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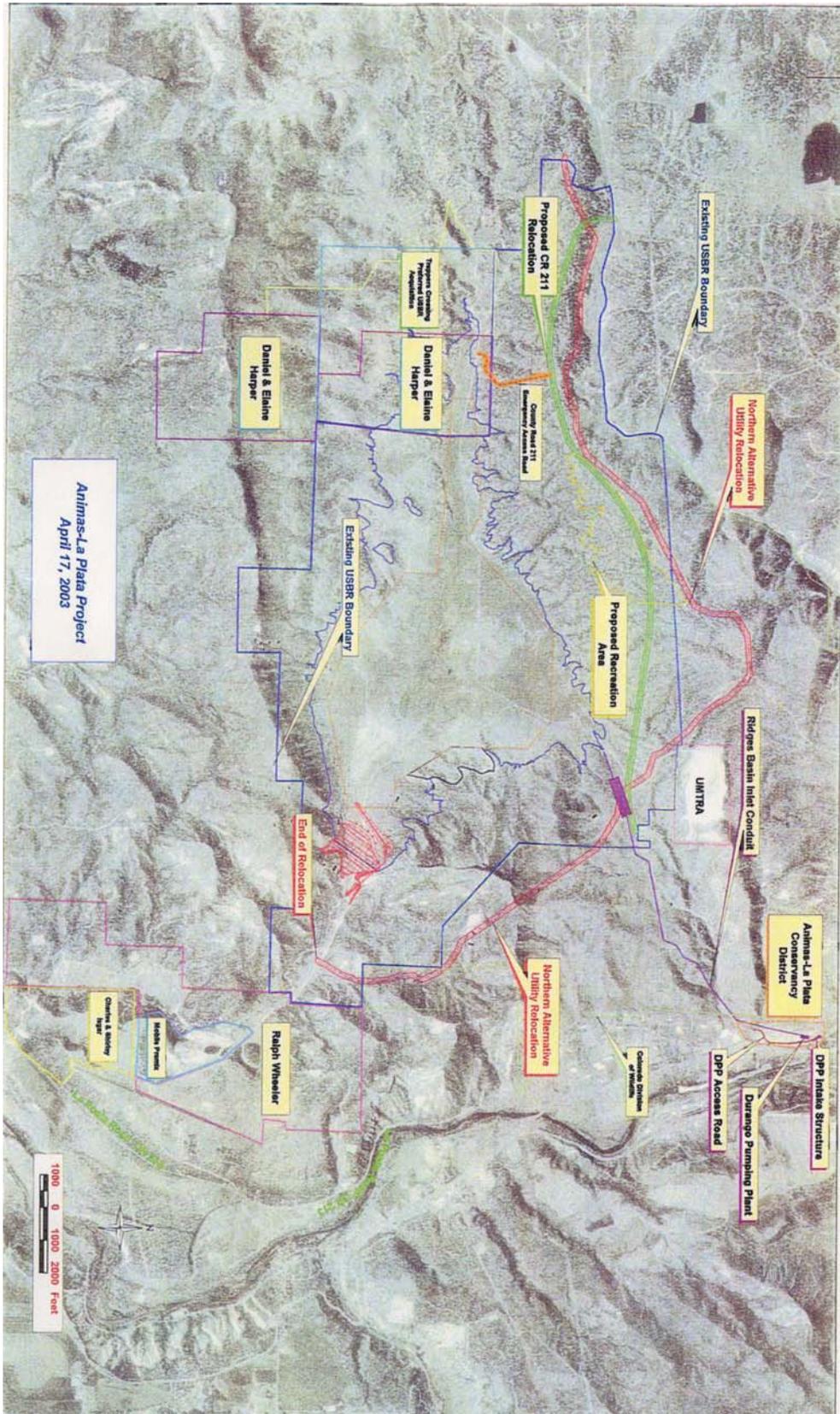
Animas-La Plata Project Construction Cost Estimates

Report to the Secretary
November 2003



U.S. Department of the Interior
Bureau of Reclamation
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Project Map



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I. Summary

This report presents the results of a review by Reclamation to identify and document the specific facts and activities that led to a significant increase in the estimated cost to construct the Animas-La Plata Project (Project). It specifically provides a review of the costs associated with the Project to determine why the construction cost estimate increased from \$337.9 million in 1999 to \$500 million in 2003. The report provides the basis for the development and implementation of changes in the manner in which Reclamation manages the construction of the Animas-La Plata Project.

The next phase of Reclamation's review will use these findings to develop and implement a plan of action that will prevent similar events from happening in the future and, where possible, lead to a reduction in Project construction costs during the remainder of the construction period. The conclusion of this report includes a brief description of the initial steps Reclamation is taking as a result of this review.

The review was conducted by the Bureau of Reclamation at the direction of the Secretary of the Interior. Reviews of technical and administrative data related to the Project, discussions with Reclamation staff involved in program and construction management, and meetings with project sponsors were used to prepare this report.

A chronological history of the Project starting from its conceptualization in 1956 is provided in Appendix 1. This history highlights key legislative, legal, environmental, political, and administrative activities that have occurred since the Project was first envisioned.

The Project scope has changed numerous times over this period. The Project under construction is generally smaller than the project authorized in 1968. It includes four key structural features: the Durango Pumping Plant; Ridges Basin Inlet Conduit; Ridges Basin Dam; and Navajo Nation Municipal Pipeline (reference Project Map). It also requires the relocation of parts of a county road and natural gas pipelines. The Project's primary purpose today is to divert, pump, store, and convey water from the Animas River at Durango, Colorado, to provide an assured supply of water for both Indian and non-Indian, municipal and industrial (M&I) uses in Colorado and New Mexico.

In general, the review shows that, except for the Ridges Basin Dam feature, the 1999 Project construction cost estimate was incomplete and inaccurate for the pumping plant, inlet conduit, gas pipelines and road relocations, and the then newly added Navajo Nation Municipal Pipeline, and failed to include certain

additional costs.¹ The cost estimates were prepared by qualified engineers hired by the Ute Mountain Ute Tribe (UMUT) who relied upon several years of Reclamation data and analyses. This inaccurate cost estimate was due primarily to dependence on incomplete data including:

- some information at appraisal level (see Appendix 2, p. 2-2) within the 1999 feasibility cost estimate;
- mischaracterization of site conditions; and
- under-estimation of construction impacts of environmental and legislative constraints.

Project omissions and refinements that occurred after completion of the 1999 estimate also caused an increase in the construction cost estimate for the Project between 1999 and 2003, including:

- costs associated with changes to site locations (relocations) of Project components;
- omission of costs in the 1999 estimate associated with the Congressionally mandated P.L. 93-638 contract process; and
- inadequate review of the draft cost estimates.

Communications and discussions between Reclamation Project staff and sponsors of the Project about cost factors related to design options have been inadequate. Specifically, communication as required by existing contracts was not detailed or timely enough to allow sponsors input on construction plans and progress, changing conditions, or other information associated with the construction of the Project.²

II. Introduction

The Animas-La Plata Project is located in southwestern Colorado and northwestern New Mexico. It has been the subject of public interest and environmental review since soon after it was first authorized by the Colorado River Basin Project Act of 1968 (P.L. 90-537). In 1988, it was incorporated into

¹ The 1999 estimate was included in the final supplemental environmental impact statement (FSEIS).

² It is important to note that all project sponsors are entitled to full and open communication about all aspects of the Project. The non-tribal sponsors who have paid capital costs upfront are also entitled to consultation under the terms of their repayment contracts on project construction, including any possible increased repayment obligations because of reasonable and unforeseen circumstances during construction.

the Colorado Ute Indian Water Rights Settlement Act (P.L. 100-585) (1988 Settlement Act). The most recent authorization, the Colorado Ute Settlement Act Amendments of 2000 (Title III of P.L. 106-554, December 21, 2000) provides for implementation and completion of the Project. The Commissioner of the Bureau of Reclamation granted approval to begin construction in October 2001, and initial site work started in April 2002.

A construction cost estimate for the Project was developed in 1999 for inclusion in the July 2000 Final Supplemental Environmental Impact Statement (2000 FSEIS). This estimate was also used to support the 2000 authorizing legislation. The 2000 legislation did not include a cost ceiling for the Project, but was limited to “those amounts as are necessary” to complete construction of the Project within 7 years. Reclamation began updating the project cost estimate (PCE) in January 2003 to index costs for inflation, include changes related to final designs on key features, and reflect early experience from contract awards. This process, completed in July 2003, identified a substantial increase in the estimated construction cost. The PCE in Reclamation’s fiscal year 2004 budget justification document was \$337.9 million at the October 2003 price level. The new PCE is \$500 million (note: this value will be indexed annually) at the January 2003 price level, an increase of \$162.1 million.

As a result of this cost increase, Secretary of the Interior Gale Norton directed the Bureau of Reclamation in July 2003 to complete a review and report to her on why the PCE increased from the 1999 estimate. The Secretary also directed Reclamation to work with the Project sponsors in Colorado and New Mexico to determine if ways of reducing actual costs of construction could be identified and implemented.

III. Project Cost Estimates

Approach

The 1999 PCE was selected as the starting point for identifying why costs increased. It was selected because it is included in the 2000 FSEIS that described the current project, it was used to support the December 2000 authorizing legislation, and it was the estimated Project cost used in negotiation of repayment contracts for some of the Project sponsors. The review of the difference between the 1999 and 2003 cost estimates (see Appendix 3) considered:

- cost estimates for Project plans prior to 1999, the associated level of detail of these estimates (e.g. appraisal or feasibility), and the use of these estimates (if any) in preparing the PCE;
- activities associated with preparing and refining the 1999 PCE and the 2000 FSEIS from early 1999 through authorization in 2000;

- a comparison of feature and key component costs between the 1999 and 2003 PCE (Appendix 4 provides a detailed cost comparison); and
- factors and proposed changes included in developing the 2003 PCE.

The review also examined the contracting process associated with P.L. 93-638, the Indian Self-Determination and Education Assistance Act (ISDEA or 638), to determine if any additional costs arising from this process were projected and included in the 1999 project cost analysis.

In addition, Reclamation's processes and organizational approaches during the planning, formulation, design and initial construction phases of the Project were reviewed to determine what, if any, role these factors played prior to and after the 1999 PCE was developed.

Finally, the interaction and communication with sponsors since 1999 was considered to determine whether processes (e.g. Project Coordination Committee) that were established to facilitate coordination and cooperation worked.

Discussion

A. Events Leading to Development of the 1999 Cost Estimate

When originally authorized, the Animas-La Plata Project consisted of three reservoirs, 48 miles of canals and tunnels, and a diversion from the Animas River at Taft, upstream of Durango, Colorado. The Project was authorized to provide irrigation and M&I water supplies to the Colorado Ute Tribes and other project beneficiaries. However, the Project was modified through planning and environmental processes over the next 30 years in response to environmental, Indian water rights, legal and cost issues. The first Environmental Impact Statement (EIS) was filed in July 1980 (1980 EIS).

In 1988, Congress required construction of certain features of the Project to settle Colorado Ute Tribal water rights claims. A special report on the Project in 1988 included cost estimates at October 1985 prices. Planning continued on the Project, but construction was further postponed because new information triggered Endangered Species Act consultation from early 1990 through late 1991. Groundbreaking for the Project occurred in October 1991, but construction plans were halted in April 1992 by an environmental lawsuit.

As a result, Reclamation prepared and filed a final supplemental EIS (1996 FSEIS) in April 1996 after prolonged work to address environmental issues associated with the litigation. Project re-pricing was initiated in 1993 to reflect current costs and proposed refinements to the Project. Reclamation used this information to prepare the 1996 cost estimate associated with the 1996 FSEIS. The cost estimate information was available to and used by the Ute Mountain Ute

Tribe in preparing a subsequent cost estimate in 1997 under an agreement with Reclamation.

Between October 1996 and October 1997, the Project's scope was further shaped by an effort to resolve controversies between project supporters and project opponents. This effort - initiated by then Governor of Colorado Romer and then Secretary of the Interior Babbitt - was known as the Romer/Schoettler³ process. It concluded with identification of both a structural and non-structural alternative, by project supporters and opponents, respectively.

In a related activity, the Ute Mountain Ute Tribe prepared a draft report, "The ALP Project Diversion and Depletion Alternative," in August 1997. This proposal was similar to the scope of the Animas-La Plata Project now under construction, except it included 7,515 acre-feet of water for irrigation.

