



THE PESSES CO.

January 17, 1978
(dictated 12/12/78)

APPLICATION FOR SOURCE MATERIAL LICENSE

AMENDMENT TO LICENSE NO. ST-1254

7. Addition - Other source material, such as 2% Thoriated Magnesium alloy scrap will be melted under a slag cover with other metals such as Nickel, Silicon, Copper, Iron, etc. The resultant product will be used as an addition agent of 1% maximum in ductile iron. Eventually, all of the Thoria will be tied up in an insoluble siliceous slag.
9. As described in Item No. 7, some of the materials are received as sheared plate and others as turnings. The turnings are oily and therefore do not generate fine particles. These will be briquetted and then melted; the sheared plate has no fine particles. These are placed into a furnace as 1/10th of a furnace charged with Nickel and Silicon in an induction furnace under a slag cover and then poured into pigs, so there are no airborne particles as fine particulate. In any case, the Thorium content of the metal is almost nil at this point in time. These pigs are used by iron and steel foundries as 1-2% of their charge. The Thoria content of the resultant slag will be less than 0.2%.
10. Dr. Marvin Pesses will supervise any radiation safety program required. However, it is our opinion that the precautions noted below are sufficient unto themselves, based upon many years of past experience.
11. While Vice President at Mercer Alloys, Greenville, Pennsylvania, we melted similarly, checked for radiation levels, and had no problems in this area. Both the sheared plate and the final pigs are handled with gloves. There are no airborne particles and no ventilation is required for this purpose.
12. (a) The source material is stored in 55 gallon heavy gauge steel drums. There is nothing that an explosion or fire will do to the Nickel source material, nor is there any potential for same. The Magnesium material is limited to 80 lb. drum which limits any possibility of fire. A small amount of sulfur and/or flux is commonly used to prevent Magnesium fire.
(b) and (c) We do not believe any is needed, but would be willing to comply with AEC recommendations.
13. The waste slag will be buried and/or stored on our 22 acres of land in conformity with NRC requirements.