

Shellmouth Dam upgrade: a progress report

Submitted by Tony Kettler, Project Manager

Although water supply enhancement is not needed today on the Assiniboine River, projections suggest that demand for water may outstrip supply at some point in the future. For example, the needs of existing vegetable processors, plans for potato processing plant expansion, the potential establishment of ethanol production facilities, and requirements for municipal water supply expansion could consume the currently unallocated annual water supply of 20,000 acre-feet.

Planning for the future on the Assiniboine River will help position Manitoba to capture economic growth in the agricultural sector. Enhanced Assiniboine River water management would help ensure healthy river flows to maintain water quality, support aquatic life, and provide flood protection.

Currently, Ottawa and the Province

of Manitoba are working in partnership to review past studies and environmental issues related to management of the Assiniboine River. The goal is to determine whether upgrading Shellmouth Dam is the best option to secure an adequate supply of river water for the future.

The \$8 million *Canada-Manitoba Shellmouth Dam Consolidation Agreement* was signed in January, 2003. The agreement objectives are to provide compensation to upstream land owners in Saskatchewan, to acquire additional upstream land in Saskatchewan, to study downstream impacts in Manitoba, and to upgrade the Shellmouth Dam (Lake of the Prairies).

Compensation is being paid upstream in Saskatchewan on lost income to farmers due to seeding delays as a result of reservoir operations. A compensation package is being implemented with

respect to past damages, and land control is being obtained to preclude future claims.

Downstream impacts in Manitoba as a result of Shellmouth Dam operations – particularly along the reach of river from the dam to Provincial Trunk Highway (PTH) 16 – are being studied in detail under this agreement. Costs for mitigation are also being factored into the study. During preliminary investigations, residents recommended that study of downstream impacts should extend beyond PTH 16.

In regards to the dam itself, the current proposal calls for the addition of gates to the crest of the spillway to enhance downstream water supply and flood control. Over the past several decades, many options for enhancement of Assiniboine River water management have been studied, including the merits of adding gates to the dam. While it initially appears that adding gates to improve operational flexibility may be the best option, a final decision will be based on the current federal-provincial review.

If adding gates to the spillway crest is selected as the best option, the reservoir would have to be operated at higher levels (possibly up to six feet higher for summer target levels) to improve water supply potential. As part of the study, a range of operating scenarios and potential impacts are being reviewed.

One of the project management team's first steps was to engage in public consultation – to explain the project development process and to gauge public concern. Broad follow-up consultations will take place during the detailed environmental assessment phase of the project. The environmental assessment process includes provision for public input through formal hearings.

The project is likely to require both federal and provincial approvals. A project description was prepared and submitted to federal and provincial authorities for determination of the environmental assessment process. It is anticipated that a detailed environmental impact assessment will be required.

The funding agreement calls for the

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project to be completed by March 31, 2006.

Shellmouth Dam was constructed in the late 1960s to provide flood protection and water supply on the Assiniboine River. The dam is located about 19 kilometres northwest of Russell at the confluence of the Assiniboine and Shell Rivers.

Construction of Shellmouth Dam was completed in 1970 by the Government of Canada. The dam is an earth-fill structure

with a reinforced concrete overflow spillway and gated low-level outlet. The low-level outlet is used for controlled release of day-to-day flows. The spillway discharges major flood flows to the Assiniboine River.

The reservoir created by the dam is known as Lake of the Prairies. It is approximately 35 miles (56 km.) long with a storage capacity of 300,000 acre feet (370,000 dam³) at the summer target operating level of 1402.5 feet (427.5 metres above sea level). The surface area of water stored in the reservoir at summer target operating level is 13,500 acres (5,500 hectares).

Further background information on specific issues such as reservoir operational strategies, environmental assessment and/or public consultation is available by visiting the project website at www.shellmouth.ca, or by contacting the project manager directly at (204) 983-3627. ♦

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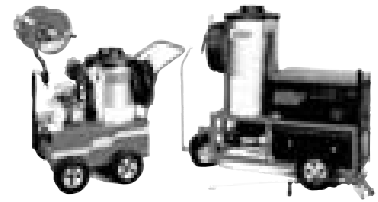


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