flywheel energy storage systems so the system selectively outputs power or absorbs power responsive to the frequency regulation signals.

18. The AC frequency regulation system of claim 16, wherein the controller controls the adjustable load and the plurality or more of flywheel energy storage systems so that a determined amount of power is diverted from the adjustable load so as to be outputted by the system to the electrical distribution network.

19. The AC frequency regulation system of claim 17, wherein the controller controls the adjustable load and the array of flywheel energy storage systems so that a determined amount of power is diverted from the adjustable load so as to be outputted by the system to the electrical distribution network.

20. The AC frequency regulation system of claim 18, wherein the controller controls the adjustable load and the plurality or more of flywheel energy storage systems so that a determined amount of power also is outputted from the plurality of flywheel energy storage systems and thus outputted by the system to the electrical distribution network.

21. The AC frequency regulation system of claim 19, wherein the controller controls the adjustable load and the array of flywheel energy storage systems so that a determined amount of power also is outputted from array of flywheel energy storage systems and thus outputted by the system to the electrical distribution network.

22. The AC frequency regulation system of claim 16, wherein the controller controls the adjustable load and the plurality or more of flywheel energy storage systems so that a determined amount of power is absorbed by the adjustable load from the electrical distribution network.

23. The AC frequency regulation system of claim 17, wherein the controller controls the adjustable load and the array of flywheel energy storage systems so that a determined amount of power is absorbed by the adjustable load from the electrical distribution network.

24. The AC frequency regulation system of claim 22, wherein the controller controls the adjustable load and the plurality or more of flywheel energy storage systems so that a determined amount of power also is absorbed by the plurality of flywheel energy storage systems from the electrical distribution network.

25. The AC frequency regulation system of claim 23, wherein the controller controls the adjustable load and the array of flywheel energy storage systems so that a determined amount of power also is absorbed by the array of flywheel energy storage systems from the electrical distribution network.

26. An AC frequency regulation system for regulating AC frequency of electrical power being distributed to an electrical distribution network that is connected to one or more electrical loads and to one or more power sources, said system comprising:

a plurality or more of flywheel energy storage systems, the plurality or more of flywheel energy storage systems being arranged to form an array, where the array of the plurality or more of flywheel energy storage systems is electrically coupled to the electrical distribution network;

an adjustable load;

a controller being operable coupled to each of the plurality of flywheel energy storage systems of the array and the adjustable load, the controller being responsive to frequency regulation signals generated external to said system; and

wherein said controller is configured and arranged to control operation of each of the plurality or more of flywheel energy storage systems of the array and the adjustable load, responsive to the frequency regulation signals, so said system one of outputs an amount of electrical energy to the electrical distribution network or absorbs an amount of electrical energy from the electrical distribution network so as to regulate the AC frequency of the electrical power being distributed to the electrical distribution network so as to be at or about a desired AC frequency.

27. The AC frequency regulation system of claim 26, wherein the controller controls the adjustable load and the plurality or more of flywheel energy storage systems of the array so that a determined amount of power is diverted from the adjustable load so as to be outputted by the system to the electrical distribution network.

28. The AC frequency regulation system of claim 27, wherein the controller controls the adjustable load and the plurality or more of flywheel energy storage systems of the array so that a determined amount of power also is outputted from the plurality of flywheel energy storage systems and thus outputted by the system to the electrical distribution network.

29. The AC frequency regulation system of claim 26, wherein the controller controls the adjustable load and the plurality or more of flywheel energy storage systems so that a determined amount of power is absorbed by the adjustable load from the electrical distribution network.

30. The AC frequency regulation system of claim 22, wherein the controller controls the adjustable load and the plurality or more of flywheel energy storage systems of the array so that a determined amount of power also is absorbed by the plurality of flywheel energy storage systems from the electrical distribution network.

31. The AC frequency regulation system of claim 26, wherein the plurality or more of flywheel energy storage systems are arranged so as to form a plurality or more of arrays, each of the plurality or more arrays including a plurality or more of flywheel energy storage systems.

32. The AC frequency regulation system of claim 26, wherein the array comprises 4 or more flywheel energy storage systems.

33. The AC frequency regulation system of claim 26, wherein the array comprises 7 or more flywheel energy storage systems.

34. The AC frequency regulation system of claim 26, wherein the array comprises 10 flywheel energy storage systems.

35. The AC frequency regulation system of claim 26, wherein each of the plurality of arrays array comprises one of 4 or more flywheel energy storage systems, 7 or more flywheel energy storage systems, or 10 flywheel energy storage systems.

36. The AC frequency regulation system of claim 31, wherein the system comprises 40 arrays of flywheel energy storage systems.

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