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Camp Minden Explo Site 1

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DATE: December 8, 2014

TO: Cynthia Brown
 Environmental Protection Agency
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FROM: (b) (6)

RE; M6 and CBI at the Explo Systems Inc Site, Camp Minden, La.

SOURCE: Administrative Settlement Agreement and Order on Consent for Removal Actions and Cost. Issued by U.S. EPA Region 6 , CERCLA Docket No. 06-08-14.

I am specifically addressing the plans by the Army, monitored by the EPA, to conduct a removal action by open air burning of the following materials currently stored at the Explo Systems, Inc. Site to include:

- 1) Approximately 15,687,247 pounds of M6 propellant; and
- 2) Approximately 320,890 pounds of clean burning igniter (CBI).
- 3) And permission to conduct response actions to address the effluent, ammonium perchlorate, and ammonium picrate identified in Paragraph 16 of the Administrative Settlement Agreement.

The Army and EPA plan to oversee a year-long, open-air burn of 15 million pounds of M6 propellant in north Louisiana. Gases from tons of chemicals including DNT, DBP, and DPA will enter the air starting in late spring. Tested incinerators exist that can help complete the M6 disposal faster and cheaper with substantially reduced pollution. But the Army and EPA won't consider using an incinerator at all. Their RFP to be issues this spring requires open air burning in metal trays.

Donovan Blast Chambers, controlled detonation chambers and Super Critical Water oxidation are technologies that exist to protect the well being of people while allowing safe disposal of toxic chemicals such as those released in combustion of M6 propellant and CBI. The Army was given the right to open burn in the 1980s before these technologies existed. Now there are better ways to dispose of these chemicals. The Army needs to require the use of more advanced technologies that cut pollution.

These technologies are the result of a fifteen-year effort between the Department of Defense, the Environmental Protection Agency, and the Interstate Technology Transfer Board (ITRC), including cooperation from Louisiana. These controlled detonation chambers have scrubbers in

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the sides and limit the release of pollutants. They have been vetted and approved by the Explosive Safety Board. In fact, the extensive vetting process was supervised by the National Academy of Science.

The Army needs to factor in the well being of the people, soil and water instead of just going for the system that is familiar, quick and easy for them.

It is my understanding is that by Federal law the Army has to use the incinerators or controlled detonation chambers instead of the more primitive approach of open-air burning that puts substantial pollution into the air...in this case especially when 80,000 pounds of propellant will be burned on a daily basis. Of this, at least 5,000 pounds of the ingredients are toxins like DNT, DBP and DPA.

The Army should be required to burn using newer technology and controlled detonation chambers. No matter what, they should not be allowed to burn until the following questions are answered:

1. When the M6 and CBI are burned, what are the products of combustion?
2. What is the known toxicity of each product?
3. Specifically, what chemicals will the EPA monitor in the air, soil and water?
4. What are the EPA guidelines for each chemical?
5. Will you drill new places to monitor or use existing monitoring wells on the property?
6. How far beyond the Camp Minden site does the monitoring of air, soil and water extend?

Louisiana is not an environmental decision-making free zone. This state has to comply with Federal laws meant to safeguard the water, environment and the well being of people.

I recognize that this material must be disposed of quickly. That is why controlled detonation chambers make more sense. The Minden area averages 261 days of sun each year.... the rest of the time it rains. And with high wind the outdoor burn doesn't work well either. In contrast with a detonation chamber the burn can take place 24 hours a day for the entire year. Faster...less polluting by a long shot...and probably cheaper.

The critical information needed by members of the public includes the products of combustion and the toxicity of each. However, the following chart shows the sheer enormity of the chemicals that will be processed. These figures are just an estimation and are very conservative since the numbers are actually higher and CBI is not addressed here.

