

Subject: Status of SonTek/YSI River Surveyor M9 and S5 ARRA orders and evaluations of the M9 and the TRDI RiverRay ADCPs
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Date: Mon, 1 Feb 2010 15:23:21 -0500
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It has come to the attention of the Office of Surface Water (OSW) that there have been numerous inquiries regarding (1) the status of the SonTek/YSI RiverSurveyor M9 and S5 orders placed with HIF under the ARRA funding and (2) the ongoing evaluation of the RiverSurveyor M9 and Teledyne RD Instruments (TRDI) RiverRay ADCPs. This email provides an update on procurement status of the RiverSurveyor and an update on OSW testing of both ADCPs.

Thirty-two RiverSurveyors were requested from HIF when WSC's placed their orders for streamgaging equipment under the ARRA program. For a number of reasons, the procurement actions necessary to purchase those instruments have been delayed. HIF is actively working with the ER Contracts and Acquisitions Branch to move this procurement forward. Many of you have received the tethered boats for the RiverSurveyors because they were ordered separately under a different contract. We want to emphasize that the delay in delivery of the RiverSurveyors is a contractual delay and not related to technical issues.

The OSW has collected 25 comparison measurements with RiverSurveyor M9, to date. Testing results prior to July 2009 were all favorable. In July 2009, a severe directional bias was discovered at very low velocities (approximately 1 cm/s). The problem was reported to SonTek and they acknowledged the issue and began working on a resolution. They have subsequently identified the source of the problem as a change in a manufacturing procedure that resulted in improper tuning of the receive filters in the ADCP. Because earlier comparison data were collected with prototype instruments prepared (calibrated and tuned using the original process) by SonTek/YSI's engineering group this problem was not present in early comparisons. SonTek/YSI has corrected the manufacturing problem and added an additional test/calibration procedure to improve the accuracy of the narrowband incoherent data at low velocities. The OSW has only been able to complete limited testing since the fix has been implemented but has seen improvement in the data at very low velocities. Additional testing is planned. In addition, SonTek/YSI is continuing to work to further improve the performance of the instrument in extremely low velocity environments.

Teledyne RD Instruments (TRDI) has introduced a new ADCP called the RiverRay. This instrument was not included as an option for ARRA funding because TRDI had not announced the RiverRay as an official product at that time. The OSW has been testing the RiverRay for more than a year and has provided feedback to TRDI. As a result of these tests, changes to both firmware and software have been made. Overall, test results were generally favorable with changes being reasonably minor. Currently, OSW is waiting on a revised firmware version to resume testing.

It is important to realize that it is imperative that OSW and WSC's engage in thorough quality assurance testing of the instruments that we use in our

data collection programs. We continue to place a high emphasis on testing these new instruments. We value your input and will do our best to provide further updates as warranted. In the meantime, if you have questions about the procurement status for the RiverSurveyor M9 and S5's, please contact Frank Henry (228-688-3304 - fshenry@usgs.gov). If you have questions about the testing program and current status of OSW testing, please contact Kevin Oberg (217-328-9739 - kaoberg@usgs.gov) or David Mueller (502-493-1935 - dmueller@usgs.gov).

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