CLAIMS

1. A treatment facility comprising:

a vault, having walls, ceiling, and a foundation; and

within the vault, a material conveying system configured to convey biomass under an electron beam, wherein each of the walls comprises a plurality of discrete units.

2. The facility as in claim 1, wherein the ceiling comprises a plurality of discrete units.

3. The facility as in claim 1, wherein the vault is re-configurable.

4. The facility as in claim 1, further comprising an electron irradiation device supported by the ceiling of the vault and disposed to irradiate biomass conveyed by the conveying system.

5. The facility as in claim 4, wherein the irradiation device weighs at least 5 Tons.

6. The facility as in claim 4, wherein the irradiation device weighs at least 10 tons.

7. The facility as in claim 4, wherein the irradiation device weighs between about 5 and about 20 tons.

8. The facility as in claim 1, wherein the foundation comprises a concrete slab.

9. The facility as in claim 1, wherein the walls comprise interlocking blocks.

10. The facility as in claim 1, wherein the walls support a network of I-beams and the network of I-beams supports ceiling panels.

11. The facility as in claim 1, wherein the walls, ceiling and foundation are at least about 4 feet thick.

12. The facility as in claim 1, wherein the walls, ceiling and foundation include concrete and the concrete is selected from the group consisting of regular concrete, high density concrete, pre-tensioned concrete, lead containing concrete, rebar containing concrete and combinations thereof.

13. The facility as in claim 1, wherein the vault further comprises a substantially radiation opaque door.

14. The facility as in claim 13, wherein the door comprises a steel interior in contact with a front and back layer comprising lead.

15. The facility as in claim 1, further comprising an opening for continuously supplying biomass into the vault and to the conveyor, and openings for a continuous loop conveyor for continuously removing biomass from the conveyor and out of the vault.

16. A method of treating a biomass material, the method comprising;

irradiating a lignocellulosic biomass with an electron beam, in a vault having a foundation, walls and a ceiling,

wherein each of the walls comprise a plurality of discrete units.

17. The method of claim 16, wherein the ceiling comprises a plurality of discrete units.

18. The method of claim 17, wherein the walls support a network of I-beams and the network of I-beams supports the ceiling.

19. The method of claim 16, wherein the walls comprise interlocking blocks.

20. The method of claim 16, wherein the walls, ceiling and foundation include concrete and the concrete is selected from the group consisting of regular concrete, high density concrete, pre-tensioned concrete, lead containing concrete, rebar containing concrete and combinations thereof.

21. The method of claim 16, wherein the vault is re-configurable, and

the method comprises re-configuring the vault after irradiating the biomass and irradiating a second biomass in the re-configured vault.

22. The method of claim 16, wherein the lignocellulosic material is in the form of a lumber product.

23. The method of claim 16, wherein the lignocellulosic material is selected from the group consisting of wood, particle board, sawdust, agricultural waste, sewage, silage, grasses, rice hulls,

bagasse, cotton, jute, hemp, flax, bamboo, sisal, abaca, straw, com cobs, com stover, switchgrass, alfalfa, hay, coconut hair, seaweed, algae and mixtures thereof.

24. The method of claim 16, wherein the conveyor comprises a vibratory conveyor.