In August 1998, after additional work between the Tribes and Interior's Working Group on Indian Water Rights, as well as with members of the Congress, Secretary Babbitt announced the Administration's proposal to build an Animas-La Plata Project designed primarily to implement the Colorado Ute Indian Water Rights Settlement. This proposal became the plan upon which the 1999 cost estimate and 2000 FSEIS were based.

B. Development of the 1999 Project Cost Estimate

In January 1999, Reclamation filed a Notice of Intent to prepare a supplement to the 1996 FSEIS. The schedule allowed 18 months to complete and file a final EIS.

In August 1999, the Ute Mountain Ute Tribe entered into an agreement, "Final Plan of Approach" (see Appendix 5) with Reclamation to help prepare the Supplemental EIS. One of the Ute Mountain Ute Tribe's tasks was to review and analyze information in Reclamation's 1996 FSEIS. The 1996 FSEIS described a larger project than the current one and included both appraisal and feasibility level engineering data for various project alternatives, and all related cost estimates. The 1999 PCE was the product of this task.

A contractor for the Ute Mountain Ute Tribe relied on and derived most of the cost estimates for the 1999 PCE from Reclamation's 1993 and 1996 analyses, with the exception of Ridges Basin Dam. The contractor also based estimates on field visits to multiple dam sites within the Project vicinity, analysis of materials at proposed borrow sites, and other material analysis associated with dam construction. Discussions about the cost estimates occurred between the contractor and Reclamation's Western Colorado Area Office (WCAO) between February and July 2000. The purpose of these discussions was to assure proper

³ Schoettler was then Lieutenant Governor of Colorado

conversion of the contractor's detailed cost estimates to Reclamation's construction cost estimate format.

A working draft of the Supplemental EIS was provided to WCAO on October 20, 1999. The WCAO subsequently requested a review of the "Feasibility Design and Estimate Appendix" (Appendix E) of this Draft Supplemental EIS (DSEIS) by technical staff in Reclamation's Denver Office.

The technical staff in Denver provided comments to WCAO and pointed out that Appendix E did not contain sufficient information and detail to complete an in-depth review of the cost estimates. Still, work appeared to continue to complete the DSEIS without addressing this concern. The 2000 DSEIS, including Appendix E ("Feasibility Estimate of Animas-La Plata Project"), was filed by Reclamation on January 14, 2000, with the 2000 FSEIS filed on July 17, 2000. It appears that between January 1999 and July 2000 most attention centered on accelerating the schedule to complete all environmental requirements with limited focus on accuracy of the cost estimate. The Project, which was generally smaller than originally proposed, was authorized by the Congress on December 21, 2000.

The estimates contained in Appendix E were identified as being at the feasibility level. The Appendix included descriptions and estimates for all of the Project's major features and key components of each feature, including a requirement to relocate parts of gas pipelines and County Road 211 from within the Ridges Basin reservoir site. Appendix E also identified three potential southern routes across Southern Ute Indian Tribe lands for relocation of the gas pipelines. None of these routes was selected in the 2000 FSEIS and ultimately the relocation occurred along a northern alignment at an increased cost.

C. Activities Since Project Authorization (December 2000- July 2003)

From early 2001 to July 2003, actions centered on pre-construction and initial construction work. Although the Ute Mountain Ute Tribe initially wanted responsibility for all aspects of the Project, they subsequently agreed to Reclamation being responsible for the design and construction management of the Project. Reclamation was delegated construction authority by the Department in January 2001. A Project Management options paper was prepared by staff in Reclamation's WCAO in March 2001 and used in project implementation strategy meetings that followed. In May 2001, a Project Management Team (PMT) was formed by the Reclamation's Upper Colorado Regional Director.

Consistent with the Reclamation Manual (FAC 03-02, 9-29-2000), the PMT included representation from Reclamation's Construction, Area, and Regional Offices. Staff in Reclamation's Technical Service Center (TSC) in Denver began final design work on Ridges Basin Dam in October 2001. A value engineering study on outlet works was completed in November 2001; the study team included representatives from the TSC, Durango Field Office, and consultants to the Ute Mountain Ute Tribe. Initial design work was initiated on the Durango Pumping

Plant (DPP) by the TSC in December 2001 and completed in 2002. As a result of consultations with Reclamation, La Plata County assumed the lead for public meetings in April 2002 to select a relocation route for the part of County Road 211 within Ridges Basin.

The first Project construction contract to complete cultural resources investigations was awarded in April 2002. The amount of the initial contracts awarded was relatively small (\$1-3 million), but the costs were higher than the Independent Government Cost Estimate (IGCE). Final designs were completed on features of the DPP and the Ridges Basin Dam in January 2003.

Three separate actions triggered the development of a 2003 PCE. First, Project management staff initiated updating as part of customary construction practices. Second, the initial construction contracts awarded in 2002, while individually minor when compared to the total PCE, were significantly above Reclamation's IGCE in each case. And finally, results of estimates for final designs and actual site conditions included changes on major features that would result in significant cost increases.

D. Development of the 2003 Project Cost Estimate

Reclamation began developing the new PCE in early 2003. A draft was available for internal peer review in June 2003. The final draft PCE contained a total estimate of \$500 million, based on January 2003 price levels, and was completed in July 2003.

Changes in the cost estimate to construct the Durango Pumping Plant and two components of Ridges Basin Dam (relocation of gas pipelines and County Road 211) resulted in significant increases in the estimate. The total estimated cost increase for construction of the DPP feature of the ALP Project is \$52 million. The majority of these costs (\$38 million) are associated with significant increases in the quantities of material and types of material (e.g., bedrock rather than soil) that must be excavated and project management and site support costs in constructing the DPP. Neither the requirement for increased excavation nor the type of material at the site were identified and included in the initial design concepts developed by the contractor for the DPP. In addition, Reclamation did not identify these significant omissions until completing final designs for the DPP. An example of projected cost increases associated with site support is the use of equipment such as large cranes to complete multiple pours of concrete. Adjustments made to improve the visual esthetics accounted for about \$200 thousand of the increase cost estimate of \$52 million. The DPP was rotated 90 degrees in the final design to prevent excavation from encroaching within 100 feet of a fault line, thus preventing the mixing of two ground water streams, one of which is contaminated by uranium tailings. Reclamation construction staff have not identified any increase in cost of the DPP because of the rotation.

In addition, a \$28 million increase is associated with relocation of parts of gas pipelines and County Road 211 from within the Ridges Basin reservoir site. Much of this increase was due to increased excavation requirements and directional drilling to accommodate newly selected relocation routes (see Appendix 4 for details of estimate). Reclamation's decision to relocate the gas pipelines along the Northern Route further increased the cost estimate for the Inlet Conduit because of additional excavation requirements at the interface between the gas pipelines and the Inlet Conduit alignments.

Another cause for the increase in the 2003 PCE was the addition of a newly developed factor to account for potential costs allowed for under the ISDEA contracting process. Reclamation construction staff were concerned that these costs were not envisioned when preparing the 1999 PCE. As a result, in addition to normal factors used by Reclamation for unlisted items and contingencies, the 2003 PCE includes a 30 percent Estimating Difference Factor (EDF) that would be applied to future Project contracts. The EDF factor was developed by Reclamation to compare the IGCE (a tool used by the contracting officer in contract negotiations) to the actual amount of contract award on the initial contracts for the Project. The intent of using the EDF was to try to more accurately estimate and account for Reclamation and Contractor administrative and other costs likely to occur in negotiating future ISDEA contracts. In developing the 2003 PCE Reclamation identified the potential cost of the EDF to be \$43 million. The ISDEA contracting process is covered in more detail in Section III E of this report.

The 2003 PCE used final designs where available. Estimates for the Navajo Nation Municipal Pipeline (NNMP) and Ridges Basin Inlet Conduit have been refined since the 1999 PCE. However, additional investigations, design data, and design work are planned to finalize these estimates. The non-contract costs use labor estimates planned for the remainder of the project as shown in Appendix 4, rather than the 30 percent of construction costs used in the 2000 FSEIS.

The 30 percent non-contract costs were divided in the 2000 FSEIS as follows:

investigations	4 percent;
design/specifications	8 percent;
construction inspection	12 percent;
legal and administration	2 percent;
environmental compliance	4 percent.

Appendices 4 and 6 provide cost comparisons between the 1999 and 2003 PCE's. Tracking the various cost estimates was somewhat difficult because numerous versions of the document were updated with different indexing dates. In addition, the pre-fiscal year 1998 "sunk" costs (those costs already expended in previous project related work) included both contract and non-contract costs. The analysis in Appendices 4 and 6 considers the sunk costs as "below the line" and not

affecting the comparison of the 1999 PCE to the 2003 PCE. Sunk costs are added into overall project costs.

**E. Indian Self-Determination and Education Assistance Act (ISDEA),
P.L. 93-638, Contracting Process**

The spirit and intent of the ISDEA is to provide Tribes an opportunity to be self-determining and to take a more active role in those activities that impact their daily lives. Under the ISDEA, the Secretary must allow a Tribe to contract for any work that is a program, service, function, or activity administered by the Secretary for the benefit of a Tribe. The ISDEA is not a sole-source program; it is a congressionally mandated, direct-source program that directs the Secretary to contract with Tribes under certain situations. In the 1988 Settlement Act, Congress mandated application of the ISDEA to the Animas-La Plata Project.

Title I of the ISDEA establishes a Federal self-determination policy that entitles Federally recognized Indian Tribes to plan, conduct, and administer programs and services that traditionally have been performed on their behalf by the Federal government. The law provides for self-determination contracts in a framework that is commonly referred to as the “638 Process.” Tribal contracting for construction programs, projects, or activities pursuant to Title I of the law is subject to a proposal and review process that differs significantly from the traditional competitive bidding procurement process (the regulations implementing this title can be found at 25 CFR Part 900).

Under the ISDEA, the fixed-price construction contracts⁴ are to be comprised of: (1) the reasonable costs to the Tribe of actually performing the work; (2) the costs to the Tribe of auditing the general and administrative expenses incurred by the Tribe in performing the work; (3) the costs of developing the project proposal; and (4) a fair profit. The ISDEA regulations state that in negotiating a “638” contract, the Secretary shall share all relevant cost information, as the object of the negotiations is to arrive at a fair and equitable price for the award, not to obtain the lowest possible award price. The regulations further state that the agreed upon price does not have to be in strict conformance with either party’s cost estimate.

Reclamation and the Ute Mountain Ute Tribe began negotiations in early 2002 for the first project related construction contract. These negotiations resulted in awards that were approximately 37, 17, and 29 percent higher than the detailed IGCE.

The 1999 PCE did not include the additional costs that could be incurred through application of the ISDEA. Instead, the 1999 estimate was based on the potential costs of construction in a competitive bidding environment. As previously

⁴ This contracting method was requested by the Ute Mountain Ute Tribe.

described in Section D, Reclamation used an EDF factor in developing the 2003 estimate to account for the cost of construction under the ISDEA. The EDF was calculated as the percentage of the amount over the IGCE and then extrapolated over the construction costs remaining for the Project. The EDF was estimated to be 30 percent of future Tribal construction, or \$39.2 million. It is estimated that \$3.6 million would be used for direct Tribal involvement in ALP. This combined total accounts for \$43 million of the difference between the 1999 PCE and the 2003 PCE. The \$43 million is a conservative figure and is based solely on the small number of project contracts issued to date (see Appendix 6).⁵

The IGCE is a tool that is used by the contracting officer to help guide the evaluation and negotiation of bid proposals. The IGCE does not directly relate back to the 2003 PCE for the entire project (i.e., the component IGCEs will never collectively add up to the 2003 construction cost estimate) and for this reason is not an accurate measure of actual project costs versus estimated project costs.⁶

Another potential problem with using the difference between the IGCE and the award amount to account for ISDEA costs is that the IGCE does not account for any changes in the scope of project that occur as a result of negotiations. These scope changes occur in virtually every major construction contract, regardless of whether the contract is authorized under the ISDEA or under the Federal Acquisitions Regulation (FAR). Negotiations result in a detailed mutual understanding of the scope and approach to the work which is not ascertained in the original IGCE.

In light of the inaccuracies of using the IGCE as the basis from which to track project costs, the ALP Construction Office related the tentative award amount of a contract currently under negotiation at the time of this report back to the 2003 construction cost estimate for those very same components. The results show that the tentative award came in less than the amount allotted for this work even without including the 30 percent EDF.⁷

Clearly, the application of the ISDEA will cause the project to incur additional costs over what would normally be incurred using competitive bids. The 1999

⁵ The ALP Construction Office structured the construction contract for the Project so that each component part of the Project would be separately bid, as opposed to one bid for the entire Project. The reason that the \$43 million is considered to be conservative is because, as mentioned, less than \$10 million worth of contracts has been awarded and start-up costs, other one-time expenses, and some scope changes are included in the first few contracts. As more contracts are negotiated, the award amounts could be less (see footnote 6).

