Annex R

Other River Structures Modification Plan

Annex R: Other River Structures Modification Plan

R.1 General

The Modification Plan for several water intake and effluent structures that are not appropriately included in other annexes is described in this annex. They are all privately owned or municipally owned structures. It should be noted that the modifications proposed herein are non-Federal modifications and it is unknown at this time whether Congress will fund them. The water intake and effluent structures are:

Atlas Water Intake

Clarkston Golf Course Water Intake

Lewiston Golf Course Water Intake

Asotin Sewage Outfall

Clarkston Sewage Outfall

Lewiston Sewage Outfall

Water intakes for municipal water supply are supplied by sources not directly impacted by drawdown. Surface water intakes are located upstream of the Lower Granite pool on the Clearwater River or utilize groundwater from wells.

R.2 Atlas Sand and Rock Water Intake

Atlas Sand and Rock produces a variety of rock products for concrete, asphalt, and other construction applications. Water is utilized for a variety of process and housekeeping uses including, aggregate washing, dust control, and equipment maintenance. Water for non-potable use is pumped from the Snake River using a single 100 hp vertical turbine pump having a peak capacity of 1,050 gpm.

Drawdown of the Lower Granite Reservoir will result in a seasonal varying water surface elevation. A system and facility was conceived as one option to provide a reliable water supply. This system is a moveable system that allows the pump to be located as necessary to accommodate a changing river level as well as repositioning the intake in the event that sediment accumulation creates problems.

The system is a trailer mounted pump with a flexible suction intake. The facility includes extension of supply pipe, electrical service, and a storage building to house the electrical panels, spare equipment, and maintenance items.

R.3 Clarkston Golf Course Water Intake

The Clarkston City Golf Course is an 18-hole facility owned and operated by the City of Clarkston. Water is utilized for irrigation of certain areas of the golf course. Water for this use is pumped from the Snake River using a single 10 hp centrifugal pump having a peak capacity of approximately 100 gpm.

Drawdown of the Lower Granite Reservoir will result in a seasonal varying water surface elevation. A system and facility was conceived as one option to provide a reliable water supply. This system is a

moveable system that allows the pump to be located as necessary to accommodate a changing river level as well as repositioning the intake in the event that sediment accumulation creates problems.

The system is a trailer mounted pump with a flexible suction intake. The facility includes extension of supply pipe, electrical service, and a storage building to house the electrical panels, spare equipment, and maintenance items.

R.4 Lewiston Golf Course Water Intake

The Lewiston City Golf Course is an 18-hole facility owned and operated by the City of Lewiston. Water is utilized for irrigation of certain areas of the golf course. Water for this use is pumped from the Snake River using a single 60 hp centrifugal pump having a peak capacity of approximately 450 gpm.

Drawdown of the Lower Granite Reservoir will result in a seasonal varying water surface elevation. A system and facility was conceived as one option to provide a reliable water supply. This system is a moveable system that allows the pump to be located as necessary to accommodate a changing river level as well as repositioning the intake in the event that sediment accumulation creates problems.

The system is a trailer mounted pump with a flexible suction intake. The facility includes extension of supply pipe, electrical service, and a storage building to house the electrical panels, spare equipment, and maintenance items.

R.5 Asotin Sewage Outfall

The City of Asotin wastewater treatment plant discharges treated water into the Snake River at approximately river mile 145. Outfall pipe modifications performed in 1975 provide a new outfall line and diffuser discharge. Diffuser port elevations are approximately 721 feet. Drawdown water surface elevations are estimated to range between 730 feet and 756 feet for flows between 566 m^3/s (20,000 cfs) and 9,000 m^3/s (320,000 cfs), respectively. It is not anticipated that possible future drawdown of the Lower Granite reservoir will require any physical changes to the diffuser configuration or orientation. No system or process costs were estimated for this facility.

R.6 Clarkston Sewage Outfall

The City of Clarkston wastewater treatment plant discharges treated wastewater into the Snake River at approximately river mile 138. Outfall pipe modifications performed in 1997 replaced the 12-inch outfall pipe with a 16-inch outfall pipe and extended the outfall diffuser over 500 feet. The resulting location of the diffuser is in the original channel of the Snake River. Diffuser port elevations are approximately 697 feet. Drawdown water surface elevations are estimated to range between 708 feet and 729 feet for flows between 566 m^3/s (20,000 cfs) and 9,000 m^3/s (320,000 cfs), respectively. It is not anticipated that possible future drawdown of the Lower Granite reservoir will require any physical changes to the diffuser configuration or orientation. No system or process costs were estimated for this facility.

R.7 Lewiston Sewage Outfall

The City of Lewiston wastewater treatment plant discharges treated waste water into the Clearwater River at approximately river mile 1. This location is approximately 1 mile upstream from the Clearwater River confluence with the Snake River. The effluent diffuser consists of a buried 914-millimeter (36-inch) diameter pipe that extends approximately 40 feet into the river. The invert elevation of the pipeline

is 703 feet. The diffuser section is a series of gradually smaller concrete-encased pipe sections ranging from 889 millimeters to 610 millimeters (35 inches to 24 inches) in diameter that further extend into the river. The 14 diffuser ports are spaced at 2-meter (8-foot) intervals at elevation 707 feet (est.). Drawdown water surface elevations are estimated to range between 712 feet and 735 feet for flows between 566 m^3/s (20,000 cfs) and 9,000 m^3/s (320,000 cfs), respectively. Several facility modifications are currently under consideration to improve the dilution zone conditions for current reservoir operation. Further studies are necessary to determine whether a natural river operation would necessitate diffuser modifications.