OFFICIAL COORDINATION REQUEST
FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

Coordination Title: 12MCN 004 McNary WA ladder – WASCO PUD emergency diffuser tower repair
COORDINATION DATE- April 4, 2012
PROJECT- McNary Lock and Dam

RESPONSE DATE- April 6, 2012

Description of the problem: Two diffuser tubes in the Washington fish ladder emergency backup diffuser tower were recently discovered to be loose, with several missing bolts. These tubes need to be repaired immediately, because these two diffuser tubes could cause considerable damage were they to break loose while the diffusers were in emergency operation. The two diffusers only operate under emergency conditions, when the Wasco PUD turbine, which normally supplies the attraction water, is forced to shut down due to overload or mechanical problems. Each tube is held by 8 bolts; two diffusers are down to one bolt, so they could break loose at any time. Wasco PUD, which operates the small auxiliary turbine, is in charge of the emergency diffuser tower, and is preparing to bring in a crane to assist with the repairs. They just need to disable the emergency diffuser system, for worker safety reasons, place scaffolding, reposition each loose diffuser, and bolt each one in place with 4 bolts at each end.

The emergency diffuser tower is only in service while the Wasco PUD turbine is shut down, due to an overload problem or for mechanical reasons. Such shutdowns are rare and are unlikely to happen during the few hours it will take to conduct the repairs. However, should the turbine unit suffer a forced shut down, we would not be able to use the emergency diffuser tower for a few hours, so there would be no auxiliary attraction flow to the Washington ladder in such an emergency event. We would still have substantial gravity flow from the ladder exit in the forebay. The emergency diffuser tower would only supply attraction flow to the diffuser gratings, which begin near the tailwater level.

This repair is critical, and failing to complete it would threaten the integrity of the entire diffuser system, because we could have one or two 1000 pound metal “bobbers” bouncing around loose in the diffuser chamber.

Type of outage required: Temporary disablement of the Washington ladder emergency diffuser system. The primary diffuser (the Wasco PUD turbine system) would continue to operate, unless an emergency shutdown occurred. However, for safety reasons, the Washington ladder emergency diffusers would be disabled for several hours in order to avoid the possibility of injuring the workers while they are in the diffusion chamber, should the Wasco PUD auxiliary turbine be forced to shut down due to an overload or a mechanical problem. Such shutdowns are very rare.

Impact on facility operation: None, unless the Wasco PUD turbine is forced into an emergency shutdown during the few hours that the diffuser system is being repaired. In that case, we would lose some of the attraction water flow to the tailwater section of the Washington ladder.

Length of time for repairs: Less than one day. Due to safety reasons, this work should not be performed at night, so it is best to start the work at first light.

Expected impacts on fish passage: None, unless there is an emergency shutdown of the Wasco PUD turbine. In that case, we would lose auxiliary attraction flow to the Washington ladder for a few hours. Even then, the exit (forebay gravity) flow would still supply the ladder. Only the tailwater level attraction flow would be reduced. Furthermore, the Washington ladder only handles about ¼ of the adult passage over McNary Dam. According to the Columbia River Data Access in Real Time (DART) website (http://www.cbr.washington.edu/dart/), passage for adult steelhead begins to pick up in mid-April and declines around July. Chinook passage does not begin to increase until mid-May and begins to decline in August. Adult sockeye and coho passage are not an issue this time of year. However, it would be unwise to delay this repair, as it is probably unsafe to operate this emergency bypass in its present precarious condition. Diel passage charts suggest that we could reduce the possibility of adverse impacts from an emergency shutdown by conducting the work at night, but this is a somewhat hazardous operation using a large crane, a manbasket, other power equipment and scaffolding, so it would neither be safe nor wise to attempt to perform this work at night.

Comments from agencies:

-----Original Message-----
From: Kiefer,Russell [mailto:russ.kiefer@idfg.idaho.gov]
Sent: Thursday, April 05, 2012 7:46 AM
To: Moody, Gregory P NWW
Subject: RE: FPOM Coordination: MCN Wa ladder WASCO PUD (UNCLASSIFIED)

Greg,

We have no objections!
Russ

-----Original Message-----
From: Dugger, Carl R NWW
Sent: Thursday, April 05, 2012 7:53 AM
To: Moody, Gregory P NWW
Cc: Roberts, Timothy J NWW; Johnson, Bobby NWW
Subject: RE: Revised Coordination Request (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

April 11.

- Carl

-----Original Message-----
From: Moody, Gregory P NWW
Sent: Wednesday, April 04, 2012 3:31 PM
To: Dugger, Carl R NWW
Cc: Roberts, Timothy J NWW; Johnson, Bobby NWW
Subject: RE: Revised Coordination Request (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Date(s) scheduled for repairs? I see a response date of 6 April.

Final results:

Thank you,

Carl R. Dugger
Supervisory Fisheries Biologist
McNary Lock and Dam