⁶ On all the contracts issued to date the government updated its negotiation position to account for both changes to the scope and the statutory components for an award of a construction contract under the ISDEA. The difference between the updated negotiation position and the award has been less than the 30 percent EDF.

⁷ The contract was for the foundation excavation for Ridges Basin Dam.

estimate did not account for these additional costs despite the fact that application of the ISDEA was mandated in the 1988 Settlement Act and the Tribes made it very clear in the negotiations over the 2000 Amendments that application of the ISDEA was part of the total settlement. Additionally, the lack of a cost ceiling for ALP has caused confusion and made it more difficult to determine the true impact of the ISDEA on the project.⁸ While the 2003 PCE includes a \$43 million estimate because of the application of the ISDEA, the true costs could be less.

F. Organization and Procedures within Reclamation Associated with Management of the Project

The review looked at factors within Reclamation's organization and application of its procedures from January 1999 to July 2003 during completion of National Environmental Policy Act compliance, Project authorization, and initial construction activities on the Project. The intent was to determine whether the necessary procedures were in place and followed in development and review of cost estimates.

In the early 1990's, Reclamation was reorganized to give Area Offices greater autonomy to perform design work and manage construction. In addition, all Reclamation Instructions, including those related to design and construction, were sunset and new guidance developed on a case-by-case basis. Additional guidance in the Reclamation Manual for performing design and construction activities was released in February and September 2000, respectively.

In the case of the Project, WCAO's Durango Field Office had greater responsibility for project design, eliminating much of the TSC's oversight role. Prior to the reorganization, the Denver Office had a much stronger role in oversight of design and construction management. Today, the TSC provides services to Reclamation's field offices at their request.

The Durango Field Office did request a TSC review of the 1999 PCE prepared by the Ute Mountain Ute Tribe contractor in November 1999. The TSC indicated the 1999 PCE lacked sufficient detail to complete a full review. This comment also was provided by Durango Field Office staff to the team preparing the DSEIS. However, evidence of follow up by Reclamation staff beyond that point was not found during this review, and the cost estimate subsequently finalized by the Tribes contractor was included in Appendix E of Reclamation's 2000 FSEIS. The Project Management Team and Project Construction Committee established by Reclamation in 2001 were intended to provide a way to assure that necessary internal and external coordination and management of the Project occurred respectively during construction.

⁸ Most Departmental construction projects have a congressionally authorized cost ceiling. Having a ceiling helps maintain project costs by providing a clear delineation on the total amount that may be spent on the project.

IV. Findings

1. The 1999 PCE was incomplete.

- a) The scope and features of the Project changed several times over an extended period in response to environmental, political, and legal issues. As a result, some of the estimated rates, in part, used data originally developed for a different project configuration.
- b) Traditional processes used to develop proposed construction projects, including preparation and indexing of cost estimates, were applied by Reclamation through the early 1990's (Appendix 2). This appears to have changed during the 1997-2000 timeframe (Appendix 7).
- c) The Romer/Schoettler process essentially substituted for an appraisal-level plan reformulation process and included some feasibility-level plan reformulation analyses (see Appendix 1, 1996-1997 time period, for information concerning the Romer/Schoettler process). Having this process substitute for a traditional appraisal/feasibility reformulation contributed to less attention being given to the construction cost estimate. Once the Administration's proposal was adopted and presented, the focus was on completing an environmental analysis that would disclose the impacts of that proposal.
- d) The Romer/Schoettler process caused some confusion over how the plan formulation and documentation pieces should be integrated, especially the cost estimate. It probably contributed to the failure to make the baseline-performance link highlighted in finding 3.a. below, although it did not preclude it.
- e) From January 1999 to July 2000, Reclamation, the Administration, Congressional supporters and Project Sponsors focused on completing the FSEIS and paid less attention to the accuracy of the PCE.
- f) Although labeled as a feasibility estimate, the design and cost estimates for the NNMP were effectively appraisal level in the 1999 PCE because of a lack of detailed information and agreement on aspects of the pipeline in the Farmington, New Mexico, area.
- g) Some of the information Reclamation developed and provided to the Ute Mountain Ute Tribe and its consultants was for project features larger in size than the Project ultimately authorized for construction. Reclamation is of the view that many of the unit costs for the larger project would have a greater economy of scale than for the smaller alternative. The unit prices used in the 1999 PCE were derived from previous Reclamation or Colorado Highway Department cost estimates.

It does not appear the 2000 FSEIS unit price cost estimates were adjusted for the reduced quantities of the smaller features, but rather were indexed only using the initial Reclamation cost estimate.

- h) Cost contingencies were not rigorously analyzed in terms of unknowns, future risk, and levels of uncertainty. The detailed estimate showed various contingencies for the line items, but the summary tables showed a contingency of 20 percent for all major features, which is expected for a feasibility-level estimate. However, a review found that some of the costs for features were more typical of appraisal level.
- i) The 1999 PCE failed to include the additional costs of contracting in a direct-source ISDEA environment, even though the legislation authorizing the project specifically provides for the application of this law to the construction of the Project. Project sponsors and the United States were aware that its application was an important issue to the Tribes throughout the water rights negotiations process. In early 2000, representatives of the San Juan Water Commission also raised the issue of possible higher Project costs arising because of application of the ISDEA contracting process.

2. Factors contributing to lack of review of the 1999 PCE prior to implementation.

- a) Because the 1999 PCE was included in the 2000 FSEIS, Reclamation was ultimately responsible for the accuracy of the PCE. There was adequate time for Reclamation to review the design and cost estimates between the DSEIS and the FSEIS. However, Reclamation did not complete a rigorous review. Although internal questions were raised about the completeness of the cost estimates provided to Reclamation in the 1999 PCE, the focus was clearly on completing environmental compliance and supporting efforts to reach internal agreement on a plan for the Project.
- b) Reclamation strategy meetings in January and March 2001 did not focus on the accuracy of the 1999 PCE, but on developing an implementation strategy to complete the project during the 7-year construction period recognized by the Congress. The review did not find evidence that an in-depth review of the cost estimate was considered by Reclamation during this time.
- c) Although a Project Management Team (including a construction manager) was formed in mid-2001, the project construction engineer did not arrive until early 2002. This contributed to a delay in identifying significant omissions or understanding of site conditions.

- d) The lack of a cost ceiling appears to have contributed to the failure of Reclamation in not examining cost data more rigorously earlier in the process. Clearly, the focus was on completing construction within a 7-year period.

3. Factors contributing to missing opportunities to review and refine the 1999 PCE after implementation.

- a) Reclamation did not link cost estimates to accountability for future performance in supporting construction authorization on this project alternative. It is Reclamation's standard practice to do so. If the baseline-performance link had been made for this project, the schedule and cost estimate would have been reviewed in more detail, more items would have been re-priced, and contingencies and schedule float would have been scrutinized.
- b) Opportunities to identify and analyze deficiencies, omissions, and risks and set the contingency and schedule float amounts were not maximized because available Project Management tools and techniques were not fully utilized by Reclamation. Also, a specific decision-making process should have been set up to manage, track, and report future cost and schedule changes, and the depletion of float and contingencies. Until now, this type of process does not appear to have been used by Reclamation for this Project.

4. While the 2003 estimate is the most complete estimate to date, there are still certain factors that may cause a revision in the 2003 estimate.

- a) Inclusion of the 30 percent factor, the EDF, in the 2003 accounts for \$43 million of the estimated increase to construct the Project. The EDF, a contingency to account for additional costs that arise during the negotiation process, was developed after comparing the difference between the IGCE and the actual contract award amount for the initial contracts using the direct source construction contracting process allowed for in the ISDEA. Assignment of 30 percent as the EDF is conservative and could decrease in the future as Reclamation and the Ute Mountain Ute Tribe become more familiar with the process, and because some of the additional costs in the early contracts are for start up and other one-time costs that will not occur in the future.
- b) April 2003 cost estimates for the NNMP and Ridges Basin Dam Inlet Conduit have refined 1999 estimates. However, additional investigation, design data, and design work are needed to increase confidence in this estimate. Also the 2003 PCE does not include any costs for operation and maintenance (O&M) of the NNMP prior to its transfer to the Navajo Nation for O&M.

- c) The power infrastructure and supply for the Project is being developed by the Western Area Power Administration (Western). Currently, Western is seeking legislation to design and construct the necessary features for the project. However, neither the 2000 FSEIS nor the 2003 PCE includes the cost of this work, estimated to be in the \$10 million range. Should Western not get the legislation or be delayed, the project could be impacted.

V. Conclusion

While there is no single reason why the construction cost estimate for the Project increased from \$337.9 million in 1999 to \$500 million in 2003, omissions and under-estimates in the 1999 PCE presented in the Feasibility Design and Cost Estimate for the Animas-La Plata Project (Appendix E) significantly contributed to the increase. While the 1999 estimate was developed for Reclamation by the Ute Mountain Ute Tribe, the Tribe relied heavily on the accuracy and completeness of information developed by Reclamation between 1993 and 1996 for a somewhat different Animas-La Plata Project.

To a large degree the incomplete and inaccurate 1999 project cost estimate can be traced to a decade of turmoil surrounding this project. Whether the Project would ever be built and, if so, what components and what size those components would be, was always uncertain. From 1988 when the Colorado Ute Settlement Act was enacted, approving the construction of a much larger Project until completion of the Record of Decision on the FSEIS in September 2000, the local, regional, and national focus on the Project was on addressing Endangered Species Act and Clean Water Act compliance issues. As a result, the quality of the construction cost data utilized in Appendix E was poor and failed to capture accurately the probable costs of the features, except for Ridges Basin Dam. The situation was further compounded by lack of a rigorous review of that 1999 estimate by Reclamation prior to including it as a feasibility estimate in Appendix E of the 2000 FSEIS. In addition, had Reclamation made a decision in early 2001 to further refine the 1999 Project cost estimate, there would have a better chance to identify and address potential cost increases much sooner in the process.

Another significant cause for the cost increases is due to additional costs relating to completion of final design and decisions made on Project features or their components since the Project was authorized for construction in December 2000. The largest increases in the cost estimate were from: 1) the additional excavation requirements for two components of the Ridges Basin Dam (gas pipelines and County Road 211), and 2) the actual site conditions at the Durango Pumping Plant, (the presence of mostly bedrock rather than common soil materials and construction support requirements). In both cases, these requirements were identified after completion of the 1999 PCE when decisions were made by Reclamation about relocations and when the design process had advanced

sufficiently to expose under-estimates of quantities and types of material respectively.

Changes and lack of clarity in roles and responsibilities in Reclamation in the mid-1990's definitely increased Reclamation's susceptibility to failing to complete initial reviews and further scrubbing of the cost estimate. There was and is a lack of clarity about roles within the organization in managing construction. Prior to the mid-1990's Reclamation's Denver TSC provided direct oversight on design and estimation of Project construction costs. Today, these services are provided only at the request of Area Offices or other units managing construction.

The objective and focus of both Reclamation and Project proponents to complete the project within 7 years as allowed for in the law and the lack of a Project ceiling in the 2000 authorization further set the stage for limited scrubbing of the cost analysis.

Finally, a significant increase in the 2003 cost estimate is associated with a lack of recognition of the potential impact of the ISDEA contracting process to increase construction costs. Both Reclamation and the Ute Mountain Ute Tribe share responsibility for failing to include this component in Appendix E (1999 PCE) of the 2000 FSEIS. Reclamation's 2003 PCE includes the EDF factor to project the expected costs associated with the ISDEA contracting process. However, it is clear that this is a conservative estimate that is based in part on the results of contracting for about 3 percent of the original Project construction estimate of \$337 Million. There is some optimism that the actual amount could be less for the remainder of the Project as Reclamation, the Tribe and other Project sponsors work more closely on Project implementation.

Despite the identified cost increases, the need for the Animas-La Plata Project remains. It is critical that the Project continue to move forward to satisfy the Indian Water Rights Settlement and meet future non-Indian municipal water supply needs in southwestern Colorado and northwestern New Mexico.

NEXT STEPS: Reclamation has completed or is taking several initial steps to manage and complete the Animas-La Plata Project in the most cost effective and efficient way possible. These actions, when fully implemented, will provide the safeguards necessary to avoid similar occurrences on this and other Reclamation Projects in the future.

- The basic construction cost estimate for the Project has been redone by Reclamation. Efforts will continue to save costs during scheduling of construction and final design of components of the Project.

