Topic: **Reservoir Committee Agenda Item 8-1 2019 October 18**

Subject: **Sites Authority Principles and Requirements for Feasibility Study**

Requested Action:

Consider approval of a recommendation to the Sites Project Authority to approve the Authority's Principles and Requirements for Feasibility Study.

Detailed Description/Background:

The purpose of a Feasibility Study is to complete an evaluation of the technical, environmental, economic, and financial feasibility of a project. The Feasibility Study will provide the basis for making recommendations to the Reservoir Committee and Authority Board about whether a project should be approved for additional design and eventual construction.

Staff has developed draft Authority's Principles and Requirements for Feasibility Study. These Principles and Requirements are intended to provide the Authority's Feasibility Study framework for analyzing projects and related actions involving federal, state and local participant investments. For the purposes of this policy, "Principles" refer to the overarching concepts that the Authority seeks to achieve through policy implementation. The "Requirements" are inputs to alternative plans, programs, designs, strategies or actions that should be incorporated into analyses for Authority investment.

A joint Ad Hoc Water Facilities Work Group and Site Facilities Work Group was held on October 10, 2019 to review these draft Principles and Requirements. An outcome of the meeting was a direction to staff to present the Sites Authority Principles and Requirements for Feasibility Study to the Sites Reservoir Committee and include any comments or changes provided by the Work Group subsequent to the meeting.

An Authority led feasibility study for the Sites Reservoir Project could be helpful with respect to obtaining federal or state funding. Under the Water Infrastructure Improvements for the Nation Act, the Secretary of the Interior may participate in a state-led storage project if the state or local sponsor determines, and the Secretary of the Interior concurs, that; (i) the state-led storage project is technically and financially feasible and provides a federal benefit in accordance with Reclamation laws, (ii) sufficient non-federal funding is available to complete the state-led storage project; and (iii) the state-led storage project sponsors are financially solvent.

The Water Storage Investment Program provides funding for public benefits associated with water storage projects. In order to receive funding, the Commission must make a determination that the project is feasible. Feasibility is defined in terms of technical, environmental, economic and financial feasibility.

Prior Reservoir Committee Action:

None.

Fiscal Impact/Funding Source:

None.

Staff Contact:

Lee Frederiksen

Attachments:

Attachment A – Draft Sites Authority Principles and Requirements for Feasibility Study.

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Sites Authority Principles and Requirements for Feasibility Study Technical Memorandum

Sites Program Management Team

To:	Primary recipient(s)
CC:	Other recipient(s)
Date:	September 3, 2019
From:	
Quality Review by:	
Authority Agent Review by:	
Subject:	Sites Authority Principles and Requirements for Feasibility Study

1.0 Purpose

1.1 This Document

These Principles and Requirements are intended to provide the Authority's feasibility study framework for analyzing projects and related actions involving Federal, State and Participant investments. For the purposes of this policy, "Principles" refer to the overarching concepts that the Authority seeks to achieve through policy implementation. The "Requirements" are inputs to alternative plans, programs, designs, strategies, or actions that should be incorporated into analyses for Authority investment.

1.2 Feasibility Study

The purpose of the Authority Feasibility Study is to complete an evaluation of the technical, environmental, economic, and financial feasibility of a project. The Feasibility Study will provide the basis for making recommendations to the Authority Board about whether a project should be approved for design and construction.

The feasibility study process may be completed in a single step or the following two steps:

1. Authority can separately determine a project is technically and financially feasible, and thus, conditionally feasible based on draft economic, draft environmental, and other relevant studies.
2. At a later date, the Authority can determine a project is feasible based on final technical or financial feasibility and a determination of economic and environmental feasibility.

1.3 Limitations

These Principles and Requirements only apply to projects that will require financing of capital assets. These Principles and Requirements do not apply to emergency projects.

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2.0 Principles

The following Principles constitute the overarching concepts the Authority seeks to promote.

2.1 Ecosystems

Authority investments should protect and restore the functions of ecosystems and mitigate affects to these natural systems, consistent with existing laws and regulations.

2.2 Sustainable Economic Development

Authority investments should encourage sustainable economic development for present and future generations through the sustainable use and management of resources. Authority investments in sustainable economic development activities contribute to the Nation's and State's resiliency.

