

Notice of Class 1 Permit Modification

Headspace Gas Sampling Needle Insertion

**Waste Isolation Pilot Plant
Carlsbad, New Mexico**

WIPP HWFP # NM4890139088-TSDF

February 28, 2002



Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
March 1, 2002

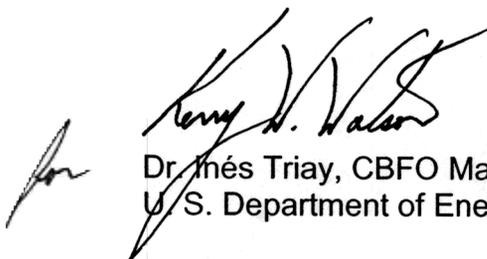
Mr. Steve Zappe, Project Leader (WIPP)
Hazardous Waste Permits Program
Hazardous Waste Bureau
New Mexico Environment Department
2909 E. Rodeo Dr. Bldg 1
Santa Fe, New Mexico 87502-6303

RE: Notification of a Class 1 Permit Modification to the Hazardous Waste Facility
Permit for Headspace Gas Sampling Needle Insertion, Permit Number:
NM4890139088-TSDF

Dear Mr. Zappe:

The purpose of this letter is to submit this notification of a Class 1 modification to the Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Number: NM4890139088-TSDF. The proposed changes do not compromise worker safety, human health, or the environment. The purpose of this modification is headspace gas sampling need insertion.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


Dr. Inés Triay, CBFO Manager
U. S. Department of Energy

Sincerely,


J. L. Lee, General Manager
Westinghouse TRU Solutions LLC

Enclosure

cc: w/enclosure
C. Walker, Techlaw

cc: w/out enclosure
J. Bearzi, NMED
J. Kielling, NMED

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Acronyms and Abbreviations

CBFO	Carlsbad Field Office
CFR	Code of Federal Regulations
DOE	Department of Energy
HWFP	Hazardous Waste Facility Permit
NMAC	New Mexico Administrative Code
PMN	Permit Modification Notification
WIPP	Waste Isolation Pilot Plant
WTS	Westinghouse TRU Solutions, LLC

Overview of Permit Modifications

This document contains a Class 1 Permit Modification Notification (**PMN**) to the Hazardous Waste Facility Permit (**HWFP**) at the Waste Isolation Pilot Plant (**WIPP**), Number NM4890139088-TSDF hereinafter referred to as the WIPP HWFP.

This PMN is being submitted by the U.S. Department of Energy (**DOE**), Carlsbad Field Office (**CBFO**) and Westinghouse TRU Solutions, LLC (**WTS**), collectively referred to as the Permittees, in accordance with the WIPP HWFP, Condition I.B.1 (20.4.1.900 New Mexico Administrative Code (**NMAC**) incorporating 40 Code of Federal Register (**CFR**) §270.42(a)). This change does not reduce the ability of the Permittees to provide continued protection to human health and the environment.

The modifications to the WIPP HWFP and related supporting documents are provided in the following sections of the PMN. The modifications to the text of the WIPP HWFP have been identified using a double underline for new information added and a ~~strikeout~~ font for information proposed for deletion. There is also a right hand /outside margin Revision Bar to assist in location of all additions.

This PMN contains two items that will provide generator sites flexibility in headspace gas analysis.

No.	Affected Permit Section	Item	Category	Attachment A Page #
1	a.1. Attachment B1 b.1. Attachment B6	Allow sampling needles used in headspace gas sample collection to be inserted through the filter element or a sampling port with septum that bypasses the filter element	A.3	A-2

Attachment A

Description of the Hazardous Waste Facility Class 1 Permit Modifications

Item 1

Description:

This modification will allow generator/storage sites the ability to insert sampling needles used in headspace gas sample collection through the filter element or a sampling port with septum that bypasses the filter element.

