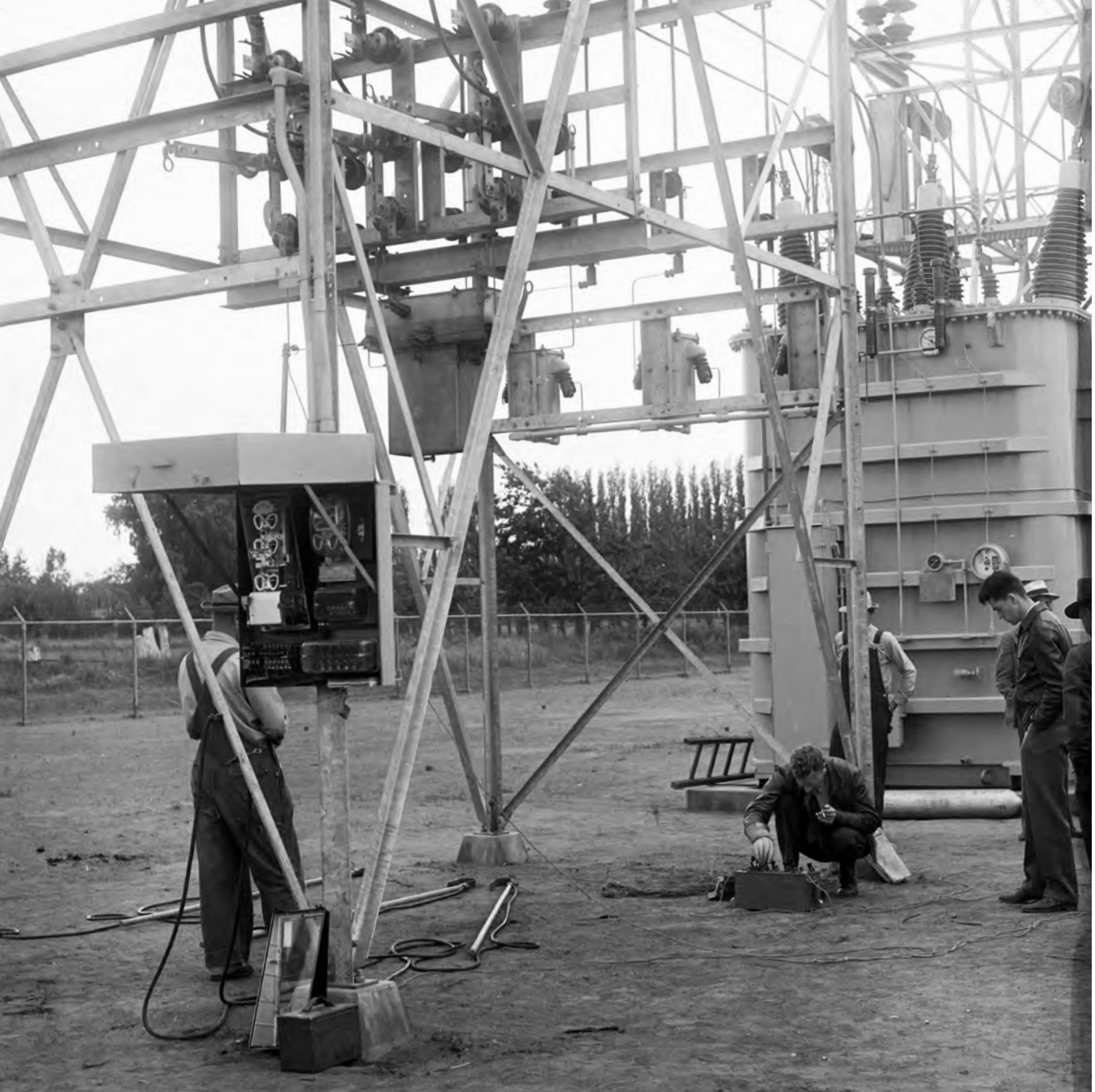
## March 3, 1946

Hood River Substation construction showing the 1,000-kV a transformer at the left and the 12.47-kV switchrack at the right for service to Hood River Electric Co-op. Looking northeast.

# HOOD RIVER SUBSTATION SITE

## March 3, 1946

Hood River Substation construction. Looking at 115-kV switch structure and 1,000-kVA transformers. Looking northwest.





