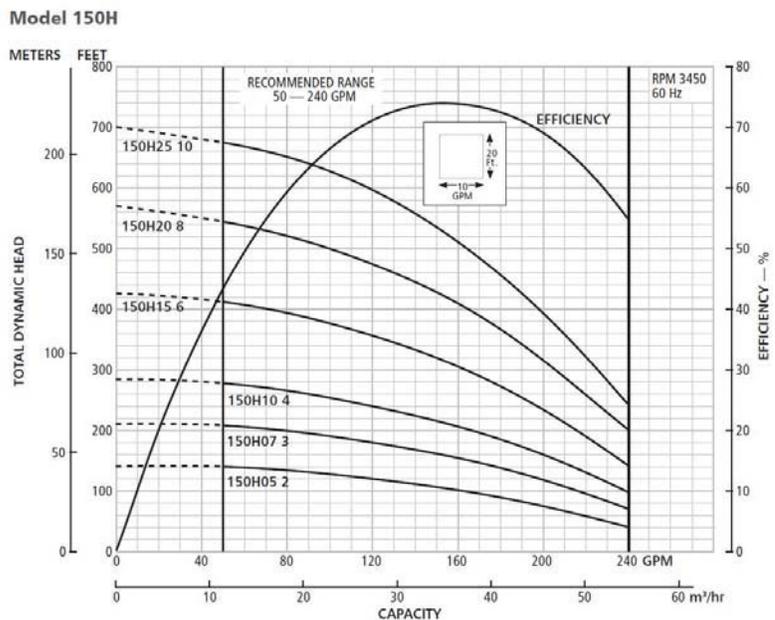


To: Sean Tackley (USACE Portland District)
 From: Ralph Budwig (UI Boise, CER)
 Date: May 23, 2013
 Subject: Bonneville LPS pumps and pump installation

1. Photo and specifications of pump

There are two identical pumps with one being a backup to the other. The pumps are wired and plumbed independently. Only one pump will be operated at a time. Each pump is a Gould submersible pump, Model 150H05-2. A photo of the pump and the pump curve are shown below. The pump is driven by a 5 hp, three phase, 460 volt motor. For the temporary configuration only one pump will be deployed with the backup pump being stored on site and ready to deploy.



2. Pump intake with screening.

The pumps are shrouded with 8 inch diameter PVC pipe. A photo of the pump shrouds used at John Day Dam is shown to the right. You can see the bottom of the pump motor casing through the bottom opening of the shroud. Water is drawn into the annular gap between the PVC pipe and the pump motor casing. This is required for proper cooling of the pump motor. For Bonneville the pump shroud will be extended two feet beyond the bottom of the motor. The wall of the two foot extension will have 49 three inch diameter holes drilled in it and will be entirely covered with stainless steel wire mesh with opening size of 0.088 inches. In addition, the bottom opening of the shroud will be covered with the same wire mesh. Water will be drawn in through the bottom opening and through the three inch holes – all covered with wire mesh. A photo of the pump shroud with screening is shown on the next page





3. Pump Installation.

We plan to arrive to Bonneville Dam early on May 29. The pump will be installed next to the NOAA davit on the West wall of the fish ladder. We will assemble the pump and flexible pipe on the deck, deploy a cable with anchor from the deck to tailrace bottom, install a new davit on the deck, lower the pump and pipe down the anchor cable with the new davit (no support required). This should be a quiet operation - moving pump and pipe by hand and using hand tools to do the assembly. We will need to install four anchor bolts to the deck to secure the pedestal for the new davit. The pump and pipe will be secured laterally by the anchor cable and vertically by the davit cable. The remainder of the work will be done on afternoon of May 29 and on May 30 (plumbing and electrical at deck level) with hand tools and should be quiet.