





AUG - 5 2014

NMED Hazardous Waste Bureau

Environmental Protection Division Environmental Compliance Programs (ENV-CP) PO Box 1663, K490 Los Alamos, New Mexico 87545 (505) 667-0666

National Nuclear Security Administration Los Alamos Field Office, A316 3747 West Jemez Road Los Alamos, New Mexico, 87545 (505) 667-5794/Fax (505) 667-5948

Date:

AUG 0 5 2014

Symbol:

ENV-DO-14-0187

LAUR: 14-25441

Locates Action No.: N/A

Mr. John E. Kieling Hazardous Waste Bureau New Mexico Environment Department 2905 Rodeo Park Drive East, Building 1 Santa Fe, NM 87505

Dear Mr. Kieling:

Subject: Notification of Resolved Off-site Shipment Discrepancy

The purpose of this letter is to notify the New Mexico Environment Department Hazardous Waste Bureau (NMED-HWB) of a waste characterization discrepancy as required by the Los Alamos National Laboratory (LANL) Hazardous Waste Facility Permit. Permit Section 2.4.7(4) states the Permittees shall notify the NMED-HWB in writing within three days of receipt of a notice of a waste not matching the preapproved waste analysis certification or accompanying waste manifest from the receiving facility.

The Permittees shipped a non-regulated liquid waste container W743555 to Veolia ES Technical Solutions, LLC in Colorado on May 28, 2014 and shipment was received on June 12, 2014. The manifest was returned to the Permittees thereafter without any discrepancies. In accordance with normal operations at the treatment storage and disposal facility (TSDF) the pH levels were measured at 13.2. On June 20, 2014 the Permittees received a notification from Veolia ES Technical Solutions, LLC stating that the pH of the container (W743555) was higher than the waste profile allowed and was a hazardous waste.

On June 23, 2014, the Permittees provided the NMED-HWB with an email notification which served as the three day notice per Permit Section 2.4.7(4). As a result of the notification, the NMED-HWB requested additional information and the responses are as follows:

- 1. The unique waste stream identifier for the subject stream See the attached Enclosure 1
- 2. The active waste profile form for the stream at the time of the notification See the attached Enclosure 1

Mr. John E. Kieling ENV-DO-14-0187

> 3. Documentation for the basis of the waste profile (analytical data if available, or documentation supporting the use of AK)

See the attached Enclosure 1

- 4. The date and result of the most recent characterization review The most recent characterization review was conducted on January 14, 2014.
- 5. The location where the stream is generated (if not included on the WPF) Technical Area (TA) - 03, Building 40
- 6. A detailed description of the waste steam generation process that includes all relevant material inputs or other information that identifies the chemical content and physical form of the waste Container W743555 was sent for disposal under Waste Stream ID 21264, propylene glycol and water from a closed loop chiller process. The waste stream was described as containing 40-60% propylene glycol and 0.01-40% water. The total amount of waste was 100 mL (3.4 oz.).
- 7. A description of the variability of the waste stream or process that might cause pH differences The waste was improperly characterized by the waste generator. Container W743555 actually contained 45-55% propylene glycol and 45-55% aqueous potassium hydroxide. The waste should have been disposed of under an alternate Waste Stream ID 36130.
- 8. A history of the stream (i.e., when first generated, approximate quantities generated per month, the number and times of off-site shipment) In November 2011 a hydrogen generator was taken offline because potassium hydroxide that had been used in the generator was corroding copper lines in the system. Propylene glycol was used in the hydrogen generator as a coolant.

When it was discovered that the copper lines were breached, a sample of the propylene glycol was collected to determine if it had been contaminated with potassium hydroxide. This sample is the 100 ml that is mentioned above (Comment 6).

In late April of 2012, 25 gallons of potassium hydroxide contaminated propylene glycol were evacuated from the hydrogen generator and drained into a 30 gallon drum. The 100 mL sample was stored in one of the group's laboratories and never returned to be disposed of with the 30 gallon drum. A request for disposal of the 30 gallon drum was submitted under Waste Stream ID 36130 (see comment #7) on June 28, 2012 and the drum was transported to TA-54, Area L, on July 9, 2012.

On March 19, 2013, the waste generator requested disposal of the 100 mL sample under waste stream ID 21264 (propylene glycol and water) which belonged to a different waste generator. On March 28, 2013, the waste generator was instructed by the waste management coordinator to obtain permission from the generator of waste stream ID 21264 for use of his waste profile and to ensure that the waste matched the waste profile criteria. On April 2, 2013, the waste generator obtained permission from the generator of waste

stream ID 21264 and confirmed that the waste was in fact propylene glycol and water, matching the waste stream ID 21264.

