



STATE OF NEW MEXICO

Environment Department

SUSANA MARTINEZ, GOVERNOR

Ryan Flynn, *Cabinet Secretary*

Butch Tongate, *Deputy Secretary*

March 26, 2014

George T. Basabilvazo
Director, Office of Environment, Safety & Health
DOE/Carlsbad Field Office
P.O. Box 3090
Carlsbad, New Mexico 88221-3090

Re: Supplemental funding to monitor release on February 14, 2014

Dear Mr. Basabilvazo:

As a result of the release of radionuclides to the environment following the February 14, 2014 event, the New Mexico Environment Department (NMED) must perform increased monitoring and surveillance to validate results reported by others and to perform independent monitoring to assure the safety of workers, the environment, livestock, and the public. Impacts from this release must be measured, evaluated, and reported. The total supplemental funding request for the remainder of this fiscal year ending June 30, 2014 is \$275,928.

The NMED Department of Energy Oversight Bureau (DOE OB or Bureau) is responsible for conducting independent oversight and monitoring in accordance with the terms of the financial assistance agreement (DE-EM0002114) between the U.S. Department of Energy (DOE) and the State.

The Bureau performs exhaust air monitoring at Stations A and B and had an approved budget of \$64,599 for that activity for the 2014 fiscal year. Of that amount, \$10,000 was estimated for analytical laboratory expenses. Due to the event and subsequent release to the environment the Bureau estimates its analytical costs for this activity will increase to approximately \$146,412 to validate results reported by the DOE and the Carlsbad Environmental Monitoring and Research Center (CEMRC) through June 2014. This estimate is based upon analyzing 30% of certain samples from early in the event and eventually reducing the frequency of sample analysis to approximately 5% of samples in June, 2014 as data confidence increases.

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The Bureau routinely performs ambient air monitoring at several locations at and distal to the WIPP facility. This monitoring is also conducted by WIPP, CEMRC, and imminently by the U.S. Environmental Protection Agency (EPA) as well. The importance of this program in the public eye is demonstrated by the significant increase in air monitoring stations deployed by these entities. This activity budget was approved at \$44,312 of which \$10,000 was estimated for analytical laboratory services. Due to public concerns about airborne radioactive contamination associated with releases to the environment it is anticipated that analytical costs by the Bureau will increase to approximately \$32,025 through June 2014.

The Bureau performs biota (vegetation) and terrestrial (soil, sediment, surfacewater) monitoring at and near the vicinity of WIPP and had an approved budget of \$44,547 for this activity. It is estimated that these costs will increase to \$51,503 to perform environmental sample analyses in the projected plume area and at historical monitoring locations.

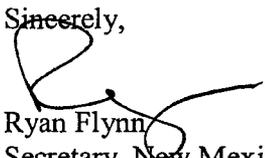
It is prudent and reasonable to anticipate that some unknown number of samples may need to be re-analyzed or new information discovered will require additional investigation. Therefore, a contingency amount must be included. It is customary for workplans submitted by environmental consultants for remediation and other environmental work approved by the Department to include a 20% contingency amount based upon total project cost. This supplemental funding request only applies this percentage to the amount of increased analytical costs. Labor, travel, and other overhead expenses are expected to be covered under the original approved grant, although it will be necessary to make adjustments in certain budget categories. The contingency amount of \$45,988 is added to the subtotal of the previously listed estimates subtotaling \$229,940 to arrive at the total supplemental funding request of \$275,928.

This level of supplemental funding will provide for a reasonable, prudent, and robust analysis of environmental samples collected as a direct result of this radionuclide excursion. Because of analytical laboratory capacity constraints and the approaching fiscal deadlines associated with grant and state fiscal year end it is further expected that analyses and their related invoices will continue beyond July 1, 2014. It is therefore noted that unexpended funds from this supplemental request should be carried forward into the next fiscal year beginning July 1, 2014. A separate supplemental funding request for the next (2015) fiscal year will be included with the normal continuation funding request. Any amount carried forward would offset an equal amount in the supplemental funding request for fiscal year 2015. This supplemental funding approach allows cost tracking for recovery efforts to be separated from normal monitoring activities.

