

Date: June 4, 2014

To: Thomas Darden

From: Stephen Browne

Re: Applicability of Ionizing Radiation Protection Regulations to Rossi E-Cat Device

E-Cat stands for “energy catalyzer” and is a device in which hydrogen gas, powdered nickel metal, and undisclosed proprietary catalysts are combined to produce a large amount of heat through a little understood low energy nuclear reaction (LENR) process inside a specially designed chamber. The inner workings of the reactor are a trade secret. In this process, an external heat source is applied (c.g., by electric heating coils) to the reaction chamber resulting in excess thermal energy being produced (i.e., thermal energy output exceeds input). The question has been raised as to whether this or similar devices would be subject to state or federal ionizing radiation protection regulations.

In general, state or federal licensing and safety regulations would apply to any device that produces radioactive material (c.g., nuclear fission reactor or accelerator), contains radioactive materials, or emits measurable ionizing radiation (e.g., x-ray equipment, electron microscopes, x-ray diffraction, etc).

Examples of radioactive materials that may be regulated by state or federal authorities include: fission by-product materials, accelerator-produced radioactive materials, source material, special nuclear material, and some naturally-occurring radioactive materials.

Dr. Rossi asserts that there are no radioactive materials used in the manufacture of the device or its fuel and that none are produced by the device during operation. There is to date no information indicating that the device contains radioactive material beyond what may be naturally-occurring in the materials of construction nor that it produces or emits radioactive material during operation.

As for producing ionizing radiation, several credible published reports of measurements of external gamma and neutron radiation before, during, and after operation of the device for various periods of time showed no levels of ionizing radiation emitted above the ambient background levels.

Barring the revelation of new information that would indicate that the device contains licensable amounts of radioactive material or emits measurable quantities of ionizing radiation there is, in my opinion, no basis for considering the manufacture, possession, use or transfer of these devices to be subject to any licensing requirements or safety regulations for ionizing radiation under current state or federal regulatory authority.