The generator failed to properly characterize the waste and submitted the request for disposal under Waste Stream ID 21264 instead of Waste Stream ID 36130.

9. Steps taken to recharacterize the waste stream as required by Permit Section 2.4.7 (4) prior to any future off-site shipments (including analytical data if available, or documentation supporting the use of AK)

All waste from the hydrogen generator has been properly disposed. There is no longer any amount of the propylene glycol and aqueous potassium hydroxide waste in storage or use.

The Corrective Actions to prevent this occurrence will require waste generators to test the pH of their waste streams prior to submitting a waste disposal request and waste streams must be sampled at a minimum of once per year to ensure that the waste meets the criteria established on the waste profile for the waste.

10. What checks (and results), in addition to pH, were performed by the TSDF when the pH variance was identified

In accordance with the email sent to the Permittees on July 15, 2014, the types of checks performed on the waste included a basic fingerprint analysis. The pH was also measured using a strip and a probe, a visual of the waste was conducted, as well as a test to determine if the waste was flammable. If the waste burned then a flash point was conducted.

- 11. An explanation of why an antifreeze might be, or need to be, so basic

 Propylene glycol had been contaminated with potassium hydroxide, creating elevated pH levels.
- 12. A listing of the rules violated due to the mischaracterization of the stream

 The generator improperly characterized the waste stream as required by Permit Section
 2.4.1. As a result, the generator failed to make a hazardous waste determination in
 accordance with 40 CFR 262.11.

If you have comments or questions regarding this notification, please contact Gene E. Turner (DOE) at (505) 667-5794 or Mark P. Haagenstad (LANS) at (505) 665-2014.

Sincerely,

Alison M. Dorries Division Leader

Environmental Protection Division Los Alamos National Security LLC Sincerely,

Gene E. Turner
Environmental Permitting Manager
Environmental Projects Office
Los Alamos Field Office

AMD:GET:TAD/lm

Enclosure 1: Waste Profile Form

Cy: Laurie King, USEPA/Region 6, Dallas, TX (E-File)

Dave Cobrain, NMED/HWB, Santa Fe, NM, (E-File)

Tim Hall, NMED/HWB, Santa Fe, NM, (E-File)

Peter Maggiore, NA-LA, (E-File)

Gene E. Turner, NA-LA, (E-File)

Eric L. Trujillo, NA-LA, (E-File)

Carl A. Beard, PADOPS, (E-File to aosburn@lanl.gov)

Michael T. Brandt, ADESH, (E-File)

Alison M. Dorries, ENV-DO, (E-File)

Steven J. Singledecker, WM-SVS, (E-File)

Robert L. Dodge, WM-DO, (E-File)

Ronnie A. Garcia, WM-SVS, (E-File)

Mark P. Haagenstad, ENV-CP, (E-File)

Tammy A. Diaz, ENV-CP, (E-File)

lasomailbox@nnsa.doe.gov, (E-File)

locatesteam@lanl.gov, (E-File)

env-correspondence@lanl.gov, (E-File)

