

In Reply Refer To:  
Mail Stop 415

April 18, 2011

OFFICE OF SURFACE WATER TECHNICAL MEMORANDUM 2011.04

SUBJECT: Policy on the Use of Hydroacoustic Software and Firmware

The purpose of this memorandum is to describe the policy of the Office of Surface Water (OSW) regarding the use of available software and firmware for hydroacoustic instruments. OSW's goal is to provide U.S. Geological Survey users of hydroacoustic instruments with timely information regarding available software and firmware.

Effective immediately, OSW will maintain information on software and firmware for commonly used hydroacoustic instruments on the OSW Hydroacoustics website (<http://hydroacoustics.usgs.gov>). The required versions of software and firmware, along with known issues and improvements associated with subsequent releases will be listed on the website. Users should determine the firmware/software version appropriate for their use from the website. Software and firmware versions listed on the OSW Hydroacoustics website are identified as belonging to one of five categories described below:

1. required minimum,
2. recommended,
3. allowed,
4. testing, or
5. do not use.

In the future, only those upgrades that (a) contain significant computational impact (for example, an appreciable effect on measured discharge) or (b) add significant new functionality will be announced in OSW Technical Memorandums.

## **Background**

As the number and complexity of software and firmware versions for various instruments has increased, it has become increasingly difficult for OSW to fully evaluate every version. New versions provide known improvements or bug fixes, which often improve data quality, but also may result in other unknown issues. To address this situation, OSW is providing current information available for software and firmware that have been released for use with commonly-used hydroacoustic instruments.

## **Status Categories**

The following categories will be used to identify the status for each software and firmware version listed on the Hydroacoustics website.

- 1) Required Minimum – The minimum version that should be used. This version has proven stable and may contain enhancements that are significant over previous required versions.
- 2) Recommended – A version shown to have been reliable and containing features that result in a recommended upgrade over the required minimum version. Any known issues or limitations will be listed.
- 3) Allowed\* – Software version deemed reliable during initial testing. Any known issues will be listed along with improvements over prior versions. Use of allowed versions may be desired in cases when the changes benefit a significant number of the user’s particular conditions or equipment. For example: a new version of software is released that adds support for a new hardware. If the user has this hardware, they would need to upgrade to the newer software before it becomes recommended or required. Use of these versions by experienced users will also help OSW identify any unknown issues.
- 4) Testing\* - OSW is currently testing this version of the software; any known issues or advantages over prior releases will be listed. The use of a version in testing should usually be limited to advanced users who can troubleshoot potential issues and provide feedback on irregularities or problems observed.
- 5) **Do Not Use:** A version either prior to the required minimum or that contains issues that adversely affect measurements.

*\*Note: A version may remain in Allowed or Testing status indefinitely. Example: A new version is released while the prior version is still in Testing. In this case, the prior version may remain in Testing and future testing efforts placed on the newer version.*

If you have any questions or comments about the policies and guidance in this memorandum, please contact Mike Rehmel ([msrehmel@usgs.gov](mailto:msrehmel@usgs.gov)) or the OSW Hydroacoustics Work Group ([hawg@simon.er.usgs.gov](mailto:hawg@simon.er.usgs.gov)).

Stephen F. Blanchard/*signed*/  
Chief, Office of Surface Water