



*Albert G. Huntington*  
MAYOR



101 W. MAIN STREET  
MADISON, INDIANA 47250-3775  
(812) 265-8300  
FAX (812) 265-3349  
Email: cityhall@seidata.com

June 11, 2002

*City of Madison*  
OFFICE OF THE MAYOR

Dr. Thomas McLaughlin  
U.S. Nuclear Regulatory Commission  
NMSS/DWM/DCB Facilities Decommissioning Branch  
Mail Stop T-7F27  
Washington, DC 20555

Re: U.S. Army Request/Termination NRC License #1435/JPG

Dear Dr. McLaughlin:

This letter is to advise you that as Mayor of the City of Madison, the largest city in close proximity to JPG (2 miles), I am writing on behalf of our 12,000 residents. The City of Madison is steadfastly opposed to the Army's requested termination of NRC License #1435.

The Army's request to terminate the NRC License #1435 and the environmental monitoring of DU poses a potential human health hazard to future generations who live in the Wabash Valley watershed which includes JPG. No one, including the Army, knows what effect the DU will have on humans as it breaks down metallurgically over the years, potentially running into ditches and streams or seeping into water tables that provide drinking water for communities west of JPG.

I have visited the DU area and have seen the environmental monitoring test wells.

Regarding remediation, the Army claims they cannot go into the DU area and remove any of the DU rounds due to the hazards of UXO which are also present. I find that questionable because when they were using the area for testing they picked up DU rounds and sent them off for recycling. If they could do it then, why can't they do it now? I'm not recommending digging them up, but at least removing the ones on the surface. Obviously, each one that is removed reduces the threat of future potential hazards to our area.

It is beyond comprehension how the NRC can allow the Army's request for termination of NRC License #1435. You will find attached a copy of an article from the May 19, 1984 *The Madison*

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*Courier* regarding the DU testing and monitoring at JPG. At the meeting Col. Hawkins Conrad said the Army will continue to check for any harmful effects of DU as long as it is tested.

If monitoring for harmful effects was important when JPG was open, it is just as important now. The Army may be leaving, but the people who live here are not.

There is an issue with depleted uranium and the health risks it poses, as in the case of American soldiers who were exposed to it during the Persian Gulf and Balkan conflicts. Please refer to the enclosed March 12, 2002 article from the *The Louisville Courier Journal* regarding DU and a study by The Royal Society, Britain's academy of scientists. It points out the increased potential for lung cancer, kidney ailments, and metal poisoning from DU dusts. It further states that buried uranium shells could eventually leach into local water supplies. The article reports that it will take decades to determine the actual adverse effects of DU. That is why the NRC license #1435 must remain in place.

Monitoring of ground water must take place to protect the people living to the west of JPG, which is the direction of flow in the Wabash Valley watershed. Likewise, Big Creek, which flows through the center of the DU impact area, must be monitored as it is used for fishing, swimming, and as a source of drinking water for livestock, pet, and wild animals in the downstream counties of the watershed.

The U.S. Fish and Wildlife service conducts controlled burns in the DU area. As the projectiles oxidize, there is a serious risk of airborne particle migration off-site. Animals will eat plant life with the DU dust, which may ultimately be transmitted to humans through the food chain.

Perhaps equally as important is the danger to human health that may result from the heavy metals in the DU. Reports have indicated that DU may contain impurities such as plutonium, americium, technetium, neptunium and uranium - 236. The public has a right to expect the assay of actual pieces of the DU from the site so people in this area will understand any further potential hazards to their health.

With the uncertainty of DU and the potential hazards identified in this letter, I am urging you and the NRC to not terminate NRC License #1435. Do you realize it costs the Army less than

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\$30,000 annually to monitor the environmental test wells? That is certainly a small price to pay for the piece of mind of our citizens and the avoidance of a possible catastrophic health occurrence in the future.

In closing, I have included an editorial from the Wednesday, October 10, 2001, *The Madison Courier* which further supports the community's feelings on this most important issue. If you have any questions or wish to discuss this matter, please do not hesitate to call me.

Yours very truly,

A handwritten signature in black ink that reads "Albert G. Huntington". The signature is written in a cursive style with a large, prominent initial "A".