EMBARGOED Until 2:00 p.m. (EST), Wednesday, November 26, 2003

- Reclamation will review its internal organizational approach to construction of the Animas-La Plata Project and reconfigure as necessary to improve construction management and interaction and communication with the sponsors.
- The Indian Self Determination and Assistance Act (P.L.638) processes are being reviewed to improve efficiencies in construction of the Project.
- The Project Management Team as well as the Project Construction Committee are being reconfigured to improve interaction and communications with the sponsors.
- Reclamation, in cooperation with the sponsors, will use Reclamation's Value Engineering process to continue to seek ways to reduce project construction costs for the Animas-La Plata Project.
- Reclamation is reviewing its procedures for cost estimates and construction to identify and correct process deficiencies that may have led to the Animas-La Plata cost estimate problems.

EMBARGOED Until 2:00 p.m. (EST), Wednesday, November 26, 2003

APPENDIX 1

History of Events

ANIMAS - LA PLATA PROJECT

History of Events As of August 31, 2003

- April 11, 1956 The Congress, through the Colorado River Storage Act of April 11, 1956 (P.L. 84-485, 70 Stat. 105), authorizes a feasibility study of the project.
- 1962 Reclamation finds the project to be “engineeringly sound and financially sound and feasible.”
- September 26, 1968 The Congress, through the Colorado River Basin Project Act of September 26, 1968 (P.L. 90-537, 82 Stat. 885), authorizes construction of the project, consisting of Howardsville Reservoir near Silverton, Hay Gulch Reservoir 25 miles west of Durango, Meadows Reservoir, 48 miles of canals and tunnels and a diversion of the Animas River at Taft, halfway between Durango and Silverton. The Project was authorized to provide irrigation and M&I water supplies to the Colorado Ute Tribes and other project beneficiaries.
- 1973 Congress appropriates funds for advance studies.
- July 4, 1975 Passage of the Indian Self Determination and Education Assistance (ISDEA) Act (P.L. 93-638). Applies only to the Bureau of Indian Affairs and the Indian Health Services.
- 1974-77 An advisory team of State, Federal, and local officials considers about 30 alternate plans for the project in response to environmental concerns.
- September 1979 A definite Plan Report detailing a new project configuration including Ridges Basin and Southern Ute Reservoirs is completed by Department of the Interior.
- December 1979 Endangered Species Act (ESA), non-jeopardy opinion is issued by the U.S. Fish and Wildlife Service (FWS).
- July 1980 The Final EIS is completed for ALP.

- 1980 Congress increases the one percent limit on non-reimbursable cultural resources spending (set by the National Historic Preservation Act of 1974) to 4 percent.
- July 1986 Department of the Interior accepts a cost-sharing arrangement that calls for State and local entities to provide 38 percent of the up-front funding.
- December 10, 1986 Colorado Ute Indian Water Rights Final Settlement Agreement is signed. The Ute Mountain Ute Tribe and Southern Ute Indian Tribe agree to drop claims on San Juan Basin streams in Colorado in exchange for water in the ALP and about \$60 million in economic development funds.
- June 1988 Special report on ALP published; included October 1985 prices for phased features.
- November 1988 Colorado Ute Indian Water Rights Settlement Act becomes law, P.L. 100-585.
- December 1989 The Ute Mountain Ute Tribe and Southern Ute Indian Tribe pass resolutions approving their respective draft repayment contracts as to form.
- February 1990 Reclamation re-initiates ESA consultation based on new information on listed fish.
- May 4, 1990 FWS issues a Draft Biological Opinion on the Project, a jeopardy opinion with no reasonable and prudent alternative.
- March 4, 1991 Reclamation transmits a recommended reasonable and prudent alternative to FWS to avoid jeopardy. It includes development of a Memorandum of Understanding (MOU) among the appropriate parties; provisions protecting San Juan River flows for the endangered fish; and participation in a San Juan Basin Recovery Implementation Program.
- March 21, 1991 FWS issues revised draft Biological Opinion for the Project, jeopardy with a reasonable and prudent alternative.

July-October 1991	Negotiations regarding the MOU continue, including the development of a supplemental agreement which provides protection of flows until the MOU is signed by all parties.
October 22, 1991	The Sierra Club Legal Defense Fund, et al. files a Notice of Intent to sue. The Notice of Intent includes concerns about compliance with the Clean Water Act, NEPA, and the Administrative Procedures Act.
October 25, 1991	A Final Biological Opinion is issued by FWS. The opinion contains a reasonable and prudent alternative that allows construction to begin and allows an annual average project depletion of 57,100 acre-feet during the time an endangered fish research and recovery program is conducted.
October 26, 1991	A groundbreaking ceremony for construction of ALP is held near Durango, Colorado.
February 25, 1992	The Four Corners Action Coalition, Sierra Club, Colorado Wildlife Federation, Taxpayers for the Animas River, and Southern Utah Wilderness Alliance, represented by the Sierra Club Legal Defense Fund, file a lawsuit against Reclamation.
April 23, 1992	Reclamation stops construction pending completion of a Supplement to the 1980 FEIS.
April 29, 1992	Reclamation issues a Federal Register Notice of its intent to prepare a DSEIS.
July 10, 1992	Eight of the eleven causes of action in the lawsuit including Clean Water Act and Administrative Procedures Act issues are dismissed. NEPA issues are not dismissed because of questions about pending cultural resources work.
August 1992	The Sierra Club Legal Defense Fund files a motion for Preliminary Injunction to halt cultural resources work.
September 9, 1992	Reclamation completes Concept C for the Durango Pumping Plant.
September 17, 1992	Preliminary Injunction that prohibits Reclamation from performing ground-disturbing activities associated

	with cultural resources until the Supplement to the Final EIS is completed is granted. Other, non-ground-disturbing activities may proceed.
October 13, 1992	Reclamation files the Draft Supplement (DES 92-41) and initiates public review and comment. About 500 comments were received by December 15, 1992.
November 30 – December 2, 1992	Public hearings in Durango, Colorado; Farmington, New Mexico, on December 1, 1992, and Denver, Colorado. About 125 statements received from the hearings.
March 1993	Project re-pricing initiated to reflect current costs trends and project refinements and additions.
June 24, 1993	Reclamation completes Design C for the Durango Pumping Plant.
July 20, 1993	The Commissioner of Reclamation issues a memorandum recommending a Final Supplement to the 1980 Final EIS. It is to address issues raised during the comment period, and be based on updating impacts of the project described in the 1979 Definite Plan Report (including refinements). It also will address Clean Water Act compliance requirements.
Nov. - Dec. 1993	Using 638 contracting procedures, cooperative agreements are put in place with both the Southern Ute Indian Tribe and the Ute Mountain Ute Tribe to conduct certain studies and analyses to help complete the Final Supplement.
1994	P.L. 93-638 amended to include all Department of the Interior agencies.
February 16, 1994	Consent decree is filed regarding the Four Corners Action Coalition et al. lawsuit. Reclamation agrees to not perform cultural resources related ground disturbing activities prior to completion of the Final Supplement. The previous preliminary injunction is vacated.
February 23, 1994	Design funds redirected from Durango Pumping Plant to preparing the 1980 EIS Supplement.

- April 19, 1994 Reclamation requests initiation of ESA consultation for the ALP project and critical habitat in anticipation of FWS designation of critical habitat for endangered fish in the Colorado River Basin.
- April 20, 1994 FWS designates critical habitat for Colorado River endangered fish.
- February 1995 Project sponsors agree to divide Phase I of the project into Stages A and B. In accordance with the project's average annual depletion limitation of 57,100 acre-feet specified in the reasonable and prudent alternative of the 1991 FWS Biological Opinion, Stage A facility construction is defined generally as: the Durango Pumping Plant; Ridges Basin Dam and Reservoir; Ridges Basin Inlet Conduit; Shenandoah Municipal and Industrial (M&I) Pipeline; a Plata M&I (rural) Pipeline; and regional road and utility relocations. Also included is mitigation for fish, wildlife, and wetlands.
- Stage B construction includes Durango Pumping Plant add-on pumps; Ridges Basin Pumping Plant, RBPP transmission facilities; Long Hollow Tunnel, Durango M&I Pipeline; Dryside Canal-Phase 1; Red Mesa Pumping Plant-laterals-transmission facilities; Alkali Gulch Laterals-phase 1; La Plata, NM Laterals-Phase 1; Dryside Lateral-Phase 1; Drains-Phase 1; NM Interim Facilities; Shenandoah Pipeline; Southern Ute Diversion Dam; and Southern Ute Inlet Canal. Also included are recreation facilities, and fish and wildlife and cultural resource preservation/enhancement. Completion of Stage B allows the full development of Phase 1.
- July 1995 Reclamation completes the Economic and Financial Update Report. This detailed report utilized updated designs and unit costs at the October 1993 price level.
- February 26, 1996 FWS issues Final Biological Opinion. This opinion deals with significant, new information that had become available since the 1991 opinion. Reasonable and Prudent Alternative elements are similar to the 1991 opinion with inclusions such as a clarification of language on the allowable 57,100 acre-feet depletion,

and the requirement to test low winter flows from Navajo Reservoir.

- April 26, 1996 Reclamation files the Final Supplement to the 1980 FEIS with the EPA.
- June 19, 1996 The Southern Ute Indian Tribe, Ute Mountain Ute Tribe, and Animas-La Plata Water Conservancy District file suit against EPA, claiming it is violating its trust responsibility with the Tribes in obstructing the timely implementation of the Colorado Ute Indian Water Rights Settlement Act and associated Project construction.
- August 1996 The Southern Ute Indian Tribe and the Ute Mountain Ute Tribe meet with Secretary Babbitt requesting he name a personal representative to a consensus process to be sponsored by Colorado Governor Roy Romer.
- August 1996 The Ute Mountain Ute Tribe, Southern Ute Indian Tribe, and other project proponents petition the Department of the Interior to allow the Ute Mountain Ute Tribe, through its contractor, to analyze ALP development options.
- October 1996 Secretary Babbitt and Governor Romer establish a forum (the Romer/Schoettler Process) to resolve ALP controversies among project supporters and opponents.
- October 9, 1996 First Romer/Schoettler Process meeting. Governor Romer, Lt. Governor Schoettler, and Secretary of the Interior Bruce Babbitt bring all sides together to attempt to resolve the ALP controversy. Represented at the meeting were the Southern Ute Indian Tribe, Ute Mountain Ute Tribe, project proponents, project opponents, Department of the Interior, EPA, and representatives of the States of Colorado and New Mexico (a total of seven groups). Each group presented its issues, discussed a “Stand Still” agreement (activities to be put on hold during the process) and brainstormed an initial project criteria list.
- October 28, 1996 Second Romer/Schoettler meeting held. Participants agreed to generate lists of criteria to evaluate the projects, lists of options to constructing the ALP and/or any part of the ALP, and list of questions needing

answers. All lists to be discussed at the next meeting. The Governor's Office sets up an account that participants could draw on to help defray meeting expenses (\$10,000 limit to each interested group), and criteria for use of money and evaluation of funds requested by the groups. The "Stand Still" Agreement was revised.

October 1996

"Stand Still" Agreement signed. The following pending litigations are put on hold: Taxpayers for the Animas River, et al. vs. Reclamation; Southern Ute Grassroots Organization vs. Reclamation; Southern Ute Indian Tribe, Ute Mountain Ute Tribe, and Animas- La Plata Water Conservancy District versus EPA. The Agreement restricts certain Reclamation and State of Colorado activities that may drain resources or be a source of public conflict outside the Romer/Schoettler Process. Parties agree that Reclamation and Sierra Club Legal Defense Fund jointly request the Federal Energy and Regulatory Commission to defer action on the Northwest Pipeline permit application. A list of project anticipated Reclamation activities is approved by the group and attached to the "Stand Still" Agreement.

November 6, 1996

Ute Mountain Ute Tribe provides a Draft Statement of Work to Reclamation (Modification No. 002 to 6-FC-40-19010), establishing a key role for the Ute Mountain Ute Tribe in the Romer/ Schoettler plan formulation process.

December 3, 1996

Third Romer/Schoettler meeting. Teams review criteria lists and agree on "areas of concurrence." Over 60 options were considered and seven priority options received enough votes from all groups for further consideration. The "Stand Still" Agreement revised.