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SUMMARY:	POUNDS	TONS
Nitrocellulose	12,900,000 pounds	(6,450 tons)
Other Chemicals	2,100,000 pounds	(1,050 tons)
Total	15,000,000 pounds	(7,500 tons)

INGREDIENTS	% of Mix	% of 15 million in pounds	Notes and Side Effects Formula is approximate. Other ingredients may be present.	EPA Emission standard
Nitrocellulose	86%	12,900,000 pounds	Noxious odor. Bad smell when burned. The predominant products will be carbon dioxide, and nitrogen oxides. Under some conditions, methane, carbon monoxide, irritating aldehydes and carboxylic acids, and hydrogen cyanide may be formed. Hazardous gases produced are carbon monoxide, carbon dioxide, oxides of nitrogen. Components of this product known to be toxic to aquatic organisms: diphenylamine, dinitrotoluene	Source information on EPA standards needed. Here is EPA information on particulate matter: http://www.epa.gov/pm/
Dinitrotoluene DNT	10%	1,500,000 pounds	Precursor to TNT. Highly toxic. Converts hemoglobin to methoglobin. Chronic long-term inhalation effect. Affects blood and central nervous system in humans. Adverse effects identified in blood, nervous system, liver and kidney in animals after exposure. Burning banned in several countries including Canada,	B2 Class Probable Human Carcinogen. Priority Pollutant.

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			England and New Zealand.	
Dibutylphthalate DBP	3%	450,000 pounds	Used as plasticizer, gelatinizer. and for waterproofing. Modifier for smokeless gunpowder. Suspected endocrine disruptor. Banned from nail polish. 2006. Banned from children's toys 20008. Birth defect problems in rats. Tests involving acute exposure of rats and mice have shown dibutyl phthalate to have moderate toxicity from inhalation exposure. Damages plant growth.	EPA states: No information is available regarding the effects in humans from inhalation or oral exposure to dibutyl phthalate. No studies are available on the reproductive, developmental, or carcinogenic effects of dibutyl phthalate in humans. EPA has not established a Reference Concentration (RfC) for dibutyl phthalate.
Diphenylamine (DPA)	1%	150,000 pounds	Stabilizer for propellant. Avoid breathing/dust/fume/gas/mist/vapor/spray. Very toxic to aquatic life with long lasting effects. During a fire, irritating and toxic gases may be generated by thermal decomposition and combustion. If incinerated, toxic and corrosive combustion gases must be properly handled. Toxic if inhaled, swallowed, or absorbed through skin.	EPA has soil and water standards for DPA. EPA has few airborne DPA standards For 2,4-DNT, EPA has calculated a residential air screening level of 2.7×10^{-2} micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and an industrial air screening level of 1.4×10^{-1} $\mu\text{g}/\text{m}^3$. EPA has not established an ambient air screening level for 2,6-DNT or the mixture of 2,4- and 2,6-DNT (EPA 2013c).

5 TONS OF TOXIC CHEMICALS BURN EACH DAY

In total, over 2 million pounds of potentially toxic material will be burned in one year. Each burn day, gas released from over five tons of material, some of which is harmful, will go into the air. The other 34 tons burned daily will mostly just form bad smelling particulate matter.

DAILY PLANS: Two main burns of 40,000 pounds each.
Total: 80,000 pounds daily.

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Daily Burn Totals:

Basic Ingredients	Pounds/day	Tons/day 2,000 lbs.=1 ton	Notes: Formula is approximate. Other ingredients may be present.
Nitrocellulose	68,800	34.4 tons	
Dinitrotoluene DNT	8,000	4 tons	
Dibutylphthalate DBP	2,400	1.2 tons	
Diphenylamine DPA	800	Almost ½ ton	
SUMMARY			
Nitrocellulose	68,800	34.4	
All Other Chemicals	11,200 pounds	5.6 tons	Each Day
Total Daily	80,000	40 tons	

CONCLUSION;

An open-air burn of this much M6 propellant and CBI over weeks, months--and possibly year-- is a catastrophe waiting to happen. Please insist on the use of incinerators, controlled detonation chambers, newer technology. Open air burning of these chemicals is a blast from the past that has caused ill health and suffering for many people. It is time to end open air burning. This is an old fashioned, ineffective, slow and dangerous approach to addressing the continuing problem of disposing of M6 and other military supplies.