



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

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The Honorable Henry S. Reuss  
Chairman, Conservation and  
Natural Resources Subcommittee  
Committee on Government Operations  
House of Representatives

Dear Mr. Chairman:

As your office requested on March 29, 1974, we are reporting on the Bureau of Reclamation's cost of constructing the Garrison diversion unit, one of the matters you included in your request of November 14, 1973.

The expected increases in project cost discussed herein are issues which we believe to be material and relevant to the congressional oversight and appropriations committees in considering the Bureau of Reclamation's appropriation request for fiscal year 1975.

Our findings are tentative as we have not completed our review work. We expect to report in more detail on all the matters you requested in the near future.

INTRODUCTION

The Garrison diversion unit, a multipurpose water resources development project being constructed in North Dakota by the Bureau of Reclamation, was authorized by Public Law 89-108 enacted August 5, 1965. Under section 6 of the act, the Congress established a ceiling on appropriations for constructing the project of \$207 million, plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuations in construction costs as indicated by engineering cost indexes applicable to the types of construction involved in the project.

According to the Bureau's appropriation justification for fiscal year 1975, construction of the Garrison unit was estimated to be about 18 percent complete. The Bureau had received allotments totaling \$73.8 million through June 30, 1974, had requested \$10.6 million additional for fiscal year 1975, and had estimated the balance to complete the project at \$278.4 million. The Bureau estimated the total Federal obligations required for the Garrison unit at \$362.8 million.

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Since it was not apparent whether the \$362.8 million was within the congressional ceiling of \$207 million as indexed, we directed our review primarily at making such a determination. We also examined into the accuracy of the estimated total Federal obligations of \$362.8 million.

#### CONGRESSIONAL APPROPRIATION CEILING

Bureau instructions, issued June 21, 1973, state that, if the estimated total Federal obligations exceed the ceiling, either the project must be redesigned to place total costs within the ceiling or the Bureau must ask the Congress to increase the ceiling. In January 1974 the Bureau approved special construction cost indexes for North Dakota but had not updated the ceiling on the basis of the North Dakota indexes, nor did it include any ceiling for estimated total Federal obligations in its fiscal year 1975 appropriation justification.

We computed this ceiling at about \$380 million for fiscal year 1975 by updating the original project plan with the North Dakota cost indexes approved for the project, as provided in the Bureau's June 21, 1973, instructions. Bureau officials subsequently computed a ceiling and now agree that their ceiling is about \$380 million.

#### ACCURACY OF ESTIMATED TOTAL FEDERAL OBLIGATIONS

Bureau instructions state that the total estimated project cost is to be used to support its annual requests for construction funds and that the cost should be kept current for that purpose. For the several reasons discussed herein, we believe that the \$362.8 million estimate for total Federal obligations is not the most current available and that it probably understates the estimated cost of the Garrison unit from about \$42.1 million to about \$66.1 million. In addition, the alternatives being considered to settle the water quality dispute with Canada, if adopted, will further understate the estimated cost of the Garrison unit from \$5 million to \$31 million.

#### Inconsistent methods of computing costs

The costs of the two irrigation areas, Oakes and La Moure, to be constructed first were developed at the Bureau's Engineering and Research Center. According to Center officials, these costs are supported by actual experience in the construction area and are equivalent to the prices which were the basis for the special North Dakota construction indexes used in developing the congressional cost ceiling for the Garrison unit. Using the same bases to estimate costs and compute

the congressional ceiling is in accordance with instructions included in a letter, dated January 21, 1974, from the Director of Design and Construction at the Engineering and Research Center.

The Bureau also included a 10-percent allowance for unlisted items in the estimated costs for these two areas to compensate for the cost of items generally not included until the feature is finally designed. Inclusion of the allowance complies with the recommendation in a letter, dated March 19, 1973, from the Chief of the Division of Planning Coordination at the Engineering and Research Center. He stated that the allowance should be included in estimated project costs because experience had shown that some projects, which had excluded the allowance, had deficient cost estimates (when final designs were drawn and bids for construction received). He said that, even if the allowance caused estimated costs to exceed the authorized ceiling, it was better to recognize and face the problem in the advance planning stage than to pass it on to the construction stage.

The estimated costs of the five other irrigation areas excluded the allowance for unlisted items and were based on standard Bureau cost indexes which understated costs actually being incurred in the construction area.

We repriced the entire project, including the five areas which had not been updated on the basis of the special cost developed for North Dakota, just as the Bureau had done for the Oakes and La Moure areas, and we included the 10-percent allowance for unlisted items. This repricing increased the estimated total Federal obligations by \$61 million. Using the Engineering and Research Center's North Dakota prices increased the cost by \$39 million, and including the allowance for unlisted items increased the cost by \$22 million.

A Bureau official in the Upper Missouri region stated that estimates developed at the Engineering and Research Center had overstated the costs actually being incurred. He said that, when repriced with his estimate of North Dakota prices, the estimated cost of the entire project was reduced by about \$24 million. If the official is correct, the estimated understatement we computed would be reduced from \$61 million to \$37 million. However, we are deferring our opinion on the need for such a reduction until we have had time to analyze the supporting documentation the Bureau official gave us on May 1, 1974.

#### Land costs may be understated

Estimated land costs for the Garrison unit may be understated by about \$8 million. The actual price the Bureau paid for land during

fiscal year 1973 was \$126 an acre. This exceeds by \$43 an acre the average cost (\$83 an acre) included in the Bureau's estimate.

