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MEMORANDUM

DAVE FREUDENTHAL
GOVERNOR

PATRICK T. TYRRELL
STATE ENGINEER

Date: 8/1/07

To: Interested Parties & Appropriators

From: Wyoming State Engineers Office

Re: Policy on Mitigating Evaporation from Alluvial Impoundments

The purpose of this revised policy is to assist appropriators seeking permits for impoundments in the North Platte basin who are required to mitigate for evaporation losses. In the mid 1990's, the State Engineer recognized that the North Platte and Laramie River drainages were heavily appropriated. Any water-related facility in these drainages that could not be regulated in priority is a problem. An example of this type of facility is an impoundment with an open water surface constructed in river alluvial material that would remain in place along the river after a mining operation ceased. The State Engineer is directing his staff to have the anticipated net post-1997 depletions from these types of permanent facilities mitigated or offset prior to permitting the facilities.

Appropriators must submit a mitigation plan that addresses how the post-1997 evaporation losses from the proposed or existing impoundment will be mitigated. Mitigation is required because of the physical location of the impoundment in the alluvium and the lack of an inlet or outlet structure that would allow priority administration during periods of shortage. The mitigation plan needs to address the depletions to the stream due to evaporation losses from the water surface area of the impoundment as it has or will be increased since 1997. The appropriator may be able to propose credit for the pre-disturbance conditions; i.e., evaporation and evapotranspiration from the natural alluvium area prior to the disturbance of the impoundment. For example, the pre-disturbance conditions; i.e., phreatophytes present, wetlands, or agricultural lands, can be compared to annual water consumptive use of the current or future conditions of the impoundment to determine the net depletion effects that must be mitigated. The timing and the quantity of any net depletion need to be equivalently offset, as much as reasonably possible, by the proposed alternative.

If the impoundment is not reclaimed or filled in back to its 1997 water surface area conditions, the possible mitigation alternatives are:

- 1) Retiring an active existing water use that has historically depleted water in the same quantity and at a similar time as the net depletions from the expanded or new impoundment. There may be existing irrigated agricultural lands, municipal, industrial or other uses with active water rights in the area near, or on the lands inundated under the impoundment, that could be retired. This may require the purchase of existing water rights and the subsequent change in use and place of use of those water rights to evaporation mitigation at the impoundment location. The Wyoming Board of Control (BOC) must approve proposed changes to water rights at one of its quarterly meetings. Example BOC petition documents can be requested.
- 2) Acquiring permanent storage water available for release to offset the evaporation depletion, such as from an existing reservoir located upstream from the impoundment. (Note: temporary transfers are not acceptable as a permanent mitigation method.)
- 3) Delivery of new water to the North Platte River system; such as imported water or non-hydrologically-connected groundwater. This depletion replacement or offset needs to correlate in terms of quantity and timing with the evaporation losses from the impoundment.

Please call the Surface Water Division about further information regarding this policy, 307.777.6475.