2.3 Beneficiary Pays

Authority will apply the beneficiary pays principle to ensure cost allocation for construction along with future operations, maintenance and replacement costs are shared in proportion to the level of participants' funding and the benefits derived through the use of a project's facilities.

2.4 Stakeholder Coordination

Authority will conduct proactive stakeholder coordination activities to ensure that local stakeholder's affected by the Authority decisions and activities have a meaningful opportunity to provide input into the development of a project and to express their concerns.

3.0 Requirements

Authority investments should incorporate the Requirements described below.

3.1 Best Available Science and Commensurate Level of Detail

Analyses to support Authority investments in a project should utilize the best available science, data, analytical techniques, risk and uncertainty, and other fields to the extent possible. The level of detail required to support Authority investments in a project should not be greater than needed to efficiently and effectively inform the decision-making process.

3.2 Collaboration

The Authority should collaborate on project related activities with other affected Federal agencies and with Tribal, regional, state, local, and non-governmental entities, as well as community groups, academia, and private land owners (collectively, stakeholders) to realize more comprehensive problem resolution and better-informed decision making.

3.3 Planning Framework

Authority investments will be evaluated for their performance with respect to the project objectives using a sound planning framework that is transparent. This framework will allow for the formulation, evaluation and comparison among potential alternative plans, and will support a sound decision making process.

The framework will include a plan formulation phase. This phase identifies planning objectives and constraints. The project objectives will describe all public and non-public benefits the proposed project is designed to provide. Alternative plans, strategies, or actions will be formulated in a systematic manner to ensure that a range of reasonable alternatives are evaluated.

Decision support process should be employed to identify the recommended plan. The decision support process should reflect agreed upon weighting of goals, objectives, and criteria. The weighting criteria should include technical, economic, and environmental metrics. The process will define the role of stakeholders in the decision process. The process should support full disclosure and promote transparency in the decision making process.

The plan formulation and evaluation will focus on giving consideration to reasonable alternative plans, and screening them down so that additional time and effort are focused on the most promising alternatives. The process will be used in screening of initial conceptual alternative plans and again in the feasibility level evaluation of alternatives.

The plan evaluation will result in the identification of the recommended alternative plan. Evaluation methods should be designed to ensure that potential investments in water resources are justified by benefits, particularly in comparison to costs associated with those investments. Planning level designs and estimated costs will be prepared for the alternative plans. Technical studies will be completed to support the planning level designs, as well as to quantify the effects of the alternatives. The technical studies will provide the necessary metrics required for alternatives assessment and comparison.

Each alternative will be analyzed against the decision support metrics, resulting in scoring relative for each alternative. Following analysis and comparison between alternatives, the Reservoir Committee and Authority Board will have the information necessary to determine the recommended plan.

3.4 Risk and Uncertainty

When analyzing potential investments in a project, areas of significant risk and uncertainty should be identified, described, and considered, and risk management measures shall also be identified. Knowledge of significant risk and uncertainty and the degree of reliability of the estimated effects will better inform decision making. Risk and uncertainty inherent in the analyses performed and potential effects on Project feasibility should be identified. Decisions should be made with knowledge of the degree of reliability and the limits of available information, recognizing that even with the best available engineering and science, a residual risk and uncertainty will always remain.

The risk assessment will serve as a management tool that improves the understanding of how best to develop a project. The risk assessment will be performed for the feasibility phase of a project and, as such, it is recognized that baseline design assumptions, uncertainties and risks may prove to be either conservative or optimistic as a project progresses. As a project progresses and the level of uncertainty decreases, it is the Authority's intent to update the assessment to incorporate current knowledge (i.e., a living document) that will lead to the creation and implementation of risk management plans whose progress will be monitored and reported.

3.5 Cost Estimates

All project costs will be identified and described, including construction costs, interest during construction, replacement costs, operations and maintenance costs consistent with the operations plan, along with costs of real estate and mitigation for adverse environmental consequences identified in the environmental documentation. The costs will be based upon feasibility level designs and layouts from which quantities for materials, equipment, and labor can be estimated. Cost estimates will be an Association for the Advancement of Cost Engineering (AACE) International Estimate Class 4: Concept study or feasibility-level estimate, with adjustments reflecting the risk assessment.

