CHILDS-IRVING HYDROELECTRIC PROJECT,
CHILDS SYSTEM: FLUME TUNNEL #4
Forest Service Road 708/502
Camp Verde vicinity
Yavapai County
Arizona

HAER NO. AZ-65-V

HAER
AZ-65-V

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Intermountain Support Office - Denver
National Park Service
P.O. Box 25287
Denver, Colorado 80225-0287

HISTORIC AMERICAN ENGINEERING RECORD

CHILDS-IRVING HYDROELECTRIC PROJECT, CHILDS SYSTEM: FLUME TUNNEL #4

HAER No. AZ-65-V

Location:	Childs Station No. 190+87. Forest Service Road 708/502, Camp Verde vicinity, Yavapai County, Arizona. USGS Payson Quadrangle, UTM Coordinates: NAD 27 Zone 12 439019.2694E - 3804100.087N.
Date of Construction:	1908.
Engineer:	Iva Tutt; Francis S. Vielé; Raymond S. Masson.
Present Owner:	Arizona Public Service (improvements), P.O. Box 53933, M.S. 3190, Phoenix, AZ 85072-3933; U.S. Government, U.S.D.A. Forest Service (land).
Present Use:	Hydroelectric power generation (November 2004).
Significance:	The geography of Fossil Creek required a series of tunnels, judged to be less expensive and easier to maintain than continuous flume through this area.
Historian:	James W. Steely, November 2004.

Project Information:

Between February and November 2004, Arizona Public Service (APS) and SWCA Environmental Consultants documented the hydroelectric complex, under guidance of the Historic American Engineering Record (HAER). Project managers Phil Smithers (APS) and Linda Martin (SWCA) coordinated historian Steely, photographer Jessica Maggio, and draftsman Hanson Todachine to complete the HAER documentation. Archives for the Childs-Irving Hydroelectric Project are at APS in Phoenix, Arizona.

Historic and Engineering Context:

The Childs-Irving Hydroelectric Project encompassed a unique water-pressure/electric-turbine system—according to engineering historians evaluating the historic complex since 1976—that 1) was constructed with great effort in an extremely remote landscape, 2) captured a natural water source and followed dramatic topography, 3) generated electric power in a remarkably simple and efficient manner, and 4) operated continuously for 95 years.

In addition to its individual significance nationwide, the Childs-Irving Hydroelectric Project is a classic part of Arizona history spanning the 20th century: remote low-grade mining operations sought reliable and less-expensive energy; a combination of investors, entrepreneurs and engineers modified a natural resource to supply the energy; cutting-edge technology entered a harsh and remote landscape; an isolated labor force merged those with skills learned far away with local residents, including Native Americans with traditional ties to the land; nearby communities soon offered an additional customer base; farmers and irrigation cooperatives became major consumers for their pumps and agricultural machinery; distant metropolitan areas boomed by tapping the energy source; and finally a conservative operational approach to investment and maintenance retained aging technology within a huge modern power grid for many, many years past a reasonable retirement.

Character Defining Attributes

Component/Feature No.33 on National Register form. This gravity tunnel was 726 feet long and measures 4.5 feet wide and 5.5 feet high. (Effland and Macnider 1991)

Bibliography

Arizona Public Service (APS) Archives
Historic photograph collection. Historic drawings collection. Historic documents collection. Available through appointment at: APS, P.O. Box 53933, M.S. 3190, Phoenix, Arizona 85072-3933, 602-371-7689.

Effland, Richard W., Jr., and Barbara S. Macnider
1991 *Childs-Irving Hydroelectric Facilities.* National Register of Historic Places Registration Form. U.S. Department of the Interior, National Park Service. Washington, D.C.

Neal, Lynn, and Linda Martin
2003 *Childs/Irving Hydroelectric Decommissioning Project, Historic Properties Management Plan* (HPMP). Prepared for APS/Generation Engineering. SWCA Environmental Consultants. Flagstaff.