ENCLOSURE 1

Waste Profile Form

ENV-DO-14-0187

LAUR-14-25441

Date: AUG 0 5 2014

REC'D MAR 1 3 2006

ORIGINAL

WASTE PROFILE FORM

Contact (if other than given below)	For rapid processing, complete all sections in black or blue ink and mail to: SOLID WASTE OPERATIONS GROUP at MS J595. For assistance with completing this form, call SOLID WASTE OPERATIONS GROUP at 5-4000. Reference Number 3 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9			
Generator's Z Number Waste Generator's Telephone Generator's	stochex Komero	102280	Name (print) Room WMC Telephone	
5-3978 Stop DL	129 MST-11	3 40	A11 606-1460	
(Check only one.)	an-90-days Storage Area Site no: Site n	NM Specific Rad Stag	orage Area Site no: Site no: Site no: Site no: Site no: Site no:	
Method of Characterization (Check as many as apply.)	Chemical/Physical Analysis Radiological Analysis PCB Analysis Acceptable Knowledge Docum MSDS Section 1 – Waste Prevention/Min	Attached Attached Attached Attached Attached Attached	Sample #:Sample #:Sample #:Sometation #:	
Can hazard segregation, elimination, or material substitution be used? Can any of the materials in the waste stream be recycled or reused? Has waste minimization been incorporated into procedures or other process controls? Can this waste be generated outside a RCA? Yes (Provide comments) No No (Provide comments) Yes (Provide comments)				
	Section 2 - Chemical and	Physical Information		
Waste Type (Check only one.) Unused/Unspent Chemical (Complete all sections as appropriate.) Process Waste/Spent Chemical/Other (Complete all sections.) Radiological Information Was Waste Generated in a RCA? Yes No Non-radioactive Radioactive - Low Level Radioactive - Transuranic Waste Destination (Check only one) SWWS (Complete Attachment 1) RLWTF (Complete Attachment 2) RLWTP (Complete Attachment 3) TA-16/HE (Complete Attachment 4)	Waste Category (Check all that apply.) Inorganic Organic Solvent * Degreaser * Dioxin Electroplating Treated Hazardous waste or residue No-Longer Contained-In Explosive process Infectious/Medical Biological Beryllium Empty Container (See instructions) Battery (See instructions) Asbestos friable non-friable PCB Source Concentration PCB < 50 ppm PCB ≥ 50 - < 500 ppm PCB ≥ 500 ppm Hazardous Waste Contaminated Soil Untreated Hazardous Debris	Waste Source (Cheek only one.) Waste Source A Decon Materials Processing/Production Research/Development/Testing Scheduled Maintenance Housekeeping - Routine Spill Cleanup - Routine Sampling - Routine Monitoring Other (Describe below) Waste Source B Abatement Construction/Upgrades Demolition Decon/Decom Investigative Derived Orphan/Legacy Remediation/Restoration Repacking (Secondary) Unscheduled Maintenance Housekeeping (Non-routine) Spill Cleanup (Non-routine) UST - Non-petroleum UST - Petroleum	Liquefied compressed gas Liquid	
Classification Information \(\text{\text{Minimates}} \) Unclassified Classified/Sensitive	Commercial Solid Waste Other (Describe below) See instructions.	Other (Describe below)	Estimated Annual Volume (m³):	

Section 3 – Process and Waste Descriptions				
Process Description: Propylere Glycol 4 water in a closed LOOP, a chiller Process				
Waste Description: Propylene Glycol & Water				

Section 4 – Characteristics								
Ignitability (Check only one.) (°F) (°C)	Corrosivity (pH)	(Check only	one.)	Reactivity	(Check as many as apply.)	Boiling Point (Check only one.) (°F) (°C)		
☐ < 73	(pr)			☐ Water ☐ Cyanic ☐ Sulfide ☐ Pyropl ☐ Shock	Sensitive sive - DOT Div.			
	Charact	erization M	ethod		Concentration of Contaminants			
Identify for all contaminants listed.	AK	TCLP	Total	None or Non-detect	Contaminant present at Minimum Maximum	Regi	latory Limit	
Toxicity Characteristic Metals	l <u>.</u> .	_	<u> </u>		(10,000 ppm ≈ 1%)			
Arsenic				P	to ppm	[5.0 ppm	
Barium	Щ			ф	to ppm	1	00.0 ppm	
Cadmium	4			Ψ	to ppm	ŀ	1.0 ppm	
Chromium (Total)	9			l 4	to ppm		5.0 ppm	
Lead	₫			1 4	to ppm	ł	5.0 ppm	
Mercury				9	to ppm	ł	0.2 ppm	
Selenium	P			1 9	to ppm		1.0 ppm	
Silver	45				to ppm	l	5.0 ppm	
Toxicity Characteristic Organics		_		_		ļ		
Benzene	9	: 🖳		44	to ppm		0.5 ppm	
Carbon tetrachloride				<u> </u>	to ppm	ĺ	0.5 ppm	
Chlorobenzene	9			9	toppm	1	00.0 ppm	
Chloroform	9			I 9	to ppm		6.0 ppm	
o – cresol) <u>—</u>	to ppm	2	00.0 ppm	
m - cresol	Q į			[47 .	to ppm	2	00.0 ppm	
p – cresol				Ф	to ppm	2	00.0 ppm	
Cresol - mixed	0			ф	to ppm	2	0.0 ppm	
1.4-Dichlorobenzene				р (to ppm		7.5 ppm	
1,2-Dichloroethane				40	toppm		0.5 ppm	
1,1-Dichloroethylene				ф	to ppm	i	0.7 ppm	
2.4-Dinitrotoluene				1 ф	to ppm		0.13 ppm	
Hexachlorobenzene				Ф	to ppm		0.13 ppm	
Hexachlorobutadiene					to ppm	İ	0.5 ppm	
Hexachloroethane	i di i			l do :	to ppm		3.0 ppm	
Methyl ethyl ketone	di i			(d) :	to ppm	2	00.0 ppm	
Nitrobenzene	di d				to ppm		2.0 ppm	
Pentachlorophenol	d d			—	to ppm	10	0.0 ppm	
Pyridine	<u> </u>			l 65	to ppm		5.0 ppm	
Tetrachloroethylene	d d			1 65 :	to ppm		0.7 ppm	
Trichloroethylene	l di			l di	to ppm		0.5 ppm	
2,4,5-Trichlorophenol	Ti i	$\overline{}$		ाता !	to ppm	4	00.0 ppm	
2,4,6-Trichlorophenol	1 4			4	to ppm		2.0 ppm	
Vinyl chloride	1 7 3			T T	to ppm		0.2 ppm	
Herbicides and Pesticides	7	_		7		1	о. — рр	
Chlordane	d)			l (h :	to ppm		0.03 ppm	
2.4-D	l H				to ppm	i i	0.0 ppm	
Endrin	i 71			· 市:	to ppm).02 ppm	
Heptachlor (& its epoxide)					to ppm		.008 ppm	
Lindane	#			14	to ppm	1 '	0.4 ppm	
Methoxychlor	#			l H	to ppm		0.4 ppm	
тохарнене	# :			# :	to ppm			
2,4,5-TP (Silvex)	# :	H	H H	# :	to ppm		0.5 ppm 0.5 ppm	
2,7,7-11 (01170A)					то ррш		on hhui	

