Report and Recommendations Of the Klamath Basin Task Force To Senators Wyden and Merkley, Congressman Walden, and Governor Kitzhaber

February 2014

Summary of Findings and Recommendations

In early July of 2013, Senators Wyden and Merkley, Congressman Walden, and Governor Kitzhaber convened the Klamath Basin Task Force "to resolve the water, power and other resource management issues in the Klamath River Basin…" They asked the Task Force to address three issues:

1. Develop a proposed resolution of remaining water management issues in the upper Klamath Basin.

2. Address outstanding power issues for the Klamath Reclamation Project and the Upper Basin irrigators.

3. Reduce the Federal costs of achieving long-term sustainability in the Klamath Basin.

This introductory section summarizes the Task Force's findings, and its recommendations for Federal legislation. The sections following the introduction provide more detail on each issue.

Upper Basin Water Management

Findings:

- The Klamath Basin Restoration Agreement (KBRA) resolved some, but not all, water use issues in the basin. In particular, Section 16 of the KBRA anticipated an Off-Project Water Agreement between off-project irrigators and the Klamath Tribes and provided a framework for such an agreement. However, efforts to reach such an agreement had not succeeded at the time the KBRA was signed.

- In March of 2013, the State of Oregon completed the administrative phase of the Klamath Basin (water) Adjudication. The adjudication was carried out for the purposes of determining pre-1909 water rights, as well as Federal reserved water rights. The adjudication confirmed most water right claims, including many of those made by the Klamath Tribes, the United States and the Klamath Reclamation Project. Until the administrative phase of the adjudication was completed, the State did not regulate water usage in favor of the claims.

- Low snow pack and rainfall in the winter and spring of 2013 led to low stream flows later in the year. In May, Governor Kitzhaber issued a drought declaration for Klamath County. In early June, the Klamath Project, the United States, and the Klamath Tribes all requested that water rights be regulated to protect senior water rights for the Klamath Reclamation Project and for the Klamath Tribes.

- The Klamath Reclamation Project continued to receive water during the irrigation season in part because of the agreements contained in the KBRA between the Project water users and the Klamath Tribes. While water delivery to the Project was reduced as a result of the drought, owing to a combination of factors, overall agricultural production was not significantly affected.

- In the upper Klamath basin (above Upper Klamath Lake), however, surface water uses were shut down beginning in June in order to protect senior water rights. As a result, agricultural production in the upper Klamath basin was reduced significantly.

- The Water Working Group, a sub-group of the Task Force, negotiated an Agreement in Principle (AIP) that contains a detailed framework for resolving water, land management and economic development issues in the upper Klamath basin. The AIP is expected to be the basis for a final agreement, following input from affected communities.

Recommendations:

- Federal authorizing legislation for the Klamath should include authority to implement and fund as applicable all elements of the Water Use Program and the Riparian Restoration and Management Program described in the AIP, including:

    - Funding and authorization for the interim Water Use Program;

    - Authorization for appropriate federal agencies to participate in all appropriate aspects of the Final Upper Basin Water Agreement; and
    - Resolution of certain Federal and tribal water right claims and contests in the Klamath Basin Adjudication.

- The U.S. Department of Agriculture, including the Forest Service and the Natural Resources Conservation Service, and the National Oceanic and Atmospheric Administration (NOAA), should participate in the Final Upper Basin Water Agreement.

Power Issues

Findings:

- Sustainable agriculture within the Klamath Reclamation Project and in the Off-Project area depends on affordable power as well as predictable levels of water supply. Unlike most other Bureau of Reclamation projects, the Klamath Reclamation Project does not have a source of federal power. Past contractual arrangements provided lower cost power On- and Off-Project, but those agreements have expired. Replacing those arrangements with new means to provide affordable power is critical to the economic sustainability of both the On-Project irrigators and the Off-Project irrigators and meeting purposes specified in Section 17.1 of the KBRA.

- Recognizing the importance of affordable power rates, the KBRA includes, as a critical element, a Power for Water Management Program. The Program consists of three elements, each intended to help achieve the outcome of predictable, affordable power rates. The three elements are:

    - An Interim Power Program designed to provide lower cost power while permanent programs are put in place;
    - A Federal Power Program designed to provide lower cost power from the Bonneville Power Administration (BPA) and the Western Area Power Administration (WAPA) to the Bureau of Reclamation for delivery in both the Project and (for BPA power) the Off-Project area; and
    - A Renewable Power Program designed to provide stable power costs through the development of renewable generation for Klamath irrigators (again, including both the On- and Off-Project Areas).