To summarize, this supplemental funding request of \$275,928 is necessary due to the radionuclide excursion and release to the environment in order to verify and validate results reported by others and to help assure the public that any resulting risk due to exposure will be

measured and quantified. The NMED, through its DOE Oversight Bureau, will continue to perform monitoring activities to assess the adequacy of DOE's activities and verify the effectiveness of DOE's programs at the WIPP facility. The State will sample and analyze environmental media such as air, biota, groundwater, surfacewater, soils, and sediments to verify sampling data reported by the facility and others. The State may also conduct independent sampling to evaluate the need to monitor additional contaminant pathways or locations. The State will coordinate with DOE to collect split or co-located samples for all independent monitoring.

Sincerely,



Ryan Flynn
Secretary, New Mexico Environment Department

cc:

Mr. Butch Tongate, Deputy Secretary
Mr. Jeff Kendall, General Counsel
Ms. Erika Schwender, Director, Resource Protection Division
Mr. Tom Blaine, P.E., Director, Environmental Health Division
Mr. Tom Skibitski, Chief, DOE Oversight Bureau
Mr. John Kieling, Chief, Hazardous Waste Bureau
Mr. Joe Franco, CBFO Site Office Manager

Attachments:

Release Response Sample Analysis Estimate 20140320

NMED WIPP Release Response Analytical Cost Estimate

# of Samples	Release Response Sampling	Analyses Unit Cost	Cost	Comment
Pre-Event Filters A & B, February Station A & B AIR				
1	Composite Station A January Primary	915	915	30 filters, composited for the month
0	Composite Station A January Backup	915	-	30 filters, composited for the month
1	Composite Station B January Primary	915	915	4 filters, composited for the month
1	Pre-Event Filters A, February 1 to 5	915	915	Composited, February 1 to 5, Pre-fire
1	Pre-Event Filters B, February 1 to 5	915	915	Composited, February 1 to 5, Pre-fire
4	Pre-Event Filters A, Post Fire, 2/6-10	915	3,660	Individual, Post-Fire, 4 days
1	Pre-Event Filters, Post Fire Composite	915	915	Composite Post-Fire, Pre-Event
4	Pre-Event Filters B, Post Fire, 2/6-10	915	3,660	Individual, Post-Fire, 4 days
1	Pre-Event Filters B, Post Fire Composite	915	915	Composite Post-Fire, Pre-Event
8	Blanks	915	7,320	
22			20,130	WEA72
				<u>20,130</u>

January and the pre-event filters for both Stations A and B for Feb 1-5 will be handled as they normally were for all pre-event monitoring. A four day interval of post-fire, pre-event filters will be analyzed individually for both Station A (air exhausting from the underground) and for Station B (air after filtration). Station B filters are highlighted because they represent releases to the environment.

Post Event Sampling Station A & B AIR, February 15 to March 1, 2014				
				WIPP Samples
14	Station A Post Event	915	12,353	Individual, % random samples 30%
2	Station A Post Event, Composite	915	1,830	Composite Post-Event, Weekly
14	Station B Post Event	915	12,353	Individual, % random samples 30%
2	Station B Post Event, Composite	915	1,830	Composite Post-Event, Weekly
4	Blanks	915	3,660	
35			32,025	WEA72
				<u>32,025</u>

Post-event sampling saw a change from Station A and B filters being changed once a day to three times daily. One Station A and B filter from each day will be analyzed individually, the remainder composited into analysis groups. The results from composite analyses should reasonably comport with the aggregate sum of results by others (DOE, CEMRC) for the corresponding individual filter analyses.

NMED WIPP Release Response Analytical Cost Estimate

# of Samples	Release Response Sampling	Analyses Unit Cost	Cost	Comment	WIPP Samples
<i>Post Event Station A & B Filters are changed 3 times per day</i>					
Station A & B AIR, March 1 to March 31, 2014					
					90
9	Station A Post Event	915	8,235	Individual, % random samples	10%
4	Station A Post Event, Composite	915	3,660	Composite Post-Event, Weekly	
14	Station B Post Event	915	12,353	Individual, % random samples	15%
4	Station B Post Event, Composite	915	3,660	Composite Post-Event, Weekly	
8	Blanks	915	7,320		
39			35,228	WEA72	35,228

For the interval March 1 through March 31 filters are changed at both Station A and B three times per day. Based upon successful correlation of previous individual and composite analyses the individual sample size will be reduced to 10% of the expected 90 filters. the remainder will be composited and compared against corresponding aggregate results. Station B filters represent releases to the environment and samples will be analyzed at a higher individual rate. Composite results will be compared against the aggregate by others.

