

Comments submitted to www.regulations.gov
FDMS Docket # EPA-HQ-SFUND-2008-0584

To: U.S. Environmental Protection Agency
From: Utah Physicians for a Healthy Environment

The Utah Physicians for a Healthy Environment (UPHE) is an organization whose members include medical doctors, research scientists, other health professionals, and concerned citizens. The goal of the organization is prevention of disease through reduction of environmental risks.

UPHE strongly supports the proposed listing of US Magnesium (USM) under the NPL program based on the strong evidence of exposure to HCB and dioxin described in the human health risk assessment documentation provided by EPA.

This facility has long been a major polluter whose impacts extend far beyond its rural location. The air emissions and waste streams from USM far exceed the amount of toxic materials emitted by a modern chemical processing facility because the facility predates most clean air legislation and because certain facility waste streams have been Congressionally exempted. We are aware that Superfund listing affects only wastes already on the ground and not current emissions. Still, Superfund listing will have considerable benefit for public health.

The facility uses unique production processes and there is little public data on the composition of specific wastes. The careful site characterization that follows Superfund listing will provide important data on the chemical composition and concentration of both recent and historic wastes. Sampling of active areas, such as the ditches, and legacy disposal sites, such as the slag piles and the old waste pond, is needed because production processes at the site have changed over time. We fully expect that a comprehensive and adequately funded testing program will reveal hot spots containing additional toxic contaminants beyond the specific chemicals and sampling locations used to establish the score in the current assessment.

We are especially concerned about USM claims that the chemical burdens in exposed workers are below the level posing any risk. The human risk assessment documents posted by EPA address this issue in detail. Given the long history of the impact of environmental contaminants on public health, which has resulted in more and more stringent standards for numerous toxic chemicals, heavy metals and other pollutants, the only justifiable regulatory position by the EPA toward USM is one that provides a wide margin of safety for public and worker exposure.

As physicians with an interest in environmental health effects we have a professional awareness of the burden of disease that has been caused by exposures that were once regarded as safe. We are very concerned about current exposures that will likely result in increased clinical disease in the future and, as a result, UPHE has been actively involved in both public education and regulatory affairs.

With regard to USM workers and their families, the statement that 17% of facility workers have diabetes (Human Health Risk Assessment Rebuttal page 44) raises a red flag of concern. Furthermore, the lifetime, aggregate effects on the workers health has yet to be determined. The plant began operation in the 1970's so only a small cohort have yet had full-career duration exposure. The latent period for many cancers is 20-30 years from exposure to clinical symptoms. To our knowledge, there has been no attempt to follow-up retired employees to evaluate the incidence of disease and life expectancy. Meanwhile, current workers and their families are still being exposed to HCB and dioxin and potentially to other toxins associated with chemical wastes at the USM site.

Furthermore, the potential of compounds like dioxins to precipitate genetic damage by such processes as DNA adduction, can result in disease outcomes that may skip a generation, not becoming manifest for decades to come. This gives additional justification to the EPA for acting aggressively to limit environmental releases of these contaminants regardless of the source.

UPHE specifically supports the proposed listing of USM under the NPL program based on the strong evidence of exposure to HCB and dioxin described in the human health risk assessment documentation provided by EPA. Dr DeGrandchamp has done an excellent job of summarizing the literature concerning these substances. Several of our members have professional or research expertise in environmental toxicology. We have discussed the human risk assessment and find the work to be highly credible and consistent with current science.

Dr. DeGrandchamp calculated a 1.1 per thousand lifetime cancer risk based on the average facility worker exposure to dioxin. (Rebuttal P 6) This is high even for an occupational risk. The affected population is unknown since the sampling was limited to a cohort of current workers. Former workers, families of workers, and contractors who worked at the site were not tested.

The EPA documentation lists metals including, arsenic, chromium, mercury, copper, and zinc, as contaminants. Depending on the dose, oxidation state, and bioavailability, each of these metals is a potential toxin. Toxic metals present an additional concern for UPHE because metals do not degrade in the environment and can travel. Exposure of workers' children to arsenic and mercury are special concern to physicians.

UPHE also has a more general concern about community and food chain effects. We reiterate that the environmental toxicology literature is full of instances where levels once considered "safe" were lowered as a result of more careful study. Pollutants from the magnesium site can travel as soil on workers' clothing and as wind-blown dust, and can also be taken up by migratory birds who contact the waste piles. The migratory birds may later be hunted and eaten. Large populations may ultimately be exposed to low, but still potentially harmful, levels of the contaminants from the site. A careful site assessment and cleanup will go a long way to addressing this concern.

A related concern is the increment to background levels of anthropogenic contamination. It is true that everyone is exposed to HCB and dioxin from the background level of these persistent pollutants. However, the background level is only the sum of the contributions from many sources. Each source might be considered small when its regional impact is considered individually. The total of all sources is not insignificant but rather adds up to a growing background level. The changing patterns of disease, including increases in autism, developmental abnormalities, and cancers is likely due in part to environmental exposures of large populations to low levels of environmental toxins. To control background levels each source must be controlled by appropriate methods. The claim that the magnesium plant is in a remote area does not change the fact that air migration of pollutants from the site contributes to the background level. Remote location should not be an exemption from action.

The issue of uncertainty regarding the effects of dioxin, HCB, and metals may be raised as a false objection to the recommended action. Uncertainty always exists, but decisions are needed for each specific instance. One can argue about the correct slope for the relationship between dioxin body burden and cancer risk. There are many environmental toxicants for which there is no safe level of exposure. This includes generic air pollution, heavy metals such as lead and radioactive isotopes. As early as 1994, the EPA's own report showed the same was true of dioxins. Nonetheless, levels of dioxin and dioxin-like chemicals have been found in the general US population that are at nor near levels associated with adverse health effects.

When dealing with human health physicians error on the side of caution in terms of the advice we give our patients. As physicians we are instructed to follow this dictum, "When in doubt do for the patient whatever represents the least amount of risk." We give the same advice to EPA: error on the side of caution in applying the Human Health Risk Assessment conclusions in the NPL listing process.

In conclusion, UPHE supports Superfund listing of the US Magnesium site based on our professional concern for the health of former, current, and future workers at the site, neighbors and families of workers, and the general public.