- Federal legislation is required to fully implement all three Programs, both in terms of new authorizations and in terms of appropriations.

- For the Federal Power Program, Federal legislation is required to authorize the Bureau of Reclamation to acquire Federal power for use by Off-Project irrigators. There is a deadline for requests for this power that is unlikely to be met unless Federal legislation is passed soon. There may be another opportunity after this date for Reclamation acquire BPA power to serve Off-Project irrigators, but that power is obtained by BPA at whatever the wholesale market price is at the time and is almost certain to be considerably more expensive than BPA Tier 1 power..

- The Bureau of Reclamation has existing authority to acquire federally-generated power (from BPA and Western Area Power Administration) for distribution and delivery (by PacifiCorp) to Klamath Reclamation and On-Project irrigation loads. However, initial estimates of the cost of that power as delivered indicate that the cost savings to irrigators are unlikely to be as large as were estimated during the development of the KBRA.

- The Federal Power Delivery Workgroup has developed a work plan and has begun implementing the tasks necessary for Reclamation to purchase power from BPA. These steps include a determination as to whether the power provided by BPA is likely to reduce Klamath irrigators' power costs significantly relative to current and projected rates without such an arrangement. At the same time, the Bureau of Reclamation is undertaking a comprehensive review of the most effective means of serving both On-Project and Off-Project loads. That review will examine multiple options, including conservation and efficiency, as well as new renewable generation. Together, these steps will be key in determining the future direction of the Power Program.

- One potential form of renewable generation to be examined in more detail is the development of solar generation systems to serve Klamath irrigation loads. Included in this examination will be an evaluation of the use of the State of Oregon's net metering rules, which provide bill credits set at the utility retail rate for excess power generated by such systems.

- Regardless of what methods or combinations of methods are used to return power costs to sustainable levels consistent with the KBRA, affordable power rates remain an essential element of the overall Klamath agreements

Recommendations:

- Federal authorizing legislation for the Klamath Settlement Agreements should include authority to implement and fund as applicable all elements of the Power for Water Management Program, including:
    - The interim power program;
    - The renewable resource program (including conservation and efficiency);
    - Authority for Reclamation to serve Off-Project irrigators with low-cost electricity purchased from Bonneville; and
    - Authority for appropriate Federal agencies to participate in other means of achieving lower-cost power for On and Off-Project irrigators.

- The authorization should include flexibility so as to not preclude realization of equivalent net power cost outcomes that are contemplated in the KBRA Power for Water Management Program by alternative means.

Reducing Federal Costs

Findings:

- The new Federal authorizations for appropriations to implement the Klamath agreements total $250 million in 2014 dollars.

Recommendations:

- The Federal legislation should include only the new authorities and the new authorizations for appropriations that are needed to implement the Klamath Basin Agreements.

- The authorizing legislation should confirm that authorization for appropriation already exists for all but the specified line items in Appendix A [Federal Authorities memorandum and table] of this report. A comparable approach was used in Public Law 108-361, the CalFed Bay-Delta Authorization Act. In addition, the legislative history for the authorizing legislation should confirm the existence of these authorities for appropriations. As part of this approach, the congressional committees should consult with the Federal agencies regarding their existing authorities and reflect that information in a committee report.

- The legislation should include provisions for an annual report on the progress in implementing the legislation, including a cross-cut budget

showing the funding that was requested by the Administration and from other sources, and the funding that was provided.

The Cost Review Workgroup has also conducted a review to identify additional opportunities to reduce the Federal costs of implementing the KBRA. The workgroup reviewed all of the KBRA programs and worked to identify alternative funding sources that could reduce the need for new Federal funding. The results of this review are described later in this report.

