

DRAFT RECLAMATION MANUAL RELEASE
Comments on this draft release must be submitted to
kwunderlich@do.usbr.gov by October 1, 2008.

Background and Purpose of the Following Draft Directive & Standard (D&S)

The purpose of this D&S document is to revise the steps that are required Reclamation-wide as the feasibility study phase of water resources implementation studies (i.e., studies that investigate potential development of new water supplies and that may lead to recommendations to Congress) is carried out. This D&S document is a draft revision of an existing Reclamation Manual release, *Feasibility Studies* (CMP 05-02). Reclamation is developing this D&S document to ensure that feasibility studies are produced as consistently and effectively as possible.

Reclamation is making this draft available for review and comment to ensure that anyone who is potentially affected by, or otherwise interested in, this D&S has an opportunity to provide input.

The Reclamation Manual is used to clarify program responsibility and authority and to document Reclamation-wide methods of doing business. All requirements in the Reclamation Manual are mandatory.

See the following pages for the draft D&S.

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Directives and Standards

Subject: Water Resources Implementation Studies – Feasibility Studies

Purpose: Establish required steps to be followed while conducting the feasibility study phase of water and land-related resources implementation studies (implementation studies), for the purpose of determining the desirability of seeking congressional authorization to implement a recommended plan within a specific study area. The benefit of this Directive and Standard (D&S) is the establishment of requirements that will be used throughout the Bureau of Reclamation to produce consistent, systematic, and efficient feasibility studies.

Authority: The Reclamation Act of June 17, 1902 (32 Stat. 388, 43 U.S.C. 372, et seq.), and acts amendatory thereof and supplementary thereto; the Reclamation Project Act of 1939 (Act of August 4, 1939, ch. 418, 53 Stat. 1187); section 1 of the Flood Control Act of December 22, 1944 (ch. 665, 58 Stat. 887); the Fish and Wildlife Coordination Act of August 14, 1946 (ch. 965, 60 Stat. 1080); the Water Supply Act of June 3, 1958 (Title III of the River and Harbor, Flood Control, and Water Supply Act of 1958, Public Law 85-500; 43 U.S.C. § 390b); the Federal Water Project Recreation Act of July 9, 1965 (P.L. 89-72, 79 Stat. 213); the Water Resources Planning Act of July 22, 1965 (P.L. 89-80, 79 Stat. 244); the Certain Study Costs Nonreimbursable Act of October 29, 1971 (P.L. 92-149; 85 Stat. 416); Title I of the Rural Water Supply Act of December 22, 2006 (P.L. 109-451).

Approving Official: Director, Policy and Program Services (PPS)

Contact: Water and Environmental Resources Office, 84-55000

1. **Introduction.** This D&S establishes requirements for feasibility studies to be carried out pursuant to Reclamation Manual (RM) Policy, *Water Resources Implementation Studies for Development of Water Supply* (CMP P06), and in concert with requirements in RM D&S, *General Requirements for Water Resources Implementation Studies* (CMP 05-06). This D&S presents requirements for the feasibility study phase of the implementation study process, requirements that are in compliance with the *Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies* (P&Gs), U.S. Water Resources Council, March 10, 1983.

2. **Applicability.**

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- A. This D&S, in concert with CMP 05-06, establishes responsibilities and requirements for conducting feasibility studies to investigate the development of new water supplies. Feasibility studies may result in recommendations to seek authorization from Congress to design and construct water resource infrastructure to serve a specific study area. In some cases feasibility studies may likewise conclude with a recommendation that new water supply be developed through non-structural means; such as, but not limited to, requesting congressional authorization for an additional or changed project purpose.
- B. This D&S does not establish requirements for planning studies associated with managing or increasing water supply on projects already authorized by Congress and constructed, including studies focused on improved management of existing water resources, water use efficiency and optimization, water conservation, utilization of water banks, purchasing or leasing water, etc., where there is no need for congressional action.
- C. This D&S is also applicable to feasibility studies conducted under Reclamation's Rural Water Program. However, some procedural requirements, which includes budgeting for and review and approval of feasibility studies and reports, differ for planning studies conducted under the Rural Water Program, and will be specifically governed by requirements established within the Rural Water Supply Act of 2006.
- D. This D&S is not applicable to studies and reporting requirements conducted under Reclamation's Title XVI program. See RM D&S, *Title XVI Water Reclamation and Reuse Program Feasibility Study Review Process* (WTR 11-01), for requirements related to the Title XVI program.