Albert G. Huntington

Mayor

CC:

Paul Cloud, JPG RAB Co-Chairman  
Elliot Tompkins, Editor, *The Madison Courier*  
Karen Mason-Smith, EPA  
Lori Kaplan, Commissioner, IDEM  
Richard Hill, JPG RAB Co-Chairman  
Indiana Senator Richard Lugar  
Indiana Senator Evan Bayh  
Indiana Congressman Baron Hill

# OPINION

A4 • WEDNESDAY, OCTOBER 10, 2001

*"The Madison Courier"*

## NRC, Save the Valley concerns valid

We're pleased that the Nuclear Regulatory Commission has told the Army "not so fast" in its decommissioning plan for a portion of the Jefferson Proving Ground that contains depleted uranium.

### **OUR VIEW**

The NRC action supports claims by the local environmental group Save the Valley that the Army is pushing through the plan without addressing some serious environmental and health concerns.

The NRC is requiring the Army to take a more detailed look at the dangers posed by depleted uranium that remains on a parcel of JPG property.

The Army has argued that the permit that allowed testing at JPG of munitions containing depleted uranium should be

terminated and that the area now poses no danger.

The Army tested munitions containing depleted uranium, a form of uranium with less radioactivity than natural uranium, from 1984 to 1994.

The area in question is within the Big Oaks National Wildlife Refuge operated by the U.S. Fish and Wildlife Service.

The Army plan calls for keeping people out of the depleted uranium area with locked gates, fences and signs. The Army would retain ownership of that part of JPG.

Fences and signs won't get the job done. Fences can be toppled, and deer and fish can't read.

As the NRC pointed out in its review, the Army didn't address depleted urani-

um leaving the area by other means including ground water or surface water ... wildlife roaming the area ... earthquakes or tornadoes.

The Army simply has done a poor job addressing some serious issues.

Save the Valley has been a determined watchdog as JPG has undergone changes. The group has earned the respect of the community by offering reasoned, well-researched arguments on environmental issues that affect the region.

Now, Save the Valley has an ally in the fight to do what's right at JPG. The NRC must not allow the Army to push ahead with this plan without assurances that there is absolutely no danger to humans, animals and the environment.

## Depleted uranium rounds cited in kidney ailments

*The Knoxville Courier Journal, 3-12-02*

By EMMA ROSS  
Associated Press

LONDON — A few soldiers — mainly Americans — might suffer kidney damage from depleted uranium munitions used in the Persian Gulf and Balkans conflicts if they swallowed or inhaled enough of the dust, according to a report published yesterday.

Soldiers involved in friendly-fire incidents or in cleanup activities are most at risk, said the assessment by The Royal Society, Britain's academy of scientists.

The report was prompted by con-

cerns raised last year that the dust created by hits with depleted uranium shells could cause cancer or metal poisoning.

Italian researchers began studying veterans of Balkans peacekeeping missions after noting an apparently high number of cancers. Scores of other countries then announced they also would begin screening their troops for depleted uranium exposure and unexplained illnesses.

In line with other expert groups that have studied the issue, the Royal Society panel determined that the majority of soldiers in Kosovo, Bosnia and the Persian Gulf would not

have been exposed to enough levels of depleted uranium to suffer harm.

"Levels of uranium in the kidneys of soldiers surviving in tanks struck by DU (depleted uranium) rounds, or of soldiers working for protracted periods in struck tanks, could reach concentrations that lead to some short-term kidney dysfunction," the report said. "But whether this would lead to any long-term adverse effects is unclear."

Most of the soldiers affected would be Americans in the Persian Gulf War who were involved in friendly fire incidents or cleanup operations.

In a report last year, The Royal Society concluded that those same few soldiers could be at increased risk of lung cancer from intense exposure to the munitions, but that such cancers would take decades to show up.

The report, which entailed a review of the current state of scientific knowledge on the issue, also concluded that children playing at sites where the uranium munitions fell could be harmed if they ate the soil. In the long term, buried uranium shells also could eventually leach into local water supplies, it said.

EXAMINATION CALLED A ...

