

30 October 2008

Administrator Stephen L. Johnson  
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Dear Administrator Johnson:

We write out of concern about reports that the Environmental Protection Agency (EPA), in the last weeks remaining in this Administration, is considering a series of actions aimed at dismantling and dramatically weakening decades of EPA policies for protection of the public from ionizing radiation. We here focus on proposed revisions to EPA's existing Protective Action Guides (PAGs) for protecting the public from a wide range of radiological incidents, whether accidental or intentional. The PAGs cover events such as a fire at a fuel manufacturing plant, an accident at a commercial nuclear power or Department of Energy nuclear site, a release from a facility manufacturing or using radioisotopes or from a transportation accident, and many other radiation releases for which a protective response may be considered.

The new PAGs would permit long-term contamination of areas, without cleanup, at radiation levels far higher than ever contemplated by EPA in the past; permit much larger radiation doses in the intermediate phase without protective actions taken to reduce public exposures than previously allowed; and substantially increase "acceptable" exposures for most radionuclides during the early phase. The most extraordinary aspect of the proposed PAGs is the inclusion of permissible concentrations of radioactivity in drinking water at levels orders of magnitude above the levels EPA has historically used. We discuss these matters below, but first provide some background.

#### EPA's Earlier Acquiescence to Lax Radiation Standards for Responding to a "Dirty Bomb"

Over the last few years, a taskforce including representatives of EPA, the Department of Homeland Security (DHS), and other agencies drafted PAGs for responding to an attack involving a radiological dispersal device ("dirty bomb") or an improvised nuclear device. Many of us wrote DHS and EPA deeply concerned about the standards proposed at that time. (See the attached correspondence.<sup>1</sup>) In particular, a process called "optimization" was adopted for long-term cleanup after such an event, contemplating cleanup levels that could be orders of magnitude more lax than any EPA had ever countenanced before. Under optimization, rather than having the specifying cleanup levels that were health protective, officials could instead choose from an array of possible long-term "benchmarks," including doses so immensely high (the equivalent of

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<sup>1</sup> Also available at <http://www.committeetobridgethegap.org/pdf/2006Ltr102108.pdf> and <http://www.committeetobridgethegap.org/pdf/sfundgroup102108.pdf>

tens of thousands of chest X-rays) that the government's own official risk estimates indicated one in three people so exposed would get a cancer from that exposure (i.e., above and beyond the number of cancers people would get without the radiation exposure).

Efforts by EPA to require cleanup to EPA's longstanding requirements under CERCLA were rebuffed, and, after initially raising these concerns, EPA acquiesced to long-term cleanup guidance far less protective than EPA had ever before accepted. The DHS PAGs also weakened protections for the intermediate phase after such an event, permitting higher doses generally and in particular for drinking water.

Many of us expressed concern that these markedly relaxed cleanup standards would end up being applied not just to extraordinary circumstances involving a dirty bomb or nuclear weapons attack, but for cleanups involving releases not involving terrorism, such as contamination from nuclear power plants. We were assured that the DHS PAGs were restricted to extraordinary terrorist radiological events. We nonetheless anticipated that there might be some effort to use the radiological terrorism PAGs as "the camel's nose under the tent" to go much further, to weaken public protections from all sorts of non-terrorist radioactive releases by industry, and it now appears that such an attempt is being undertaken in the form of new EPA PAGs applicable to all nuclear incidents.

### The New Proposed EPA Radiological Protective Action Guides

The August 2007 draft "Protective Action Guidance for Radiological Incidents" was obtained by Doug Guarino of the industry publication *Inside EPA*, who has reported on the controversy it has caused within the agency and among state regulators. We understand that forces within EPA are pushing to release them, with some revisions, before the Bush Administration leaves office. These EPA PAGs, by their own terms, would apply to all radiological incidents, which are defined as "an event or a series of events, whether deliberate or accidental, leading to the release or potential release into the environment of radioactive materials in sufficient quantity to warrant consideration of protective actions." (p. ES-2) In short, these new PAGs would arguably apply to a wide range of radiological releases for which protection of the public should be considered.

It is therefore disturbing that EPA now proposes to permit the public to be exposed to radiation doses at levels vastly higher than the agency has historically deemed unacceptably dangerous. We here summarize some of the most significant problems in the draft PAG document and then focus on the massive increases in permitted radioactivity concentrations in drinking water proposed. Our concerns are based on the 2007 draft obtained and made public by *Inside EPA*. If revisions have resolved these problems, we congratulate the Agency. But if the problems remain, we strongly urge that you not approve release of the draft PAGs, as they will produce a firestorm of controversy and would contradict decades of EPA policy on protection of the public and the environment.

