Testimony of

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Madam Chair, Ranking Member Inhofe and distinguished members of the committee: My name is Kenneth A. Cook. I am the President of Environmental Working Group (EWG), a nonprofit research and advocacy organization based here in Washington, DC, with offices in Ames, Iowa, and Oakland, California. I thank the members of the committee for holding this important hearing and for the opportunity to testify.

Ensuring safe, accessible drinking water is a core responsibility of the United States government. The United States has some of the best tap water in the world. But the safety of our drinking water is under constant stress. Among the major problems:

- Infrastructure is crumbling and decaying.
- Programs to protect source water lack funding.
- Utilities often can't afford to test for and treat contamination.
- Some disinfectants used to treat polluted water actually break down into toxic substances.
- The Environmental Protection Agency (EPA) has not established drinking water standards for so-called "unregulated contaminants," harmful chemicals such as the industrial pollutant hexavalent chromium, the rocket-fuel component perchlorate and the perfluorinated chemicals PFOA and PFOS, active ingredients in stain removers and carpet cleaners.

We believe that Administrator Jackson's national drinking water strategy has put EPA on the right track. The agency has made significant strides over the past two years to improve the quality of our drinking water. We welcome recent EPA moves to review water contaminants by class, develop new drinking water safety technologies and use other statutes such as the federal pesticide law and toxics law to ensure water quality. We support EPA's initiatives to work with states to publish state and locality specific water quality data online and to give guidance to

utilities on how to test and treat water for chromium-6 contamination.
But more must be done to protect our nation's drinking water supply.

Since 2005 the Environmental Working Group has published a searchable online database of tap water quality called "The National Drinking Water Database." Our database synthesizes more than 20 million public water quality records. It allows citizens to look up water quality reports by zip code so they can learn more about regulated and unregulated water contaminants in their local water supply. The most recent edition of EWG's National Drinking Water Database was published jointly in December 2009 with *The New York Times'* award-winning series "Toxic Waters," which has done much to educate Americans about the state of the nation's water quality.

I. EWG's Chromium-6 Report

On December 20, 2010, the Environmental Working Group released a study entitled "Cancer-Causing Chromium-6 Pollution in U.S. Tap Water," which reported the results of our laboratory tests of drinking water from 35 cities. EWG conducted samplings in 35 cities whose annual water quality reports indicated significant total chromium pollution. Unfortunately, the total chromium measure doesn't tell residents what they most need to know, because the metallic element comes in several forms, including trivalent chromium, a mineral essential to health, and the toxic pollutant chromium-6, also known as hexavalent chromium or the "Erin Brockovich chemical," for her storied campaign to uncover industrial dumping.

The federal National Toxicology Program has concluded from animal testing that the pollutant shows "clear evidence of carcinogenic activity." An EPA draft review called chromium-6 in tap water "likely to be carcinogenic to humans."

Because few jurisdictions test specifically for chromium-6, EWG engaged volunteers to collect samples, using a standard protocol, from unfiltered taps in homes or in public buildings. We sent these samples to a nationally recognized laboratory. The tests found toxic hexavalent chromium in the water supplies of 31 cities, serving more than 26 million Americans.

On December 31, eleven days after we released our report, California lowered its chromimum-6 public health goal from 0.06 to 0.02 parts per billion (ppb). Our chromium-6 readings in all 31 cities were higher than California's new proposed safe limit. This is troubling.

In fact many members of this committee represent states where we found high concentrations of chromium-6. Among them:

- Riverside, CA – 1.69 ppb
- San Jose, CA – 1.34 ppb
- Los Angeles, CA – 0.20 ppb
- Sacramento, CA – 0.16 ppb
- Omaha, NE – 1.07 ppb
- Albuquerque, NM – 1.04 ppb
- Bend, OR – 0.78 ppb

- Bethesda, MD – 0.19 ppb
- Syracuse, NY – 0.12 ppb
- Buffalo, NY – 0.07 ppb

The highest level detected was 12.9 ppb in Norman, Oklahoma.

This study was meant to be a "snapshot" of chromium-6 contamination in the country, not a comprehensive assessment of each community's water supply. More comprehensive tests should be undertaken immediately. The number of Americans drinking tap water contaminated with chromium-6 is likely far higher than indicated by EWG's tests. At least 74 million people in nearly 7,000 communities drink tap water polluted with total chromium, according to EWG's 2009 analysis of water utility tests from 48,000 communities in 42 states. We don't know how many of those communities have water polluted with chromium-6. We should find out. People have a right to know whether they are being exposed to this dangerous substance.