3. Definitions of Terms.

- A. **Implementation Study.** A water and related resources study conducted to investigate the development of new water supplies for such beneficial purposes as irrigation, recreation, and municipal and industrial (M&I). As described in CMP 05-06, a standard implementation study begins with an appraisal study then proceeds to a feasibility study, from which a recommendation will be made to Congress. Reclamation will conduct implementation studies in compliance with the P&Gs.
- B. **Feasibility Study.** A detailed, congressionally authorized phase of implementation study, requiring the acquisition and development of study-specific data, and an analysis of a reasonable range of alternatives to meet identified water supply problems and opportunities in the study area. A feasibility study also requires an analysis of the economic justification of the proposed project, the impact of the proposed project on the environment in compliance with the National Environmental Policy Act (NEPA) and other applicable environmental laws, and the

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financial capability of the non-Federal project co-sponsor to pay the non-Federal costs associated with designing, constructing, operating, and maintaining the project. The completed feasibility study will form the basis for Reclamation's recommendation to Congress regarding whether the proposed project should be authorized for construction. Feasibility study requirements are described throughout this D&S and CMP 05-06.

- C. **Federal Objective.** The Federal objective of water resources project planning is to contribute to national economic development (NED) consistent with protecting the Nation's environment, pursuant to national environmental statutes, applicable environmental statutes, applicable executive orders, and other Federal planning requirements (chapter 1, section II of the P&Gs).
- D. **Water Resources Community.** The water resources community consists of Federal, state, tribal, regional, and local government entities; the non-Federal feasibility study co-sponsor; customers; partners; stakeholders; and the general public with a stake or interest in the study area.

4. **Responsibilities.**

- A. **Commissioner.** The Commissioner leads Reclamation's contributions to NED by initiating and supporting implementation study efforts, including feasibility studies, among Reclamation, the Department of the Interior, the Executive Branch, and Congress. The Commissioner approves feasibility study reports and recommendations; submits recommendations through the Secretary of the Interior to Congress; and ensures feasibility studies conform to Federal law, this D&S, and all other applicable RM releases.
- B. **Deputy Commissioner – Operations.** The Deputy Commissioner – Operations reviews and approves or disapproves regional directors' requests for exceptions from cost-sharing requirements.
- C. **Regional Directors.** Regional directors manage their region's implementation study efforts, including feasibility studies within Reclamation and among the interested and affected water resources community. They budget for feasibility studies; manage cost-sharing agreements; and ensure feasibility studies, reviews, reports, and recommendations conform to this D&S and other applicable RM releases. They will approve feasibility study reports and recommendations and submit them to the Commissioner for approval. (See paragraph 4.D. below for additional requirements for implementation study reports and recommendations conducted under the Rural Water Program).