Background

On July 3, 2013, Senators Wyden and Merkley, Congressman Walden, and Governor Kitzhaber convened the Klamath Basin Task Force "to resolve the water, power and other resource management issues in the Klamath River Basin…" The letter to the Task Force participants states in part:

> The current crises in the Basin require immediate attention, leadership, and constructive efforts of us all. Although the Basin has faced many of these challenges for some time, it is clear that now is the time to move for a comprehensive and lasting solution that protects the vast natural resources of the basin, while also providing the stability and certainty needed for the region's economy to continue to thrive.
>
> It is our expectation that the task force will work to address three tasks:
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> 1. Develop a settlement of water management issues in the upper Klamath Basin that results in:
> - At least 30,000 acre feet of increased water inflows into Upper Klamath Lake through a voluntary program to idle water usage;
> - Permanent resolution and protection of significant riparian areas in the Wood, Sprague, and Williamson basins, as well as other tributaries to Upper Klamath Lake, sufficient to produce the water quality and habitat improvement needed for fisheries; and
> - Regulatory assurances for water and land uses in the Upper Basin, both in terms of a negotiated settlement of the exercise of state water rights, and Federal Endangered Species Act (ESA) and Clean Water Act (CWA) compliance.
>
> 2. Work to address outstanding power issues for the Klamath Basin Project and the Upper Basin irrigators:
> - It is crucial that an affordable and certain power supply is attained for both on project and off project irrigators.

3. Work to reduce the Federal Costs:
    - We want the task force to review specific ideas for reducing the costs to the Federal government of the overall package of Klamath Basin measures. This will require input from both Upper and Lower Basin participants.

The outcomes we seek are sustainable fisheries and a sustainable level of farming and ranching in the Upper Basin, as well as power rate arrangements needed to maintain the on-project and off-project farming and ranching operations and support the ranching and farming families that are key to the area's economy.

We expect the task force to build on the good work that has already been completed, and the agreements that have been reached by many of the parties involved. Your task is to develop recommendations on the remaining set of issues in the Basin.

When the task force completes its work and reaches consensus, the Members of the Oregon delegation will use the group's recommendations as a basis for developing legislation to authorize those portions of the agreement that require Federal legislation. At that time, we will ask that all stakeholders support these legislative efforts.

The Task Force also established four workgroups; their efforts are described in this report. The Klamath Basin Task Force has held five meetings in Klamath Falls, Medford, and Ashland, Oregon. A list of the Task Force members is attached as Appendix B. These meetings have been open to the public and all materials have been posted on the Oregon Governor's Natural Resource Office website. For more information on the Task Force please see: http://www.oregon.gov/gov/GNRO/Pages/index.aspx

The Task Force did not address other water and land management issues in the Klamath Basin that are important to some members of the Task Force. These matters were outside the scope of the Task Force.

Upper Basin Water Management

The three primary tributaries to Upper Klamath Lake (the Wood, the Williamson, and the Sprague Rivers) serve as the main sources of water for fisheries in the upper portion of the basin, while also supporting several hundred farming and ranching operations. According to the Oregon Water Resources Department

(OWRD), there are approximately 500 water right holders in the upper basin. In addition to these water rights, the Klamath Tribes and the United States claim water rights on all three tributary systems, as well as the right to maintain certain levels of Upper Klamath Lake, for instream purposes. The Klamath Reclamation Project and its water users also claim rights to water in Upper Klamath Lake for irrigation uses within the Project.

In March of 2013, OWRD completed the administrative phase of the Klamath Basin (water) Adjudication. The Adjudication confirmed most water rights claims, including many of those of the Klamath Tribes and those of the Klamath Reclamation Project. The rights confirmed for the Klamath Tribes and the United States have the earliest priority dates in the upper basin. As a result, in times of water shortage, agricultural and other uses of water are likely to be regulated so that senior rights are met. Regulation occurred in most of the upper basin in 2013, beginning in June. As a result, irrigation for many agricultural operations was shut off.

Although there have been several efforts to settle water right issues in the upper basin, none have succeeded to date. Even in the KBRA, no upper basin water settlement was included, although the agreement does contain the outlines for an Off-Project Water Agreement.

Upper Klamath Basin Agreement in Principle (AIP)

Over the past six months, irrigators in the upper basin have been meeting with the Klamath Tribes and the United States to attempt to resolve water, land and economic issues in the upper basin. The parties have reached an Agreement in Principle that is designed to accomplish four objectives.

a) To support the economic development interests of the Klamath Tribes;

b) To provide a stable, sustainable basis for the continuation of agriculture in the Upper Klamath basin;

c) To manage and restore riparian corridors along streams that flow into Upper Klamath Lake in order to achieve Proper Functioning Conditions permanently; and

d) To resolve controversies regarding certain water right claims and contests in the Oregon Klamath Basin Adjudication.

