

Reclamation Manual

Directives and Standards

Subject:	Title XVI Water Reclamation and Reuse Program Feasibility Study Review Process
Purpose:	The purpose of this Directive and Standard (D&S) is to establish requirements and a review process for feasibility studies conducted under the Bureau of Reclamation's Water Reclamation and Reuse (Title XVI) Program. The benefits of this D&S are clear statements of the Title XVI feasibility study report requirements and Reclamation's review procedures leading to a more transparent and consistent Title XVI Program.
Authority:	Reclamation Projects Authorization and Adjustment Act of 1992 – Title XVI Reclamation Wastewater and Groundwater Study and Facilities Act, section 1604 (Feasibility Studies) (Pub. L. 102-575; 43 USC 390h et seq.), as amended
Approving Official:	Director, Office of Program and Policy Services (OPPS)
Contact:	Title XVI Program Manager, Program Support Services Office, 84-52000

1. **Scope.** This D&S describes the study and reporting requirements, responsibilities, and review processes for feasibility studies conducted under Reclamation's Title XVI Program. Title XVI of Pub. L. 102-575, as amended, authorizes the Secretary of the Interior (Secretary) to participate with appropriate Federal, state, regional, local authorities, and Indian tribes or tribal organizations in studies to determine the feasibility of water reclamation and reuse projects in the 17 Western States and Hawaii.
 - A. **Use of the Term Feasibility.** The term feasibility as used throughout this document applies only to feasibility under the Title XVI Program. Reclamation's responsibilities concerning traditional water resource feasibility studies not related to water reclamation and reuse are addressed in a separate Reclamation Manual (RM) D&S, *Feasibility Studies* (CMP 05-02).
 - B. **Feasibility Study Relation to the Title XVI Program.** This D&S does not apply to appraisal studies, or research and demonstration projects also authorized under Pub. L. 102-575, as amended. Appendix A highlights the relationship of the Title XVI feasibility study to the remainder of the Title XVI construction program.
 - C. **Locally Sponsored Projects.** Title XVI water reclamation and reuse projects are, primarily, locally sponsored projects with limited Reclamation participation. Specifically, the non-Federal sponsor owns the project facilities and features, and is responsible for construction, operation, maintenance, and replacement. With few exceptions, the Federal cost share for Title XVI projects is limited by law to not more than 25 percent of the total cost of planning, design, and construction not to exceed \$20 million.

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- D. **Review.** The purpose of Reclamation's review is to determine if a Title XVI feasibility study report meets the requirements of a feasibility study as defined under section 1604 of Pub. L. 102-575, as amended. Through this review, Reclamation is not recommending any action for the proposed Title XVI projects. Further, Reclamation's review of the design and cost estimates is limited to ensuring the requirements of section 1604 of Pub. L. 102-575, as amended, are met.

2. Definitions.

- A. **Feasible.** The term feasible as used throughout this document applies only to the Title XVI Program. Pub. L. 102-575, as amended, provides specific requirements for a feasible Title XVI project. Those requirements are categorized in this D&S into: (1) statement of problems and needs, (2) water reclamation and reuse opportunities, (3) description of alternatives, (4) economic analysis, (5) selection of proposed Title XVI project, (6) environmental considerations, (7) legal and institutional requirements, (8) financial capability of sponsor, and (9) research needs. Detailed reviews of the design and cost estimates are not a requirement of feasibility under Pub. L. 102-575, as amended and therefore not undertaken.
- B. **Non-Federal Project Sponsor.** Non-Federal project sponsors may include a state, regional, or local authority; Indian tribe or tribal organization; or other entities such as a water conservation or conservancy district, wastewater district, rural water district, or water association within the 17 Western States or Hawaii.
- C. **Proposed Title XVI Project.** The proposed Title XVI project is the water reuse or recycling alternative that the study lead and the non-Federal project sponsor believe best meets the identified objectives.
- D. **Review Team.** The review team is established and the members are selected jointly by the Director, OPPS, and the responsible regional director. The review team consists of at least three individuals, with one representing the Director, OPPS, one representing the reviewing office, and the third as agreed by both directors.
- E. **Reviewing Office.** The reviewing office is identified by the responsible regional director and will facilitate the review of the Title XVI feasibility study report.
- F. **Study Lead.** The study lead is the person or organization that prepares the Title XVI feasibility study report. The study lead may be a Reclamation employee, or a non-Federal project sponsor. The study lead may not be part of the review team.
- G. **Title XVI Feasibility Study Report.** A Title XVI feasibility study report is a report including any supporting documentation, which is prepared to document the results of a

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feasibility study conducted to assess proposed water reclamation and reuse projects. Title XVI has specific requirements for the content identified in Pub. L. 102-575, as amended.