Form 1346 (8/05)

Page 2

	Section 5 - Additional Con	stituents and Information	and the second of the second o
(including inerts) not identified above and att	s. Please account for 100% of waste. Ranges sh ach any applicable analysis. No chemical formul uents, for material without a CAS Number enter	as allowed in this field. Continue in Se	ection 3 Additional Information as necessary. CAS
CAS No.	Name of const	ituent	Minimum Maximum
57-55-6	Propylene Glyco		to
			to%
			to%
	Total of max. ranges of this section and page	ge 2	
	Additional Information (U		
ir aduntona intormation	is available on the chemical, physical, or radiolo	gical character of the waste not cover	co on the soning provide it below.
	Section 6 - Work Control Docum	nentation (answer all question	ons)
		Yes	
Do the procedures for this process cov- Do the procedures for this process add concentrations or addition or removal	ress controls to prevent changes to waste		No (Provide comments) No (Provide comments)
	Section 7 - Packaging	and Storage Control	
Will be Dockad		ie WAC	
☐ Tamper indication devices	that will be used for this waste stream:	binet or building	
Limited use locks with log-in for wa			
	Section 8 - Waste Certification	Statements (check only on	e)
Waste appears to meet WAC chapte			
	aption for treatment, storage, or disposal a any known TSDF. (DOE approval is requ		Property Property Community Communit
WASTE GENERATOR CERTIFIC characterization information on this for	ATION: Based on my knowledge of the rm is correct and that it meets the requirer egulatory agencies and that there are sign	waste and/or chemical/physical a ments of the applicable waste acc	analysis, I certify that the waste
Signature	\$ / 0		02/15/06
WASPE CONCINENTAL COMPLETE AND ACCORDANCE OF THE AMERICAN ACCORDANCE OF THE	I have reviewed this form and any associ best of my knowledge, that the waste cha	racterization information provid	terization information provided appears to be led by the waste generator meets the