Basis:

The current HWFP (Section B1-1a(3)(i)) requires that the filter housing shall allow insertion of the sampling needle through the filter element. The generator/storage sites have requested the ability to use a filter that has a removable screw and sampling port with septum that bypasses the filter element and allows sampling without penetrating the filter element.

The change does not functionally impact the headspace gas sampling process because the sample collected will be identical regardless of whether the filter element is penetrated or a separate sampling port is utilized.

Discussion:

A filter is now available that allows headspace gas sampling without penetrating the filter element. One example of this is the Nuclear Filter Technology Filter model NUCFIL®-019 DS (patent pending). The NUCFIL®-019 DS (patent pending) consists of a stainless steel filter housing with carbon-bonded-carbon filter element. The NUCFIL®-019 DS (patent pending) includes an Allen set screw that is removable to reveal a sample port with septum that allows direct gas sampling of the container headspace without penetrating the filter element. The NUCFIL®-019 DS (patent pending) is designed for maximum hydrogen gas release from 55-gallon drums, overpack drums, and Standard Waste Boxes containing transuranic (TRU) wastes. Photos of the NUCFIL®-019 DS (patent pending) are included in Appendix B.

The only changes made to the HWFP are those which indicate that the actual filter element is penetrated. References within the HWFP which indicate that sampling through the drum lid filter is performed (i.e. B1-1a(1), B1-1a(2), Bi-1a(3), etc) were not revised since they do not indicate the actual filter element has been penetrated.

Revised Permit Text:

a. 1. Attachment B1, Section B1-1a(3)

A sample of the headspace gas directly under the drum lid shall be collected from within the drum. Three methods, sampling through the filter, sampling through the drum lid by drum punching, and sampling through a pipe overpack container filter vent hole, have been developed for collecting a representative sample. The chosen sampling method shall preserve the integrity of the drum to contain radionuclides (e.g., replace the damaged filter, replace set screw in filter housing, seal the punched drum lid).

a. 2. Attachment B1, Section B1-1a(3)(i)

The following requirements shall also be met:

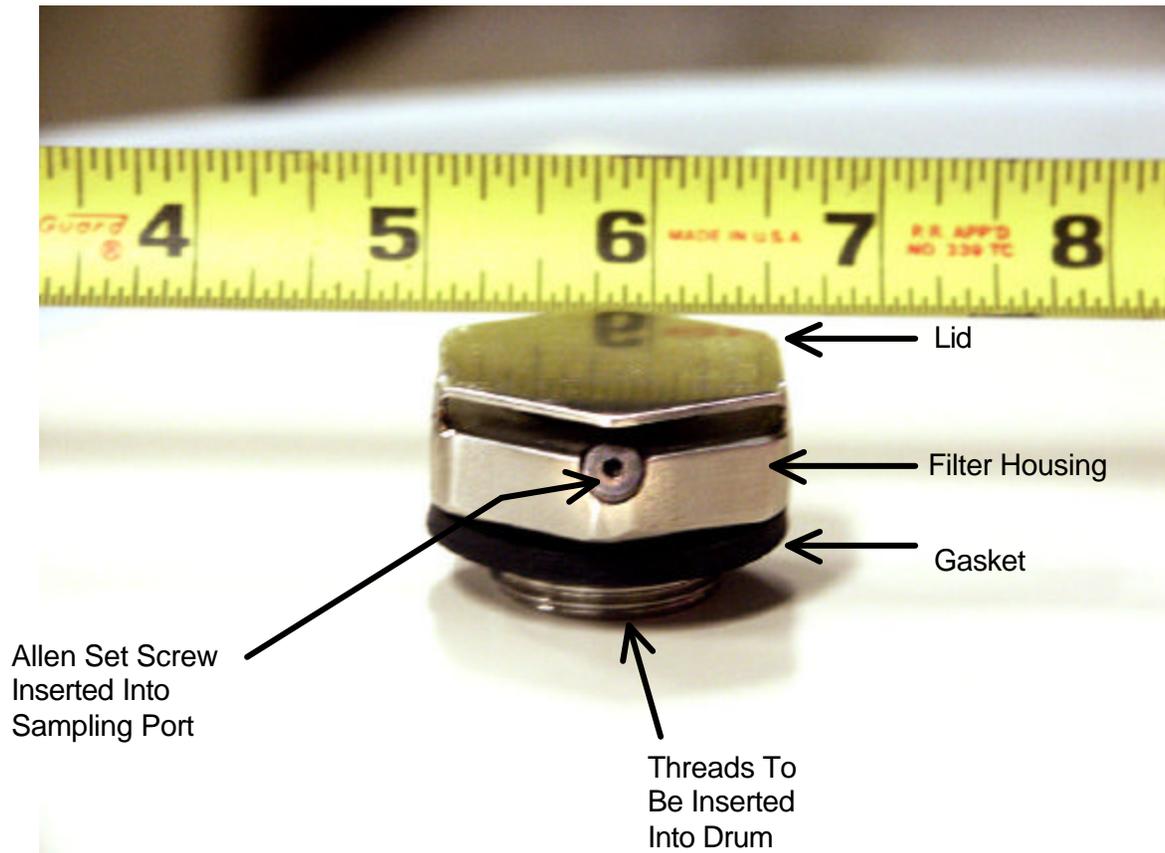
- C The housing of the filter shall allow insertion of the sampling needle through the filter element or a sampling port with septum that bypasses the filter element into the drum headspace.