# HOOD RIVER SUBSTATION

## May 26, 1946

Hood River Substation. Final check of 12.45-kV line serving Hood River Electric Co-op prior to energization.

# HOOD RIVER SUBSTATION

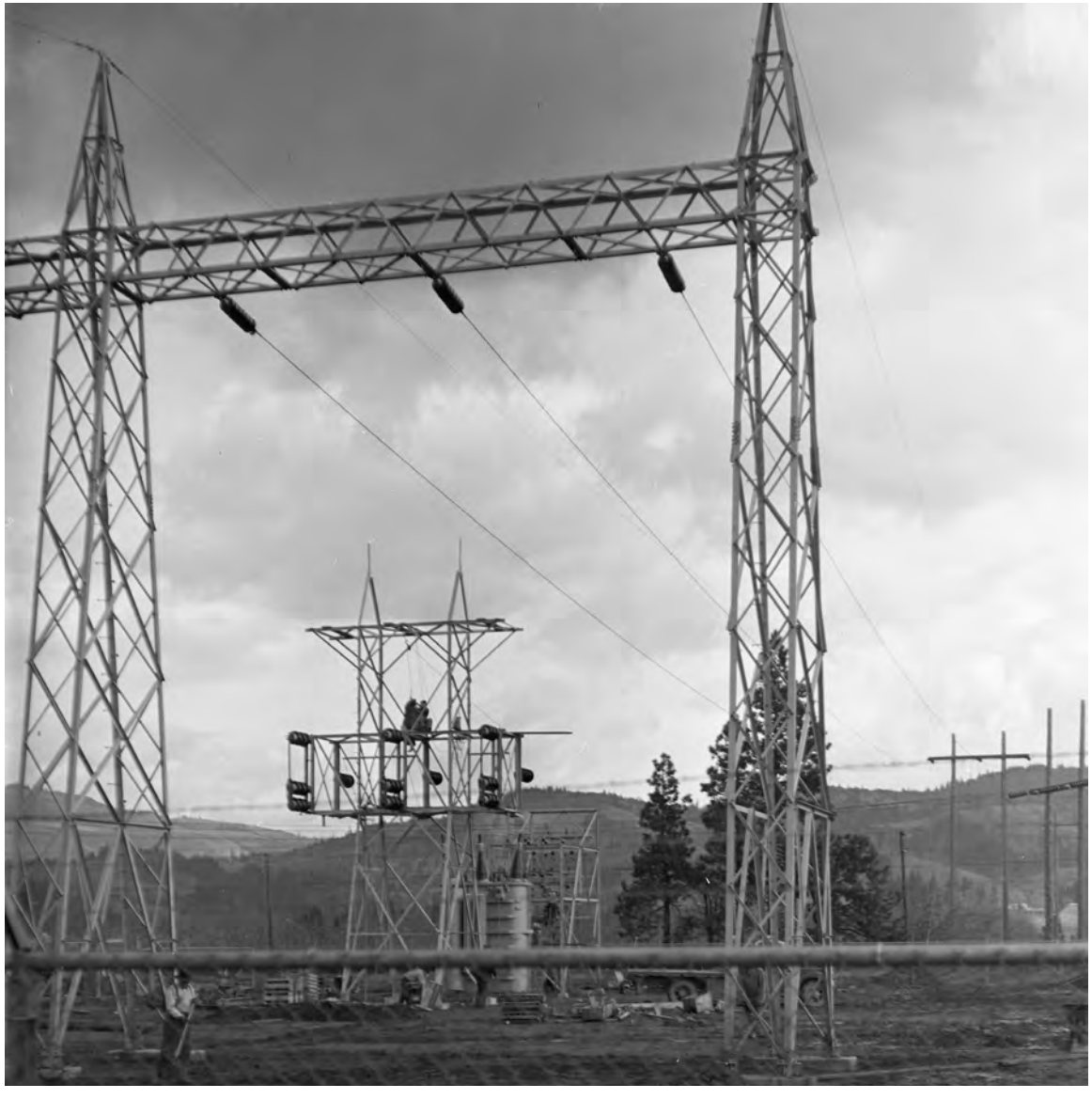
## May 26, 1946

From left to right: Vern Taylor, BPA; Unknown BPA Operator; Paul Hatch, Hood River Electric Co-op Manager; and Walter Wells, Hood River Electric Co-op President. Operator closes switch to Hood River Substation energizing line to Hood River Electric Co-op.