H. **Water Reclamation and Reuse Project.** A water reclamation and reuse project is a project (including the necessary facilities and features) that reclaims and reuses municipal, industrial, domestic, or agricultural wastewaters, or naturally impaired groundwater and/or surface water. Reclaimed water can be used, consistent with state law, for a variety of purposes, including, but not limited to, environmental restoration, fish and wildlife, groundwater recharge, municipal, domestic, industrial, agricultural, power generation, or recreation.

3. Responsibilities.

- A. **Director, OPPS.** The Director, OPPS, is responsible for considering the recommended findings from the regional director, and determining whether a proposed Title XVI project meets the requirements of a feasibility study as defined under section 1604 of Pub. L. 102-575, as amended. The Director, OPPS, and the regional director jointly select the review team members.
- B. **Regional Director.** The regional director is responsible for reviewing and forwarding the review team's findings to the Director, OPPS. The regional director also identifies the reviewing office, and jointly selects the review team members with the Director, OPPS. The regional director chooses whether or not to concur with the findings of the review team.
- C. **Reviewing Office.** The reviewing office will facilitate the review of the Title XVI feasibility study report by announcing when the review will take place, establishing a schedule, coordinating meetings, providing copies of the report and other documents to the other team members, and communicating with the study lead.
- D. **Review Team.** The review team reviews the Title XVI feasibility study report to determine if a Title XVI feasibility study report is in compliance with section 1604 of Pub. L. 102-575, as amended, and if the resulting report contains all pertinent information. Based on the findings, the review team will recommend to the regional director one of the following findings that the Title XVI feasibility study report: (1) meets the requirements of a feasibility study, as defined under section 1604 of Pub. L. 102-575, as amended, (2) does not meet the requirements of a feasibility study as defined under section 1604 of Pub. L. 102-575, as amended, or (3) is incomplete.
- E. **Title XVI Program Manager.** The Title XVI Program Manager is responsible for monitoring the ongoing reviews, and providing periodic status updates on the reviews to the Director, OPPS.

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- F. **Study Lead.** The study lead is responsible for preparing the Title XVI feasibility study report and if a Reclamation employee, documenting whether the Title XVI feasibility study constitutes a major agency work as used in RM D&S, *Identifying Design, Cost Estimating, and Construction Projects for which Independent Oversight Review is Required, and Performing those Reviews* (FAC 10-01).
4. **Requirements for a Title XVI Feasibility Study Report.**
- A. **Flexibility Concerning Format.** Reclamation will accept for review a Title XVI feasibility study report prepared for other purposes (e.g., as part of an application for state funding programs). However, when a report prepared for other purposes is reviewed, the review team will request a crosswalk that identifies the sections and page numbers for the elements described in Paragraph 4.B. *Title XVI Feasibility Study Report Contents*. Failure to provide the crosswalk may extend the review process, and/or result in the Title XVI feasibility study report being found incomplete.
- B. **Title XVI Feasibility Study Report Contents.** To ensure that a Title XVI feasibility study report complies with Pub. L. 102-575, as amended, other Federal laws, and to otherwise allow Reclamation to assess the feasibility of the proposed Title XVI project, at a minimum the following information shall be included.
- (1) **Introductory Information.** Provide the following introductory information.
- (a) Identification of the non-Federal project sponsor(s).
 - (b) A description of the study area and an area/project map.
 - (c) A definition of the study area in terms of both the site-specific project area where the reclaimed water supply will be needed and developed, and any reclaimed water distribution systems.
- (2) **Statement of Problems and Needs.** Describe key water resource management problems and needs for which water reclamation and reuse may provide a solution, including the following information. All projections shall be reasonable and for a minimum of 20 years.
- (a) Description of the problem and need for a water reclamation and reuse project.
 - (b) Description of current and projected water supplies, including water rights, and potential sources of additional water, other than the proposed Title XVI project, and plans for new facilities.
 - (c) Description of current and projected water demands.