There are three main elements of the Upper Klamath Basin AIP:

1) A Water Use Program designed to reduce consumptive water use in key reaches of the tributaries to Upper Klamath Lake, as well as to increase the volume of water coming into the lake – all in return for a significant reduction in the frequency and extent of water regulation. The AIP is designed to deliver at least 30,000 acre feet of additional water into Upper Klamath Lake, and is consistent with other Klamath agreements.

2) A Riparian Restoration and Management Program designed to improve and protect riparian conditions along key reaches of the tributaries to Upper Klamath Lake; and

3) An Economic Development component designed to create employment opportunities for the Klamath Tribes, including increased opportunities for exercise of tribal cultural rights.

The Upper Klamath AIP will be developed into a final agreement following input from community members. It is expected that the Final Agreement will be completed early in 2014, so that elements requiring Federal legislation can be incorporated into a bill being developed to complete a comprehensive resolution of Klamath basin issues.

Affordable Power for Klamath Reclamation Project and Off-Project Irrigators

Water and power issues are closely linked in the Klamath Basin. Power rates for Klamath Reclamation Project and Off-Project irrigators have increased significantly since 2006 when previously-existing fixed-price contracts ended. Utility commissions in California and Oregon provided a transition to rates based on the costs PacifiCorp incurs for generation, transmission and delivery. This transition has significantly increased the costs to irrigate crops, as well as the cost to move water to wildlife refuges and from the Klamath Reclamation Project to the Klamath River for downstream fisheries. Reduction of power costs is critical to maintain efficient water management and the viability of farming and ranching families, an important part of the economy of the Upper Basin. Power costs are also key to the long-term sustainability of some of the nation's most important wildlife refuges and systems. The purposes of the Power for Water Management Program are expressed in Section 17.1 of the KBRA.

There are three elements to the Power for Water Management Program:

- An Interim Power Program to provide funding to assist Upper Klamath Basin irrigators with their power costs while the long-term program is being developed. Implementation of this program for both Reclamation Project and Off-Project irrigators requires Federal legislation.

- A long-term Renewable Power Program to develop renewable resources that would provide benefits to assist with future power costs and strengthen the local economy. This aspect of the Program could include consideration of conservation and efficiency measures, as well as a variety of types of renewable generation including wind, solar, biomass and geothermal which would likely provide revenues to partially offset power costs. Some forms of renewable generation could be distributed (including on-farm systems). Implementation of this program for both Reclamation Project and Off-Project irrigators also requires Federal legislation.

- A Federal Power Program to provide lower-cost federally-generated power to On-Project and Off-Project irrigators. Under this element, Reclamation purchases electricity from the BPA and the Western Area Power Administration, and arranges for delivery through PacifiCorp's system.

The final package will be dependent on what the best options are for irrigators to realize affordable power costs through the long-term. In addition, different approaches may be best-suited for particular areas. In the end, the best solution may include a mix of Federal power, renewable generation, and conservation measures.

Affordable Power Issues

The objective of the Power for Water Management Program in the KBRA is to achieve a delivered power cost target level at or below the average cost of delivered power for similarly situated Reclamation irrigation and drainage projects in the region. Implementation of all three elements described above – or actions resulting in equivalent benefit to that assumed by the three elements – would contribute to more affordable power. The Bureau of Reclamation is beginning a detailed look at what elements would provide the largest long-term advantage in reduced power rates. Initial estimates indicate that the cost-savings from the Federal Power Program may not be as large as was estimated in 2009-2010.

Without Federal legislation, the interim and long-term programs cannot be implemented. Reclamation is currently working to purchase low-cost Federal power to serve the Klamath Reclamation Project (including the national wildlife

refuges) under existing authority. Reclamation needs new authority to purchase Federal power to serve Off-Project irrigators. However, based on current information, the timing of subscription for BPA Tier 1 power will make it difficult to access the lowest-cost Federal power for Off-Project irrigators. Higher-cost power may be available from BPA at a later time.

