

26 July, 2003

DOCKETED
USNRC

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C., 20555-0001
Attn: Rulemakings and Adjudications Staff

August 7, 2003 (10:00AM)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

PRM 40-29

68FR59346

RE: Filing of "Petition for rulemaking"

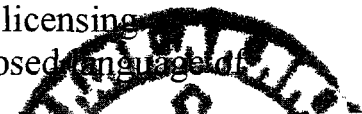
Greetings:

The purpose of this letter is to present a petition to amend **CFR 40.13**
Unimportant quantities of source material.

Currently the introduction into the United States of a very effective new technology for the reduction of air pollution chemicals from combustion processes is prevented by the limits on Thorium concentrations in products mandated by CFR 40.

A methodology has been developed and patented, utilizing a catalytic device containing Thorium, that has been proven in applications in Japan to substantially reduce the emission of unburned hydrocarbons (HC), Nitrous Oxide (NO_x) and Carbon Monoxide (CO) emitted from mobile and stationary combustion sources.

The proposed solution is to facilitate and allow the importation of this beneficial product into the United States with the subsequent application to mobile and industrial processes without each end user having to apply for an individual license to possess it. As there is the potential of millions of users an individual license for each application would prove to be burdensome for the state agencies issuing the individual licenses and to those who wished to use the devices. Amending CFR 40.13, (C), (2) to include language that will exempt the product from the licensing requirements of CFR 40 can accomplish this. The proposed language of exemption is highlighted below:



CFR 40.13 Unimportant quantities of source material.

CFR 40.13, (C)

“Any person is exempt from the regulation in this part and from the requirements for a license set forth in the Act to the extent that such person receives, possess, uses or transfers:

(2) Source material contained in the following products:

(The language of the amendment would be as follows):

(v) Any patented catalyst used in the treatment of fuel, gas or air streams for combustion processes, or other processes provided that the Thorium content does not exceed 6% by weight. The weight percentage to be calculated for either a homogenous mixture or as a coating on a substrate base, with the base and the coating being considered the same as a homogenous mixture, and the finished product is constructed in a manner that will prevent the exposure of the public to any radiation during the normal application and use of this technology.

While the environmental and quality of life benefits derived from the application of this technology are currently enjoyed by the citizens of Japan, and in the near future the citizens of China, it is not available to the citizens of the United States. The manufacturer has been approached by representatives of the government of China to sub-license the technology for use in their country as a way to reduce air pollution. We believe that it will be in the best interest of the citizens of this country to allow the amendment of CFR 40.13(C)(2) to allow the use of this technology in this country. Our interest in presenting this petition is twofold. First, our primary aim is to contribute to the cleaning up of the air that we all breath. Secondly, we have a monetary interest in that we have the secured from the inventor and holder of the U.S. and Japanese patents the rights for distribution of the product in this country.

With the advent and implementation of these devices the cost of air emissions pollution control to U.S. industry can be reduced over the cost of current methods. Thus enhancing the ability of U.S. industries to meet or exceed the strict air emission standards that we require of them.

Workers involved with the devices will be protected from exposure to radiation by the enclosing metal housing which does not allow access to

the Thorium bearing material. As the radiation from the Thorium bearing material is a low level the enclosing housings will effectively shield workers installing or handling the housings from any radiation exposure. As the devices are manufactured in Japan there are no U.S. workers exposed to direct contact with the Thorium bearing material.

Protection of the public is provided in several ways. First, by the shielding effect of the enclosing housings which prevent exposure to the radiation emitting material. This is accomplished by manufacturing the housings in such a way that they cannot be readily disassembled by the curious. Secondly, this is further enhanced by labeling warnings that instructs any person who handles, uses or comes in contact with the product to dispose of it only by returning it to the distributor for safe disposal. This instruction is also presented in the Material Safety Data Sheet (MSDS) which would be delivered with each device.

As the life cycle of the product is projected to be some 30 years it is expected that in the short term there would be no negative affect on the environment from disposal of the devices. In the long term, warning labels placed on the product would warn and direct all end users to only dispose of the product by returning it the distributor for safe disposal. The long-term affect on the environment would be reduced emissions of air pollutants from mobile and stationary combustion sources. It could also lead to a reduction in the volume of hydrocarbon fuels used.