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- (d) Description of any water quality concerns for the current and projected water supply.
 - (e) Description of current and projected wastewaters and disposal options other than the proposed Title XVI project, and plans for new wastewater facilities, including projected costs.
- (3) **Water Reclamation and Reuse Opportunities.** Address the opportunities for water reclamation and reuse in the study area, and identify the sources of water that could be reclaimed, including the following information.
- (a) Description of all uses for reclaimed water, or categories of potential uses, including, but not limited to, environmental restoration, fish and wildlife, groundwater recharge, municipal, domestic, industrial, agricultural, power generation, and recreation. Identify any associated water quality, and associated treatment requirements.
 - (b) Description of the water market available to utilize recycled water to be produced, including:
 - (i) Identification of potential users, expected use, peak use, on-site conversion costs, desire to use recycled water, including letters of intent if available.
 - (ii) Description of any consultation with potential recycled water customers.
 - (iii) Description of the market assessment procedures used.
 - (c) Discussion of considerations (for example: physical, converting systems for reused water, or public acceptance) which may prevent implementing a water reuse project. Identify methods or community incentives to stimulate recycled water demand, and methods to eliminate obstacles which may inhibit the use of reclaimed water, including pricing.
 - (d) Identification of all the water and wastewater agencies that have jurisdiction in the potential service area or over the sources of reclaimed water.
 - (e) Description of potential sources of water to be reclaimed, including impaired surface and ground waters.
 - (f) Description and location of the source water facilities, including capacities, existing flows, treatment processes, design criteria, plans for future facilities, and quantities of impaired water available to meet new reclaimed and reused water demands.

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- (g) Description of the current water reuse taking place, including a list of reclaimed water uses, type and amount of reuse, and a map of existing pipelines and use sites.
 - (h) Summary of water reclamation and reuse technology currently in use, and opportunities for development of improved technologies.
- (4) **Description of Alternatives.** The following information is required:
- (a) Description of the non-Federal funding condition. The reasonably foreseeable future actions that the non-Federal project sponsor would take if Federal funding were not provided for the proposed water reclamation and reuse project, including estimated costs.
 - (b) Statement of the objectives all alternatives are designed to meet.
 - (c) Description of other water supply alternatives considered to accomplish the objectives to be addressed by the proposed Title XVI project, including benefits to be gained by each alternative, total project cost, life cycle cost, and corresponding cost of the project water produced expressed in dollars per million gallons (MG), and/or dollars per acre-foot. An appraisal level cost estimates, or better, is acceptable for these alternatives.
 - (d) Description of the proposed Title XVI project including detailed project cost estimate; annual operation, maintenance, and replacement cost estimate; and life cycle costs shall be provided with sufficient detail to permit a more in-depth evaluation of the project, including non-construction costs. In this regard, the cost estimates shall clearly identify expenditures for major structures and facilities, as well as other types of construction and non-construction expenses, and shall be based on calculated quantities and unit prices. The estimated costs shall also be presented in terms of dollars per MG, and/or dollars per acre-foot of capacity, so as to facilitate comparison of the alternatives. References, design data, and assumptions must be identified. The level of detail shall be as required for feasibility studies in RM D&S, *Cost Estimating* (FAC 09-01).
 - (e) Description of waste-stream discharge treatment and disposal water quality requirements for the proposed Title XVI project.
 - (f) Description of at least two alternative measures, or technologies available for water reclamation, distribution, and reuse for the project under consideration. These alternatives must be approvable by the state(s) or tribal authorities in which the project will be located.