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- D. **Director, PPS.** Following review by the regional director, the Director, PPS, will review and approve all feasibility study reports and recommendations conducted under the Rural Water Program and submit the same to the Commissioner for approval.
- E. **Director, Program and Budget.** The Director, Program and Budget, submits appropriate feasibility study reports to the Office of Management and Budget (OMB), prior to their submittal to Congress, and coordinates Reclamation's subsequent analysis and response. The Director will provide feedback from OMB on the acceptability of the feasibility study report and funding of the project with respect to the President's budget.
- F. **Area Managers.** Area managers will be responsible for feasibility study activities that are delegated to them by their regional director.
5. **Overview of Feasibility Studies.**
- A. Feasibility studies are detailed, complex, comprehensive, resource-intensive studies authorized by Congress to determine the desirability of seeking congressional authorization to design and construct or otherwise implement a recommended project. They will require major investigations, including collection and development of study-specific data, and communication and collaboration with the water community to systematically develop a preferred plan from a group of alternative plans. Funding for feasibility study activities that will be accomplished during a given year will appear as specific line items in Reclamation's appropriations. In conformance with paragraph 6 below, the feasibility study will include: identification of problems and opportunities, inventory of present and future conditions, formulation of alternative plans, evaluation and comparison of plans, and ultimately, selection of the recommended plan. The feasibility study will be used to develop and evaluate alternative plans to arrive at a plan that reasonably maximizes net NED benefits, with acceptable impacts to the human environment and the ecosystem. The NED plan must be developed in each feasibility study. The decision to formulate alternative plans in addition to the NED plan that emphasize and optimize environmental quality, regional economic development, and/or other social effects will be determined on a study-by-study basis.
- B. Initial information pertinent to the feasibility study steps below will be typically forwarded from an appraisal study conducted prior to the feasibility study. However, conducting an appraisal study prior to a feasibility study is not a requirement. Recommendation from an appraisal study, including one or more alternatives determined to be potentially feasible, may be found to be infeasible or

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may not be the recommended alternative at the conclusion of the subsequent feasibility study.

- C. If at any step of a feasibility study it is determined that there is no longer any viable alternative or a Federal interest does not exist, the feasibility study, in collaboration with the non-Federal co-sponsor, will be concluded. A special feasibility study report known as a concluding report, which includes documentation of the concluding findings, will be prepared, approved by the regional director, and transmitted as appropriate.
- D. Key implementation study requirements listed below and described in detail in paragraph 5.C. of CMP 05-06 will be fully complied with during each feasibility study:
- (1) Compliance with laws, policy, etc.;
 - (2) Public involvement;
 - (3) Interdisciplinary and team approach;
 - (4) Integration of feasibility studies and compliance with NEPA, other related acts and executive orders;
 - (5) Cost sharing for performing feasibility studies;
 - (6) Cost estimates;
 - (7) Cost allocations;
 - (8) Cost recovery;
 - (9) Risk and uncertainty;
 - (10) Documentation of feasibility studies; and
 - (11) Internal and external review of feasibility study reports.

6. **Reclamation's Basic Steps for Feasibility Studies.** Activities in all steps will be consistent with the P&Gs and NEPA requirements. All of the following requirements will be accomplished with with the general implementation study requirements described throughout CMP 05-06.

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- A. **Identify Problems and Opportunities.** Specific problems and opportunities within a study area will be identified, planning goals and objectives established, and significant constraints¹ identified. The planning goals and objectives will reflect the direction provided in the congressional authorization as well as the views of the interdisciplinary feasibility study team and the water resources community. This step will identify the purpose of the feasibility study, how the water resources community will be involved, and define the study area affected by the problems and opportunities. (Also see paragraph 5.B.(1) in CMP 05-06.)
- (1) The desire to alleviate problems and realize opportunities will be specified for the study area in terms of the Federal objective, Federal interest, and specific state, local, and public concerns. The problems and opportunities will be formulated so that their definition does not dictate a narrow range of alternatives to be considered.
 - (2) The problems and opportunities will be defined in such a way that meaningful and distinguishable levels of achievement can be identified. This will facilitate the formulation, evaluation, and comparison of alternative plans in cases in which there may be significant constraints preventing total alleviation of a problem, or full realization of an opportunity.
 - (3) Defined problems and opportunities will reflect the specific effects that are desired by interested and affected groups and individuals, as well as the problems and opportunities declared to be in the national interest by Congress and the Executive Branch. Identification and detailing of problems and opportunities will describe the range of desires and preferences of those who would be affected if a recommended alternative plan is implemented. The initial expressions of problems and opportunities, including those generated from an appraisal study, may be modified throughout the feasibility study as data and information are collected, developed, and evaluated.
 - (4) The period of analysis over which problems and opportunities will be projected will be the time required for implementation of a proposed plan, plus a meaningful period (e.g., 50 years) agreed to by Reclamation, the non-Federal feasibility study co-sponsor, and the water resources community. The total period of consideration will not exceed the lesser of the life of the proposed project or 100 years, whichever occurs first.