b.1. Attachment B6

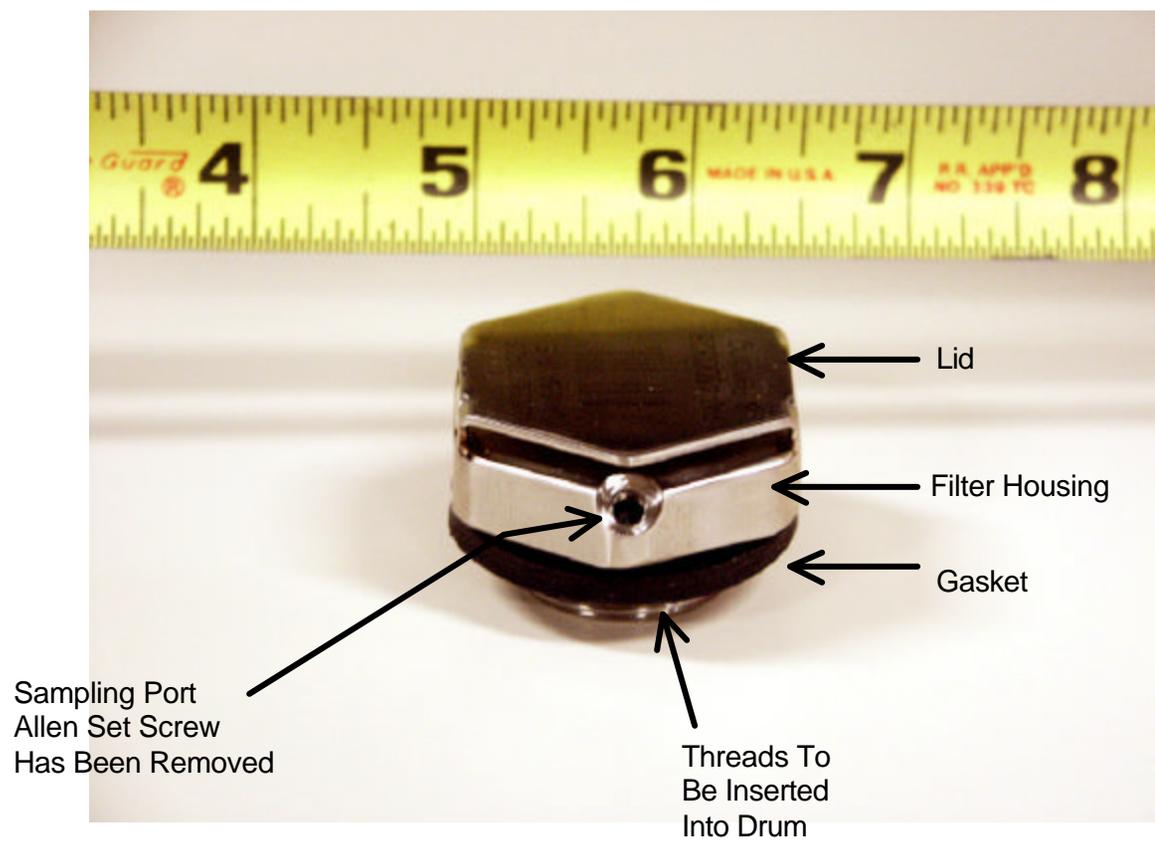
Table B6-4 Headspace Gas Checklist

196	<p>Are procedures, process, and equipment adequate to ensure that samples collected through a carbon filter meet the following requirements:</p> <ul style="list-style-type: none"> C The lid of the drum's 90-mil poly liner shall contain a hole for venting to the drum C That non-vented drums are not sampled until an internal nonconformance report is prepared, submitted, and resolved in order to obtain a representative sample C The carbon filter shall be sealed to prevent outside air from entering the drum C The sampling head for collecting drum headspace gas shall consist of a side-port