WASTE PROFILE FORM



WPF #: 39184

21-Feb-2007 10:56 AM (Version: 1)		
Generator : Romero, Christopher MST-11	MS : D4	29
WMC : SANDOVAL, SUNEE WS-WA		35
FROM: NWIS-SWO		62/5-4000
WASTE PROFILE (WPF) EXTENSION QUEST	IONNAIRE	
Our files indicate that your WPF#: 39184 was submit	ted approximate	ely
one year ago. Please review the attached copy and a	answer the follo	owing
questions concerning your waste stream to determine	whether to rene	ew or
void your WPF. Note: Only the generator can sign t		on (to
renew). Please return the signed questionnaire to NV		
address listed below. If your waste stream remains		WPF
will be extended for another year. Upon approval of	_	
Extension Certification, you will receive a notice i		
WPF is valid for another year. If there are chang	ges in your wast	e
stream, a new WPF will need to be completed.		
Are you currently the same generator as indicated al	oove?	
YES NO	_	
Are you currently producing the same type of waste a	as indicated on	WPF#: 39184
YES NO	_	
If yes, please sign the Extension Certification below		
If no, will you be producing the same type of waste	in the near fut	cure?
YESNO	_	
If yes, please sign the Extension Certification belo	O W	
If no, will you be producing a different type of was	ste?	
YESNO	_	
If no, sign the Void Approval below to indicate that		
If yes, please submit a new WPF, along with this mer	no. We will the	en
void your previous WPF and process a new one		
Extension Certification		
I am producing or will produce the same type of wast		
Based on my knowledge of the waste and/or chemical/p		
certify that the waste characterization information		3
correct and that it meets the requirements of the ap		
acceptance criteria. I understand that this informa		ade
available to regulatory agencies and that there are		
penalties for submitting false information, including	ng the possibili	ity of
fines and imprisonment for knowing violations.	74117876	Du 02/07/27
Extension-> Signed Land In Communication	z#167875	Date 02/2/10/
Void Approval		_
I will no longer be generating or will be producing		
or composition (a new WPF will be submitted) of wast	e as indicated	ın
WPF# 39184	Date	
Void-> Signed	Date	T TO
NOTE: PLEASE FOLD AND STAPLE THE FORM TO THE LINE I	SELOW AND RETURN	N TO
ADDRESS PROVIDED		
TO: NWIS-SWO MS: J	962	PHONE: 5-4000
10. 1111.5110		1 11011E. 5-4000

• Los Alamos HATIONAL LABORATORY

WASTE PROFILE FORM

WPF #: 39184 (Version: 1)

JS-Mar-2007 03:05 PM	(Version: 1)			
Generator : Romero, Christopher MST-11		MS:		first the
WMC : SANDOVAL, SUNEE WS-WA		MS:	D435	
FROM: NWIS-SWO		MS:	J962/5-4000	1 4 4 1 (39)
WASTE PROFILE (WPF) EXT	TENSION QUESTIONNA	IRE		
Our files indicate that your WPF#: 391	84 was submitted a	pproxim	ately	
one year ago. Please review the attach	ed copy and answer	the fo	llowing	
questions concerning your waste stream	to determine wheth	er to r	enew or	
void your WPF. Note: Only the generate	or can sign for th	e exten	sion (to	
renew). Please return the signed question	onnaire to NWIS-SW	O at th	e	
address listed below. If your waste s	tream remains the	same, y	our WPF	
will be extended for another year. Upon	n approval of this	signed	l	
Extension Certification, you will recei	ve a notice indica	ting th	at your	
WPF is valid for another year. If the	re are changes in	your w	aste	
stream, a new WPF will need to be compl	eted.			
Are you currently the same generator as	indicated above?			
YESNO				
Are you currently producing the same type	pe of waste as ind	licated	on WPF#: 3918	4
YES NO				
If yes, please sign the Extension Certi	fication below			
If no, will you be producing the same to	ype of waste in th	e near	future?	
YES NO				
If yes, please sign the Extension Certi	fication below			
If no, will you be producing a differen	t type of waste?			
YES NO				
If no, sign the Void Approval below to	indicate that your	WPF sh	ould be voide	d
If yes, please submit a new WPF, along	with this memo. W	e will	then	
void your previous WPF and process a ne	w one			
Extension Certification				
I am producing or will produce the same	type of waste as	indicat	ed in WPF# 39	184
Based on my knowledge of the waste and/	or chemical/physic	al anal	ysis, I	
certify that the waste characterization	information on th	is form	is	
correct and that it meets the requirement				
acceptance criteria. I understand that	this information	will be	made	
available to regulatory agencies and th	at there are signi	ficant		
penalties for submitting false informat			ility of	
fines and imprisonment for knowing wiol	ations.	_	,	-1
Extension-> Signed HOURS (4	Monure Z#	1618	75 Date 4/0	2/07
Void Approval			77	,
I will no longer be generating or will	be producing a dif	ferent	type	
or composition (a new WPF will be submi	_			
WPF# 39184				
Void-> Signed	Da	ate		
NOTE: PLEASE FOLD AND STAPLE THE FORM	TO THE LINE BELOW	AND RET	URN TO	
ADDRESS PROVIDED				
TO: NWIS-SWO	MS: J962		PHONE:	5-4000