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- (5) **Economic Analysis.** A Title XVI feasibility study report must include an economic analysis of the proposed Title XVI project relative to other water supply alternatives that could be implemented by the non-Federal project sponsor. This assessment needs to identify the degree to which the water recycling and reuse alternative is cost-effective, and the economic benefits that are to be realized after implementation. The study lead must submit the following information for the economic analysis in a Title XVI feasibility study report.
- (a) The economic analysis included in the feasibility study report shall describe the conditions that exist in the area and provide projections of the future with, and without, the project. Emphasis in the analysis must be given to the contributions that the plan could make toward alleviation of economic problems and the meeting of future demand.
 - (b) The Title XVI feasibility study must include a cost comparison of alternatives that would satisfy the same demand as the proposed Title XVI project. Alternatives used for comparison must be likely and realistic, and developed with the same standards with respect to interest rates and period of analysis.
 - (c) When a Title XVI project provides water supplies for municipal and industrial use, the benefits of the Title XVI project can be measured in terms of the cost of the alternative most likely to be implemented in the absence of the project. This is assuming that the two alternatives would provide comparable levels of service.
 - (d) Some Title XVI project benefits may be difficult to quantify; for example, a drought tolerant water supply, reduced water importation, and other social or environmental benefits. These benefits shall be documented and described qualitatively as completely as possible. These qualitative benefits can be considered as part of the justification for a Title XVI project in conjunction with the comparison of project costs described above.
- (6) **Selection of the Proposed Title XVI Project.** Provide a justification of why the proposed Title XVI project is the selected alternative in terms of meeting objectives, demands, needs, cost effectiveness, and other criteria important to the decision.
- (a) Provide an analysis of whether the proposed Title XVI project would address the following:
 - (i) Reduction, postponement, or elimination of development of new or expanded water supplies;

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- (ii) Reduction or elimination of the use of existing diversions from natural watercourses, or withdrawals from aquifers;
 - (iii) Reduction of demand on existing Federal water supply facilities; and
 - (iv) Reduction, postponement, or elimination of new or expanded wastewater facilities.
- (7) **Environmental Consideration and Potential Effects.** The review of a Title XVI feasibility study report does not require National Environmental Policy Act (NEPA) compliance. The Department of the Interior categorical exclusion 1.11 “Activities which are educational, informational, advisory, or consultative to other agencies, public and private entities, visitors, individuals or the general public” applies to Reclamation’s consultative review, and preparation of the Title XVI feasibility study reports. As stated in Paragraph 1. *Scope*, Reclamation is not making a recommendation to go forward with the proposed Title XVI project, nor is Reclamation using the Title XVI feasibility study report to propose an action to the Congress.
- (a) The Title XVI feasibility study report must include sufficient information on each alternative to allow Reclamation to assess the potential measures and costs that may be necessary to comply with NEPA, and any other applicable Federal law. Accordingly, the following information is required.
 - (i) Discussion whether, and to what extent, the proposed Title XVI project will have potentially significant impacts on endangered or threatened species, public health or safety, natural resources, regulated waters of the United States, or cultural resources.
 - (ii) Discussion whether, and to what extent, the project will have potentially significant environmental effects, or will involve unique or undefined environmental risks.
 - (iii) Description of the status of required Federal, state, tribal, and/or local environmental compliance measures for the proposed Title XVI project, including copies of any documents that have been prepared, or results of any relevant studies.
 - (iv) Any other information available to the study lead that would assist with assessing the measures that may be necessary to comply with NEPA, and other applicable Federal, state or local environmental laws such as the Endangered Species Act or the Clean Water Act.

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- (v) Discussion of how the proposed Title XVI project will affect water supply and water quality from the perspective of a regional, watershed, aquifer, or river basin condition.
- (vi) Discussion of the extent to which the public was involved in the feasibility study, and a summary of comments received, if any.
- (vii) Description of the potential effects the project may have on historic properties. Discussion must include potential mitigation measures, the potential for adaptive reuse of facilities, an analysis of historic preservation costs, and the potential for heritage education, if necessary.
- (b) If, at a later date, Reclamation will recommend the project to the Congress, or provide funds for construction, appropriate NEPA, and other environmental compliance, must be completed.
- (8) **Legal and Institutional Requirements.** The Title XVI feasibility study shall identify any legal or institutional requirements, or barriers to implementing the proposed Title XVI project.
 - (a) Analysis of any water rights issues potentially resulting from implementation of the proposed water reclamation and reuse project. All proposed Title XVI projects must comply with state water law.
 - (b) Discussion of legal and institutional requirements (e.g., contractual water supply obligations, Indian trust responsibilities, water rights settlements, regional water quality control board requirements), state, and/or local requirements with the potential to affect implementation of the project. Title XVI projects using Reclamation project water must address contractual requirements as described in RM Policy, *Reuse of Project Water* (WTR P09).
 - (c) Discussion of the need for multi-jurisdictional or interagency agreements, any coordination undertaken, and any planned coordination activities.
 - (d) Discussion of permitting procedures required for the implementation of water reclamation projects in the study area, and any measures that the non-Federal project sponsor can implement that could speed the permitting process.
 - (e) Discussion of any unresolved issues associated with implementing the proposed water reclamation and reuse project, how and when such issues will be resolved, and how the project would be affected if such issues are not resolved.