II. EPA's current total chromium standard does not adequately protect public health from chromium-6 exposure.

EWG's report is the broadest publicly-available survey of chromium-6 to date. In California, the only state that requires testing for chromium-6, water systems have detected it in tap water supplied to more than 31 million residents. Chromium-6 is commonly discharged from steel and pulp mills and metal-plating and leather-tanning facilities. Naturally-occurring chromium-6 can enter water supplies through erosion of soil and rock.

The EPA has set a legal limit of 100 parts per billion of total chromium to protect against "allergic dermatitis" (skin irritations or reactions). Total chromium is composed primarily of toxic hexavalent chromium, or chromium-6, and the necessary mineral trivalent chromium, which regulates glucose metabolism. Our tests found that in most cases, the largest component of total chromium was the hexavalent form.

Yet the EPA's legal limit for total chromium is 1,700 times higher than California's proposed public health goal for hexavalent chromium, and 5,000 times higher than the most recent proposed public health goal issued by California. This disparity shows that the total chromium regulation is out of sync with the established science on the public health risks of chromium-6 exposure.

The California Environmental Protection Agency establishes drinking water public health goals based on public health considerations using the best available data in the scientific literature. Setting a public health goal is the first step toward establishing a statewide enforceable drinking water limit. In response to the National Toxicology Program's finding that chromium-6 in drinking water shows "clear evidence of carcinogenic activity" in lab animals, California proposed a public health goal of 0.06 parts per billion. The California EPA asserted: "The findings of available human, animal, genotoxic, and toxicokinetic studies all indicate that hexavalent chromium is a possible human carcinogen by the oral route." On December 31, 2010, California lowered its public health goal for hexavalent chromium to 0.02 ppb, based on research on "early in life exposures and cancer potency" of chromium-6.

The US EPA's most recent analysis of chromium-6 toxicity, released in draft form in September 2010, cites significant cancer concerns linked to exposure to the contaminant in drinking water. It highlights several disorders reported in animal studies, including anemia and damage to the gastrointestinal tract, lymph nodes and liver.

Chromium-6 is particularly dangerous to people whose stomachs are insufficiently acidic. They appear to have limited availability to convert hexavalent chromium to trivalent chromium.

Children are also at heightened risk. According to the National Academy of Sciences, the developing organs of children and infants are more vulnerable to damage from chemical exposures and children are less able to excrete dangerous chemicals.

III. EPA should resist industry's well-documented efforts to prevent specific regulation of chromium-6.

Many Americans are familiar with chromimum-6 because of the film "Erin Brockovich," and Ms. Brockovich's tireless work to expose Pacific Gas & Electric Co.'s (PG&E) dumping of the chemical into the groundwater around the small California community of Hinkley. In 1996, thanks in large part to Ms. Brockovich's investigation, Hinkley residents won a $333 million settlement from the giant utility. Less heralded is the case of the residents of Kettleman City, Calif., who settled with PG&E for $335 million in 2006. The machinations during this lawsuit brought to light the utility's efforts to cover up health risks associated with chromium-6.

The Kettleman story began nearly 25 years ago in China's Lioang Province, when researchers found an increased risk of stomach cancer and a "significant excess of overall cancer mortality" among villagers whose drinking water was polluted by a chromium ore processing facility. Ten years later the *Journal of Occupational and Environmental Medicine* published a paper that was purportedly written by the same Chinese research team and that reversed the earlier conclusion. Scientists and regulators, including EPA officials, cited the paper in research and safety assessments. However, investigations by EWG and the *Wall Street Journal* in 2005 disclosed that a consulting firm named ChemRisk, hired by PG&E, had conducted its own analysis of the Chinese data and deliberately excluded reports of cancer cases that pointed to an association with chromium-6. ChemRisk submitted the paper to the *Journal of Occupational and Environmental Medicine* without disclosing PG&E's involvement. In 2006, the journal retracted the paper, citing undisclosed "financial and intellectual input to the paper." For decades, industry has worked to prevent regulation of chromium-6 and it's time for the government to act to protect public health – especially the health of vulnerable populations like children and pregnant women – from this cancer-causing chemical.

