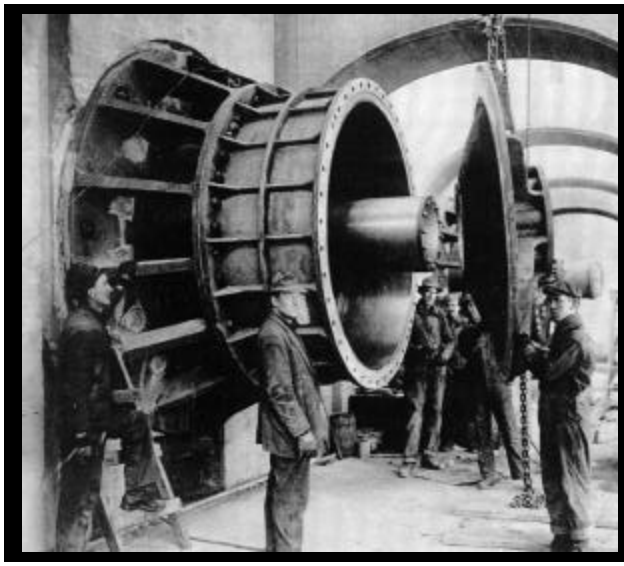

Arrowrock Dam Outlet Works Rehabilitation

Final Environmental Impact Statement

U.S. Bureau of Reclamation
Pacific Northwest Region
Snake River Area Office
Boise, Idaho

March 2001

Final Environmental Impact Statement
Arrowrock Dam Outlet Works Rehabilitation

Prepared by: Bureau of Reclamation
Pacific Northwest Region
Snake River Area Office
Boise Idaho

Abstract:

The Bureau of Reclamation proposes to rehabilitate the Arrowrock Dam outlet works by removing the 10 lower level Ensign valves and replacing those valves with 10 clamshell gates. The 10 upper level conduits controlled by Ensign valves and the 5 sluice outlets controlled by slide gates would be abandoned but left in place. Rehabilitation would require three construction seasons in a 4-year period and operational changes of the Boise River/reservoir system. Two alternatives have been identified that differ only in the timing of reservoir drawdown and the elevation of Arrowrock Reservoir and Lucky Peak Lake in the third construction season. During the first two construction seasons Arrowrock Reservoir would be held at a fairly high level and Lucky Peak Lake would be held at low level (both within normal operating levels). In the third construction season, Arrowrock Reservoir would be drawn down to a very low level for 5 months in the fall and winter (under Alternative A which is the Preferred and Environmentally Preferred Alternative) or to near run-of-river for 9 weeks (Alternative B). These low levels would be comparable with extreme drought conditions and levels required in the past for maintenance of the lower Ensign valves. The probability of sluice gates use would be only 15 percent with Alternative; use is required under Alternative B. Lucky Peak Lake, which at full pool elevations rises about 100 feet above the toe of Arrowrock Dam would be held at a low level (within normal operating levels) during this construction season. Although the Lucky Peak Lake elevation would be within normal operating ranges, it would be low for a longer period than normal.

This Final EIS has been developed to comply with the requirements of the National Environmental Policy Act and Bureau of Reclamation procedures and is intended to serve environmental review and consultation requirements pursuant to all appropriate Executive Orders, National Historical Preservation Act (Section 106), Fish and Wildlife Coordination Act, and Endangered Species Act (Section 7c). It also provides the public review required under Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Protection of Wetlands). This Final EIS will be used by decision-makers in the Bureau of Reclamation and is provided for public information. A record of decision (ROD) will be signed after the 30-day waiting period and following publication of the *Federal Register* notice of availability of the Final EIS.

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Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
BA	Biological Assessment
BO	Biological Opinion
BPA	Bonneville Power Administration
BPBOC	Boise Project Board of Control
℄	Center line
CAR	Coordination Act Report (Fish and Wildlife)
CEQ	Council on Environmental Quality
CFR	Codified Federal Regulations
cfs	cubic feet per second
Corps	United States Army Corps of Engineers
CWA	Clean Water Act
DEIS	Draft Environmental Impact Statement
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FWCA	Fish and Wildlife Coordination Act
HAER	Historic American Engineering Record
IDAPA	Idaho Administrative Procedures Act
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDPR	Idaho Department of Parks and Recreation
IDWR	Idaho Department of Water Resources
ITA	Indian Trust Asset
kW	kilowatt
kWh	kilowatt-hour
mg/L	milligrams per liter
M&I	Municipal and Industrial
MODSIM	Model Simulation (a computer program)
MW	megawatt
MWh	megawatt-hour
NAGPRA	Native American Graves Protection and Repatriation Act
NED	National Economic Development
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
OM&R	Operations, Maintenance, and Replacement
OHV	Off-highway vehicle
Reclamation	Bureau of Reclamation
RPM	Reasonable and prudent measure
SHPO	State Historical Preservation Office (or Officer)
SRAO	Snake River Area Office (Bureau of Reclamation)
SOP	Standing operating procedures

TDG	Total dissolved gases
TMDL	Total maximum daily load
TSS	Total suspended sediment
USFWS	United States Fish and Wildlife Service
USFS	United States Forest Service
VE	Value engineering

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