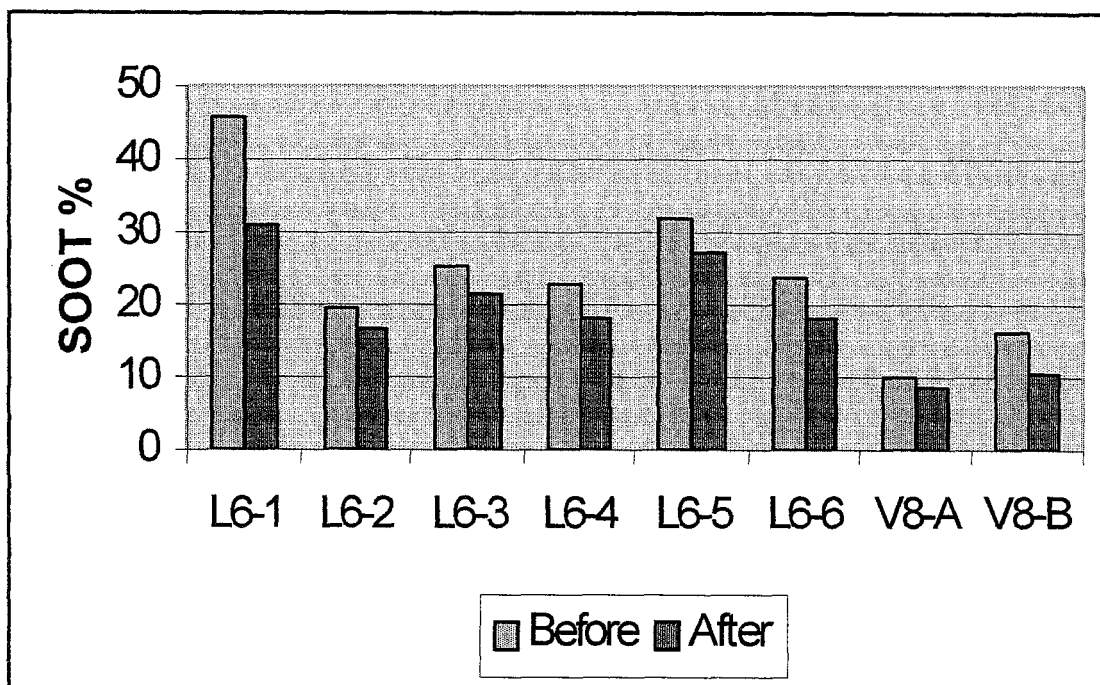
We believe that the product is a safe and cost effective method for contributing to the reduction of air pollution chemicals in the air in the United States and poses no adverse risk to the public or to workers involved in installing or removing the devices.

RELEVANT TECHNICAL INFORMATION

Honda Motor Company is currently installing the technology as a factory installed device on their diesel-powered vehicles. Usage of the technology on vehicles in Japan has demonstrated the reduction of air pollution chemicals and the reduction in fuel consumption. The pertinent data is listed in the tables below:

TEST DATA No. 1

Technology was originally developed to reduce soot emissions from diesel bus engines. Okayama Bus Line Company, diesel engines:



- Six buses with L6 diesel engine.
- Two buses with V8 diesel engine.
- Emission standard for diesel buses PM in Japan for buses manufactured before 1995 is 50% and for buses manufactured after 1995 is 25%.

TEST DATA No. 2

Applied to a Caterpillar/Mitsubishi diesel powered shovel:

	% PM (Soot) Reduction	
After Installation	Later	After 6 Months
50%	53%	81%

TEST DATA No. 3

1989 Mercedes Benz, gasoline fuel @ 86,095 Miles

MPH	NO _x ppm	NO _x Ppm	%R	CO %	CO %	%R	HC Ppm	HC ppm	%R
15	918	212	77%	0.23	0.03	86%	246	65	75%
25	165	130	21%	0.21	0.05	76%	105	60	43%

- %R = Percentage reduction in emission after product installed.
- NO_x = Nitrogen oxides.
- CO = Carbon Monoxide.
- HC = Hydrocarbons.

TEST DATA No. 4

1998 Mitsubishi van, 1500cc R-CB2V engine @ 23,500 km:

O ₂ %	O ₂ %	CO %	CO %	HC ppm	HC ppm
2.16	1.56	0.31	0.04	110	41

TEST DATA No. 5

Fuel usage reduction examples:

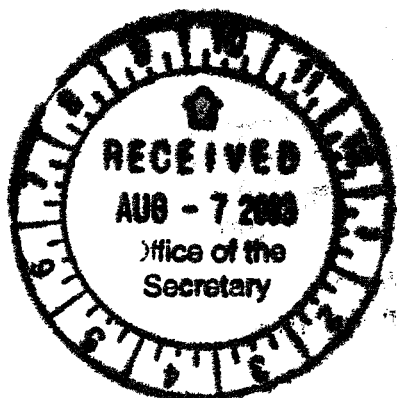
MAKE	MODEL	DATE	Km/L Before	Km/L After	% Fuel Savings
Nissan	Truck	08/21/01	2.604	2.886	10.83 %
Mitsubishi	Bus	10/30/01	2.878	3.122	08.48 %
Volvo	Truck	03/01/02	3.046	3.468	13.85 %
Mitsubishi	Truck	06/02/02	2.384	2.737	14.80 %
Mitsubishi	Truck	06/02/02	2.575	2.786	08.19 %
Nissan	Truck	06/02/02	2.507	2.859	14.04 %
Caterpillar	Shovel	12/21/01	26.75L/Hr	23.93L/Hr	11.78 %
Mitsubishi	Shario	12/26/01	7.343`	9.010	22.70 %
Toyota	2,000 cc	08/22/01	7.187	8.364	16.38 %
Nissan	1,700 cc	09/1/01	18.190	20.265	11.41 %
Mitsubishi	Minicar	08/09/01	11.071	17.045	53.96 %

In conclusion, we believe that the change in the CFR to allow use of the product in this country is appropriate in that it will benefit the citizens of the United States as it has the proven ability to:

- Increase the efficiency of combustion processes
- Result in a reduction of the use of hydrocarbon fuels
- Contribute to cleaner air by lowering air pollutant emissions
- Pose no hazard to users or the public

Sincerely,

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Pm 7/26/03