# HOOD RIVER SUBSTATION

## July 27, 1948

Hood River Substation after completion.



# HOOD RIVER ELECTRIC CO-OP POWER SUPPLY

## March 3, 1946

Hood River Substation construction. Looking northeast through a Bonneville-The Dalles line structure at the substation's dead-end tower.


# HOOD RIVER ELECTRIC CO-OP POWER SUPPLY

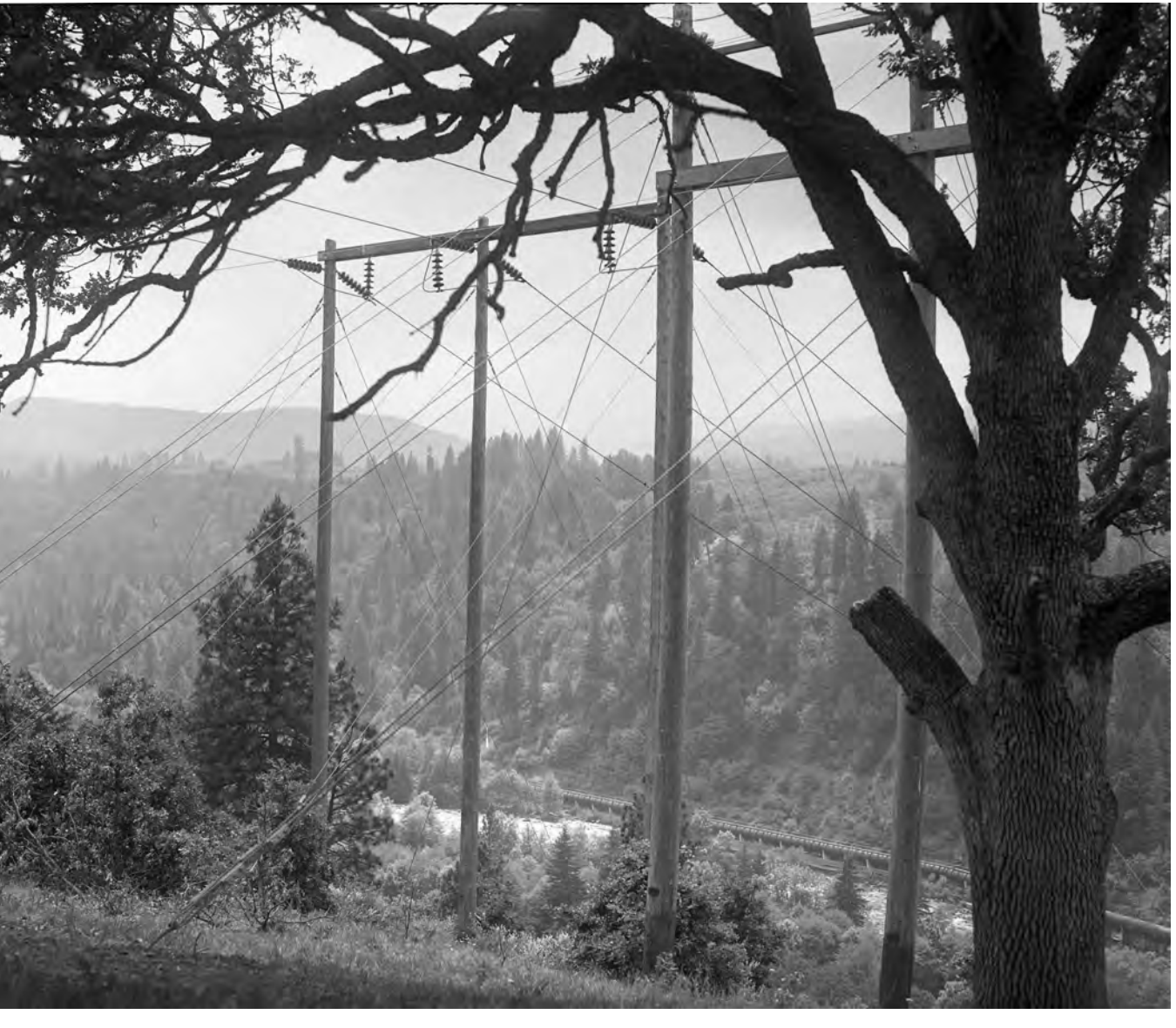
## May 24, 1946

Hood River Electric Co-op 12.47-kV feeder line on right and Hood River-The Dalles section of the Bonneville-The Dalles line on left. Structures support spans over the Hood River.