December 16, 1996

Fourth Romer/Schoettler meeting. Department of the Interior provides an overview and receives input on its "Discussion of Seven Options" paper. The Department agreed to address questions by January 13, 1997, regarding the Dolores, Florida, Navajo, and Hammond Projects. The groups agree that congressional lobbying would not be part of the "Stand

- Still” Agreement, which is extended to February 11, 1997.
- January 2, 1997 Modification No. 002 of the Assistance Agreement for the Ute Mountain Ute Tribe to provide engineering services on alternatives analyses was signed by the Ute Mountain Ute Tribe and Reclamation.
- February 14, 1997 Fifth Romer/Schoettler meeting. Representatives from area water conservancy district boards, associated attorneys, land owners, etc., turnout to express their concerns with the suggestion of using a portion of their water to satisfy needs / purposes of the ALP. Members of both Tribes expressed their views, for and against the project. The proponents and Citizen Coalition were asked to specify, on or before the upcoming March 6 meeting, the date by which they could produce a “conceptual” structural and non-structural alternative (respectively).
- March 6, 1997 Sixth Romer/Schoettler meeting. The focus of the meeting was to provide information on project purposes, needs, and costs, and on how power revenues are assigned to the project being given by Reclamation. EPA gives a presentation on selenium water quality issues in the San Juan. Because no dates were given for each group to present an alternative, the Romer/Schoettler meetings were put “on hold” until both the Citizens’ Coalition and the Project Proponents could submit alternatives to the ALP. The project proponents committed to present a structural alternative. The Citizens’ Coalition was asked for a commitment by April 7 regarding their willingness to present a conceptual non-structural alternative by June 1.
- July 8, 1997 Proponents’ alternative released through a press conference by the Ute Mountain Ute Tribe, Southern Ute Indian Tribe, and members of the Colorado and New Mexico congressional delegations.
- August 5, 1997 Citizens Coalition released its Animas River conceptual alternative in a press conference.
- August 29, 1997 Draft ALP Reconciliation Plan, known as ALP-Lite, completed by a Ute Mountain Ute contractor.

- October 1997 Romer/Schoettler process concludes with the identification of a structural alternative (supporter's Reconciliation Plan) and a non-structural alternative of the opponents. Resolution of the issue is given back to the United States.
- October 7, 1997 The Southern Ute Indian Tribal Council adopts a resolution that "...determines that Animas River Citizens' Coalition proposal will not meet the tribal objectives that were to be accomplished under the 1986 Settlement Agreement and 1988 Settlement Act because among other things, that proposal does not provide the Tribe with certainty that it will receive a firm supply of water from a reliable source that can be used to meet its present and future needs on the west side of the reservation."
- October 22, 1997 Ute Mountain Ute Tribal Chairman sends a resolution to Lieutenant Governor Schoettler stating that the Tribe "finds unacceptable the Citizens Coalition's proposal to provide monies to the Tribe to acquire land, direct flow water rights and possibly increase reservoirs in the area."
- October 30, 1997 Romer and Schoettler send a letter to Secretary Babbitt formally concluding the Romer/Schoettler process. Two alternatives were developed during this process: (1) the proponents' Animas-La Plata Reconciliation Plan, and (2) the opponents' Animas River Citizens' Coalition Conceptual Alternative. The responsibility of resolving the issue of developing the ALP is returned to the Federal government and the Congress.
- November 18, 1997 Governor Romer and Lieutenant Governor Schoettler announce their support for the "ALP Lite", the Tribes' and other project sponsors' alternative.
- Dec. 1997-Feb. 1998 Various meetings held with primary stakeholders to receive concerns regarding the two Romer/Schoettler Process proposals.
- February 5, 1998 Memo from Ute Mountain Ute Tribe contractor to Reclamation on ALP Reconciliation Plan, included a change in estimated project cost from August 29, 1997, report.

March 4, 1998	Reclamation obtains internal comments its “draft appraisal level” study.
March 17, 1998	S. 1771 introduced in the Senate by Senator Campbell for a larger reservoir storage of 260,000 acre-feet with nonreimbursable costs for tribal portion of project and nonreimbursable fish and wildlife and recreation costs. Also considered the 1996 FSEIS adequate to satisfy ESA, NEPA, and WPCA.
July 1998	Counselor to the Secretary and Chairman of the Department of the Interior’s Working Group on Indian Water rights appointed to facilitate dialogue between the Government and the tribes.
August 11, 1998	Secretary Babbitt presents the “Administration Proposal to Build Animas-La Plata Project to Implement Colorado Ute Indian Water Rights Settlement”.
Sept-January 1999	Reclamation develops preliminary plan and tentative Supplemental to the 1996 Final Supplemental EIS for the ALP. Notice of Intent to prepare a Supplement to the 1996 FSEIS is published in the Federal Register January 4, 1999.
January 4, 1999	Notice of Intent to prepare a Supplement to the 1996 FSEIS is published in the Federal Register.
January 13, 1999	Draft “Move Forward” timeline for ALP prepared. Shows 10 months to prepare the Supplemental DEIS, and 16 months to complete the process and file it with EPA.
February 2 - 4, 1999	NEPA public scoping meetings held in Durango and Denver, Colorado; and Farmington, New Mexico.
March 2, 1999	Draft Reclamation Scope of Work to the Ute Mountain Ute Tribe for preparation of the Supplement to the 1996 Supplemental EIS.
March 22, 1999	Draft Plan of Approach with Reclamation changes in red.

April 16, 1999	Ute Mountain Ute Tribe provides changes to the draft SOW.
April 17, 1999	Ninety-day public comment period on Draft Supplemental EIS begins (includes 30-day extension).
April 1999	NEPA compliance team diagram (snowman diagram).
July 19, 1999	Modification No. 016 to Cooperative Agreement issued to UMUT.
August 3, 1999	Final Plan of Approach agreement is completed with UMUT.
Sept. 27-30, 1999	Core Team begins preparation of Advanced Preliminary DSEIS (APDSEIS.)
October 20, 1999	HR 3112 – Colorado Ute Settlement Act Amendments of 1999 introduced by Representative McInnis of Colorado.
Oct. 1-18, 1999	Preparation and distribution of Advanced Preliminary Draft Supplemental EIS continues. This version included a Feasibility Design and Estimates exhibit, but it was incomplete. The narrative recognized the following cost items were incomplete: relocation of property of others; gas pipelines and CR211; Basin Creek Improvements; operating costs including maintenance; and maintenance facility.
October 25, 1999	Reclamation provides comments on Advanced Preliminary Draft Supplemental EIS to Core Team.
Oct. 27-Nov. 13, 1999	Core Team prepares Preliminary Draft supplemental EIS. It includes Feasibility Design and Estimates. The narrative mentions that a “tabular detail of quantities and estimated costs appears at the end of this section.” <u>This information was not included.</u> The narrative also mentions that for the total project cost, several items must be added, including cultural resources, recreation facilities, fish and wildlife mitigation, wetland mitigation, and interest during construction.
October 30, 1999	Proposal to complete NEPA Compliance from Area Office to Regional Director.

November 2, 1999	Upper Colorado Regional Director agrees and directs the Western Colorado Area Office to take the necessary steps to move forward as soon as possible. NEPA compliance team is included in agreement.
Nov. 15–18, 1999	Production Team assembles Preliminary Draft Supplemental EIS.
November 17, 1999	TSC transmits memo commenting on the Feasibility Design and Estimate-Appendix 3-A- SEIS dated October 20, 1999, working draft EIS.
Nov. 22-30, 1999	Agencies review Preliminary Draft Supplemental EIS.
November 26, 1999	Modification No. 017 to Cooperative Agreement No. 6-FC-40-19010 issued to the Tribe.
November 29, 1999	Reclamation receives Navajo Nation Municipal Pipeline feasibility design for Supplemental EIS from Ute Mountain Ute Tribe contractor.
December 1, 1999	Comments from agencies due on Preliminary Draft Supplemental EIS.
Dec. 2-18, 1999	Core Team prepares DSEIS.
December 24, 1999	Final Draft Supplemental EIS to printers. The final document does not contain the “tabular detail of quantities and estimated costs” or other data noted to be missing in the CORE Team’s earlier review.
January 14, 2000	Reclamation releases Draft Supplemental EIS which includes PCE at April 1999 price level. Public hearing conducted during February 2000.
Jan.15 – April 17, 2000	Ninety-day public comment period on DSEIS (includes 30-day extension).
Feb. 15 – 17, 2000	Public hearings held on DSEIS; announcement of 30-day extension to public review period.
May 5, 2000	Senator Campbell introduces S.2508 – a bill to amend the Settlement Act to provide for a final settlement of the claims of the Colorado Ute Indian Tribes and other purposes. (Bill supports a downsized, all M&I water

project similar to the Recommended Preferred Alternative presented in the DSEIS.)

May 11, 2000 House Committee on Resources – Subcommittee hearings held on HR 3112, a bill that would provide for final settlement of the UMUT and SUT.

June 7, 2000 Senate Committee on Indian Affairs. Joint hearing held with Committee on Energy and Natural Resources subcommittee on Water and Power.

June 19, 2000 Final Biological Opinion issued by the FWS based on changes to the project and new information on species that was not considered in 1996 Biological Opinion.

June 26, 2000 S.2508 reported from Committee on Indian Affairs without amendment and without written report.

July 17, 2000 Filed FSEIS with EPA and released to public.

July 19, 2000 House Committee on Resources consideration and mark-up session held and ordered to be reported on HR 3112.

September 25, 2000 Record of Decision on Final Supplemental EIS signed, confirming the preferred alternative in the Final Supplemental EIS as the Department’s selected alternative and recognizing the need for congressional authorization to achieve final implementation of the 1988 Settlement.

October 2000 S. 2508, the Colorado Ute Indian Settlement Amendments of 2000, was approved by the Senate and referred to the House for consideration.

October 19, 2000 Senator Campbell proposes substitute for S.2508 (see CR S10785).

October 25, 2000 House committee on resources reported on HR 3112, Short title as reported was Colorado Ute Settlement Act Amendments of 2000 (HR 106-1001).

October 25, 2000 S. 2508, the Colorado Ute Indian Settlement Amendments of 2000 was approved by the Senate by an 85 to 5 vote and referred to the House for

consideration. (Campbell substitute was approved by Senate.)

December 12, 2000 The Committee on Indian Affairs filed written report, Report No. 106-513, on Campbell bill.

December 21, 2000 P.L. 106-554 enacted, authorizing the Secretary to construct the Animas-La Plata Project. Amended the 1988 Act. Reduced size of the facilities. Title 3 of the Consolidated Appropriations Act of 2001.

January 19, 2001 The Department of the Interior delegates construction authority to Reclamation.

March 29, 2001 Project Management Team develops construction options paper.

March 30, 2001 Reclamation strategy meeting on project implementation.

April 16, 2001 Project Management Team leadership meets.

May 2001 Interim cost allocation prepared using the Final Supplemental EIS PCE indexed to October 2001.

May 9, 2001 Area Manager memorandum from UC Regional Director to establish a Project Management Team for ALP.

September 11, 2001 Attack on World Trade Center and the Pentagon. adds security requirements.

October 1, 2001 First construction money appropriated for current project.

October 1, 2001 Design of Ridges Basin Dam begins.

October 30, 2001 Upper Colorado Regional Director requests Commissioner's approval to initiate construction on November 9, 2001, provided the UC Region fulfills all construction prerequisites and adequate funding is available. The initial task would include implementing an agreement to purchase pipe for a natural gas line relocation and other agreements for property acquisition and other construction activities.

October 30, 2001	Commissioner approves construction start.
November 2001	Value engineering study on Outlet Works used \$15.5 million baseline costs.
November 2001	Amended cost-share agreements executed with two non-tribal project beneficiaries – figures quoted in the contracts use the May 2001 cost allocation.
November 2001	Commissioner establishes date for initiation of construction.
November 14, 2001	Public scoping meeting on final route selection for the relocation of the natural gas pipeline within Ridges Basin
December 2001	The Technical Service Center starts design work on Durango Pumping Plant.
February 2002	Detailed Cultural Resources Mitigation Plan completed.
February 2002	Concept C for Durango Pumping Plant: \$44 million.
March 2002	Value engineering Study for Durango Pumping Plant using \$44 million as baseline costs.
April 2002	Cultural Resources Investigations contract awarded to Ute Mountain Ute Tribe - award amount nearly double the amount provided in the original PCE.
April 2002	Stage 1 of Inlet Conduit awarded to Ute Mountain Ute Tribe - award amount nearly 37 percent above initial Independent Government Cost Estimate.
April 17, 2002	La Plata County hosts a public meeting to discuss the relocation of County Road 211 within Ridges Basin and its intersection with Wildcat Canyon Road.
April 24, 2002	Decision to split Durango Pumping Plant into Stage 1 and Stage 2 specification.
April 26, 2002	Draft Environmental Assessment and Finding of No Significant Impact for the relocation of three gas pipelines released to the public for review.