needle, a filter to prevent particle contamination of the sample, and an adapter to connect the needle and filter C The sampling head is cleaned or replaced after each use C The housing of the carbon composite filter shall allow insertion of the sampling needle through the filter element <u>or a sampling port with septum that bypasses the filter element</u> into the drum headspace C The side port needle shall be used to reduce the potential for plugging C The purge assembly shall be modified for compatibility with the side port needle. <p>(Section B1-1a(3)(i))</p>
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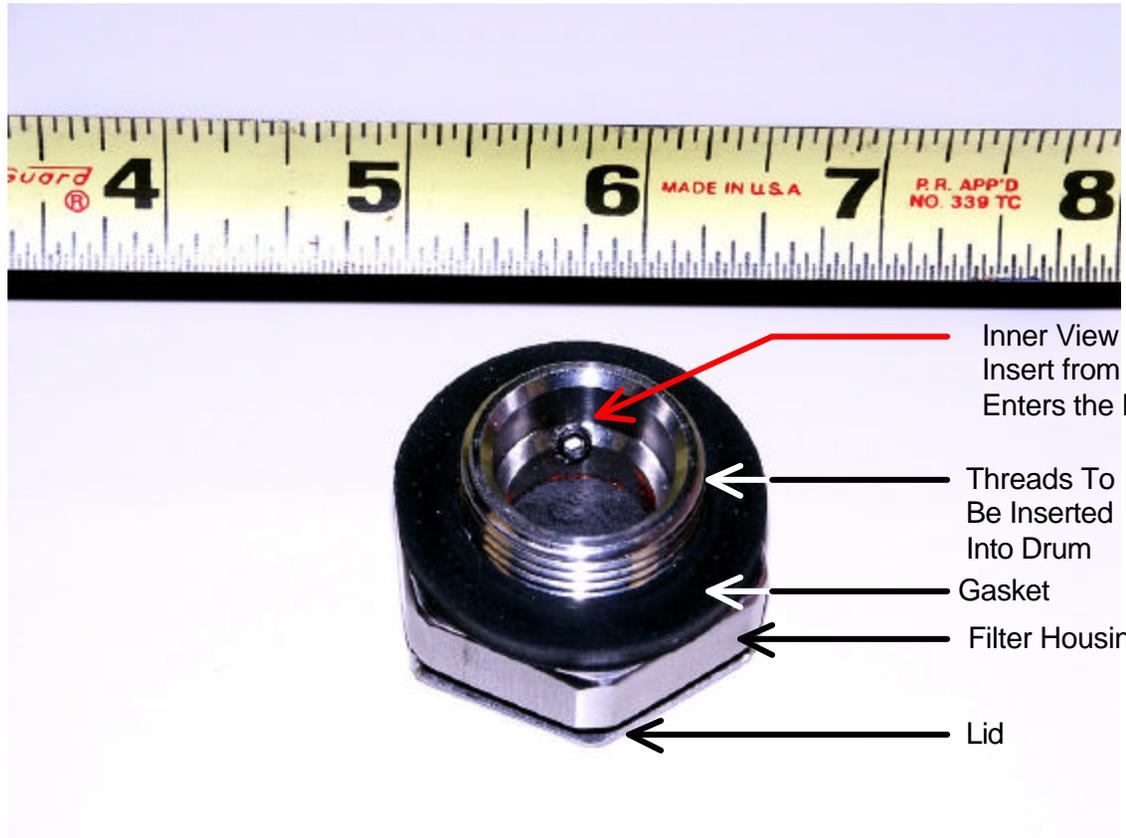
Attachment B
Photos of the Filter