# HOOD RIVER ELECTRIC CO-OP POWER SUPPLY

## May 24, 1946

Hood River Electric Co-op 12.47-kV feeder line. Looking toward Hood River Substation between poles of last structure of Hood River crossing.



# HOOD RIVER ELECTRIC CO-OP POWER SUPPLY

## May 25, 1946

Looking southwest across Hood River with 12.47-kV line serving Hood River Electric Co-op in foreground. 115-kV Bonneville-The Dalles line on the left.

# HOOD RIVER ELECTRIC CO-OP POWER SUPPLY

## May 25, 1946

Looking west across Hood River with 12.47-kV line serving Hood River Electric Co-op on the right, and 115-kV Bonneville-The Dalles line on the left.

# HOOD RIVER ELECTRIC CO-OP POWER SUPPLY

## May 25, 1946

Looking east with 12.47-kV line serving Hood River Electric Co-op on the left, and 115-kV Bonneville-The Dalles line on the right.

# HOOD RIVER ELECTRIC CO-OP POWER SUPPLY

## May 25, 1946

Looking east with 12.47-kV line serving Hood River Electric Co-op on the right, and 115-kV Bonneville-The Dalles line on the left.

# HOOD RIVER ELECTRIC CO-OP POWER SUPPLY

## May 25, 1946

East end of 12.47-kV line serving Hood River Electric Co-op.


# EARLY HOOD RIVER ELECTRIC CO-OP CUSTOMERS

## May 25, 1946

Terminal Ice & Cold Storage Co., a customer in Hood River Electric Co-op's territory.