May 2002	Increased cost of cultural resources discussed with the Colorado Water Resources and Power Development Authority, San Juan Water Commission, and La Plata Conservancy District.
May 2002	Final selection of route for the relocation of County Road 211 through Ridges Basin is completed.
June 18, 2002	Final Environmental Assessment recommends selection of the northern route for the relocation of three gas pipelines.
July 2002	Comparison of estimated construction costs of dam and pumping plant versus Final Supplemental EIS PCE on same two features show a net increase of between \$2.4 to \$8.5 million.
August 2, 2002	TSC meets Spec D, Ridges Basin Dam design.
October 25, 2002	TSC completes Spec D, Stage 2, Durango Pumping Plant.
November 15, 2002	TSC completes Spec B, Stage 1, Durango Pumping Plant.
November 2002	\$2.5 million outlet works excavation contract awarded - award amount nearly 37 percent above initial IGCE.
December 2002	TSC Spec B on Ridges Basin Dam and Spec B, Stage 2, Durango Pumping Plant.
January 2003	Final designs on Durango Pumping Plant and Ridges Basin Dam completed.
January 17, 2003	Initial IGCE, Stage 1, Durango Pumping Plant, completed.
January 2003	1999 PCE updating initiated.
April 2003	\$6.0 million Durango Pumping Plant Stage 1 contract awarded approximately 17 percent over initial Independent Government Cost Estimate.
April 2003	Preliminary data for use in portions of the 2003 PCE completed.

May 30, 2003	Initial IGCE, Stage 2, Durango Pumping Plant completed.
June 2003	Draft updated PCE available for internal review.
July 2003	Final Draft PCE results in an estimated construction cost of \$500 million, at a January 2003 price level.

APPENDIX 2

PROJECT DEVELOPMENT AND MANAGEMENT PROCESSES

PROJECT DEVELOPMENT AND MANAGEMENT PROCESSES

The development of Reclamation projects and associated budget needs generally follow the process outlined in Figure 1.

Project Development Processes – Planning Phase: The planning phase of a project is designed to address several basic issues related to the project. Figure 1 summarizes key processes including cost estimate development, budget management processes, legislative authorities, and guidance associated with the components of each phase of the planning process.

The Appraisal Study is used to identify the Federal interest and role in the project and to identify at least one viable alternative that meets study project objectives supply needs. Preliminary PCEs developed at this stage are based on broad cost trends.

The Feasibility Study is used to identify a recommended plan of action to meet the needs of the proposed project. Project cost estimates are refined based on preliminary designs and quantities. Construction contract and non-contract costs as well as all other estimated project related costs are compiled in refining the PCE. The PCE is used to support proposed legislation and forms the basis for a project appropriations ceiling. The Environmental Impact Statement (EIS) is completed during this phase of the study and transmitted to the Congress prior to authorization.

Project Development Process – Definite Plan Report Phase: Upon receipt of project authorization, a project enters into one of two phases: (1) development of a definite plan report or (2) initiation of the construction/implementation phase. A definite plan report is developed to update the project feasibility study (1) to reflect any additional details or significant changes identified in the authorizing legislation and (2) to update the project cost estimates through indexing or re-pricing.

Project Development Process – Construction Phase: Once a project is authorized, it moves into the construction/implementation phase. As shown in Figure 1, the construction phase of the process includes final design, contracting procedures, and construction activities for each project feature. Conceptual cost estimates are prepared to allow comparison of alternative designs and, in most cases, a value engineering study is conducted to seek the most cost-effective

FIGURE 1 Reclamation Project Development – Planning through Construction							
Planning Phase		→ Definite Plan Report Phase →		Construction of Project Features			
	Appraisal Study	Feasibility Study		Design	Bid/Award	Construction	
Purpose	Establish Federal interest/role. Goals limited to satisfy sponsor interest/limited funding. I.D. at least one viable alternative solution	I.D. Recommended Plan. Obtain Project Authorization and Appropriations		Upon Receipt of Project Authorization 1. Update project feasibility study with additional details and updated cost estimates. 2. Develop definite plan to complete the project	Prepare detailed designs and specifications for use in individual solicitations to contract for construction of project features.	Obtain bids (or solicit proposals) to construct or supply project features. (Contract types table)	Construct/ supply project features.
Cost Estimates	Appraisal level cost estimates. Based on broad cost trends. Used to compare types of structural and non-structural actions and features, site locations.	Feasibility level cost estimate for project features. Based on preliminary design quantities. Used to more closely estimate construction costs of project features. Project cost estimate (PCE) ⁽¹⁾ estimates total project cost including (including contract, non-contract, land, environmental mitigation, etc.) The EIS is completed for concurrent transmittal to the Congress prior to authorization.		Project Cost Estimate updated via indexing or re-pricing (depending on elapsed time since Feasibility Estimate and to reflect additional changes required from authorization language	Conceptual Estimates for each solicitation based on conceptual designs and quantities. Alternate project feature configurations are compared in early stages of final design and in value engineering studies to aid in selection of final configurations. Prevalidation Estimates are based on best available designs and quantities and provide estimated funding requirements by fiscal year for each project solicitation.	Independent Government Cost Estimate (IGCE) prepared for use by Reclamation Contracting Officer. Based on final designs, quantities, drawings, and specifications as depicted in solicitations as well as local market conditions, and capabilities of "typical" private sector contractors.	IGCE for contract modifications.
Budget Management Processes		Annual Budget development (BRC)	Project Management Team (PMT)	Project Budget Oversight, Program Management Activities (e.g. 300B's)		Recurring Budget Processes from Authorization Through Completion	
Authority	1902 Reclamation Act – authorized general investigations. Individual program specific authorities to conduct appraisal studies.	Section 8, P.L. 89-72, requirement to seek Congressional authority to initiate feasibility study. Individual feasibility study authorizations.		Specific project authorization. Specific project appropriations.	Specific project authorization. Specific project appropriations.	Specific project authorization. Specific project appropriations.	
DOI or Reclamation Manual Materials	RM-ENV P03 –NEPA ⁽³⁾ NEPA Handbook	P&Gs ⁽²⁾ RM-ENV P03 – NEPA ⁽³⁾ NEPA Handbook RM-CMP 05-02 (Feasibility Studies) ⁽⁴⁾		RM-ENV P03 – NEPA ⁽³⁾ NEPA Handbook	RM-FAC P03 Design & Construction Policy ⁽⁴⁾ RM-FAC 03-02 Construction Activities ⁽⁴⁾ RM-FAC 03-XX Design Activities (Draft) ⁽¹⁰⁾		
Regulations						FAR Subpart 36.203	
General Guidance	RI 110 (Planning) ⁽⁵⁾ Planning Instructions (PI) ⁽⁶⁾ RI 150 (Cost Estimates) ⁽⁵⁾ Dam Safety Proj. Man. Guidelines ⁽⁷⁾	RI 110 (Planning) ⁽⁵⁾ PI (PI) ⁽⁶⁾ RI 150 (Cost Estimates) ⁽⁵⁾ Dam Safety Proj. Man. Guidelines ⁽⁷⁾		RI 110 (Planning) ⁽⁵⁾ Planning Instructions ⁽⁶⁾ RI 150 (Cost Estimates) ⁽⁵⁾	RI 150 (Cost Estimates) ⁽⁵⁾ Total Design Process ⁽⁸⁾ Dam Safety Proj. Man. Guidelines ⁽⁷⁾	RI 150 (Cost Estimates) ⁽⁵⁾	
638 Contracts	P.L. 93-638 Indian Self Determination Assistance Act Final Rule, 25 CFR part 900 Non-construction contract template ⁽⁹⁾ Internal Agency Procedures Handbook for Non-Construction Contracting (1999)	P.L. 93-638 Indian Self Determination Assistance Act Final Rule, 25 CFR part 900 Non-construction contract template ⁽⁹⁾ Internal Agency Procedures Handbook for Non-Construction Contracting (1999)		Const. Contract Template Non-Const. Contract Template ⁽⁹⁾ Internal Agency Procedures Handbook for Non-Construction Contracting (1999) Const. Contracting Handbook	P.L. 93-638 Indian Self Determination Assistance Act Final Rule, 25 CFR part 900 Non-construction contract template ⁽⁹⁾ Internal Agency Procedures Handbook for Non-Construction Contracting (1999) Construction Contract Template ⁽⁹⁾ Construction Contracting Handbook ⁽¹⁰⁾	P.L. 93-638 Indian Self Determination Assistance Act Final Rule, 25 CFR part 900 Review and approval D-7800 and DOI Solicitor	P.L. 93-638 Indian Self Determination Assistance Act Final Rule, 25 CFR part 900 Construction contract template ⁽⁹⁾ Construction Contracting Handbook ⁽¹⁰⁾ Plan of Requirements (POR) or Definite Plan Report (DPR).
Notes	⁽¹⁾ PCE's are completed prior to project authorization, then indexed for inflation through the life of the project. ⁽²⁾ Executive Branch Policy – Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies, 1983. ⁽³⁾ Issued or in draft after July 2000. ⁽⁴⁾ Issued in CY 2000. ⁽⁵⁾ Reclamation Instructions sunset in 1994. These guidelines continue to provide the basis for Reclamation's operating practices in these areas. ⁽⁶⁾ Numerous Reclamation planning policy memoranda were issues prior to 1994, when they were all sunset. Three-volume set of PI's still being used as informal guidance by field offices. ⁽⁷⁾ Dam Safety Project Management Guidelines. Used for dam safety projects. Replaces planning phase with the Safety of Dams provisions. ⁽⁸⁾ Total Design Process – Provides guidance through final design process. Also sunset in 1994, but continues to be used by the TSC and is being updated for re-issue. ⁽⁹⁾ The 638 templates, though developed during and after CY 2000, are based on specific direction contained in P.L. 638, as amended and 25 CFR 900, both in effect prior to July 2000. ⁽¹⁰⁾ Currently in development.						

methods of fulfilling the project needs. A detailed design is then prepared and cost estimates are computed using the final design specifications and quantities. This activity includes the development of the IGCE for use by the contracting award for solicitations. Once construction is underway, cost estimates are prepared as necessary to support contract change orders and to analyze contractor claims.

Project Development Process – Project Management Team: A PMT is typically formed for all critical, complex, or controversial Reclamation projects. The team plans the implementation of activities leading to completion of construction. The PMT provides oversight to the various design teams developing individual solicitations to construct project features. The PMT also oversees development of projected budget needs for completion of the various project features which are provided to the regional staff for their use in formulating their region's total annual budget request during each annual budgeting cycle.

While no agency-wide guidance exists regarding the review of cost estimates prepared by others, cost estimates prepared by and for Reclamation are typically checked and reviewed as part of each Reclamation office's operating practices. Such review requirements are normally addressed in the individual agreements under which those estimates are provided to Reclamation. Administration of this review is the responsibility of the PMT for each project where a PMT is established. Where a PMT is not established, this is the responsibility of the originating Reclamation office.

Preparation of the Office of Management and Budget (OMB) Form 300 report provides an additional management control tool to assure that attention is given to key project management issues on at least a quarterly basis. The report addresses project costs, schedules, and earned value analysis, and provides for the discussion and identification of risks for the project deviating from the plan.

Project Budget Management Processes: In its normal course of business, Reclamation develops many types of estimates for several uses. PCEs are initially prepared for use in the authorizing legislation. An appropriations ceiling is typically established in the authorizing legislation for each project based on the PCE. The authorizing legislation usually addresses whether or not cost indexing is to be applied to the appropriations ceiling to reflect inflation through the duration of the project. In cases where there are significant changes to the project or significant time has passed since the project was authorized, the PCE is updated, not merely indexed, in a Definite Plan Report prior to construction. As project features are completed, annual expenditures are subtracted from the appropriations ceiling and the remaining appropriation ceiling is carried forward to the next year. If allowed by the authorizing legislation, the remaining ceiling is increased to reflect inflation thus preserving the economic scope of the original appropriations.

PCEs are indexed annually at the discretion of the responsible office during the budget process to revise estimates to October of the budget year prices (e.g., fiscal year 2005 budgets are in October 2004 prices). The use of cost indices over extended periods of time pose inherent risks to the accuracy of PCEs. The cost indices do not contain any provision for either technology changes or legal changes but rather simply reflect the change in the dollar value of construction

over time. Unit prices are designed to reflect the current bid value for construction. Estimates should be periodically re-priced due to changes in equipment, design, and construction techniques that continually affect the unit prices. Changes in laws are also continually occurring which result in additional work or changes in construction practices. As a result, the RIs contained a recommendation that “Cost indices should not be applied to cost estimates over 5 years old; the estimates should be re-priced” (RI Part 150, Chapter 152, 1993).