IV. EPA should establish a specific drinking water standard for chromium-6.

Immediately after we released our 35-city report on December 20, EPA Administrator Lisa P. Jackson told a bipartisan group of 10 Senators, including members of this committee, that the agency would complete a scientific review of the chemical by summer and might consider mandating cities to test for chromium-6 in tap water. Thank you, Madam Chair, for your letter,

with Senator Feinstein, to the Administrator urging EPA to act quickly to decide whether to issue a health advisory on chromium-6 under the Safe Drinking Water Act.

The EPA reacted swiftly with a four-point plan to help water utilities assess chromium-6 pollution and a pledge to set a nationwide safety standard. Administrator Jackson announced that EPA would provide technical assistance to the 31 chromium-6 communities listed in our report. Earlier in January, EPA implemented point two of its plan and issued enhanced guidance detailing where and how often water utilities should collect samples and outlining protocols for laboratory testing.

We support EPA's quick action in light of our report's findings. Three cities we sampled have conducted their own tests and found similar results, and many water utilities across the country are assessing potential chromium-6 pollution in their drinking water. We will continue to press for more protective federal standards for chromium-6 in drinking water, and we look forward to working with the agency and water utilities to address this health concern.

As I mentioned, we estimate that at least 74 million Americans in 42 states drink chromium-polluted tap water, much of it likely in the form of hexavalent chromium. EPA's legal upper limit for total chromium, 100 parts per billion, was set nearly 20 years ago and is wholly inadequate. Furthermore, EPA has not set a new drinking water standard under the Safe Drinking Water Act since 2001. Three-quarters of the current standards date from 1991 and 1992 and have not been modernized. Since 1996, EPA has reviewed toxicity and water pollution data for 138 unregulated chemicals but declined to set a safe a legally enforceable drinking water standard for any of these chemicals.

It's important that EPA move quickly to set an enforceable drinking water standard for chromium-6 and require water utilities to test for it. However, the past lack of action has shown that when it comes to setting enforceable drinking water standards the agency often needs a legislative push. Therefore, we strongly support Senator Boxer and Senator Feinstein's legislation, S. 79, which would establish a timeline for EPA to set a health advisory and specific chromium-6 drinking water standard.

V. The federal government should provide substantial funding for source water protection and for water utilities to conduct necessary infrastructure upgrades, water testing and treatment.

The best way to remove chromium-6 from the nation's drinking water is to keep it out in the first place. Environmental Working Group strongly supports increased investment in source water protection, including the reauthorization and full funding of the drinking water and clean water state revolving loan funds.

But where hexavalent chromium already contaminates local water supplies, no one-size-fits-all solution exists. Some utilities may be able to respond adequately to high levels of hexavalent chromium in finished tap water by modifying disinfection procedures. For instance, chlorine, widely used as a tap water disinfectant, can cause trivalent chromium to become the hexavalent form. Another common disinfectant, chloramine, does not trigger this effect. Other utilities might

be wise shift to other water sources, drawing less water from more contaminated sources. Technologies effective for reducing hexavalent chromium in tap water include membrane filtration by nanofiltration and reverse osmosis, anion exchange, reduction followed by coagulation and precipitation, and absorption. Over the past year, the city of Glendale, California, for example, has been evaluating two new hexavalent chromium treatment and testing facilities. Research conducted at these facilities and around the country can help local utilities address chromium-6 contamination.

Cleaning up hexavalent chromium pollution has its costs. But ignoring it is not an option. Cities like Norman and Milwaukee deserve credit for following up promptly on our findings. The next step is to find ways to minimize contamination that could damage human health.

We also strongly support efforts to address other so-called "unregulated contaminants," such as the rocket fuel ingredient perchlorate and the perfluorinated chemicals PFOA and PFOS. It's time for us to catch up to the science and to regulate these known drinking water contaminants.

But here's the bottom line: our nation's water utilities need help. We must provide them with the necessary funding for infrastructure upgrades, water treatment technologies, and testing protocols to protect our drinking water supply. Our health – and especially our children's health – depends on their doing the job right. And in these stark fiscal times, protecting our nation's public drinking water supply should be a top funding and oversight priority for Congress.

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ATTACHMENT A

Cancer-Causing Chromium-6 Pollution in U.S. Tap Water, Environmental Working Group (December 20, 2010)(available at http://static.ewg.org/reports/2010/chrome6/html/home.html)