# EARLY HOOD RIVER ELECTRIC CO-OP CUSTOMERS

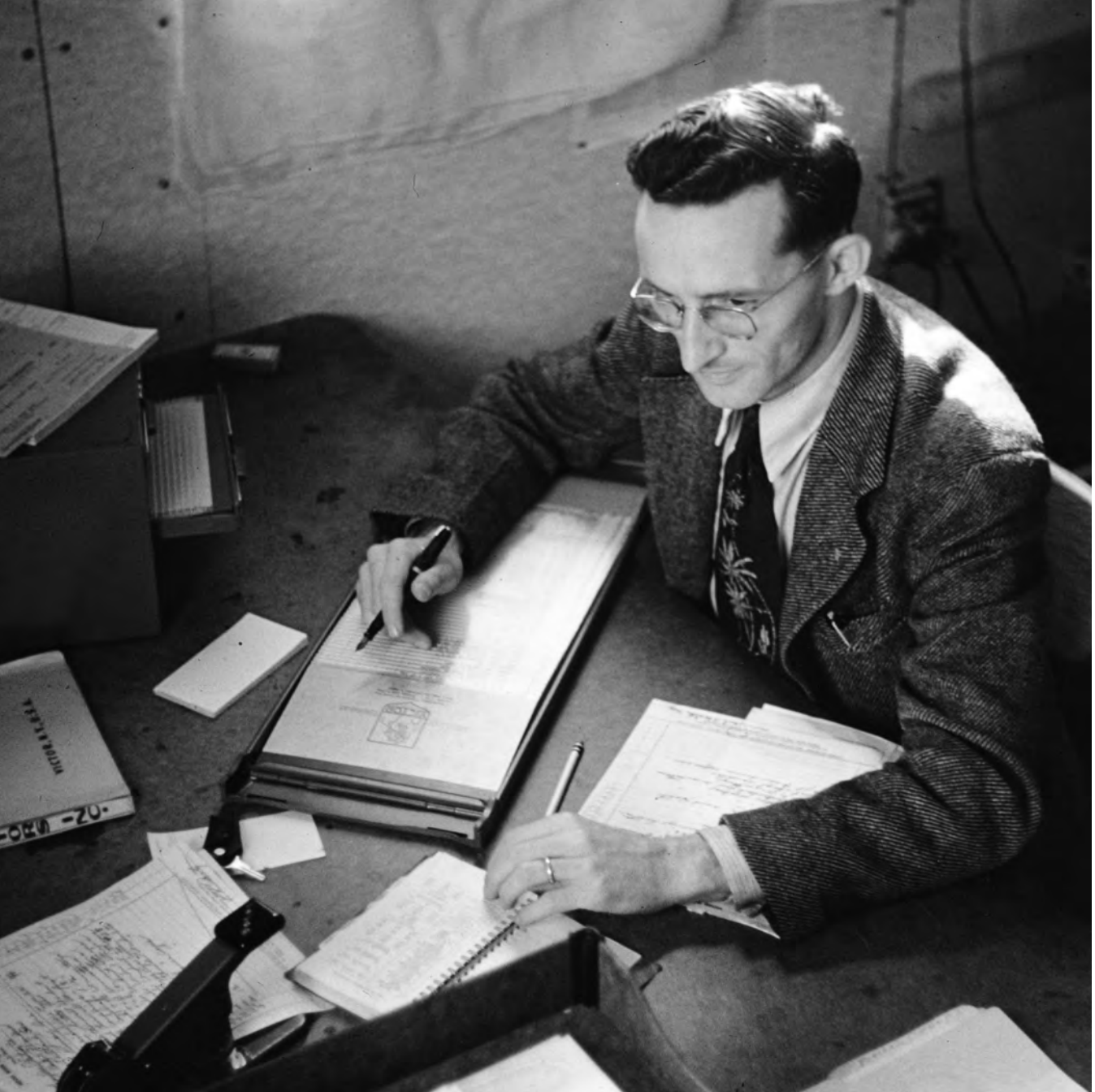
## May 25, 1946

Construction of an Apple Growers Association facility, which would be served by Hood River Electric Co-op when complete.

# EARLY HOOD RIVER ELECTRIC CO-OP CUSTOMERS

## May 25, 1946

An all-electric sawmill served by Hood River Electric Co-op.



# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op office.


# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op office.
The Co-op served different classes of users, including agricultural, industrial, and residential.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op line worker.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op workers.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op member running line.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op line workers.
Mt. Hood in background.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op members.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op worker.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op member.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op members.
Co-op revenue bonds on the table.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op member working in orchard.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Orchards in Hood River Electric Co-op territory.



# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op truck and worker.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Orchard in Hood River Electric Co-op territory.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Log home in Hood River Electric Co-op territory.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op truck and worker.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op territory.


# HOOD RIVER ELECTRIC CO-OP

## 1947

Hood River Electric Co-op territory.

# HOOD RIVER ELECTRIC CO-OP

## 1947

Albert Road, Hood River Electric Co-op territory.

# SCENIC BEAUTY: HOOD RIVER ELECTRIC CO-OP TERRITORY

## 1947

Mt. Hood seen from Hood River Electric Co-op territory.

# SCENIC BEAUTY: HOOD RIVER ELECTRIC CO-OP TERRITORY

## 1947

Mt. Hood seen from Hood River Electric Co-op territory.



# SCENIC BEAUTY: HOOD RIVER ELECTRIC CO-OP TERRITORY

## 1947

Hood River where it flows into the Columbia River. Mt. Hood in background.


HREC found innovative ways to finance their service. To purchase the equipment and power necessary to electrify Hood River's homes and businesses, HREC authorized a unique, private funding arrangement on November 4, 1945. The agreement enabled the community to grow and manage their financial output for initial service without having to take loans from the Rural Electrification Administration. Local financial participation from citizens strengthened the sense of ownership and independence of HREC membership, which continues to this day.