¹Constraints could be financial, environmental, technical, physical, legislative, administrative, institutional, legal, regulatory, etc., which could limit total alleviation of a problem or prevent full realization of an opportunity.

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- B. Inventory Existing Resources and Forecast Future Conditions.** This step quantifies water and related resource conditions as they currently exist within the study area, and forecasts future conditions over the duration of time that is of interest to the feasibility study as defined in paragraph 6.A.(4) above. This analysis will provide information by which to understand existing conditions and establish a baseline for forecasting with- and without-plan conditions.² (Also see paragraph 5.B.(2) in CMP 05-06.)
- (1) An inventory will be made to determine the quantity and quality of water and related land resources of the study area, and to clarify opportunities for enhancement and protection of those resources. The inventory will only include data appropriate to the problems and opportunities identified in paragraph 6.A. above. The inventory will describe the existing conditions and be the baseline for forecasting with- and without-plan conditions.
 - (2) The most likely future condition (i.e., the reasonably foreseeable future) without a plan will be used for evaluating the anticipated effects of alternative plans.
 - (3) Inventory and forecasting will include an analysis of the identified problems and opportunities, and their implications for the study area. Resource inventories will be limited to resources affecting the problems and opportunities. As alternative plans are formulated and refined, the adequacy of resource inventories will be reevaluated and revised as appropriate.
 - (4) Based on this analysis, an evaluation will be made of the likelihood for alleviating the problems and realizing the opportunities as described in the planning objectives and constraints. The evaluation will establish the scope and magnitude of actions needed to address each problem and opportunity. Resource inventories and forecasts may introduce additional problems or opportunities that will subsequently be added to the feasibility study.
 - (5) Formulation and evaluation of alternative plans will be based on the most likely future conditions (the reasonably foreseeable future) expected to exist in the future with and without implementation of a plan. The without-plan condition developed in this step will be the condition expected to prevail if no action is taken. The with-plan condition will be the condition expected to prevail with the particular plan under consideration.

²Within Reclamation “without-plan condition” is often stated as “future-without” or “no action”.

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- (6) The forecasts of with- and without-plan conditions will use the inventory of existing conditions as the baseline, and will be based on consideration of the following (including direct, indirect, and cumulative effects):
 - (a) National and regional projections of income, employment, output, and population prepared and published by the Department of Commerce;
 - (b) Other aggregate projections such as production and exports, water and land-use trends, and amounts of goods and services likely to be demanded;
 - (c) Expected environmental conditions; and
 - (d) Specific, authoritative, and relevant projections for sub-regional areas that include the feasibility study area.
 - (7) National and state environmental, water resources, and health standards and regulations will be recognized and considered during the feasibility study. Standards and regulations concerning water quality, water rights, air quality, public health, fish and wildlife, threatened and endangered species, wetlands protection, environmental justice, Indian trust asset responsibilities, floodplain management, etc., will be given specific consideration in inventorying and forecasting the with- and without-plan condition.
 - (8) During the information and data collection for inventory and forecasting, previous and ongoing water resources investigations and planning efforts addressing the problems and opportunities in the study area will be considered.
- C. **Formulate Alternative Plans.** Various viable alternative plans will be identified, investigated, and formulated to address feasibility study problems, opportunities, and planning objectives and constraints. (Also see paragraph 5.B.(3) in CMP 05-06.)
- (1) **Investigations, Data Collection, and Analysis During Formulation of Alternative Plans.** Investigations, data collection, and analysis efforts will be planned, coordinated, and integrated into the planning process. The following types of investigations (and lists of topics associated with those investigations) will be considered and executed as appropriate on a feasibility study-by-study basis by an interdisciplinary team during formulation of alternative plans. This is not an all-inclusive list, nor will every type of investigation and topic on the list will be necessary or applicable to formulation of every alternative plan. Professional judgment will be used to include the correct types of investigations, at the correct level of detail and at the correct time(s).