For long-term projects, Reclamation periodically (typically after no more than 5 years) re-estimates the PCE for the remaining features. This is done to ensure an accurate projection of budget needs is available to be compared to remaining appropriations ceiling to assure that PCEs reflect the latest and most accurate information available about the project, and that the prices used in the estimate reflect the current costs of the construction where the project is located. This updated estimate is then compared to the remaining appropriations ceiling to ensure sufficient funding is available to complete the project.

The PCE is a vital tool that impacts project construction schedules, repayment contracts, cost sharing agreements, and Reclamation’s annual appropriations request. PCEs are typically prepared by the Reclamation Area Office with project jurisdiction in consultation with construction cost estimators, and specialists in land, environmental, and cultural aspects of projects. Regional Directors assign staff to track project expenditures on a monthly basis and compute remaining appropriations (with or without indexing as prescribed by the project authorization) during budget formulation with a comparison to actual costs incurred. Regional staff also prepares annual budget requests with a goal of completing projects within their region in accordance with each project’s authorizing legislation. A Reclamation-wide Budget Review Committee considers all such requests and develops Reclamation’s annual budget request. This process is repeated each year and provides the agency with a means to address project and agency-wide budget needs in a reasonably flexible manner.

If these processes reveal potential appropriations ceiling concerns, cost containment measures are evaluated with the project stakeholders and, if necessary, additional legislation is sought to address the future budget and appropriations needs.

Recent Experience With Project Management Process: The Dam Safety Program is managed on a Reclamation-wide basis. Projecting current projects through the end of 2004, 65 SOD construction projects will have been completed. Of these projects, 16 exceeded their estimated cost by more than 10 percent. The total estimated cost presented to the Congress in the Modification Reports for these 65 projects is just under \$1.1 billion. The actual cost to complete the projects was \$927 million (about 86 percent of total estimated cost).

APPENDIX 3

COST COMPARISONS OF 1999 AND 2003 ESTIMATES

COSTS COMPARISON

ANIMAS-LA PLATA PROJECT, COLORADO AND NEW MEXICO

(\$1,000,000)

FEATURE	FSEIS ESTIMATE APRIL 1999	2/ FSEIS ESTIMATE INDEXED TO OCTOBER 2003	CURRENT ESTIMATE JANUARY 2003			DIFFERENCE (Current minus Original Indexed)
			Total	Field Costs	Noncontract	
Ridges Basin Dam	\$145.0	\$160.2	\$225.7	\$176.7	\$49.0	\$65.5
Durango Pumping Plant	\$36.3	\$40.1	\$92.7	\$73.4	\$19.3	\$52.6
Ridges Basin Inlet Conduit	\$8.7	\$9.8	\$27.2	\$19.9	\$7.3	\$17.4
Navajo Nation Municipal Pipeline	\$24.0	\$27.0	\$47.0	\$38.3	\$8.7	\$20.0
Permanent Operating Facility			\$2.5	\$2.1	\$0.4	\$2.5
Subtotal	\$214.0	\$237.1	\$395.1	\$310.4	\$84.7	\$158.0
Cultural Resources Mitigation	\$9.0	\$18.3	\$17.3	\$13.0	\$4.3	-\$1.0
Wetlands and Fish and Wildlife Mitigation	\$12.8	\$14.4	\$18.8	\$12.8	\$6.0	\$4.4
Subtotal	\$21.8	\$32.7	\$36.1	\$25.8	\$10.3	\$3.4
Other Project Costs Through FY 1998	\$68.0	\$68.0	\$68.0			
Rounding		\$0.1	\$0.8			\$0.7
TOTAL	\$303.8	\$337.9	\$500.0			\$162.1

1/ Does not include \$40M Tribal Resource Fund

2/ July 2000 Final Supplemental Environmental Impact Statement

3/ Includes additional funding taken from Ridges Basin Dam contingencies and added to Cultural Resources following contract negotiations with UMU Tribe in 2002

APPENDIX 4

DETAILED COST COMPARISON OF ANIMAS-LA PLATA FEATURES

Ridges Basin Dam – The overall increase in the cost estimate for the Ridges Basin Dam feature including non-contract costs is \$65.5 million. The estimated field costs of constructing the dam component increased by \$33.6 million. This increase in cost estimate for the dam component includes the EDF as well as approximately \$2.6 million for security items identified subsequent to September 11, 2001.

Associated Structures – Significant increases have occurred in the estimate of costs to relocate the property of others within the Ridges Basin reservoir site (\$28 million). The original estimate for the relocation of County Road 211 does not appear to have accounted for upgrading the road to current county standards, which significantly increased requirements because of additional excavation and a change in location. Increased costs were not associated with the proposed paving of the lower County Road 211. The current proposal includes an agreement between Reclamation and the County to pave the lower part of County Road 211. Under this agreement, the County would be responsible for maintenance and Reclamation would be allowed to close the road during the construction season saving costs associated with traffic management and safety. The cost of the paving would not exceed estimated costs for maintenance of an unpaved road during the years of construction. The other major item showing increased, estimated costs is the relocation of Williams Gas Line which includes a route location requiring a section of horizontal directional drilling, increased right-of-way requirements, and mitigation of visual impacts on Carbon Mountain.

Durango Pumping Plant – Of the approximately \$52 million increase, the most significant increase (\$42.7 million) is within the structure itself. The original estimate missed the type of material to be excavated, bedrock versus common, and significantly underestimated the size of the plant as well as the quantity of material to be excavated for the plant and the inlet channel. Accessory electrical equipment appears to be another item that was underestimated, \$4.9 million. These total estimated costs also include the EDF as well as \$2.5 million for security items. Based on design data at the pumping plant site, the plant was rotated 90 degrees to prevent excavation from encroaching with 100 feet of a fault line which prevents mixing of two ground water streams, one of which is contaminated from the UMTRA uranium tailings. Adjustments made to improve the visual esthetics accounted for about \$200 thousand of the increase cost estimate of \$53 million.

Ridges Basin Inlet Conduit – The most significant increase, \$9.3 million, for the conduit itself appears to involve an original estimate that significantly underestimated the amount of excavation required due to the relocation of the gas pipelines along a northern route, as well as a change from 66- to 72-inch-diameter pipe because of an initial error in computing hydraulic pressure losses in the pipeline and the implications of the new gas pipeline relocation.

Navajo Nation Municipal Pipeline – The increase of \$20 million in this item may even now be underestimated. The lack of design data for the pipe location as well as the lack of any costs for right-of-way could lead to some significant increases in costs for this part of the project.

Permanent Operating Facilities – The current estimate includes the \$2.5 million cost of an O&M building that was not included in the original estimate.

Cultural Resources – The original estimate included \$9 million for this item and the original authorization for the project limited expenditures to 4 percent of the project costs. The information provided to the ALP Review Team indicates the estimate was updated to \$18.3 million prior to the indexing that occurred in October of 2002.

Wetlands and Fish and Wildlife Mitigation - The original estimate included a recreation component that has now been re-designated as fishery mitigation enhancement. This appears to include some land acquisition for fishing access as well as support for stocking the reservoir. The indicated increase of \$4.4 million is for water quality monitoring.

Non-contract Costs. The listed increases above do not include non-contract costs that have also increased as the cost of the project has increased. Concern has been expressed by the project sponsors that the project has not actually changed, only the estimated costs have changed; therefore, the original dollars allowed for non-contract costs should not significantly increase. As shown in this appendix, the current estimate of non-contract costs as provided to the ALP Review Team includes all those components listed on Page E-21 of Attachment E to the FSEIS. The scope of the project is such that the level of staff involvement, which are part of non-contract costs, is directly related to several factors that will tend to drive the non-contract costs over the original estimate. These factors include the high level of public involvement, changes resulting from the proximity of the pumping plant to the town of Durango, the ISDEA contracting process, the abundance of cultural resources in the area, and the migratory bird requirements.

The current estimate of non-contract costs as a percentage of contract costs varies from 19 to 34.7 percent with an average for the project of 29 percent, which is still below the 30 percent anticipated in the FSEIS and the funding agreements with non-Indian sponsors.

In addition, the percentages for design and construction management based on the construction costs are in line with the percentages suggested in ASCE Manuals and Reports on Engineering Practice No. 45, How to Work Effectively With Consulting Engineers – Getting the Best Project for the Right Price.

APPENDIX 5

DETAILS CONCERNING THE UTE MOUNTAIN UTE'S WORK ON THE FINAL SUPPLEMENT TO THE 1996 FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT, ANIMAS-LA PLATA PROJECT

DETAILS CONCERNING THE UTE MOUNTAIN UTE'S WORK ON THE FINAL SUPPLEMENT TO THE 1996 FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT (FSEIS), ANIMAS - LA PLATA PROJECT

On January, 2, 1997, Reclamation issued Modification No. 002 to the UMUT, pursuant to the ISDEA process. Details of the services in Task 3 of this modification included the following:

1. Review the presently configured components and costs associated with the ALP as outlined in the 1996 FSEIS. This will require the analysis and evaluation of the Reclamation construction, design, and cost information relating specifically to Phase 1 of the ALP and in detail to Phase 1, Stage A.
2. Review feature sizing and related costs of the presently configured ALP.
3. Provide design and cost estimate options considered within the Romer/Schoettler Process (see Appendix 2 for more information on the Romer/Schoettler Process) to assist the parties to evaluate the most appropriate facilities with differing depletion levels. Potential cost savings associated with various depletions and project configuration will be examined, including facilities sized to deliver only Stage A depletions of 57,100 acre-feet, facilities to provide a portion of such Stage A depletions into the La Plata River basin, and facilities sized to deliver depletions in excess of Stage A depletions into the La Plata River basin. In undertaking the research and analysis, the UMUT will rely on data prepared by Reclamation and others.

The modification also stated that Reclamation would provide all available information pertaining to design, construction, and cost requested and/or required by the UMUT to complete this task. Reclamation would also provide any and all technical assistance requested by the UMUT. The design and cost analysis provided under the Cooperative Agreement was intended to compare various options for the project. The primary focus was to determine the relative cost difference between the various options.

In the early part of 1999, a SOW was prepared for UMUT to support Reclamation in preparation for the Final Supplement to the FSEIS. Modification No. 016 was executed and transmitted to UMUT on July 9, 1999. The SOW in the modification included completing a base resource analysis, appraisal analysis, and public involvement. Substantial existing data and analyses were used to provide the engineering, cost, and environmental information on many elements of the Administration Proposal and alternatives. Work was to be completed and delivered to Reclamation by June 15, 2000.

Modification No. 017 was executed and transmitted to UMUT on November 26, 1999. The primary task was development of data for use by Reclamation in preparing a FSEIS. This included a description of resources potentially impacted and an assessment of those impacts. It also included an evaluation, following the standard Reclamation NEPA EIS format, of options to avoid or mitigate impacts. A discussion of alternatives considered and rejected was to be prepared, with a description of the analysis and rationale for rejection. Some new information

would be needed to assess the potential environmental impacts of the changes to the project since the 1996 assessment was completed. Substantial data and analyses which provided engineering, cost, and environmental information on many elements of the Administration Proposal and alternatives already existed. The various tasks included, but were not limited to, the following:

Task 12.7 Appraisal Analysis. UMUT will conduct an in-depth analysis of alternatives, using appraisal-level (reconnaissance-level) information developed for each alternative. Alternatives would be compared to each other in terms of their environmental effects. A recommended preferred alternative would then be selected. Nineteen different resource areas were evaluated.

Task 12.8 Feasibility Analysis. A feasibility analysis is more detailed than the appraisal analysis, and sufficient to fully evaluate the potential environmental impacts of the construction and operation of the preferred alternative for the purposes of the SEIS, but less detailed than would be required for final construction. The same 19 resource areas evaluated under task 12.7 were to be evaluated under task 12.8.

One additional subtask was included - 12.8.21 – Engineering and Design. The scope of this subtask included:

UMUT would develop feasibility level engineering and design data, in close coordination with Reclamation. Feasibility designs will be developed to support Congressional requests for project authorization and funding. This level of design provides a high confidence in cost estimates and technical viability. The level of effort is greater than an appraisal technical analysis, but less than required for final construction drawings and specifications.

The results of this activity would provide the baseline information that defined the project and basis for legislation. The design information for the preferred alternative was first provided to Reclamation as a “**Working Draft**” dated October 20, 1999, and then in November as part of the Preliminary Draft SEIS. The cost estimates provided were summaries of feature costs. No detailed quantities (units) or unit costs were available at that time. The information on the units and unit costs came in the spring of 2000.

