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Standard Operating Procedure **NHX/SOP-300-005**

Title: The Maintenance of PS Analytical Hydride Generation Atomic Fluorescence Spectrometer (HGAF)

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TITLE: STANDARD OPERATING PROCEDURE FOR THE MAINTENANCE OF PS ANALYTICAL HYDRIDE GENERATION ATOMIC FLUORESCENCE SPECTROMETER (HGAF)

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MAINTENANCE OF PS ANALYTICAL HYDRIDE GENERATION ATOMIC FLUORESCENCE SPECTROMETER (HGAF)

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1.0 INTRODUCTION

This standard operating procedure describes the proper maintenance procedures for the PS Analytical hydride generation atomic fluorescence spectrometer (HGAF). Proper maintenance procedures are important to assure the proper operation of the instrument. All maintenance procedures will be performed according to the manufacturer specifications and are listed in Table 1. All maintenance performed on the instrument will be recorded in the maintenance section of the instrument log book.

2.0 ROUTINE MAINTENANCE

The operator of the instrument is responsible for carrying out all routine maintenance procedures recommended by the manufacturer for the HGAF. Refer to Table 1 for a list of routine maintenance schedules. All maintenance performed will be recorded in the maintenance section of the instrument log book.

3.0 NON-ROUTINE MAINTENANCE

In the event of a major problem or a malfunction, the instrument custodian is responsible for making appropriate repairs or making necessary arrangements with the manufacturer to perform service to restore the instrument to a good working order. All repairs performed on the instrument will be recorded in the maintenance section of the instrument log book.

4.0 CORRECTIVE ACTIONS

The operator of the instrument is responsible for reporting any hardware or software malfunctions to the instrument custodian and the laboratory manager. The system custodian is responsible for taking necessary corrective actions or making necessary arrangements with the RTI technical staff or the manufacturer for necessary corrective actions to bring the

instrument to a good working order. All problems and corrective actions will be documented in the maintenance section of the instrument log book.

5.0 DOCUMENTATION

A log book will be maintained for daily operation records and for maintenance and service performed on the instrument. All entries must include the date, initial/signature of the person making the entry and a description of the work (routine operation, cleaning, service, etc.) performed. All problems/malfunctions and corrective actions must also be documented.

6.0 REFERENCES

The following sections of the PSA instruction manuals deal with the maintenance and service of the instrument.

1. Section 4.1, PSA 20.100 Autosampler User Manual, version 1.0, PS Analytical Ltd., U.K., January 1994.
2. Section 5, PSA 10.003 Hydride/Vapor Generator User Manual, PS Analytical Ltd, U.K.
3. Section 4.1, PSA 10.033 Excalibur User Manual, version 2.0, PS Analytical Ltd., U.K., February 1993.
4. Section 5.1, PSA Merlin Plus/System Manual, version 1.3, PS Analytical Ltd., U.K., January 1993.

TABLE 1. PS ANALYTICAL HGAFs MAINTENANCE SCHEDULE

Item	Routine Action	Time Schedule	Documented Maintenance
All tubing	Check for clogging and bends	Daily	Flush with deionized water before and after use OR replace when necessary
Sample valve	Check for clogging and leaks	Semi annually	Flush with dil. HCl followed by deionized water with a syringe
Sample line tubing and fittings	Check for clogging and bends	Semi-annually	Replace when necessary
BDHCL	Check for malfunction	Before analysis	Replace when necessary
Gas-liq separator	Check for leaks and salt build-up	Weekly	Clean with dil. HNO_3 and deionized water
Waste container	Check for overflow	Daily	Empty when necessary