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- (a) **Engineering Investigations.** Constructability; construction considerations; construction management; construction scheduling; construction materials; construction methods; contracting and acquisition methods; cost estimates; desalinization; design data requirements; dewatering; drains and drainage; drilling and subsurface investigations; engineering (civil, electrical, geotechnical, mechanical, structural, etc.); engineering design; equipment; field investigations; geology and seismology, including maximum credible earthquake; instrumentation; permits; phased construction; project management; relocations of roads, residences, etc.; security; surveys, mapping, and topography; types of structures and facilities (canals, coffer dams, dams, dikes, distribution systems, diversion dams, fuse plug, main conveyances, pipelines, pumping plants, reservoirs, roads and bridges, rural water systems, spillways, temperature control devices, transmission lines, tunnels, etc.); value engineering; wastewater recycling and reuse; etc.
- (i) Each alternative plan's design data collection and engineering design will be planned and performed to assure sufficient detail is developed to demonstrate that the design will fulfill the basic functional and technical requirements of the plan.
- (ii) Identification of project-specific features or activities that present higher levels of risk or uncertainty for planning, design and construction will be made as early in each feasibility study as possible. Measures to manage risk and uncertainty will begin as early in the study as practicable.
- (iii) Special attention will be directed to project features or activities that are the most significant cost components of the total estimated cost. (See paragraph 5.C.(6) in CMP 05-06 for additional information on cost estimate requirements.)
- (b) **Hydrologic Investigations.** Climate; climate change; conjunctive use; consumptive and non-consumptive uses; desalinization; discharges; distribution system capacity; domestic use; environmental enhancement; evapotranspiration; flood control use; flood hydrology, including probable maximum flood; groundwater supply; industrial use; inundation maps; irrigation use; irrigation drainage; municipal use; navigation use; recreation use; power use; return flows; river hydraulics; river operations; river regulations; sedimentation; seepage; storm water discharge; stream channel hydrology and geomorphology; surface supply; unmet demand for supply; water available after present uses; water conservation; water reclamation and

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reuse; water rights, compacts and treaties; water quality; water utilization; etc.

- (c) **Land Resources Investigations.** Boundary surveys; future land uses; hazardous material and toxic waste surveys; irrigation suitability land classification; land use planning; land purchases; real estate appraisals; wild land fire management; etc.
 - (d) **Power Investigations.** Energy development; energy requirements and energy conservation; hydropower facility considerations; integration and interconnection with other energy sources; power benefits; etc.
 - (e) **Economic and Financial Investigations.** Benefits determinations; capability and willingness (farm budget analyses) to pay reimbursable costs; cost allocations for project and repayment purposes; cost estimates, cost-sharing requirements (i.e., reimbursable costs to be repaid with/without interest, reimbursable interest rates,³ years to repay costs, etc.); determination of the alternative plans' economic justification and financial feasibility; discount rates; interest during construction, NED and regional economic development (RED) net benefits; non-project costs, preliminary financing plans; etc.
 - (f) **Environmental Investigations.** Biological resources; contributions toward acceleration of species recovery; cultural resources; ecological systems; environmental mitigation; environmental resources; endangered and threatened species; fish and wildlife mitigation; historic resources; NEPA requirements, prevention of species listings; recreation aspects; wetlands; etc.
 - (g) **Social Investigations.** Aggregate social effects; area affects; community impacts; environmental justice; health and safety; human social needs; national emergency preparedness effects; recreation factors; security needs; social consequences; social well being; urban impacts; etc.
 - (h) **Cost Estimates Associated with Future Project Operation, Maintenance, and Replacement.** Proposed operating plan; personnel; equipment; supplies; energy needs; replacements; etc.
- (2) **The NED Plan.** A plan that reasonably maximizes net NED benefits, consistent with the Federal objective, will be formulated. This plan will be identified as the

³Interest rates are established by the Department of the Treasury each fiscal year.

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NED plan. The NED plan is required. (See paragraphs 6.C.(3)(b) through (k) below for NED plan requirements).

