grid, a data storage associated with the grid device, the data storage including a plurality of memory locations and configured to store the operational data in one or more of the plurality of memory locations, the grid device further configured to communicate a link corresponding to any of the memory locations in the data storage to a central power grid authority that manages the power grid and a plurality of grid devices within the power grid; the grid device further configured to receive a request from the central power grid authority for access to operational data of a memory location or locations associated with a link included in the request; and the grid device further configured to respond to the request by transmission to the central power grid authority of the operational data of a memory location or locations in accordance with the corresponding link included in the request.

[0008b] According to a second aspect of the present invention, there is provided a method for data management for a power grid, the method comprising: sensing, using an electrical device positioned in a section of a power grid, operational data, including at least an electrical parameter in the section of the power grid; storing the operational data in a memory location of a data storage device, the data storage device associated with the electrical device and proximate to the electrical device; sending, to a central power grid authority that manages the power grid, a link corresponding to any of the memory locations of the data storage device; receiving, from the central power grid authority, a request for access to operational data of a memory location or locations associated with a link included in the request; and responding to the request by transmitting to the central power grid authority the operational data of a memory location or locations in accordance with the corresponding link included in the request.

[0009] One example of the management system that may manage a smart grid disclosed below is the Intelligent Network Data Enterprise (hereinafter, termed INDE) Reference Architecture. The INDE Reference Architecture enables integration of intelligent or smart grids into the electric power industry (or other types of industries). Further, management of

Claims:

1. A data management system for a power grid, including:

a grid device positioned in a section of a power grid, the grid device configured to sense operational data in the section of the power grid, the operational data including at least an electrical parameter associated with the power grid,

a data storage associated with the grid device, the data storage including a plurality of memory locations and configured to store the operational data in one or more of the plurality of memory locations,

the grid device further configured to communicate a link corresponding to any of the memory locations in the data storage to a central power grid authority that manages the power grid and a plurality of grid devices within the power grid;

the grid device further configured to receive a request from the central power grid authority for access to operational data of a memory location or locations associated with a link included in the request; and

the grid device further configured to respond to the request by transmission to the central power grid authority of the operational data of a memory location or locations in accordance with the corresponding link included in the request.

2. A data management system according to claim 1, wherein the grid device is a first grid device, the first grid device configured to query the central power grid authority for a link associated with a second grid device included within the power grid.

3. A data management system according to either claim 1 or claim 2, wherein the first grid device is further configured to use the link received from the central power grid authority in response to the query to access operational data sensed by the second grid device.

4. A data management system according to any one of the preceding claims, wherein the grid device further includes a processor configured to communicate with the data storage associated with the grid device, the processor further configured to analyze the operational data to determine at least one analytical determination of the operation of the power grid.

5. A data management system according to claim 4, wherein the data storage is further configured to store the at least one analytical determination in a memory location included among the plurality of memory locations and the link corresponding to any of the memory locations includes the memory location of the at least one analytical determination.

6. A data management system according to either claim 4 or claim 5, wherein the at least one analytical determination by the grid device includes a prediction of a potential fault.

7. A data management system according to any one of claims 4 to 6, wherein the at least one analytical determination by the grid device includes a determination of a past fault or a present fault.

8. A data management system according any one of the preceding claims, wherein the central power grid authority is configured to store the link in a central data storage associated with the central power grid authority.

9. A data management system according to claim 8, wherein the central data store is configured to store the link and does not store data stored in the memory location.

10. A data management system according to any one of the preceding claims, wherein the grid device within the power grid includes a substation, and the data storage associated with the grid device includes a memory located in or on the substation.

11. A data management system according to any one of the preceding claims, wherein the grid device within the power grid includes a feeder circuit.

12. A data management system according to any one of the preceding claims, wherein the section of the power grid is operable at a voltage less than 23K Volts.

13. A data management system according to any one of the preceding claims, wherein the grid devices within the power grid includes a meter at a customer premises.

14. A method for data management for a power grid, the method including:

sensing, using an electrical device positioned in a section of a power grid, operational data, including at least an electrical parameter in the section of the power grid;

storing the operational data in a memory location or locations of a data storage device, the data storage device associated with the electrical device and proximate to the electrical device;

sending, to a central power grid authority that manages the power grid, a link corresponding to any of the memory locations of the data storage device; and

receiving, from the central power grid authority, a request for access to operational data of a memory location or locations associated with a link included in the request; and

responding to the request by transmitting to the central power grid authority the operational data of a memory location or locations in accordance with the corresponding link included in the request.

15. A method according to claim 14, wherein the electrical device is a first electrical device, and the request that includes the link is received from a second electrical device included in the power grid.

16. A method according to either claim 14 or claim 15, wherein the link is a first link and the method further including the step of analyzing, using a processor, the operational data to make at least one analytical determination of the operation of the power grid; the storing step further includes storing the at least one analytical determination in a memory location of the storage device; and the sending step further includes sending, to the central power grid authority, a second link indicative of the memory location of the at least one analytical determination.

17. A method according to any one of claims 14 to 16, wherein the step of sensing, using the electrical device positioned in a section of a power grid includes sensing operational data of a substation.

18. A method according to anyone of claims 14 to 17, wherein the step of sensing, using the electrical device positioned in a section of a power grid includes sensing operational data of a feeder circuit.