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- (f) Identification of current and projected wastewater discharge requirements resulting from the proposed Title XVI project (e.g., brine disposal).
 - (g) Description of rights to wastewater discharges resulting from implementation of the proposed Title XVI project.
- (9) **Financial Capability of Sponsor.** At the Title XVI feasibility study stage, Reclamation must request enough information to determine that the non-Federal project sponsor is likely to demonstrate financial capability if the project moves to construction. Reclamation will request more detailed information to make a determination that the non-Federal project sponsor is financially capable of funding the non-Federal share of the project's costs before a funding agreement covering construction can be executed. Accordingly, the following information is required to be included in the Title XVI feasibility study report.
- (a) Proposed schedule for project implementation.
 - (b) Discussion of the willingness of the non-Federal project sponsor to pay for its share of capital costs and the full operation, maintenance, and replacement costs.
 - (c) A plan for funding the proposed water reclamation and reuse project's construction, operation, maintenance, and replacement costs, including an analysis of how the non-Federal project sponsor will pay construction and annual operation, maintenance, and replacement costs.
 - (d) Description of all Federal and non-Federal sources of funding and any restrictions on such sources, for example, minimum or maximum cost-share limitations. Generally, for Title XVI authorized projects, the Federal cost share is limited to 25 percent, or \$20,000,000, whichever is less.
- (10) **Research Needs.** At a minimum, the report must include a statement on whether the proposed water reclamation and reuse project includes basic research needs, and the extent that the proposed Title XVI project will use proven technologies and conventional system components. The following information is required only if further research is necessary to implement the proposed Title XVI project.
- (a) Description of research needs associated with the proposed water reclamation and reuse project, including the objectives to be accomplished through research.
 - (b) Description of the basis for Reclamation participation in the identified research.

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- (c) Identification of the parties who will administer and conduct necessary research.
- (d) Identification of the timeframe necessary for completion of necessary research.

5. Process for the Review of Title XVI Feasibility Study Reports.

A. **Review Process.** Following is a description of the Title XVI feasibility study report review process. A flow chart of the process is provided in Appendix B. The Title XVI Program Manager (84-52000) must be copied on all correspondence developed during this process.

- (1) **Review Initiation.** The study lead will submit one copy of the Title XVI feasibility study report to the appropriate Reclamation regional or area office. Upon receipt of the Title XVI feasibility study report, the receiving office will consult with the regional director to determine the appropriate reviewing office. The reviewing office will examine the report to identify any missing significant items. This review is intended to be a quick-check (without thoroughly reading the report) for determining whether the minimum requirements in Paragraph 4.B. *Title XVI Feasibility Study Report Contents* are included. This initial review shall be completed within 15 calendar days of receipt of the Title XVI feasibility study report.
 - (a) If the Title XVI feasibility study report is incomplete, the reviewing office will notify the study lead, in writing, of the items that need to be addressed prior to resubmitting the report.
 - (b) If the Title XVI feasibility study report appears to contain all the required information, the reviewing office will notify, in writing, the study lead that the formal review process will begin when two additional hard copies of the Title XVI feasibility study report are received.
- (2) **Establishment of the Review Team.** The regional director will coordinate with the Director, OPPS, to establish a review team. The review team shall consist of a minimum of three members, with at least one member having served on a previous review team. The review team must be established within 15 calendar days of the initiation of the review process.
- (3) **Review of the Title XVI Feasibility Study Report.** The review team will examine the Title XVI feasibility study report to determine whether the information contained therein meets all the requirements of Paragraph 4.B *Title XVI Feasibility Study Report Contents* of this D&S, and adequately describes a

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feasible project. The review team will strive toward consensus. If an impasse is reached, the regional director and Director, OPPS, will jointly determine how to move forward.

