



WASTE REPORT for August 16, 2016

The Weight of Waste

You may recall a *Waste Report* from last year called **“Measuring Waste”**, highlighting a \$188,000 NSF grant to produce a book on the history of measurement and finally answering the age-old question of why Americans do not like the metric system.

If you have not made the trip to Barnes and Noble to pick up a copy, do not worry. Netflix will soon be able to satisfy your metric system cravings, thanks to the **Department of Commerce spending \$500,000 to make a documentary on the Kilogram.**¹ This is not just any kilogram, but THE granddaddy of all kilos: Big K, the International Prototype Kilogram.

You know, Big K, the metal cylinder stored in a vault in Paris that serves as “the standard for measuring mass in almost every country on Earth.”² **That is right!! Taxpayers are funding a movie about a metal cylinder.** Well, sort of. The movie is actually about the quest to replace Big K with a natural constant.

What is a natural constant? Well, take a meter, for example, which used to be defined by the distance between two marks on an iron bar kept with Big K in Paris. **In 1984, a meter was redefined “as the distance light travels, in a vacuum,” in 1/299,792,458 of a second, a natural constant.**³ **Certainly, *Waste Report* readers remember when that change happened, right?**

Turns out Big K is the last standard of measurement in the vault. Cracking the nut of how to redefine mass by a standard constant has proven challenging for the international community of measurement scientists, which is why the movie will be titled *The Last Artifact*. However, after decades of research and debate, it appears an international committee will likely reveal a measure of mass based on something called the “watt balance” in late 2018.⁴

If this *Waste Report* seems to be getting heavy (pun intended), not to worry. **We are sure replacing Big K is of great value to science, but is a documentary about it of great value to taxpayers? Probably not.** According to the grant opportunity, “The overriding objective of the documentary is to convey the subject in a compelling and original way to an audience of science-interested viewers.”⁵

But if viewers interested in this kind of science are a broad audience, ticket sales or sponsors should cover the cost of production, making government aid unneeded. **If they are a narrow market, then 69 average Americans worked all year to pay for a film about a metal cylinder that only a few people will even care to watch.**

How about a Government Waste Documentary?

¹ http://www.nist.gov/public_affairs/upload/20160707-NIST-Documentary-Film-FFO.pdf

² Ibid

³ http://www.surveyhistory.org/the_standard_meter1.htm

⁴ http://www.nist.gov/public_affairs/upload/20160707-NIST-Documentary-Film-FFO.pdf

⁵ Ibid