

NIOSH Conformity Assessment Notice

NIOSH CA 2018-1003

June 2018

NIOSH Use of a Personal Computer (PC) Based System, Microsoft Windows and National Instruments' LabVIEW™ Data Acquisition Software to replace use of the Gould RS3200 Strip Chart Recorder beginning June 15, 2018



**Centers for Disease Control
and Prevention**
National Institute for Occupational
Safety and Health

Subject: NIOSH Use of a Personal Computer (PC) Based System, Microsoft Windows and National Instruments' LabVIEW™ Data Acquisition Software to replace use of the Gould RS3200 Strip Chart Recorder beginning June 15, 2018

1 SUMMARY

For more than 15 years, NIOSH has tested respiratory protective devices (RPD) using the Gould Instrument Systems, Inc. model RS3200 strip chart recorder (with carrier amplifier). Gould Instrument Systems, Inc. is no longer in business and replacement parts for the RS3200 are no longer available. NIOSH developed a data acquisition system using National Instruments' LabVIEW™ software that will run on Microsoft Windows personal computer (PC) based platforms. Two standard test procedures (STPs) have been updated to include the use of the LabVIEW system, [STP 120 and STP 121](#).

All respirator approval application(s) requiring testing in accordance with STP 120 and STP 121 submitted to NIOSH after June 15, 2018 will be evaluated using the LabVIEW™ system. NIOSH will provide manufacturers the LabVIEW™ strip chart program at no charge. The LabVIEW™ strip chart program has been successfully tested on LabVIEW™ versions 2013 and 2017. NIOSH will provide limited assistance during initial setup of the program but will not provide 24/7 technical support.

Note: Information will be provided as additional STPs are updated to include the use of the LabVIEW™ system.

2 AUTHORITY

[42 C.F.R. Part 84, Respiratory Protective Devices](#)

Subpart H, Self-contained breathing apparatus

NIOSH Standard Test Procedures

[RCT-ASR-STP-0120](#), Determination of Positive Pressure, Open-Circuit, Pressure-Demand, Self-Contained Breathing Apparatus

[RCT-ASR-STP-0121](#), Determination of Rated Service Time, Open-Circuit, Demand and Pressure-Demand, Self-Contained Breathing Apparatus

3 BACKGROUND and SUPPLEMENTAL INFORMATION

The National Personal Protective Technology Laboratory (NPPTL) Division of NIOSH is located in Pittsburgh, Pennsylvania and Morgantown, West Virginia. Testing Laboratories at both locations are equipped with a new LabVIEW™ based system. Previously, only the Pittsburgh laboratory used the Gould RS3200 system. To validate the LabVIEW™ based system, NIOSH NPPTL conducted testing in Pittsburgh and Morgantown using NIOSH-approved Self-Contained Breathing Apparatus (SCBAs). The respirators were tested using the Gould system in Pittsburgh as well as the LabVIEW™ systems in Pittsburgh and Morgantown. A statistician at NPPTL analyzed the results.

Results show that the LabVIEW™ strip chart system is capable of replacing the Gould strip chart recorder. Additional benefits of the LabVIEW™ system include automatic data logging and a reduction of the subjectivity associated with determining pass/fail results (using the strip recorder). The results of this comparison are detailed in the NIOSH Conformity Assessment Notice [CA 2018-1002](#) “Intra-Laboratory Comparison of LabVIEW™ Data Acquisition Software to replace use of the Gould RS3200 Strip Chart Recorder ” and are available for download from an SFTP site (information is provided below).

LabVIEW Strip Chart Recorder Downloading Instructions

The LabVIEW™ Strip Chart software and NIOSH CA 2018-1002, summarizing the comparison of the systems, which was conducted in NIOSH laboratories, can be accessed through a Secure File Transfer Protocol (SFTP) website. Below are SFTP website instructions on how to access the SFTP site and download the software.

1. Install a program (SFTP client) to allow access to the files provided by NIOSH.
Note: NIOSH has successfully tested the free SFTP client FileZilla v3.32.

2. Log in to the FTP/SFTP shared drive
Host: ftp://sftp.cdc.gov
Username: NPPTLETB
Password: MHzDZ22x4yv7TnV

Note: Upon login, one subfolder and one file (NIOSH CA 2018-1002) are accessible.

3. Open the folder “Copy_Contents_to_C_Drive”.
4. Two subfolders are accessible, named “Projects” and “SCBA”. Save these two subfolders onto the computer to be used for testing, in the *C: drive* of the laboratory workstation.
5. The file used to run the LabVIEW™ Strip Chart software will appear. To run this application,

click on the newly created file "C:\Projects\LabVIEW Strip Chart Files\Main\SCBA_Test.vi".

Note: The application has been successfully tested on LabVIEW™ 2013 Full Development System and LabVIEW™ 2017 Professional Development System

For further information, contact [NIOSH NPPTL](#).

4 REFERENCES

[Approval of Respiratory Protective Devices, 42 C.F.R, Part 84](#)

[December 7, 2017 NIOSH /NPPTL Meeting for All Respirator Manufacturers](#)

[NIOSH Conformity Assessment Notice Number CA 2018-1002](#)