We have no reason to assume that the 190,000 acres yet to be purchased will cost less than the average price paid in fiscal year 1973 when the Bureau estimated the total Federal obligations. The average cost of 4,000 acres purchased in fiscal year 1974 was \$180 an acre.

Bureau officials told us that they would update land costs when they developed a local cost index for land.

Costs of project changes not shown

Total estimated Federal obligations do not show the net effect on costs of the project plan changes. For example, even though the Bureau intends to build a sprinkler irrigation system, estimated costs the Bureau included for irrigation were those for the gravity irrigation system which was originally planned. The same is essentially true for other project plan changes. The estimated cost of the items eliminated or changed was simply transferred to the replacement items.

Although the Bureau has made some detailed cost studies, such as for the changes to the sprinkler irrigation systems in the Oakes and La Moure areas and for the realignment of the New Rockford Canal, the Bureau did not include these estimated costs in its estimated total Federal obligations.

Our analysis of the comparable costs for the sprinkler irrigation systems for the Oakes-East Side and La Moure areas indicates that the sprinkler irrigation systems will cost about \$41.2 million, which is \$3.6 million less than the cost (\$44.8 million) of the gravity irrigation systems included in the original plan, as indexed for the fiscal year 1975 budget. A similar analysis indicates that the realigned New Rockford Canal will cost \$16.1 million, which is \$700,000 more than the cost (\$15.4 million) of the original plan, as indexed for the fiscal year 1975 budget.

A Bureau official said that the costs of project plan changes must be updated before the Bureau can request appropriations for construction. The Bureau has scheduled construction funds for the Oakes and La Moure irrigation systems, the New Rockford Canal, and the James River improvements for fiscal year 1976.

Costs resulting from certain requirements not shown

Certain general legislation and revised construction standards have placed on the Bureau requirements which were not included in the

originally authorized project plan. The increases in estimated costs resulting from such requirements are not included in the estimated total Federal obligations.

For example, Public Law 87-874 requires the Bureau to build necessary roads and bridges to higher standards, when applicable, to replace those taken during construction. The National Environmental Policy Act of 1969 (83 Stat. 852) requires that environmental impact statements be prepared, and the Bureau intends to make additional environmental statements which will include more information than it gave in the overall statement it issued recently. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (84 Stat. 1894) requires Federal agencies to pay expenses, losses, and certain allowances to individuals who are relocated as a result of a Federal program. Also, State and Federal antipollution laws have placed requirements on the Bureau which did not exist at the time of the Garrison unit's authorization.

The Bureau has not yet determined the increase in estimated costs resulting from the additional requirements. We noted, however, that the Bureau had incurred costs of \$3.7 million for items that had already been affected by the new requirements. Bureau officials told us they would update project costs for the additional requirements when they were able to develop a means for estimating the increase in costs for the work not yet constructed.

#### Costs of project alternatives

Estimated total Federal obligations could be greatly increased because of possible expenditures required to settle the ongoing project water quality dispute with Canada.

Bureau studies show that the project return flows to the Souris and Red Rivers, which flow into Canada, will degrade water quality in these rivers, and the Government of Canada has protested. Such degradation could result in violating the provisions of the Boundary Waters Treaty with Great Britain, signed January 11, 1909. The Bureau has devised various alternative approaches to the originally authorized plan, which will

- compensate Canada with additional fresh water,
- develop only the lands which drain into the Missouri River and Devils Lake basins, or

--direct return flows away from the Souris and Red River basins.

The Bureau said that it hoped to negotiate a settlement with Canada but that it planned to adopt one of the alternative plans if that became necessary. "Ball park" estimates of the costs of the alternative plans Bureau officials gave us are from \$5 million to \$31 million. Bureau officials acknowledged that such a change or increase in costs would probably have to be specifically authorized by the Congress.

### CONCLUSIONS

The Bureau has not followed its procedures for controlling and estimating total Federal obligations for the Garrison unit. As a result, the Bureau has probably underestimated from about \$42.1 million to about \$66.1 million the total Federal obligations to be incurred. Considering the items previously discussed, total Federal obligations could range from \$404.9 million to \$428.9 million. In either case, the \$380 million authorized ceiling, as indexed for the fiscal year 1975 budget, would be exceeded by \$24.9 million or \$48.9 million, depending on which amount is used. In addition, the alternatives being considered to settle the water quality dispute with Canada, if adopted, will further increase the estimated cost of the Garrison unit, from \$5 million to \$31 million.

Bureau instructions state that an authorized appropriation ceiling should be updated annually to serve as a control for total Federal obligations. Since the instructions state also that total project costs should show the most current information available, these costs should include

- the costs for features actually planned for construction,
- unit costs representative of costs actually incurred in the construction area and equivalent to costs on which the authorized appropriation ceiling was based,
- allowances for the cost of items not generally included until final designs are drawn, and
- increased costs for items affected by general legislation and changed construction standards.

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The Bureau should update the estimated total Federal obligations for the above costs. If estimated total Federal obligations exceed the ceiling, the Bureau should so advise the Congress promptly. Also, since the Bureau may have to adopt an alternative plan to settle the water quality dispute with Canada, the Bureau should formally tell the Congress about the dispute and its possible effect on project costs.

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We discussed the substance of the observations and conclusions with Bureau officials. However, as requested by your office, we have not obtained the Bureau's or the Department of the Interior's formal comments.

Sincerely yours,

  
Acting Comptroller General  
of the United States

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