- (3) **Other Alternative Plans.** Other alternative plans that contribute to the Federal objective will be formulated as appropriate to adequately explore opportunities to address other Federal, state, tribal, and local concerns and opportunities not fully addressed by the NED plan to allow the decision maker the opportunity to judge whether these beneficial effects outweigh the corresponding NED losses.
- (a) The number and variety of alternative plans will be governed by:
- (i) The nature and characteristics of the problems and opportunities associated with the water and related land resources in the study area;
 - (ii) The overall resource capabilities of the study area;
 - (iii) The means and methods available for solutions; and
 - (iv) Preferences of, conflicts, and tradeoffs among water resources community members.
- (b) An alternative plan consists of a system of structural and/or non-structural measures formulated to alleviate specific problems or take advantage of specific opportunities associated with water and related land resources in the study area.
- (c) **Considering the Four Criteria.** All alternative plans will be formulated in consideration of the following four criteria:
- (i) **Completeness.** The extent to which an alternative plan identifies and provides for all necessary investments or other actions to ensure the realization of the planned effects.
 - (ii) **Effectiveness.** The extent to which an alternative plan alleviates the specified problems and realizes the specified opportunities, consistent with protecting the Nation's environment.
 - (iii) **Efficiency.** The extent to which an alternative plan is the most cost-effective means of alleviating the specified problems and realizing the specified opportunities, consistent with protecting the Nation's environment.

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- (iv) **Acceptability.** The workability and viability of the alternative plan with respect to acceptance by the water resources community, including compatibility with existing laws, regulations, and public policies.
- (d) Alternative plans will be significantly different from each other.
- (e) Alternative plans will not be limited to only those that Reclamation has authority to implement directly. Plans that could be implemented in full or in part under the authorities of other Federal agencies, state, tribal, local entities, or non-government organizations will also be considered.
- (f) Non-structural measures, such as modifications in public policy or regulatory policy, including changes to or the addition of project purposes, will be considered as means for addressing problems and opportunities.
- (g) Alternative plans formulated for the feasibility study will be the same alternatives considered in the NEPA compliance report, or the differences will be explained and justified.
- (h) Protection of the environment will be provided by mitigation of the adverse effects of each alternative plan. Accordingly, each alternative plan will include any mitigation as identified by NEPA compliance. Mitigation measures determined to be appropriate will be planned for efficient and concurrent implementation with other major plan features, where practical.
- (i) Official state, local, tribal and international water and related land resource plans will be considered in conjunction with alternative plans, to the extent they are within the scope of the feasibility study effort.
- (j) The period of the analysis will be the same for each alternative plan. The period of analysis will be the time required for implementation of a proposed plan plus the period of time over which any alternative plan would have significant beneficial or adverse effects, as agreed to by Reclamation, the non-Federal study co-sponsor, and the water resources community. The total period of the analysis will not be more than 100 years.
- (k) Documentation of any alternative plan considered but eliminated will be provided and will include the rationale for its removal.

D. Evaluate Alternative Plans. The beneficial and adverse effects of each alternative plan will be evaluated through comparison to the without-plan scenario. Four accounts are

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available to facilitate display, evaluation, and comparison of the effects of alternative plans. These accounts are: NED, environmental quality (EQ), RED, and other social effects (OSE). (Also see paragraph 5.B.(4) in CMP 05-06.)