### Long-term Cleanup “Optimization”: Massive Doses Contemplated

EPA proposes to adopt for long-term cleanup the controversial “optimization” process that was criticized in the dirty bomb DHS PAG. Rather than require cleanup to health-protective risk levels consistent with EPA’s longstanding cleanup requirements, EPA now proposes that cleanups be done on an ad hoc basis, with public health considerations being overridden by other considerations such as economic interests. This ad hoc process would rely on a range of “benchmarks,” including radiation doses as enormous as 1-10 rem/year over many decades. (p.H-3) 10 rem per year for 30 years (the equivalent of approximately 50,000 chest X-rays) would produce, according to EPA’s own Federal Guidance Report 13, a cancer in every fourth person so exposed, and according to the National Academy of Sciences’s BEIR VII report prepared at EPA request, one cancer per three people exposed. Until the last few weeks, EPA has found cancer risks outside a risk range of one in a million to one in ten thousand to be unacceptable. [The risks associated with the “benchmarks” are detailed in the above-referenced correspondence about the earlier DHS PAGs.]

### Early Phase Response: Further Relaxation of Radiation Protections

For the early phase of a response to a radiological incident, EPA proposes to permit considerably higher exposures for the majority of radionuclides than under EPA’s existing PAGs. Nearly twice as many radionuclides have their permissible concentrations relaxed as those that are strengthened, and those that are relaxed are on average weakened by 76 percent whereas the smaller number that are strengthened are enhanced on average only by 34 percent. (see pp. 2-22 – 2-25 of the EPA PAGs).

### Intermediate Phase Response: Allowing Significantly Larger Public Exposures

For the intermediate phase, which may last for several years, the new PAG document proposes significantly increasing permissible exposures. EPA’s previous PAGs established an overall annual dose, of which food and water consumption were a component. Now EPA proposes to have three limits, but makes them additive – 2 rem general exposure for the first year (and 0.5 rem/yr for subsequent years), *plus* 0.5 rem from food, *plus* 0.5 rem from water.

### Forcing the Public to Drink Water with Astronomical Radioactivity Concentrations

It is the new drinking water PAGs that are perhaps the most troubling. In the past, drinking water was a component of the food PAGs, which in turn were a component of the overall dose limit in the intermediate phase. Now EPA has proposed new and separate water PAGs and sets concentration limits for each radionuclide in water.

These proposed acceptable radiological drinking water concentrations, called Derived Response Levels (DRLs) in the EPA PAG document, are extraordinarily high. One cannot conceive what EPA officials could possibly be thinking in contemplating allowing the public to drink water with radioactivity levels that immense.

The DRL proposed for cesium-137, for example, is nearly 14,000 picocuries per liter (pCi/l) of water. For decades EPA has forbidden cesium-137 in drinking water at levels higher than 200 pCi/L. For strontium-90, the new DRL is nearly 7000 pCi/L; EPA's longstanding Maximum Concentration Limit (MCL) under the Safe Drinking Water Act is 8, nearly one thousand times lower. The limits for iodine-131 are relaxed by factors of approximately three thousand to one hundred-thousand compared with the MCL. Nickel-63 has a new DRL of 1,220,000 pCi/L compared to an MCL of 50. Radionuclide by radionuclide, the new limits would expose people to vastly larger concentrations in drinking water. In the most extreme example, limits are increased more than seven million-fold. Even when comparing against EPA's current limits for emergencies, the Removal Action Level, the new drinking water levels range from about two orders of magnitude to at least one hundred thousand times less protective. These astronomical increases in drinking water concentrations are detailed, radionuclide by radionuclide, in the attached report.<sup>2</sup> Your attention is called particularly to Table 1, which compares the new concentrations in drinking water, for each radionuclide, with EPA's longstanding standards, and the subsequent graphs that show the magnitude of the proposed increases.

Several years ago, EPA funded the National Academy of Sciences (NAS) to examine the most up-to-date science on risks from ionizing radiation in order to update EPA's then-current risk estimates. The NAS, in the BEIR VII report, concluded that cancer incidence risks from radiation were higher than the risk estimates EPA and other agencies had been using, indeed substantially higher than the figures used by EPA in deriving its past radiation standards. It is inexplicable that EPA would now, in the face of knowledge of the increased danger from radiation, dramatically relax rather than tighten radiation protections.

There is a major push to expand the use of nuclear power, about which its advocates make the Orwellian claim that it is a safe form of energy. We must ask why, when the Administration pushes for more nuclear power and proclaims its safety, does the same Administration at the same time quietly attempt to dramatically weaken radiation safety standards so as to expose the public to vastly higher levels of radiation? If it is so safe, why immensely increase the permissible exposures to the public?

Much mischief is done in the last weeks of an outgoing Administration. We strongly urge you to decline to approve the issuance of the draft *Protective Action Guidance for Radiological Incidents* as long as it proposes to relax protections against radiation exposure. The Environmental Protection Agency must protect, not radically endanger, public health and the environment.

Sincerely<sup>3</sup>,

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<sup>2</sup> The report is at <http://www.committeetobridgethegap.org/pdf/PAGreport102208.pdf>

<sup>3</sup> Signatory groups and individuals on following pages. Point of contact: Daniel Hirsch, Committee to Bridge the Gap, 605 Waldeberg Road, Ben Lomond, CA 95005 phone: (831) 336-8003; email: [contact.cbg@gmail.com](mailto:contact.cbg@gmail.com)

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