MEMORANDUM OF UNDERSTANDING
BETWEEN
U.S. ARMY CORPS OF ENGINEERS
AND
U.S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION

ARTICLE I. Purpose

This Memorandum of Understanding (MOU) is entered into by and between the parties, the U.S. Army Corps of Engineers (COE) and the U.S. Department of Energy, Bonneville Power Administration (BPA). The purpose of this MOU is to establish the respective roles and responsibilities of the parties regarding existing passive integrated transponder (PIT) tag detection systems, for the future development and implementation of PIT tag detection systems at COE Columbia and Snake River hydroelectric projects, and for operations of the PIT trawl detection system below Bonneville Dam. This MOU is intended to address all design, construction, operations, maintenance, and coordination work being implemented as a result of actions called for in the 2010 Federal Columbia River Power System (FCRPS) Biological Opinion (BiOp) reasonable and prudent alternatives (RPAs) 52 and 55.

ARTICLE II. PIT Tag Program

Since 1987, PIT tags have been used to tag fish for a variety of BPA and COE monitoring programs and research studies in the Columbia River system. The PIT tags and detection systems have been a vital tool for evaluating COE facilities, juvenile travel time, juvenile transportation programs, overall system survival, and guiding hydrosystem operations.

PIT tag data collected throughout the region is managed through the Passive Integrated Transponder Tag Information System (PTAGIS) program. PTAGIS was formed to operate and maintain the electronic components of the PIT tag systems and to manage the extensive amount of data being collected. BPA funds this data management by contracting the administration of the PTAGIS program to the Pacific States Marine Fisheries Commission

Existing detection system at FCRPS dams covered by this agreement are the following:

- adult fish ladder slot detection systems at Bonneville, McNary, Ice Harbor, and Lower Granite Dams;
- the smolt bypass detection systems at Bonneville, John Day, McNary, Ice Harbor, Lower Monumental, Little Goose, and Lower Granite dams;
- the second powerhouse corner collector at Bonneville Dam; and
- a single lower river PIT trawl detection system as identified in BPA contract 1993-029-00 and described in Article III, Paragraph 3-2., PIT Trawl Operation.

Additionally, new PIT detection systems that may be developed as part of the 2010 FCRPS BiOp required feasibility evaluation of a spillway detection system and of adult detection systems in The Dalles and John Day adult ladders would also be covered should they be installed. The funding responsibilities for these new facilities are described in Article III, Paragraph 3-1., New Facility Construction.

Historically in the PIT tag program, the COE has funded the design and construction and/or modification of facility infrastructures, and BPA has funded the development, procurement, and installation of the electronic components, including antennas, for the PIT tag systems. This MOU continues that arrangement for the next five-year.

ARTICLE III. Roles and Responsibilities

This MOU is not intended to affect other arrangement between the parties. This MOU shall not be used as a vehicle for authorizing or transferring funds between the parties. If required for a specific activity, a separate formal agreement will be written to transfer funds between the parties.

3-1. New Facility Construction. The COE shall be responsible for designing and constructing new PIT tag facilities authorized and funded through the normal COE appropriation process. The COE will coordinate the scope, function, and design of new facilities with BPA. The COE shall be responsible for designing and constructing the basic fish (juvenile and adult) sampling and PIT tag detection facilities including: all fish passage avenues; holding tanks; water supplies; electrical conduits, grounding and power requirements; compressed air; separation gates; heating, ventilation, and air conditioning; a secure room in the sampling facilities for housing PIT tag computer and electronics equipment; electrical enclosures, and a secure, high-speed data communication link to the internet so long as COE computer security clearance can be obtained. These items will be included in the basic facility, which is designed and constructed with COE funding. COE will also coordinate the design of new PIT tag facilities with the region through the COE's Fish Facility Design Review Work Group.

BPA shall be responsible for purchasing and installing, with BPA funding, all electronic components and computers required to make the new facilities a completely operable PIT tag detection system. BPA will purchase the antennas and furnish them to the COE for installation.

