

Bureau of Indian Affairs Modernization Study Update

{ Flathead Indian Irrigation Project

Program Background

- ‡ BIA Owns 17 Irrigation Projects in the West
- ‡ Most Constructed in the Early 1900's
- ‡ Designed & Built with 100-year old technology
- ‡ Aging Infrastructure
- ‡ Challenging Operating Conditions

Asset Management

- ⌘ DOI and BIA Asset Management Plans
 - ⌘ Periodic Inspections & Engineering Evaluations
 - ⌘ **Condition Assessment Reports**
 - ⌘ Rehabilitation Costs (Deferred Maintenance)
 - ⌘ Replacement Costs
- ⌘ Changing Technology/Changing Ag. Practices
 - ⌘ Need for Strategic Planning
 - ⌘ **Modernization Studies**

Purpose

- ⌘ Develop a roadmap for the future that:
 - ⌘ Modernizes infrastructure
 - ⌘ Modernizes management & operations
 - ⌘ Creates a state-of-the-art, sustainable project

Purpose...more specifically

⌘ **Identify Project Constraints**, such as:

- ⌘ Condition of Physical Infrastructure
- ⌘ Lack of Real-time Information
- ⌘ Lack of Access to FIIP Infrastructure
- ⌘ FIIP Staffing Levels / O&M Response Time
- ⌘ Enforcement of Existing Regulations/Guidelines

⌘ **Propose Engineering Recommendations**, that:

- ⌘ Improve FIIP Management & Operations
- ⌘ Meet Multiple Desired & Competing Outcomes
- ⌘ Improve Stakeholder Satisfaction

Scope

↳ **Integrated Approach**

(Utilize Existing Technical Work)

- ∅ CSKT/BIA Condition Assessment
- ∅ CME Plan of Operations (CSKT/FJBC)
- ∅ MT/CSKT Water Rights Compact
- ∅ BIA Operation and Maintenance Guidelines
- ∅ NEPA/ESA Documents and Studies
- ∅ Other

Study Resources

Funded by BIA Division of Water and Power

Conducted by Cal Polytechnic State University

- **Irrigation Training and Research Center**
 - Dr. Charles M. Burt
 - Dr. Lucas Hoffman

Objectives

↳ Improve Water Management

- ⌘ Water Measurement
 - ↳ **“If you can’t measure it, you can’t manage it!”**
 - ↳ Diversions and Laterals
 - ↳ Turnout Delivery Gates
- ⌘ Reduce Operational Spills

↳ Operational Cost Efficiencies

- ⌘ More control – Remote Monitoring/SCADA
- ⌘ Efficient resource utilization

↳ Improve Irrigation Water Efficiency

- ⌘ On-Project and On-Farm

↳ Improved Customer Service

- ⌘ **Increase water delivery reliability, flexibility and equity**

Current Schedule

- & Phase I Field Work (Summer 2015)
- & Phase II Field Work (Fall 2015)
- & Engineering Analyses (Winter 2015/2016)
- & **Meetings with Stakeholders (April 2016)**
- & Prepare Draft Report (May 2016)
- & Meetings with Stakeholders (May 2016)
- & Final Report (May/June 2016)

Recommendation Fundamentals

- ⌘ Keep it Simple and Practical
- ⌘ Minimize Complex Automation and Controls
- ⌘ Emphasize Engineering Solutions that Simultaneously:
 - ⌘ Resolve Control Constraints and Operational Issues
 - ⌘ Focus on the detailed inner workings of the Project as opposed to traditional simple and broad brush investments in canal lining and infrastructure rehabilitation

Summary

⌘ **Integrated Approach**

- ⌘ Compliments All Existing Technical Work

⌘ **Prepare a Plan that:**

⌘ **Improves Water Delivery Service**

- ⌘ Reduce Project Stress Points
- ⌘ More Equitable Deliveries

⌘ **Improves Project Efficiency**

⌘ **Maximizes Existing Resources**

- ⌘ Project O&M Funding / Personnel
- ⌘ State Funding Authorized in the Compact
- ⌘ Potential Appropriations for Rehabilitation

⌘ **April 2016 Meetings – Irrigator Input Encouraged**