Station A & B Filters April 1 to June 30, 2014					WIPP Samples
					90
5	April Station A	915	4,118	Individual, % random samples	5%
4	April Station A	915	3,660	Composite Post-Event, Weekly	
14	April Station B	915	12,353	Individual, % random samples	15%
4	April Station B	915	3,660	Composite Post-Event, Weekly	
5	May Station A	915	4,118	Individual, % random samples	5%
1	May Station A	915	915	Composite Post-Event, Monthly	
9	May Station B	915	8,235	Individual, % random samples	10%
1	May Station B	915	915	Composite Post-Event, Monthly	
5	June Station A	915	4,118	Individual, % random samples	5%
1	June Station A	915	915	Composite Post-Event, Monthly	
5	June Station B	915	4,118	Individual, % random samples	5%
1	June Station B	915	915	Composite Post-Event, Monthly	
12	Blanks	916	10,992		
65			59,030	WEA72	59,030

Filter analysis frequency for the interval April through June will be incrementally reduced based upon the successful correlation of data returned for the previous individual and composite sample results. Station B filters are analyzed at a higher frequency because these samples are

NMED WIPP Release Response Analytical Cost Estimate

# of Samples	Release Response Sampling	Analyses Unit Cost	Cost	Comment
representative of emissions to the environment following filtration. It is anticipated that data confidence is high enough by June to reduce this analysis frequency to 5% as validation sampling. Sampling frequency may vary due to poor correlation of returned data to those provided by others (DOE and CEMRC).				
Ambient Air, March 2014				
2	LVAS WPL01, Salt Shaft	915	1,830	<i>Two week (14 days) sample intervals for all LVAS monitors.</i>
2	LVAS WPL02, Far Field	915	1,830	
2	LVAS WPL03, Met Tower	915	1,830	
1	LVAS WPL09, Southeast Control	915	915	
2	LVAS WPL10, Carlsbad	915	1,830	
2	LVAS WPL11, Carlsbad Solar	915	1,830	
2	Blanks	915	1,830	
13	<i>After March, composite each site monthly</i>		11,895	WPL74
				<u>11,895</u>

Ambient air monitoring includes low volumetric rate (low-vol) particulates in air sampling at locations that may be at or distal to the WIPP facility. The first group of samples collect particulates for two-week intervals following the event. LVAS WPL-01, 02, and 03 are co-located with DOE and CEMRC stations within the WIPP exclusion zone (at the facility). LVAS WPL09 is co-located with a CEMRC station approximately 12 miles upwind of the facility and serves as a background reference. LVAS WPL10 is located at the Environment Department office in Carlsbad (406 North Guadalupe Street, Carlsbad) as a background and control station. LVAS WPL11 is a trailer mounted, mobile air monitoring station that can operate anywhere off the grid. The self contained unit utilizes solar panels to charge deep cycle batteries to operate a low volumetric rate particulate air sampler on a continuous basis. It is currently set up on a ranch (Moblely Ranch) approximately 3 miles south of WIPP where it will remain for at least one month. It may be relocated anywhere as its operation is independent of a fixed power source.

Ambient Air, April, May, June 2014				
3	LVAS WPL01, Salt Shaft	915	2,745	<i>Bi-weekly composited monthly sample intervals for all LVAS monitors.</i>
3	LVAS WPL02, Far Field	915	2,745	
3	LVAS WPL03, Met Tower	915	2,745	
3	LVAS WPL09, Southeast Control	915	2,745	
3	LVAS WPL10, Carlsbad	915	2,745	
3	LVAS WPL11, Carlsbad Solar	915	2,745	

NMED WIPP Release Response Analytical Cost Estimate

# of Samples	Release Response Sampling	Analyses Unit Cost	Cost	Comment
4	Blanks	915	3,660	
22	April, May, June		20,130	WPL74
				<u>20,130</u>

Ambient air monitoring for April through June will consist of monthly composite filter analysis. These results should correlate with historical measurements collected at quarterly intervals.

