

## Feasibility studies

### What are feasibility studies?

Feasibility studies are studies submitted to Congress to recommend a plan of action to solve a problem. The Federal Recreation Act of 1965 (P.L. 89-72 Section 8). as "any report of the scope required by the Congress when formally considering authorization of the project of which the report treats." See [Reclamation's Directives and Standards on Feasibility studies](#).

### What do feasibility studies contain?

[Feasibility study outline](#)

### How do we conduct feasibility studies?

The feasibility study provide enough detail so decisionmakers know what potential risks are involved, what benefits the completed project would provide, and potential beneficiaries that may be available to repay the project costs. If this plan complies with all requirements and there is a project sponsor, Reclamation or the sponsor will forward it to Congress with a recommendation for authorization and funding (see sections on authority and budget).

**General features:** Feasibility studies require authorization from Congress (see section on authority). Feasibility studies are usually conducted after an appraisal study has found that Reclamation has a role and that there is a viable alternative.

**Budget:** Each feasibility study is funded through its own line item in Reclamation's budget. The regional office and/or the area office provides a narrative justification. Feasibility studies require 50/50 cost sharing with a nonFederal partner. If the project is authorized and constructed, the Federal portion of the feasibility study may be considered a recoverable project cost.

**Level of detail:** Practically speaking, the feasibility report should contain enough detail to develop an accurate comparison of alternatives.

Feasibility studies examines and evaluates the alternatives in more detail. This evaluation compares alternatives to a no action alternative to determine what would happen without the action (future without) and what solution would best fit the needs and objectives. (Figure 4 shows how alternatives can be compared to a no action alternative.) Cost estimates provide information to design alternatives. Information about potential impacts to the environment, humans, and economy help Congress understand the potential tradeoffs and costs.

**What to do:** Before funds are appropriated for the feasibility study, scope the project to identify issues and prepare a plan of study and cost sharing agreements. Use general planning funds for scoping and preparing plans of studies. Estimate the budget needed. The feasibility study should include NEPA compliance and P&Gs analysis (see section on resources for planning). Obtain and analyze data to a level of detail needed to determine, refine, and evaluate alternatives to recommend a course of action. The plan of study should state the goals for public involvement. Often, an alternative's acceptability is a direct result of public involvement activities.

Work with a multidisciplinary team to provide information on:

- Need: Develop the Federal purpose and need.
- Objectives: Specify what a proposed action would address and meet.

- Resources and constraints: Analyze existing alternatives and determine legal, time, and other constraints.
- Options, screening, and alternatives: Develop a range of alternatives, including no Federal action (compare action alternatives to the no action alternative). Identify any measures needed to avoid or minimize significant effects.
- Evaluation: Perform detailed studies to analyze alternatives and identify a preferred alternative.

**Result:** Feasibility studies result in reports to Congress (i.e., a Planning Report/Final Environmental Impact Statement). This report supports a request for congressional authority for Federal actions. Usually, the Regional Director signs these reports, but the reports need to be processed through the Commissioner's Office. These reports then go to the Secretary of the Interior, to OMB, and ultimately, to Congress. Congress will determine whether to pass a bill authorizing implementation, and the President will decide whether to sign the bill into law.

NK-500  
ADM-13.00

January 26, 2004

Roger Patterson, Director  
Nebraska Department of Natural Resources  
PO Box 94676  
Lincoln, NE 68509

David Pope, Chief Engineer  
Kansas Division of Water Resources  
109 SW 9<sup>th</sup>  
Topeka, KS 66612

Subject: Request for Review, Draft Report, Appraisal Study, Lower Republican River Basin,  
Nebraska and Kansas

Gentlemen:

Enclosed for your review and comment are three copies of the subject report. The purpose of this study is to determine if there is Federal interest to proceed with a Feasibility Study. Several alternatives were evaluated in the Appraisal Study and four have benefits that exceed costs. For your consideration, the findings included in the Draft Appraisal Report are as follows: "Based upon the States' continued support for further study and the potential viability of some alternatives, there is justification for further Federal participation in a feasibility study."

A presentation meeting has been scheduled for February 5, 2004, from 10:00 to noon at the Elks Club in Superior, Nebraska, to present and discuss the findings of the Appraisal Study. We are requesting that your office invite the appropriate State and local entities to attend the meeting. A suggested list of possible invitees is enclosed.

In the afternoon on February 5, we have scheduled a separate technical meeting at the same location with representatives from your office. The purpose for this meeting is to seek your input concerning study objectives for a possible future Feasibility Study. Please feel free to invite other representatives to this technical meeting as appropriate.

Please provide your comments to Michael Kube, 308-389-4622, extension 217 by February 9. We appreciate your efforts in working with us on this study.