## Army keeps close check on effects

# JPG tests uranium munitions

5-19-1984  
By STEVE WHITE  
Courier City Editor

Testing of depleted uranium munitions at Jefferson Proving Ground has been going on for nearly two months now, and the Army is continuing to check on any effects the uranium might cause.

In fact, JPG commander Col. Hawkins Conrad said they will continue to check for any harmful effects as long as it is tested at the proving ground, and it is to be tested here "indefinitely."

The colonel pointed out that even starting the testing of the depleted uranium anti-tank munitions was something "we haven't done hastily." He said it was "approached with long deliberation."

And although the testing of the weapons creates an economic boost for the proving ground, Col. Conrad said "the economic factor hasn't turned our heads." In other words, economics does not take precedent over safety.

The uranium is used in the weapon because it provides a high density penetrator, improved kill probability, and wartime availability. It also is cheaper than tungsten carbide, which was used in the weapons initially.

The munitions do not explode, Col.

Conrad explained, but are shot out of 105 mm guns toward a tank (and possibly a bunker) to puncture a hole in the armor plate and damage personnel, equipment and fuel, hopefully destroying it.

The weapons are designed to create a huge cloud of sparks as they pierce the tanks and take the sparks and pieces on the armor plate on through the target.

The weapons are made of a uranium staballoy which contain 98.95 percent U-238 (non-radioactive uranium), 0.75 percent titanium, and 0.3 percent isotopes (active).

For testing at the proving ground, the weapons are shot into soft targets so the weapons do not create the sparks and disintegrate as they would if they were being shot into a tank.

The testing is being done at JPG, the colonel said, because it can be done safely and without environmental impact, JPG is the Army's primary test facility for munitions in production, DU (depleted uranium) based munitions are moving from R&D (research and development) into full production, all future acquisitions of kinetic energy munitions are expected to be DU based, and testing of kinetic

energy munitions constitutes a critical portion of the JPG workload.

JPG was granted a license to test the munitions by the Nuclear Regulatory Commission on Dec. 16, 1983.

Precautions taken to protect JPG personnel and the environment include:

- ✓ Personnel are trained as to the nature of the material and standard procedures to be used in storage, assembly and testing.
- ✓ Firing against soft targets only (cloth or ¼-inch plywood).
- ✓ Extensive environmental sampling before testing to determine

baseline conditions — 40 tests of soil, 8 each of groundwater, surface water and sediment from streams, 5 from the air, 8 deer, 6 raccoon, and 14 each of clams, leaves and lichens.

✓ Baseline sampling repeated one month after firing was initiated (the results have not been determined yet).

✓ Semiannual environmental sampling (done by an independent group) — 8 soil samples, 8 each of groundwater, surface water and sediment, and 6 from the air.

✓ Semiannual disposal of recoverable projectiles.

Col. Conrad said JPG is testing the weapons to make sure muzzle velocities do not vary.

He said "we have looked and there seems to be no danger and we have checked and will continue to check to make sure 'seems to be' turns out to make sure it does not cause any danger."

The Madison-based environmental group, Save The Valley, questioned the safety and use of the depleted uranium munitions at the proving ground in January and a response was provided the group from environmental protection specialists and health physicists, as well as others.

# Opinion

## An environmental disaster at Jefferson Proving Ground

**A**n environmental disaster has come to my attention recently.

The incident involves the use of depleted uranium projectiles at Jefferson Proving Ground. Most people do not know the toxicity of DU (U-238).

It is many times more toxic than arsenic. It is a lung carcinogen and will affect other organs (kidneys) as well as the immune system at trace levels. One of the reasons for its toxic effects is that it is an Alpha emitter.

The energy of this particle is in the range of 4-5 Mev (million electron volts). I will briefly explain why DU is used in projectiles. It is cheap! Companies almost give it away to munitions manufacturers. The density of the material is about 1.7 times that of lead.

Using it as a lead core substitute greatly increased the weight of the projectile for a given geometry over a lead

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### Guest Column

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William B. Broering

core projectile. The projectile exhibits a tremendously increased ballistic performance, including a section density increase beyond any other type of projectile.

This performance gives the projectile tremendous penetrating power as well as retained kinetic energy. When it is fired from a weapon, there is a tremendous amount of heat generated instantaneously upon impact. The DU ignites and literally fries anything inside an armored vehicle, similar to a magnesium flare.

