

SMaRT EMERGENCY Administrative Policy on Sulfur Hexafluoride (SF6)

September 9, 2010

Background, Summary & Request for Comments. SMaRT requires manufacturers to identify if SF6, as a climate change pollutant, is generated by the manufacturer and its suppliers through an ISO compliant life cycle assessment (LCA) and inventory list of 1300 pollutants. SMaRT also provides credit toward certification and higher levels of certification for SF6 reductions of up to 100% by the manufacturer and suppliers. SF6 is part the SMaRT LCA inventory list of 1300 pollutants including the top 100 global warming potential chemicals. ¹ LCA is the identification of a product's pollution over its life from raw materials extraction to final disposition or reuse.

On December 7, 2009 EPA issued a Finding that SF6 endangers public health and welfare pursuant to EPA plenary authority regulating climate change pollution provided by the Supreme Court's 2007 ruling in *Massachusetts v. EPA*, that the Clean Air Act broadly defines air pollution to include climate pollution. ² SF6 is the worst climate change pollutant with a global warming potential of 23,900 meaning that SF6 is 23,900 times more potent than CO2.

On September 21, 2009, the US Second Circuit Court of Appeals in *Connecticut v. AEP* held the utilities liable for climate pollution damages based on imminent irreversible unmanageable dangerous climate change. Current CO2 atmospheric concentration is at a dangerous level of 390 ppm and rising; the safe level is 350 ppm. ³ The 1992 UN Framework Convention on Climate Change requires that dangerous climate change must be avoided due to substantial unreasonable risks to society and the natural world.

California, IPCC scientists, NASA, and the Capital Markets Partnership calculated that 2.8 million green buildings and 1.2 certified sustainable products are needed in the next five years to stop runaway dangerous climate change and stimulate the economy. ⁴ This finding was part of four years of Wall Street due diligence with investors, investment banks, and rating agencies released at the New York Stock Exchange (NYSE) on August 18, 2009 documenting that green buildings and certified sustainable products are more profitable, less risky, and preferred without exception by investors in a survey initiated with S&P covering over \$3.3 trillion in assets. This added sustainable investment economic value can be measured by the national consensus *Green Value Score* Underwriting Standards. ⁵

Leading global scientists have been emphasizing for the last five years "*the need for early, urgent, rapid, and fast action mitigation [climate pollution reductions] to help avoid ... abrupt climate changes.*" ⁶

Market Transformation to Sustainability (MTS) decided today to require all SMaRT Sustainable Product manufacturers to be SF6-Free due to SF6's well documented imminent and substantial

Accelerating the Global Market Transformation to Sustainability

endangerment to public health, welfare and environment to current and future generations. Comments are being accepted on this decision until October 15, 2010.

Characteristics of SF6 Constituting an Imminent & Substantial Endangerment to Public Health, Welfare and Environment. SF6 is the world's worst climate polluter with a global warming potential of 23,900.⁷ SF6 is recognized by EPA pursuant to the Clean Air Act regulation of climate change, as a substantial danger to public health and welfare.

The utilities switched to SF6 as an electrical insulator after EPA banned the manufacture of PCBs (another insulator) due to persistent toxicity. For climate change pollutants like SF6, the US recommends LCA evaluation so that serious strategic errors are avoided such as that made in this case by the utilities where a very bad product was substituted with one that is even worse.⁸

SF6 substitutes are available for many uses and SF6-Free products are marketed by leading Fortune 500 companies, and EPA has identified SF6 substitutes.⁹

According to EPA, SF6 climate pollution is roughly equal to the climate pollution generated by the US cement, concrete, iron, steel, and natural gas industries. SF6 emissions are growing at a rate of 7% per year for at least 15 years.¹⁰

SF6 manufacturing is also likely a violation of section 303 of the Clean Air Act as an imminent and substantial endangerment to public health, welfare, or the environment, given EPA's SF6 Endangerment Finding and the Second Circuit's *Connecticut v. AEP* ruling holding the utilities liable for climate pollution damages due to imminent irreversible unmanageable dangerous climate change.

Today's Action on SF6 for SMaRT Certification is immediately effective and as part of the Application process manufacturers must complete the legally binding certification that their products are SF6 Free, and are subject to verification during SMaRT's Data Audit and Independent Global Auditing.

Notes

¹ SMaRT 4.0 National Consensus Sustainable Product Standard (MTS 2006). The Standard is an EMERGENCY Standard part of the American Institute of Architects imperative reducing 60% of conventional energy use in buildings by 2015, and is approved for LEED green building credit by the US and Canada Green Building Councils based on its high priority reduction of climate pollution. SMaRT means Sustainable Materials Rating Technology.

² <http://www.epa.gov/climatechange/endangerment.html>

³ *Connecticut v. AEP* (at 8, No. 05-0514, 2d Cir. Sept. 21, 2009, rehearing denied May 2010) (ruling for the States against the utilities for climate damages). *A Safe Operating Space for Humanity* <http://www.nature.com/nature/journal/v461/n7263/full/461472a.html>, *Target Atmospheric CO2: Where Should Humanity Aim* <http://arxiv.org/abs/0804.1126>, *Target Atmospheric CO2: Supporting Material* <http://arxiv.org/abs/0804.1135>

⁴ *Creating an Economic Stimulus & Stopping Climate Credit Risk / Irreversibility* (Capital Markets

Partnership (CMP) 2008), Completed First Peer Review February 20, 2008, Final Peer Review on March 21, 2008, and released at the NYSE, Aug. 18, 2009.

- ⁵ *Peer Reviewed Capital Markets Briefing Paper: Business Case for Commercializing Sustainable Investment* (CMP 2009), *National Consensus Green Building and Sustainable Manufacturing Underwriting Standards* (CMP 2008) released at the NYSE, Aug., 18, 2009, and CMP Fact Sheet (2010).
- ⁶ *Reducing Abrupt Climate Change Risk* at 1, *Proced. National Academy of Sciences*, Aug. 31, 2009, Molina et al. <http://www.pnas.org/content/early/2009/10/09/0902568106.full.pdf+html>, *Dangerous Human-made Interference with Climate*, Hansen et al., *Atmos. Chem. Phys.*, 7, 2287–2312, 2007
- ⁷ EPA Electric Power Document http://www.epa.gov/electricpower-sf6/documents/eps_rep_02.pdf
EPA Greenhouse Gas Inventory http://www.epa.gov/climatechange/emissions/co2_human.html.
- ⁸ US position on SF6 to the UN Climate Framework Convention (2005)
- ⁹ Press Release on SMaRT adoption into LEED Canada by the Canada Green Building Council (June 22, 2010): “*Eaton is SMaRT Certifying more of our product lines to achieve the needed third party and market credit for our highly energy efficient and SF6-free electrical products,*” says **Kevin McLean**, **Electrical Sector Sr. VP Marketing-Eaton Corp.** For EPA information on SF6 substitutes, see: <http://www.epa.gov/electricpower-sf6/resources/index.html#ten>
- ¹⁰ Op. Cit. note 7.