- (1) The NED account is the only required account. Other study-specific information that is required by law, RM Policy, and D&S, or that will have a bearing on the decision-making process will be included in the other accounts (EQ, RED, and OSE), or in some other equivalent and appropriate format used to organize and display information on effects.
- (2) Relationships between short-term use of the human environment and the maintenance and enhancement of long-term productivity will be displayed. Any irreversible or irretrievable commitments of resources (e.g., water or land) will also be displayed.
- (3) Effects of an alternative plan in the displays will be the differences between the forecasted conditions with the plan, and forecasted conditions without the plan.
- (4) Effects in the NED account will be expressed in monetary units. EQ effects will be expressed in appropriate numeric units, or non-numeric terms. RED effects will be expressed in monetary units and supplemented with other numeric or nonnumeric terms, as appropriate. OSE effects will be expressed in monetary units, other numeric units, or non-numeric terms.
- (5) Monetary values will be expressed in average annual equivalents by appropriate discounting and annualizing techniques using the applicable discount rate.
- (6) **NED Account.** The NED account will show effects on the national economy.
 - (a) The NED account will describe beneficial and adverse effects on the National economy.
 - (b) Beneficial effects in the NED account will be the increases in the economic value of the national output of goods and services from a plan and the value of output resulting from external economies or diseconomies caused by a plan.
 - (c) Adverse effects in the NED account will be the costs of resources used in implementing a plan. These adverse effects include: implementation outlays; associated costs; and other direct costs.

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- (d) Procedures that will be used for evaluating NED effects are found in chapter II of the P&Gs.
 - (e) The NED account will include goods and services in the following categories as applicable within the study area: M&I water supply; agricultural floodwater, erosion, and sedimentation reduction; agricultural drainage; agricultural irrigation; urban flood damage reduction; power (hydropower); transportation (inland navigation); transportation (deep draft navigation); recreation; and commercial fishing.
- (7) **EQ Account.** The EQ account will show effects on ecological, cultural, and aesthetic attributes of significant natural and cultural resources that cannot be completely measured in monetary terms. The EQ account must show that an alternative can produce the intended EQ benefits.
- (a) The EQ account will be a means of integrating environmental considerations into the feasibility study. The EQ account will include information on the effects of alternative plans on significant environmental issues and resources relevant to the feasibility study. Disclosure of effects on the affected human environment is essential to a reasoned choice among alternative plans. “Significant” means likely to have a bearing on the decision-making process and includes considerations of both the context and intensity of the effects.
 - (b) Beneficial effects in the EQ account are favorable changes in the ecological, aesthetic, and cultural attributes of natural and cultural resources.
 - (c) Adverse effects in the EQ account are unfavorable changes in the ecological, aesthetic, and cultural attributes of natural and cultural resources.
 - (d) Units of EQ benefits will be evaluated on an incremental cost basis to enhance measurement of cost effectiveness of EQ benefits within a specific alternative plan.
 - (e) Procedures that will be used for evaluating effects included in the EQ account are found in chapter III of the P&Gs.
- (8) **RED Account.** The RED account will show the regional components of NED effects, income transfers, and employment effects.
- (a) The RED account will register changes in the distribution of regional economic activity that result from each alternative plan. Two measures of the

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effects of the plan on regional economies will be used in the account: regional income and regional employment.

- (b) The regions used for RED analysis will be those regions within which the plan will have particularly significant income and employment effects. Effects of a plan not occurring in the significantly affected regions are to be placed and displayed in a “rest of nation” category.
 - (c) Effects that cannot be satisfactorily quantified or described with available methods, data, and information, or that will not have a material bearing on the decision-making process, will be excluded from the RED account.
 - (d) Information and effects in the RED account will be organized in the same categories as the NED account. The relationship between the affected regional economies and the national economy will be recognized.
- (9) **OSE Account.** The OSE account shows urban and community impacts and effects on life, health, and safety.
- (a) The OSE account will be a means of displaying and integrating feasibility study information on alternative plan effects from perspectives that are not reflected in the other three accounts. The categories of effects in the OSE account include: urban and community impacts; life, health, and safety factors; displacement; long-term productivity; energy requirements; and energy conservation.
 - (b) Effects will be evaluated in terms of their impacts on the separate regions and communities affected.
 - (c) Effects on income, employment, population distribution, fiscal condition, energy requirements, and energy conservation will be reported on a positive or negative basis. Effects on life, health, and safety will be reported as either beneficial or adverse.
 - (d) Effects that cannot be satisfactorily quantified or described with available methods, data, and information or that will not have a material bearing on the recommendations or decision-making processes will be excluded from the OSE account.