This burning creates DU dust and DU oxides all of which remain ra-

dioactive. This radioactive debris will become airborne and can travel many miles, even hundreds of miles, polluting and contaminating everything in its path, water table as well as the air we breathe.

The Department of the Army has confirmed to me that from March 1984 to May 1994, the Army fired 220,000 pounds of DU! It has cleaned up about 58,000 pounds, leaving about 162,000 pounds in/on the soil!

The DU impact area consists of 2,000 acres where the remainder of material is supposed to reside in the form of dust, oxides as well as solid DU. This corresponds to 81 pounds per acre.

This contamination/pollution is unacceptable from a health standpoint. What needs to be done is a total cleanup at JPG. I sincerely urge everyone concerned who reads this column

to contact their respective representative and senator to resolve this dangerous and serious contamination problem.

The local board of health needs to be contacted and involved to determine any health problems in the surrounding communities such as elevated levels of cancer, leukemia, kidney problems and immune system disorders. This would include screening JPG employees.

I wonder if there are any other health problems, environmental issues that we are not aware of associated with chemical storage at JPG?

*William B. Broering, 242 Quercus Grove Road, Switzerland County, is a retired chemist.*

## Letters



DEPARTMENT OF THE ARMY  
OFFICE OF THE ASSISTANT SECRETARY  
INSTALLATIONS AND ENVIRONMENT  
110 ARMY PENTAGON  
WASHINGTON DC 20310-0110

June 1, 2001

01 JUN 2001 09:50

Honorable Richard G. Lugar  
United States Senate  
Washington, DC 20510-1401

Dear Senator Lugar:

This replies to your letter dated May 3, 2001, to the Acting Secretary of the Army on behalf of the Honorable Albert G. Huntington, Mayor of the City of Madison, Indiana, concerning the Army's plan to terminate its license with the U.S. Nuclear Regulatory Commission (NRC) for depleted uranium (DU) at Jefferson Proving Ground (JPG). The Army is working with the public and regulators to ensure protection of public health and safety and the environment at JPG.

The Army is in the process of developing a License Decommissioning Plan (DU License Termination and Institutional Control Plan) for JPG, which will incorporate all public comments prior to being submitted for NRC approval. To date, the monitoring at JPG has not shown any migration or spread of DU into the groundwater, surface water, soil, or sediments outside the primary impact area. In support of the NRC license termination, the Los Alamos National Laboratory performed a human health risk assessment for radiological exposure in accordance with the NRC requirements. The assessment received independent peer and technical reviews and was shown to meet the NRC regulatory exposure criteria for license termination under restricted conditions without the need for any further monitoring. We will remain fully engaged with the NRC to ensure that the DU we leave in place at JPG does not harm the local population or the environment now and in the future.

As requested, I will provide you with a detailed report on the Army's current and future plans for JPG, to include the reasons for replacing the environmental monitoring with the institutional controls. I will forward the report to you within 90 days.

I trust this information will be of assistance.

Sincerely,

Raymond J. Fatz

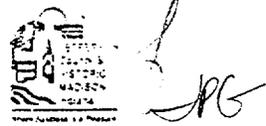
Deputy Assistant Secretary of the Army  
(Environment, Safety and Occupational Health)  
OASA(I&E)

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Albert G. Huntington  
MAYOR



101 W. MAIN STREET  
MADISON, INDIANA 47250-3075  
812/265-8900  
FAX 812/264-9149

City of Madison  
JEFFERSON PROVING GROUND

SEP 23 2001

Ken Tice  
JPG Site Manager  
POB 135  
Jefferson Proving Ground  
Madison, IN 47250

Re: Process to Terminate NRC License #1435 at JPG

Dear Ken:

This letter is to advise you that as the Mayor of the City of Madison, the largest city in close proximity to JPG, I am opposed to the termination of NRC License #1435 for the storage in place of depleted uranium at JPG. I am opposed to the termination of environmental monitoring as proposed in the decommissioning plan and the imposition of institutional controls for monitoring following termination of the license.