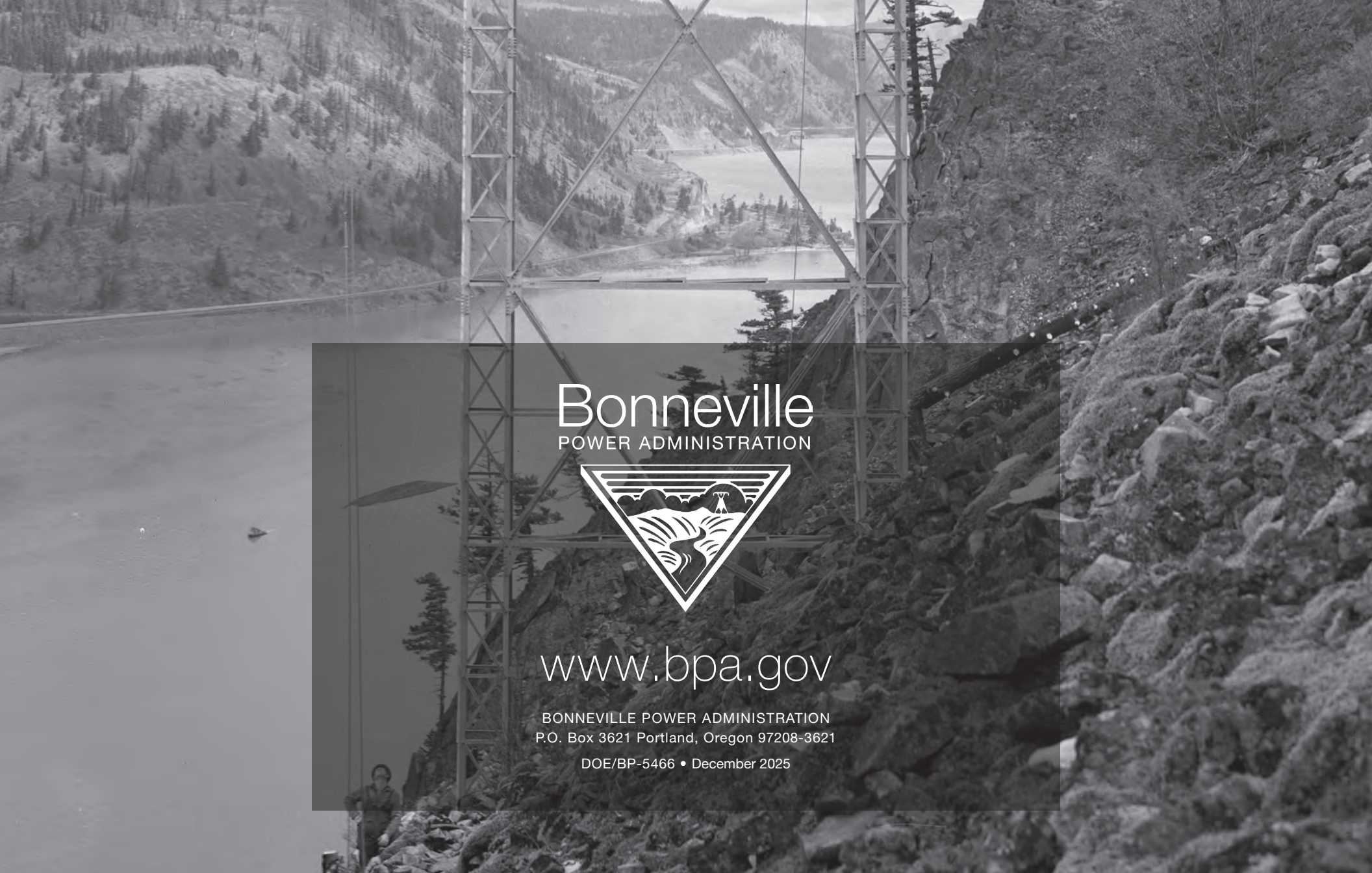
In the early 2000s, HREC began supporting a new initiative: bringing high-speed internet access to its members. The HREC Board formed a sister organization, the Communications Access Cooperative Holding Enterprise, which constructed a fiber internet backbone system that connected the BPA fiber network in Parkdale to Hood River. HREC is now known as Hood River Electric and Internet Co-op, providing another vital modern-day service to its members. Their stated mission is "to provide affordable, reliable services to members using sound business practices and following the cooperative principles."

As of 2025, Hood River Electric and Internet Co-op has 3,700 participants with 3,900 electric accounts and 2,800 internet accounts. Celebrating its 75th anniversary in 2025, the Hood River Electric and Internet Co-op proudly continues to serve members and remains committed to enhancing lives for generations to come.

# NARA IMAGE APPENDIX

Photos are from the Bonneville Power Administration records held at the National Archives and Records Administration in Seattle.

For a digital copy of a photo, contact the BPA Library & Visitor Center at library@bpa.gov.



Bonneville
POWER ADMINISTRATION

www.bpa.gov

BONNEVILLE POWER ADMINISTRATION
P.O. Box 3621 Portland, Oregon 97208-3621

DOE/BP-5466 • December 2025