3.6 Benefits

All proposed project benefits, consistent with the operations plan, will be described and quantified. Public benefits and non-public benefits need to be quantified using physical measures and, where possible, monetary measures, to the extent practicable. Proposed project benefits must be displayed as expected average annual values for each year of the planning horizon. For benefits that vary according to hydrologic condition, applicants must display that variability using, for example specific water year types (such as dry and critical), or exceedance probabilities. Appropriate ways to display variability depend on the benefit category and how the physical benefit is to be monetized.

3.7 Cost Allocation

A benefits-based cost allocation will be conducted to determine the costs to be assigned to project beneficiaries. Costs will be assigned to project beneficiaries using a generally accepted industry method.

3.8 Constructability

The project must be constructible with existing technology and availability of construction materials, work force, and equipment.

3.9 Determination of Project Feasibility

The determination of Project feasibility will depend upon the ability to meet the following components of feasibility.

3.9.1 Technical

The feasibility studies must demonstrate that the project is constructible and technically feasible consistent with the operations plan, including a description of data and analytical methods. For water infrastructure projects, this could include but may not be limited to, a description of the hydrologic period, development conditions, hydrologic time step, and water balance analysis showing, for the with- and without-project condition, and all flows and water supplies relevant to the benefits analysis. It will also be important to demonstrate how well the planning objectives are met, the validity of the scientific, technical, and design assumptions, along with the ability to construct a project within the estimated cost and schedule.

3.9.2 Environmental

Environmental feasibility shall be determined by the following:

1. Final environmental document consistent with the California Environmental Quality Act (CEQA); or
2. Draft environmental document consistent with CEQA, completed public comment period and a summary report that characterizes the following:

    a. Public comments received during the comment period and responses to those comments; and
    b. Changes, if any, to the project description, alternatives, impacts, and mitigation measures expected between the Draft and Final documents.

The Authority must fully comply with CEQA including approving the project prior to ground disturbing activities. It is important that, to the extent possible, the CEQA process be completed concurrent with the feasibility study effort.

3.9.3 Benefit Cost Analyses and Economic Feasibility

The feasibility study must demonstrate that the expected benefits of the project equal or exceed the expected costs, considering all benefits and costs related to or caused by the project. The reliability of the estimated costs and benefits should also be addressed.

3.9.4 Financial

The financial analyses must demonstrate that sufficient funds will be available from public and nonpublic sources to cover the construction and operation and maintenance of the project over the planning horizon. It must also show that beneficiaries of non-public benefits are allocated costs that are consistent with and do not exceed the benefits they receive. The capability and willingness of the project partner(s) to financially support the project must also be identified.

To determine the project financial feasibility, the Authority and Participants will consider their respective capability to pay for their share of the costs to design, construct, operate, and maintain the project in accordance with the applicable cost-share or repayment obligations. During the feasibility study phase, an assessment of financial feasibility will be performed. This analysis will account for the estimated capital costs and annual operation, maintenance, and replacement costs.

3.10 Feasibility Report

The completed results and findings of the feasibility study will be provided in a report submitted to the Authority's Reservoir Committee for consideration and recommendation to the Authority Board. The feasibility report will either support recommending Board approval to implement the recommended plan or will support taking no Authority action. The feasibility report will identify known data gaps that require further investigation during the final design of the recommended plan.

3.11 QA/QC

Quality assurance / quality control practices to ensure that technical analyses, cost estimates, and designs are performed at the feasibility level shall be implemented in the development of the feasibility study. Approval Process for Feasibility Reports

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The following process describes the steps taken to submit a feasibility report to the Authority Board in order to recommend project authorization.

1. Review by Authority staff to ensure that the report and its supporting documentation comply with all Authority's Principals and Requirements for project feasibility.
2. Review by the appropriate committees/work groups to ensure that the report and its supporting documentation comply with all Authority's Principles and Requirements for project feasibility.
3. Review by Authority's Legal Counsel to ensure that the report and its supporting documentation comply with all Authority's Principles and Requirements for project feasibility.
4. Review by the appropriate Committee to ensure that the report and its supporting documentation comply with all Authority's Principles and Requirements for project feasibility. Submit to the Authority's Board for their consideration to approve as a resolution.

4.0 Change Management

Should an appropriate Committee identify a potential material change affecting the project's feasibility, the committee should recommend the Authority consider amending the project's feasibility. Ideally this should occur before completion of preliminary design.