Biota & Terrestrial				WIPP Samples	29
15	Vegetation	1,020	14,790	Plume area only. Collected 3/19 - 21/2014.	50%
15	Soil	885	12,833	Plume area only. Collected 3/19 - 21/2014.	50%
3	ASER Sites Veg	1,020	3,060	Not scheduled yet	
3	ASER Sites Soil	885	2,655	Not scheduled yet	
10	Duplicates	1,020	10,200		
6	Sediments	885	5,310	Plume area only. Collected 3/12-14/2014.	
2	Groundwater	885	1,770	Mobley Ranch, domestic and irrigation	
1	Surface water	885	885	Plume area only. Collected 3/12-14/2014.	
54			51,503	WGE75	<u>51,503</u>

Biota (vegetation) and terrestrial (soils, sediments, surfacewater) samples will be collected at locations previously sampled in prior years, ASER sites, and new areas within the projected plume. Site locations include: Hill Tank; Indian Tank; Lost Tank; Noya Tank; Poker Tank; Tut Tank; Brantley Lake; Lake Carlsbad; Pierce Canyon; Upper Pecos; and, Under the Hill Tank. ASER Sites are so-called because they are established for the Annual Site Environmental Report (ASER). Additional surface and ground water samples may be collected depending upon public input and concern, as well as based upon new information learned.

Estimated Analyses Cost (Subtotal): 229,940

NMED WIPP Release Response Analytical Cost Estimate

# of Samples	Release Response Sampling	Analyses Unit Cost	Cost Comment
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Contingency Sampling
 Contingency sampling and analysis may be appropriate for various reasons: Sample results may be anomalous and require re-analysis; additional confirmatory and/or re- analysis may be required to ensure valid data; additional sampling locations may be identified due to returned results; additional sampling may become necessary or prudent based upon new information; additional sampling may be required in response to public or official concerns; additional analytes may be required; or, for other valid reasons.

Estimated Contingency Sampling Cost Percentage: 20%

Estimated Contingency Sampling Cost: 45,988

Total Estimated Analyses Cost: 275,927

Please note this estimate is for contract analytical laboratory costs only. Labor and other expenses related to environmental sampling and analyses are part of our core activities and are anticipated to be absorbed in our regular budget unless workload demands additional resources. In addition, expedited turnaround time for laboratory results are not included in this estimate. Potentially, expedited results will add 50% to the costs detailed above. Instead, we will coordinate with our contract laboratories to schedule regular shipments of environmental samples in a manner that allows them to balance their workload so as not to incur excessive overtime or add temporary resources. This is possible due to the long hold times for radioactive materials. All analysis suites are estimated based on: Gross alpha/beta; gamma spectroscopy; isotopic americium 241; isotopic plutonium 239/240; isotopic uranium; isotopic strontium 90.

NMED WIPP Release Response Analytical Cost Estimate

# of Samples	Release Response Sampling	Analyses Unit Cost	Cost	Comment
Analytical Method				
Radiochemistry				
	EPA 900.0/9310			Low Level Gross Alpha/Beta: 1.5 pCi/g or 1.5 pCi/L (600 Minute Count Time). Low mass samples assumes 1,000 minute count time. Water MDC may be raised due to high sediment / solid content.)
	ASTM D3972-90			Isotopic Uranium, Low Level
	ASTM D3972-90			Isotopic Plutonium, Low Level
	ASTM D3972-90			Isotopic Americium (Am-241), Low Level
Alpha Spectroscopy				
	EPA 907.0			Isotopic Americium (Am-241, Am243)
	HASL 300, Eichrom			Isotopic Plutonium (Pu-239/240, Pu-238)
				Isotopic Uranium (U-238, U-235, U-234)
Gamma Spectrometry				
	EPA 901.1, HASL 300			Gamma Emitters (Cs-137, Cs-134, Am-241)
Gas Flow Proportional Counting (GFP)				
	ASTM D5811-95M			Strontium-90 (Sr-90) (Reported as "Total Radiostrontium as Sr-90")

(End)