Delivering Federal Power

Task Force activities have focused on the Federal Power Program, recognizing that enactment of authorizing legislation is essential to be able to move forward at all with the other two elements. A Federal Power Delivery Workgroup has been meeting to develop and implement a plan to deliver Federal power to the Bureau of Reclamation. The workgroup is comprised of: the Department of the Interior, Bureau of Reclamation, Bonneville Power Administration, Western Area Power Administration, PacifiCorp, the Klamath Water Users Association, and the Klamath Water and Power Agency.

Reclamation is working with Upper Basin irrigators to assist in identifying their potential loads for the Federal Power Program. Reclamation is pursuing whether Bonneville will accept the projected Off-Project loads in the July 2014 filing based on expected passage of Federal legislation authorizing Reclamation to serve planned Off-Project loads.

The Federal Power Delivery Workgroup has developed a work plan and is implementing the tasks necessary for Reclamation to purchase power from Bonneville to serve the Oregon portion of the Project beginning in October 2015. The Workgroup is also working with Western on a work plan to serve the California portion of the Project.

One of the key tasks is to develop estimates of the cost of electricity from the Federal Power Program compared to continuing service from PacifiCorp of non-federal power. This information will be important in evaluating whether the federal power element should be a significant aspect of a long-term program, or whether other alternatives should be more actively pursued instead. Until this information and the details of the potential savings from the Interim Power Program and long-term Renewable Power Program are available, there is significant uncertainty about future costs for both Reclamation Project and Off-Project irrigators.

Under Bonneville's subscription and contracting procedures, Reclamation must determine how much power (based on load) it will buy from Bonneville and finalize a power sales contract by July 1, 2014 if it wants to take delivery of power by October 2015. That initial contract load amount is used to set what is called a

“High Water Mark”. The High Water Mark is the maximum amount of power that Reclamation can buy at Bonneville’s Tier 1 rate.

If Reclamation receives authority to serve Off-Project irrigators later than necessary to include Off-Project irrigators in setting the High Water Mark, it would be able to purchase additional power. Such additional power would be sold at Bonneville’s Tier 2 rate, which reflects Bonneville’s incremental cost to serve the load. In other words, the Tier 2 BPA rate is obtained by Bonneville at a wholesale market price. There is a significant difference in these power costs; the average cost for the Tier 1 rate is currently 3.3 cents per kilowatt hour; the average cost of the Tier 2 rate is about 4.0 cents, which also is subject to change due to market forces (these are wholesale power costs and do not include transmission, distribution, or administrative costs).

To implement the Federal Power Program, PacifiCorp will need approval from the Oregon and California public utility commissions. This approval will require a demonstration that the resulting proposed rates to deliver Federal power are fair, just and reasonable and do not shift costs to other PacifiCorp customers.

Upper Basin Power Workgroup Recommendations

The Upper Basin Power Workgroup was comprised of irrigators in the Upper Basin and representatives of the Klamath Water Users Association, Klamath Water and Power Agency, and Reclamation. The Workgroup reached consensus on one recommendation:

- Federal legislation is needed to implement the interim and long-term Power for Water Management Programs to provide affordable power to both Reclamation Project and Off-Project irrigators. Federal legislation is also need to provide Federal power to Off-Project irrigators. The Workgroup supports the enactment of this legislation.

The Upper Basin Work Group has also made administrative recommendations to broaden the interim eligibility criteria for the Federal Power Program.

Reducing Federal Costs

The Cost Review Workgroup has focused on two efforts: 1) recommendations to the congressional delegation on the new authorizations for appropriations that would be needed to implement the Klamath Basin Agreements; and 2)

identification of additional opportunities to reduce the Federal costs of implementing the Klamath Basin Agreements.

Authorizations for Appropriations

After consultation with congressional staffs and others, the Task Force recommends that the legislation should focus on the new authorities that are needed to implement the Klamath Basin Agreements. The Federal agencies identified existing laws that authorize most of the programs in the Klamath agreements. The Federal agencies also identified Klamath programs that require new authority. Although Federal legislation is required to authorize certain actions contemplated under the KHSA, potential dam removal would be funded from non-Federal sources.