Sincerely,

Stephen F. Ronshaugen  
Acting Area Manager

Enclosures: 3 copies of Report  
List of Invitees

cc: Hal Simpson, Colorado Division of Water Resources  
w/one enclosure

David Barfield - Kansas  
Brad Edgerton - Nebraska  
Jeff Shaffer - Nebraska  
Ken Knox - Colorado  
w/enclosure sent electronically

**Possible Invitees:**

Nebraska -

Nebraska Game and Parks Commission

Mid and Lower Republican NRDs

Nebraska Bostwick Irrigation District

Frenchman-Cambridge Irrigation District

Kansas -

Kansas Water Office

Kansas Wildlife and Parks

Kansas Bostwick Irrigation District

Lower Republican Water Users Association

January 23, 2004

**PRELIMINARY AGENDA and NOTES  
TECHNICAL MEETING for PLAN OF STUDY (POS)  
LOWER REPUBLICAN FEASIBILITY STUDY (FS)**

Date/Time: February 5, 2004 at 1:00PM

Location: Elks Club, Superior NE

Host: Reclamation

Attendees: Ne DNR, Ks DWR

Meeting Purpose: Seek State input on POS (See prelim POS in Appendix F of draft Appraisal Study Report and attached FS information).

Expected Outcome: Obtain an understanding of POS requirements from the States. Determine States' interest in future studies and willingness to cost share.

A. Introductions and Meeting Purpose - Kube

B. Feasibility Study and POS - General – Kube

What is a Federal feasibility study?

Why do we need a study plan?

Is there a non-Federal cost-share requirement?

C. NEPA Process- Manring

D. Feasibility Study Process - Gjerde

**6 Steps**

1. ID problems and opportunities

Define problems, opportunities, planning objectives and constraints

2. Inventory and forecast critical resources

Define future without-project condition

3. Formulate alternative plans

Achieve planning objectives within constraints

4. Evaluate alternative plans

Display NED and EQ accounts

5. Compare alternative plans

6. Identify a preferred plan

## Problems, Opportunities, Planning Objectives and Constraints

\* Problems and opportunities guide efforts to solve the problems and achieve the opportunities and they reflect priorities and preferences of the States/ Reclamation/other participating groups

\* Are used to formulate plans to ID specific ways to achieve planning objectives within constraints, e.g., solve the problems and take advantage of the opportunities

→ **What are the major ones for this study?**

\* **Meet MDS flows 90% of the time?**

\* **Maximize supply for Bostwick Division?**

\* **Something in between or something else?**

## Future without-project condition (aka 'no action' in NEPA)

\* Define present and future conditions for critical resources (physical, economic, social, etc.) quantitatively and qualitatively

\* Provides the basis from which alternative plans are formulated and impacts assessed

→ **What might it look like at say, 2040?**

\* **Anything going to be done to decrease depletions to RR due to ground water pumpers and hence increase inflows to Harlan?**  
(impacts hydrology effort – see below)

\* **What O&M-type activities might Bostwick Division reasonably have accomplished by then?**

\* **Stipulation IV. E – How does the system operation study relate herein and how might it affect the future without hydrology?**

## E. Hydrology Data and Model Requirements-Phillips

Potential issues for feasibility-level model:

1. Ability to track daily occurrences when flows below MDS triggers and consequent need for daily model.
2. What would the trigger levels be.
3. Provide augmentation, and to what degree, to meet MDS flow requirements.
4. Allow for multiple ownership pools in Lovewell Reservoir.
5. Simulate conveyance of Lovewell storage to off-stream storage site.
6. Quantify available natural runoff at off-stream sites.
7. Establish future conditions for water supply. Are '93-level flows adequate, adjustments to reservoir capacity for future sedimentation, adjustments to reach gains for potential administrative regulation of consumptive use to meet compact allocations?
8. Ability to evaluate impacts to water rights from Harlan Lake down to and inclusive of Milford Reservoir, and their impacts to Lovewell storage and MDS augmentation.
9. Evaluate impacts to private water users below Superior-Courtland Diversion Dam when providing increased Courtland Canal diversions.

Take flow  
Lovewell out  
of Corps  
Systems

10. Is there a need to determine surface water and groundwater interaction below Harlan, and seepage impacts along conveyance systems?
11. Is the ability to simulate return flows from diversions needed?
12. Compact compliance, MDS storage and use?
13. New Water rights, MDS storage, irrigation storage, Filing?

- Review of existing model capabilities.
- Modification of existing model or develop new model?

F. Data Collection Requirements-Kube

- Geologic
- Survey and mapping
- Water sampling
- Other

G. Cost Share Agreements (Written willingness to cost share in FS)-Gjerde/Kube



January 23, 2004

**PRELIMINARY AGENDA  
PRESENTATION MEETING  
LOWER REPUBLICAN APPRAISAL STUDY**

**10:00 AM, FEBRUARY 5, 2004  
ELKS CLUB, 230 CENTRAL AVENUE  
SUPERIOR NE**

**Sponsors:**

**Kansas Department of Agriculture, Division of Water Resources  
Nebraska Department of Natural Resources  
U.S. Bureau of Reclamation**

- A. Welcome
- B. Introductions and Meeting Purpose
- C. Background for Study
- D. Planning Process
- E. Appraisal Study Results
- F. Feasibility Study
- G. Conclude Meeting

A lunch buffet will be available at the Club.

January 23, 2004

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