3-2. PIT Trawl Operation. Each year, Comprehensive Passage (COMPASS) modeling is used to estimate the expected hydro-system in-river benefits from dam modifications. The modeling estimates for survival through different reaches are also compared to empirical PIT-tag based in-river survival estimates. The PIT-trawl detection system samples PIT-tagged fish in the lower Columbia River below Bonneville Dam and these data are critical for making the empirical PIT-tag based survival estimates through different reaches.

To accomplish the PIT-tag data collection and subsequent analyses, BPA funds a comprehensive PIT-tag project through BPA contract 1993-029-00. A subset of this contract is funding the operation of the PIT-trawl detection system. For the years when the parties are evaluating the in-

river survival benefits of dam modifications for juvenile salmonids, the annual cost of funding the PIT-trawl detection system shall be split evenly between the COE and BPA.

3-3. Incorporating New Technology into Existing Facilities. All funding to incorporate new technology into existing fish sampling (juvenile and adult) or PIT tag detection facilities shall be provided by the MOU party originating the request for the change in the facility, unless otherwise agreed. The originating party will also be responsible for coordinating with region fishery agencies, tribes, and interested parties as necessary. The PIT tag program has been and evolving program as new techniques, equipment, and facilities have been developed and incorporated into the program. BPA continues to fund a program to develop new technology for the PIT tag program (BPA contract 1983-319-00). New technology may be incorporated into the existing PIT tag facilities as either a prototype test or as a permanent component. BPA will coordinate with regional fishery agencies, tribes, and interested parties as necessary when designing a new PIT tag technology.

3-4. PIT Tag Facility Operation and Maintenance. The successful operation and maintenance of a fish monitoring facility with PIT tag detection is a mutual objective of both BPA and the COE. BPA and the COE shall work cooperatively in evaluating the operation of PIT tag facilities for determining the required maintenance of the facilities. The COE is responsible for the operation and maintenance of the basic fish sampling facilities. The COE responsibility includes all avenues of fish passage within the facility including: flumes, pipes, switch gates, drop gates, rotating gates, holding tanks, water supply systems, slots or orifices for housing the antennas, data communications systems, and electrical power systems. These are items that are normally included by the COE in the design of a new facility. The operation and maintenance of the electronic and computer components of the PIT tag systems, including the antennas shall be the responsibility of BPA. These are the components of the PIT tag facilities that are normally funded by BPA.

3-5. Regional Coordination. Additionally, COE and BPA will continue regional coordination as appropriate through existing coordination groups, including but not limited to: Fish Facility Design Review Workgroup, System Configuration Team, Fish Passage Operations and Maintenance, and Scientific Review Work Group.

ARTICLE IV. Interagency Coordination

To provide consistent and effective communications between COE and BPA, each COE District and BPA shall designate a representative for coordinating PIT tag program activities with the other parties. Additional or changes in representatives may be designated by a written notification from one party to the other party of this MOU. COE and BPA representatives shall coordinate all PIT tag program activities under this MOU and shall serve as points of contact between COE and BPA on matters relating to this MOU.

ARTICLE V. Effective Date, Amendment, and Termination

This MOU is effective upon the date of the last signature of the parties and shall remain effective for a five-year period from the effective date unless terminated in accordance with terms set forth

herein. This MOU may be terminated upon 90 days prior written notice by either party. This MOU may be modified by mutual consent of both parties. At the end of the period to be covered, the MOU shall be reviewed and a decision made on whether to renew, revise and reissue, or to terminate this MOU.

On a regular basis, or upon request by either party, both parties shall review this MOU to assure that it continues to reflect the appropriate understandings and procedures to provide for current needs and capabilities. This MOU may be modified by written agreement by both parties.

Accepting the terms of this agreement on behalf of the parties:

Dan J Ponganis

David J. Ponganis
Acting Director, Programs
U.S. Army Corps of Engineers

27 Feb 2012

Date

F. Lorraine Bodi

F. Lorraine Bodi
Vice President Environment, Fish and Wildlife
Bonneville Power Administration

March 1, 2012

Date