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- (10) **Display of Alternative Plans.** Documentation of each alternative plan will be prepared, displayed, and reported. Also refer to paragraphs 5.C.(10) and 5.C.(11) in CMP 05-06, for requirements for preparing implementation study reports.
- (a) Displays will be graphs, tables, geographic information system presentations, drawings, photographs, maps, summary statements, and other information in a format that facilitates the analysis, evaluation, and comparison of alternative plans. Concise and understandable displays will provide documentation of the feasibility study.
 - (b) Displays will facilitate the evaluation and comparison of alternative plans necessary to make the following determinations:
 - (i) The effectiveness of given plans in solving the problems and taking advantage of the opportunities identified in the planning process.
 - (ii) What must be given up in monetary and non-monetary terms to realize the benefits of the various alternative plans.
 - (iii) The differences among alternative plans.
- (11) **Content and Format of the Display.** The content and format of the displays will include:
- (a) Existing and forecasted resource conditions without any of the alternative plans, and the problems and opportunities related to the geographically defined area will be reported.
 - (b) Displays regarding reasonable alternatives will include the following items: measures addressing problems and opportunities in each plan; effects in the NED account; and other effects shown in the EQ, RED, and OSE accounts, when prepared.
 - (c) For the recommended alternative plan (see paragraph 4.F. below) a display of effects on natural and cultural resources will be included.
 - (d) A matrix will be included, which shows existing or planned Federal and non-Federal water resources projects or facilities within the study area having significant economic, environmental, or physical interactions with the recommended plan together with a brief narrative description of these interactions.

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- (e) Alternative plans that were considered, but were not developed, will be described briefly. The descriptions will include the proposed plan, effects, and the reason(s) for concluding development of the alternative.
- E. **Compare Alternative Plans.** Evaluated plans will be compared for relative levels of beneficial and adverse effects, tradeoffs, and value judgments. All plans will be compared on an equal basis. Comparisons will be made considering NED effects. Comparison will also be made for EQ, RED, and OSE effects when these accounts have been developed for a feasibility study. Comparisons will also address cumulative effects, as defined in the P&Gs. The degree to which the alternatives meet the four criteria cited in paragraph C.3.(c) should also be compared. (Also see paragraph 5.B.(5) in CMP 05-06.)
- F. **Select the Recommended Alternative Plan (Also Known as the Preferred Alternative).** The culmination of the feasibility study process is the selection of the recommended plan, (also known as the preferred alternative), or the decision to take no action (also known as selecting the No Action Plan). (Also see paragraph 5.B.(6) in CMP 05-06.)
- (1) If an alternative is selected as the recommended alternative at the conclusion of the implementation study process (the recommendation of the feasibility and the overall implementation study), it will be the alternative plan with the greatest net NED benefit consistent with protecting the Nation's environment (i.e., the NED alternative plan). However, if the alternative selected to be recommended to Congress by Reclamation and the non-Federal co-sponsor is not the one with the greatest net NED benefit, the feasibility study report must identify significant and justifiable reasons for recommending another alternative plan. In accordance with the P&Gs, only the Secretary of the Interior may grant, due to compelling and overriding reasons, an exception from selecting the NED plan.
 - (2) The alternative of taking no action (i.e., selecting the "future-without" or "no action" plan in lieu of any of the other alternative plans) will be fully considered.
 - (3) If the non-Federal co-sponsor prefers a recommended alternative plan different from Reclamation, this plan will be designated the Locally Preferred Plan. The Locally Preferred Plan will be required to have the same level of detail and follow the same format as Reclamation's Recommended Alternative Plan, to allow close comparison by the decision makers.
 - (4) Plans will not be recommended for development by Reclamation if they would physically or economically preclude non-Federal plans that would likely be

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Comments on this draft release must be submitted to
kwunderlich@do.usbr.gov by October 1, 2008.

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undertaken in the absence of the Reclamation plan, and that would more effectively contribute to the Federal objective when comparably evaluated.

- (5) The basis for selection of the recommended plan will be fully reported, including the rationale and data in the feasibility report and NEPA decision document (i.e., Finding of No Significant Impact or Record of Decision) used in the selection process.

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