It is my understanding that the depleted uranium projectiles located in the DU Impact Area will break down metalurgically in future years and the contaminated elements of the DU could reach our streams which pass through Madison from the JPG area and also get in the underground water table that serves our many wells in Jefferson County. Once the NRC has terminated the license, I am concerned that they will no longer monitor this potentially hazardous and deadly situation.

As you and the Army know from my previous conversations and correspondence, I am not satisfied with the arrangements for either the UXO or DU areas north of the JPG firing line and feel the Army has acted totally without regard for the people who now live in this area, their children and the generations yet to come. Please forward this letter to the appropriate Army authorities as my official protest to this latest action by the Army.

Sincerely,

Albert G. Huntington

Mayor

bcc: Mary Clashman

Albert G. Huntington  
MAYOR



101 W. MAIN STREET  
MADISON, INDIANA 47250-3775  
(812) 265-8300  
FAX (812) 265-3349  
Email: citymail@seidata.com

April 3, 2001

City of Madison  
OFFICE OF THE MAYOR

U.S. Representative Baron Hill  
U.S. House of Representatives  
1208 Longworth Office Bldg.  
Washington, D.C. 20515

*SENT TO LUGAR & BAYH*

Re: Jefferson Proving Ground  
DU/NRC License Termination

Dear Congressman Hill:

In March 1984, testing of depleted uranium (DU) munitions began at the Jefferson Proving Ground and proceeded for about ten years. Approximately 150,000 pounds of DU are located in a 2000 acre area of JPG referred to as the Delta Impact Area. The Delta Impact Area is located within the 51,000 acres north of the firing line, all of which are contaminated with unexploded ordinance. This 51,000 acre area is now the Big Oaks National Wildlife Refuge and is under the management of U.S. Fish and Wildlife Service, but of course is not open to the public since technology to clean it up does not exist.

The DU has been tested and monitored under a Nuclear Regulatory Commission (NRC) License Number SUB-1435. On January 8, 2001, Mr. Paul Cloud, JPG BRAC Environmental Coordinator, notified interested parties that the Army was attempting to terminate the NRC license. This action would mark the end of environmental monitoring and begin "Institutional Controls", which apparently means "no clean-up", "no monitoring", and "no human use."

The Army's request to terminate the NRC License #1435 and the environmental monitoring of DU poses a potential human health hazard to future generations who live in the Wabash Valley watershed which includes JPG. No one, including the Army, knows what effect the DU will have on humans as it breaks down metallurgically over the years, potentially running into ditches and streams or seeping into water tables that provide drinking water for communities west of JPG.

Further, as oxidation occurs, we do not know the effect of DU as the winds and smoke from grass fires take the particles airborne into the Madison area and to our east. There are further health issues regarding DU raised by the World Health Organization about illnesses experienced by NATO soldiers and civilians in the Balkans and the Gulf War.

The comments about DU by JPG commander Col. Hawkins Conrad, as reported in the May 19, 1984 issue of The Madison Courier, are particularly interesting when he said testing would go on "indefinitely" and environmental monitoring would go on as long as DU was tested. Now, if it was that important to monitor while testing, what has changed to make it unnecessary to monitor today and in the future?

Page two  
April 3, 2001

**Congressman Hill**, this is a humanitarian issue and the Army has an obligation to ensure the environmental safety of all people affected by the highly contaminated JPG facility. I can assure you if the private business sector had created this mess, NRC licenses or clean-up would not even be on the table for discussion.

I am asking you to personally get involved in this issue on behalf of your constituents affected by the DU at JPG and contact Major General John C. Doesburg, SBCCOM Commanding General (5183 Blackhawk Road, Aberdeen Proving Ground, Maryland 21010-5424) to tell him that the NRC license must remain in place. Secondly, I feel the Army should commit to a written agreement for the clean-up of the DU on the JPG property as soon as the technology is developed. This written agreement should be between the Army and the people of Jefferson, Ripley and Jennings counties. Anything less than continuation of the NRC license and a signed agreement for future clean-up will be considered as further disregard for the health and wellbeing of the citizens of this area.

For your information, I have attached copies of articles supporting this letter. If you have any questions, please let me know. Thank you for your help.

Sincerely yours,



Albert G. Huntington  
Mayor

CC: Karen Mason-Smith, EPA  
Lori Kaplan, Commissioner, IDEM