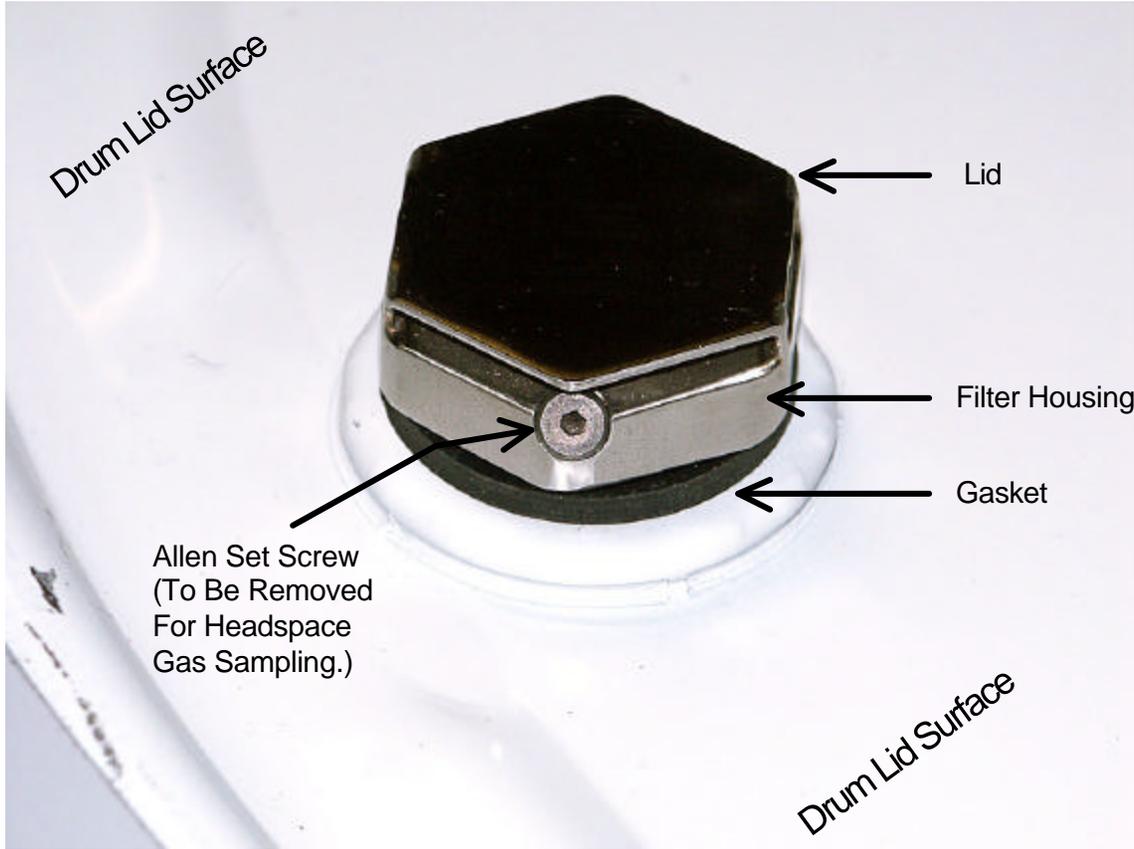
Side View of NUCFIL®-019DS Filter
(Patent Pending)



