Improved Security, Safety & Manufacturability of the Reliable Replacement Warhead

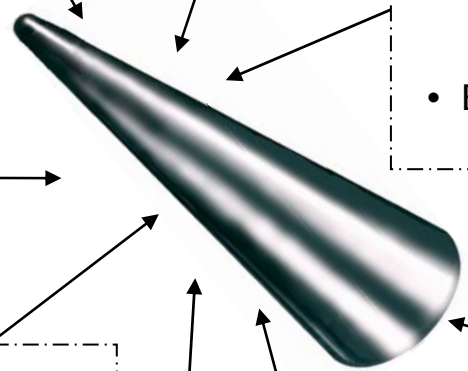
National Nuclear Security Administration

High Explosive:
- Conventional replaced by Insensitive High Explosives to prevent accidental detonation
- Reduced manufacturing and assembly constraints

Secondary:
- Reduced quantities of nuclear material
- Fewer parts

Interstage:
- Toxic, brittle material replaced
- Expensive, "specialty" material replaced, eliminating need for unique facilities

Detonator:
- Advanced safety technologies



Security/Use Control:
- Modern security features added to render useless in the wrong hands

Pit:
- Fire resistance added
- Toxic, brittle material replaced
- Simplified designs to eliminate manufacturing steps
- Alternate processes to reduce hazardous scrap and radiation exposure

Radiation Case:
- Simplified design to enable easier processes
- Significantly more manufacturable material
- Greatly reduced hazardous waste

Assembly and disassembly
- Processes simplified