Based on information provided by the federal agencies, the programs that require new authorizations for Federal appropriations are the On-Project Plan, development of the Water Use Retirement Plan, remedy for ground water impacts associated with On-Project Plan, development and implementation of the Water Use Retirement Program, the Interim Power Sustainability Program, the Energy Efficiency and Renewable Resources Program, authority for Reclamation to serve Off-Project irrigators with the Federal Power Program, authority for Reclamation to include Off-Project irrigators in the Renewable Power and Engineering Plan, the Drought Plan Restoration Agreement Fund, the Off-Project Reliance Program, and the Off-Project portion of the Interim Flow and Lake Level Program. The new authorizations for appropriations total $250 million over fifteen years in 2014 dollars Appendix C [Federal Authorities memorandum and Table].

Reducing Federal Costs

The workgroup also reviewed all of the Klamath programs to identify cost reductions and alternative funding that could reduce the need for new Federal funding. The workgroup began by reviewing the cost reductions adopted by the Klamath Basin Coordinating Council (KBCC, a group formed by KBRA parties to facilitate and implement their agreement) in 2011. Those cost reductions lowered the ten-year cost estimate for implementing the KBRA from $970 million to $647 million (in 2007 dollars); this was 33 percent reduction. The 2011 review also identified $550 million in matching funds from the states of California and Oregon and customers of PacifiCorp. These non-federally funded activities are in addition to the cost estimates for Federal funding of the KBRA. A copy of a report on those cost reductions and non-federal funding is on the KBCC website: www.klamathcouncil.org. The cost reductions and additional funding to reduce Federal funding in this report are in addition to those made in 2011.

The workgroup has adjusted all of the KBRA costs to 2014 dollars. This increased the total 2011 estimates from $647 million to $750 million for 2015 through 2024. The Cost Review Workgroup focused on ten years of costs because this is the time frame used by the Congressional Budget Office.

The Federal agencies have identified $51 million in Federal expenditures that have been made that have the effect of carrying out elements of the Klamath Basin Agreements under existing authorities and another $10 million estimated for Fiscal Year 2014. The Federal agencies have also identified ongoing Federal base program funding for actions specified in the Klamath Agreements and made estimates that anticipate future funding would be at similar levels to historical base funding; those estimates total $107 million over ten years (the ongoing base funding estimates do not include 2013 program reductions and sequestration). The workgroup identified additional reductions in the Fisheries Reintroduction Program totaling $5 million. Together, these changes reduce the total new Federal funding required by $173 million.

The Task Force has also identified several new sources of funding for the Klamath Basin Agreements that could reduce the amount needed to be appropriated to carry out the Klamath programs. These include additional funds from the states, Federal off-budget funds, and private foundation funding. Replacing Federal funding with these other sources will require further work by the KBCC.

The first new source of funding is from the State of California. If the proposed California Water Bond passes, and not all of the funding in the bond for the Klamath Basin is required for dam removal costs, the California Natural Resources Agency supports use of up to $50 million of those funds for restoration projects on the California side of the border. The second new source of funding is the State of Oregon. Oregon has committed an additional $12 million from the Oregon Watershed Enhancement Board for restoration work in Oregon through a Strategic Investment Program commitment. In addition, private foundation funding is expected to total on the order of $10 million. Together, these additional sources total approximately $72 million. Finally, Federal off-budget funds from the Reclamation water rights settlement fund, totaling approximately $50 million, have been identified by Reclamation. Due to the priority for use of the funds in the act that established the Fund and the currently anticipated demands upon the Fund, the availability of annual increments of the $50 million is not expected to begin before FY 2025 (*i.e.*, may not be available within the first ten years).

In summary, cost reductions made in 2011 brought the ten year total spending for Klamath restoration to $750 million. The additional recommended cost reductions, spending already incurred or anticipated as part of base programs, together with additional funding described above will reduce the amount of new Federal funding required to implement the Klamath Basin Agreements to $505 million in 2014 dollars; this is an additional reduction of $245 million, or 33 percent. The funds from the Reclamation water rights settlement fund would reduce other Federal costs after 2025.

These Task Force recommendations do not alter the bargained for benefits in the KBRA, including amendments adopted in 2012 that provide for additional reviews for changes that affect the Fisheries or Water Management Programs, and that clarify the roles of the tribes and other fish managers in implementing the Fisheries Program. The Task Force recommends that the KBCC incorporate these changes in a revision to the cost estimates to implement the Klamath Basin Agreements. In addition, it is recognized that the KBCC will continue to refine cost estimates on an ongoing basis, as provided in the KBRA. This may result in a degree of adjustment, up or down, in estimates of costs needed to complete any individual element, based on increased knowledge.