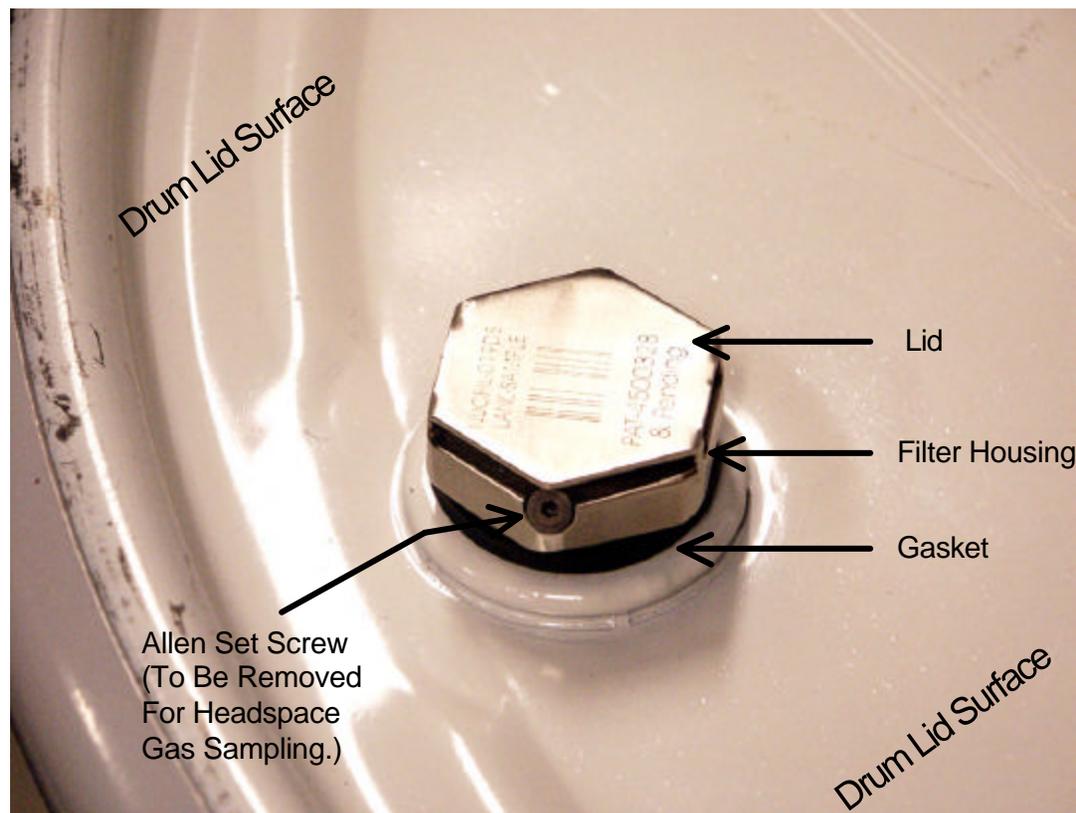
Side View of NUCFIL®-019DS Filter
(Patent Pending)



Bottom View of NUCFIL®-019DS Filter
(Patent Pending)



Side View of NUCFIL®-019DS Filter
(Patent Pending) Inserted In 55-gallon Drum



Side View of NUCFIL®-019DS Filter
(Patent Pending) Inserted In 55-gallon Drum