- (a) If the report is found to contain insufficient information, the review team shall request additional information from the study lead through the reviewing office in one request. If necessary, the reviewing office shall coordinate a meeting with the study lead to discuss the additional information. The topics requiring clarification will be described in detail. The written request for additional information or clarification shall occur within 90 calendar days of the establishment of the review team.
- (b) The review team will examine additional information to ensure that all questions have been answered and that any inconsistencies have been resolved. Within 45 calendar days of receipt of the additional information, the reviewing office will inform the study lead whether the initial request for additional information is fulfilled, or if further clarification is necessary. If further clarification is necessary, the review team will provide examples of what is required and will offer to meet with the study lead. If, after two requests, the review team cannot obtain the additional information, the regional director and Director, OPPS, will be notified, and the review team will recommend that Reclamation: (i) continue to request information, (ii) find that the report contains insufficient information, or (iii) recommend the study lead withdraw the report which will terminate the review process.

- (4) **Timeframe.** The review of a Title XVI feasibility study report shall take no longer than 180 calendar days from the initiation of formal review process, excluding the periods when Reclamation is waiting for additional information from the study lead, and when additional information is requested more than twice.

B. Findings and Notification of the Study Lead. The review team will prepare a memorandum to document their process and findings, and to document concurrence of the regional director and the Director, OPPS. The memorandum shall have a signature line for the regional director and the Director, OPPS. One of the three findings listed below will be selected and documented in the memorandum. The reviewing office will notify the study lead of the findings.

- (1) **Finding - Meets Requirements.** If the review team finds that the proposed Title XVI project meets the established requirements and the regional director concurs, the regional director will recommend that the Director, OPPS finds the proposed Title XVI project meets the requirements of a feasibility study as defined under section 1604 of Pub. L. 102-575, as amended. Upon receipt of the signed memorandum, the responsible reviewing office will notify, in writing, the study lead of Reclamation's findings. The notification will identify any additional

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information required, or activities that must be completed prior to the non-Federal project sponsor receiving construction funding. The reviewing office will also ensure that the non-Federal project sponsor is notified that Reclamation's official position on project authority and funding will be articulated at a later time.

- (2) **Finding - Does Not Meet Requirements.** If the review team finds that the proposed Title XVI project does not meet the established requirements and the regional director concurs, the regional director will recommend that the Director, OPPS finds the proposed Title XVI project does not meet the requirements of a feasibility study as defined under section 1604 of Pub. L. 102-575, as amended. Upon receipt of the signed memorandum, the responsible reviewing office will notify the study lead, in writing, explaining why the proposed Title XVI project does not meet the requirements.
- (3) **Finding - Title XVI Feasibility Study Report Incomplete.** If the review team determines that the Title XVI feasibility study report contains insufficient information and the regional director concurs, the regional director will recommend that the Director, OPPS finds the Title XVI feasibility study report incomplete. Upon receipt of the signed memorandum, written notification will be provided by the reviewing office to the study lead that the feasibility study report was found incomplete. A clear description of what additional information is required will also be provided. When a report is resubmitted for review, the process will start anew at the review initiation stage.
- (4) **Timeframe.** Making the final finding, coordinating with the regional director and Director, OPPS, developing the documentation memorandum, and sending written notification to the study lead shall occur within 60 calendar days of the completion of the review process.

- C. **Funding of Reviews.** When possible, the reviewing office will anticipate reviews of feasibility study reports and fund them from funds available to the reviewing office. When the reviewing office does not have funds available, the reviewing office will request funding for the review from OPPS. The review of feasibility study reports will be subject to the availability of appropriations from the Congress. Reclamation may also receive funding from the non-Federal project sponsor to perform the review process through a Contributed Funds Agreement developed in accordance with the Sundry Civil Appropriations Act of 1922 (Pub. L. 66-389; 43 USC 395).