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Creating a multi-national development platform: Thorium energy and rare earth value chain

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Rare earths and Thorium are linked at the mineralogical level. Changes in Thorium regulations and liabilities resulted in the development of excessive market concentrations in the rare earth value chain. High value Monazite rare earth resources, a byproduct of heavy mineral sands mining, constituted a significant portion of global rare earth supply (and nearly 100% of heavy rare earths) until legislative changes, interpretation and enforcement regarding "source materials"in the early 1980s eliminated these materials from the supply chain.

Thorium bearing rare earth byproducts from existing non-rare earth mining operations outside of China could potentially meet or exceed global rare earth demand if the existing 'Thorium problem'is resolved.

A recently introduced bill in the United States Congress resolves the 'Thorium problem'and is structured to create a fully integrated rare earth value chain structured as a multi-national rare earth cooperative.

This author will outline the structure and objectives of the legislation that are intended to:

1) utilizing better utilize existing and available rare earth resources,
2) create a Federally Chartered Rare Earth Cooperative (and Thorium Corporation),
3) establish a full value chain for rare earth metals, alloys, magnets and components
4) outline that this can/will be funded and owned by multi-national corporations, defense contractors, allied nation agencies, and organizations

More importantly, the bill also creates a federally chartered Thorium Energy and Industrial Products Corporation that will take and hold all Thorium and related Actinide liabilities from the Rare Earth Cooperative, its owners and its suppliers.

The Thorium Corporation will be given Congressional authority to establish a multi-national corporate platform:

1) to develop industrial uses and markets for Thorium (including decay products) that include

i. alloys
ii. catalysts
iii. medical isotopes

2) and for the commercial development of Thorium energy systems, that include

a) solid fuels from Thorium
b) solid fuel reactor technology
c) liquid fuel reactors technology, including

i. electric power
ii. thermal energy
iii. liquid fuel production
iv. desalination
v. nuclear waste reduction (actinide burners)
vi. hardened and deployable energy systems

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