APPENDIX 6

COMPARISON: ESTIMATE/PROPOSAL/NEGOTIATION POSITION/ AWARD AMOUNTS OF CONSTRUCTION CONTRACTS TO DATE

Comparison: Estimate/Proposal/Negotiation Position/ Award Amounts of Construction Contracts to Date (Revised August 13, 2003)

ANIMAS-LA PLATA PROJECT

COMPARISON: ESTIMATE/PROPOSAL/NEGOTIATION POSITION/AWARD AMOUNTS (Revised August 13, 2003)

	INLET CONDUIT, STAGE 1		OUTLET WORKS EXCAVATION		DURANGO PUMPING PLANT, STAGE 1		DURANGO PUMPING PLANT, STAGE 2 SCHEDULES 1 AND 2 4/		RIDGES BASIN DAM 2003 CONSTRUCTION SCHEDULE 1 3/			
		% ABOVE IGCE	% ABOVE AWARD AMTS		% ABOVE IGCE	% ABOVE AWARD AMTS		% ABOVE IGCE	% ABOVE AWARD AMTS		% ABOVE IGCE	% ABOVE AWARD AMTS
INDEPENDENT GOV COST EST (IGCE)	\$1,076,560.00	N/A	-27.17%	\$1,846,888.00	N/A	-26.81%	\$5,109,370.00	N/A	-14.33%	\$13,580,838.00	N/A	-22.28%
WCA ORIGINAL PROPOSAL	\$1,811,066.00	68.23%	22.52%	\$3,138,829.00	69.97%	24.40%	\$7,260,578.00	42.10%	21.74%	\$32,177,468.00	136.93%	
GOV INITIAL NEGOTIATING POSITION 5/	\$1,200,045.00	11.47%	-18.81%	\$2,320,040.00	25.63%	-8.05%	\$5,135,570.00	0.51%	-13.89%			
AWARD AMOUNT	\$1,478,131.00	37.30%	N/A	\$2,523,136.00	36.63%	N/A	\$5,964,190.00	16.73%	N/A			
										\$2,949,456.00	65.00%	28.24%
										\$1,775,877.00	-0.65%	-22.79%
										\$2,300,000.00	28.67%	N/A

NOTES:

1/ Non Competitive Factor applied due to the following:

- Risk associated with reducing key production rates to gain competitive advantage does not exist
- No motivation to reduce margin and G & A to gain competitive advantage
- No motivation to subcontract items to outside company which could be used to perform cheaper to gain a competitive advantage
- Possible differences in BOR and WCA estimating philosophies

2/ Use 30% as the factor [Apply ahead of "contract costs"]

- Reduce from 36% due to learning more about fixed costs associated with ALP jobs
- Some up-front project development costs are now completed which were not originally accounted in the IGCE (such as: temp. power, road development, ofc. Complex, etc.)
- Gained trust and results in less contingency added

3/ Ridges Basin Dam 2003 Construction Tasks, Schedule 1 Adjustments

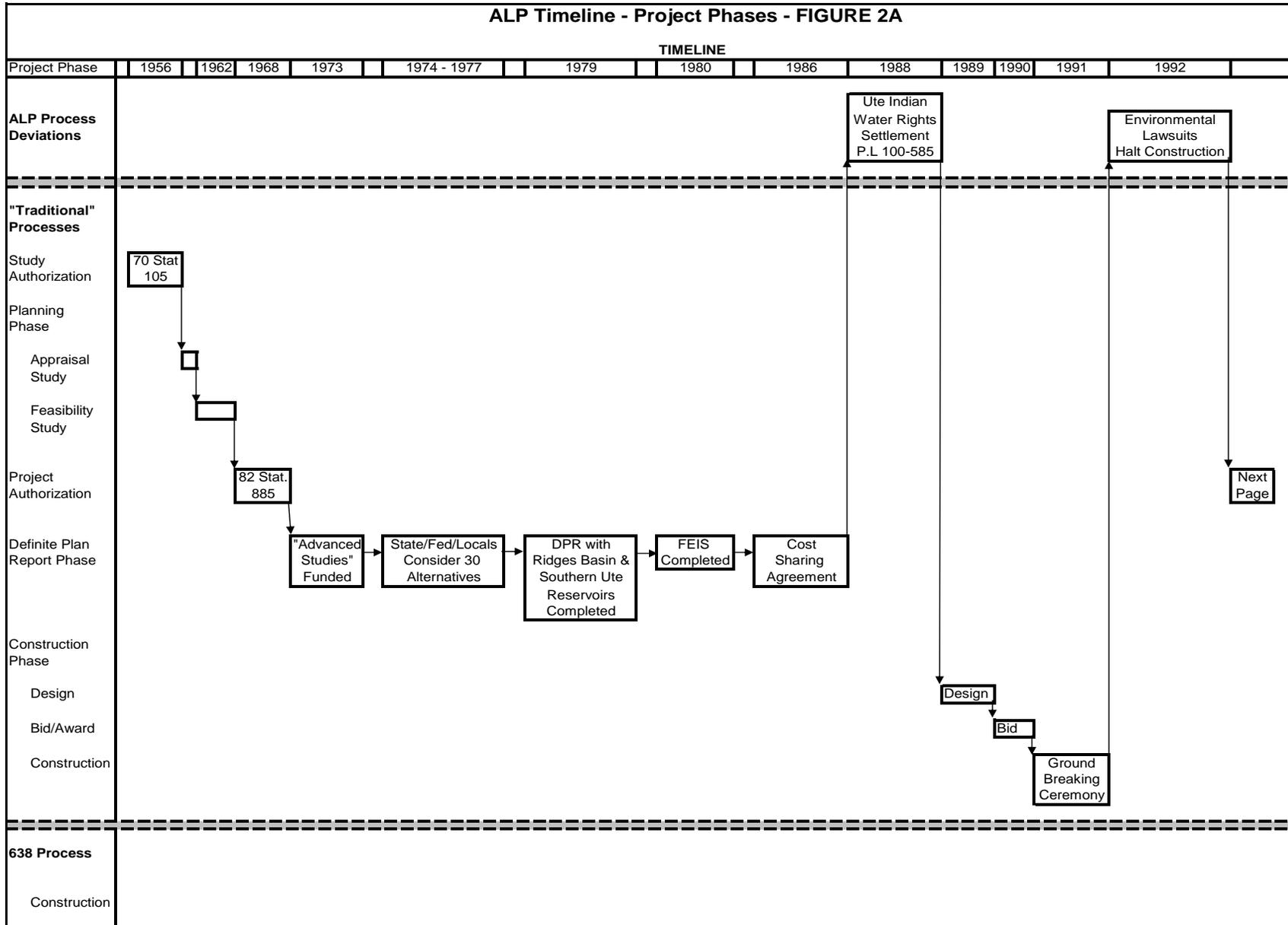
- Removed power costs from both the Contractor's proposal and the IGCE

4/ Durango Pumping Plant, Stage 2 scope also includes 2 more schedules (3 & 4) which is work to a "major subcontractor" and is currently in a competitive procurement process and amounts have not to date been finalized.

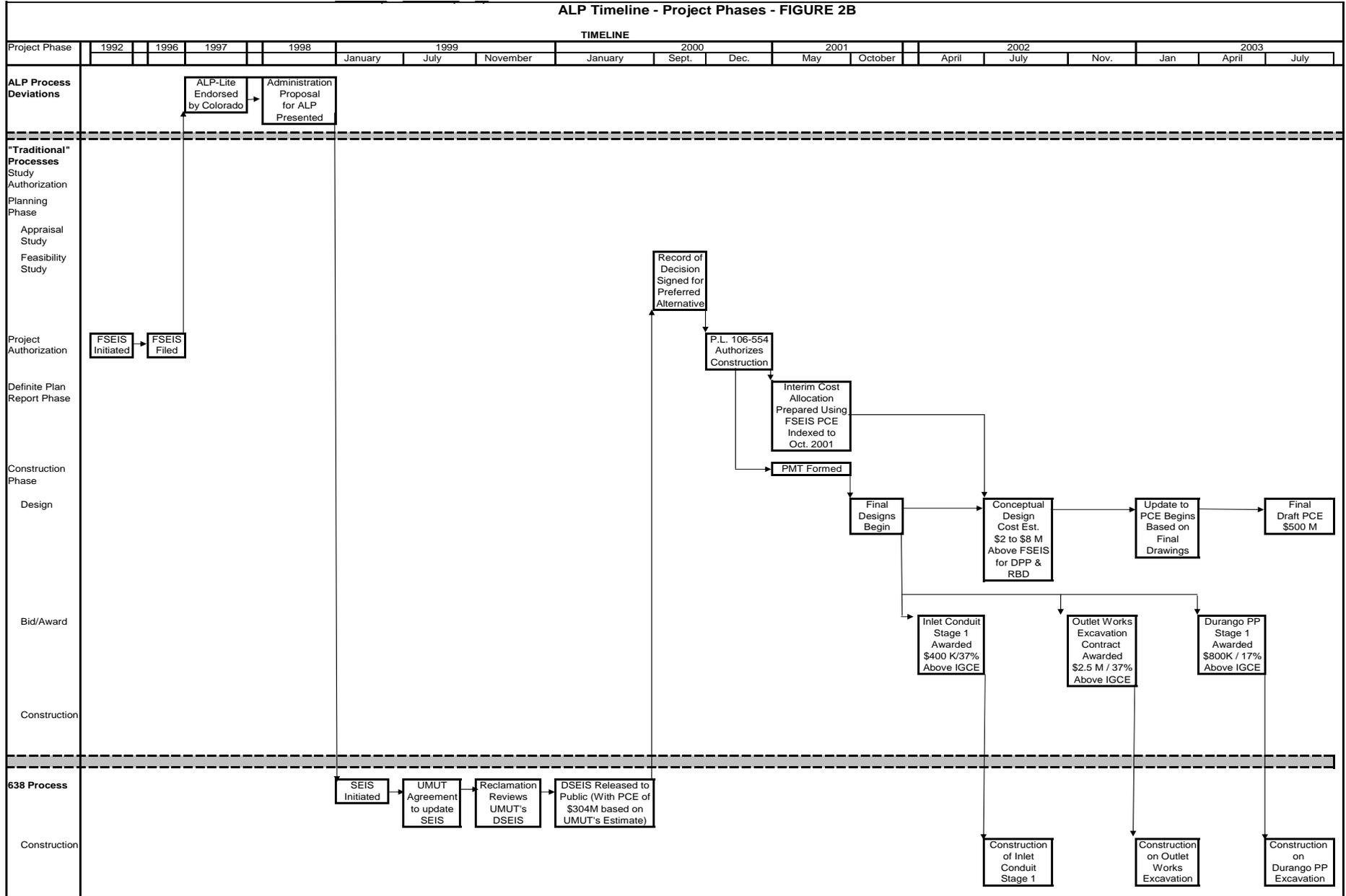
5/ This amount reflects Reclamation's initial (minimum) position developed following an analysis of the IGCE & a technical analysis of WCA's original proposal by the Contracting Officer. This amount also reflects adjustments in scope made to the original IGCE due to many discussions with WCA, Design, and Const. Mgmt. staffs.

APPENDIX 7

ANIMAS-LA PLATA TIMELINE – PROJECT PHASES



ALP Timeline - Project Phases - FIGURE 2B



APPENDIX 8

ABBREVIATIONS AND ACRONYMS

Abbreviations and Acronyms

ALP	Animas-La Plata Project
DPP	Durango Pumping Plant
DSEIS	Draft Supplemental Environmental Impact Statement
EDF	Estimating Difference Factor
EIS	Environmental Impact Statement
FAR	Federal Acquisition Regulations
FEIS	Final Environmental Impact Statement
FSEIS	Final Supplemental Environmental Impact Statement
FWS	U.S. Fish and Wildlife Service
IGCE	Independent Government Cost Estimate
ISDEA or 638	Indian Self-Determination and Education Assistance Act
M&I	Municipal and Industrial
NEPA	National Environmental Policy Act
NNMP	Navajo Nation Municipal Pipeline
O&M	Operations and Maintenance
OMB	Office of Management and Budget
PCE	Project Cost Estimate
P.L.	Public Law
PMT	Project Management Team
Project	Animas- La Plata Project
SEIS	Supplemental Environmental Impact Statement
SOW	Statement of Work
SUIT	Southern Ute Indian Tribe
TSC	Technical Service Center
UC	Upper Colorado
UMUT	Ute Mountain Ute Tribe
Western	Western Area Power Administration