CLAIMS:

1. A power transmission and distribution system comprising:

a power source side;

a load side; and

a plurality of power converters on each of the power source side and the load side, wherein the power source side converters and the load side converters are each configured to provide a modular stacked dc converter architecture, and further wherein the power source side converters are configured to share the load equally or in proportion to their individual power ratings based on corresponding droop curves representative of link current magnitude data and average output voltage data of the power source side converters.

2. The power transmission and distribution system according to claim 1, wherein each power source side converter comprises a dc-side.

3. The power transmission and distribution system according to claim 2, wherein each dc-side converter is an independently programmable converter, such that each dc-side converter generates an output voltage in response to corresponding droop curve data programmed therein.

4. The power transmission and distribution system according to claim 3, wherein the output voltage corresponds to a droop curve operating point corresponding to each dc-side converter.

5. The power transmission and distribution system according to claim 2, wherein the modular stacked dc converter architecture comprises at least two dc-side converters sharing a common operating point.

6. The power transmission and distribution system according to claim 2, wherein the modular stacked dc converter architecture comprises at least two dc-side converters that do not share a common operating point.

7. The power transmission and distribution system according to claim 2, wherein the modular stacked dc converter architecture comprises at least two dc-side converters having a common power rating.

8. The power transmission and distribution system according to claim 2, wherein the modular stacked dc converter architecture comprises at least two dc-side converters having power ratings that are different from one another.

9. The power transmission and distribution system according to claim 1, wherein the power source side converters are further configured to share the load equally or in proportion to their individual power ratings in the absence of a communication link between the power source side converters.

10. The power transmission and distribution system according to claim 1, wherein the system is devoid of any data communication link between the power source side converters.

11. The power transmission and distribution system according to claim 1, wherein the load side is a sub-sea load side.

12. A power transmission and distribution system comprising:

a power source side;

a load side; and

a plurality of power converters on each of the power source side and the load side, wherein the power source side converters and the load side converters

are each configured to provide a modular stacked dc converter architecture, and further wherein the power source side converters are configured to share the load equally or in proportion to their individual power ratings in the absence of a communication link between the power source side converters.

13. The power transmission and distribution system according to claim 12, wherein each power source side converter comprises a dc-side such that each dc-side converter is configured to share the load equally or in proportion to their individual power ratings based on corresponding droop curves representative of link current magnitude data and average output voltage data of each of the dc-side converters.

14. The power transmission and distribution system according to claim 13, wherein each dc-side converter is an independently programmable dc-side converter, such that each dc-side converter generates an output voltage in response to corresponding droop curve data programmed therein.

15. The power transmission and distribution system according to claim 14, wherein the output voltage for each dc-side converter corresponds to its corresponding droop curve operating point.

16. The power transmission and distribution system according to claim 12, wherein the load side comprises a sub-sea load side.

17. The power transmission and distribution system according to claim 12, wherein the power source side converters comprise at least two dc-side converters sharing a common operating point.

18. The power transmission and distribution system according to claim 12, wherein the power source side converters comprise at least two dc-side converters that do not share a common operating point.

19. The power transmission and distribution system according to claim 12, wherein the power source side converters comprise at least two dc-side converters having a common power rating.

20. The power transmission and distribution system according to claim 12, wherein the power source side converters comprise at least two dc-side converters having power ratings that are different from one another.

CLAIMS

1. A power transmission and distribution system comprising:
a power source side;

a load side; and

a plurality of power converters on each of the power source side and the load side, wherein the power source side converters and the load side converters are each configured to provide a modular stacked dc converter architecture, wherein the connections, on the power source side converters, between the outputs of a first stacked DC-DC power source side converter and a second stacked DC-DC power source side converter are in series to the inputs of a first stacked DC-DC power load side converter and a second stacked DC-DC power load side converter, and further wherein the power source side converters are configured and programmed to share a load equally or in proportion to their individual power ratings, wherein the load sharing associated with each power source side converter is based on a corresponding link current versus average output voltage droop curve programmed therein, and to adjust a corresponding link current versus average output voltage droop curve operating point in response to a corresponding magnitude of link current and a corresponding average output voltage associated with the power source side converter.

2. The power transmission and distribution system according to claim **1**, wherein each power source side converter comprises a dc-side.

3. The power transmission and distribution system according to claim **2**, wherein each dc-side converter is an independently programmable converter, such that each dc-side converter generates an output voltage in response to corresponding droop curve data programmed therein.

4. The power transmission and distribution system according to claim **3**, wherein the output voltage corresponds to a droop curve operating point corresponding to each dc-side converter.

5. The power transmission and distribution system according to claim **2**, wherein the modular stacked dc converter architecture comprises at least two dc-side converters sharing a common operating point.

6. The power transmission and distribution system according to claim **2**, wherein the modular stacked dc converter architecture comprises at least two dc-side converters that do not share a common operating point.

7. The power transmission and distribution system according to claim **2**, wherein the modular stacked dc converter architecture comprises at least two dc-side converters having a common power rating.

8. The power transmission and distribution system according to claim **2**, wherein the modular stacked dc converter architecture comprises at least two dc-side converters having power ratings that are different from one another.

9. The power transmission and distribution system according to claim **1**, wherein the power source side converters are further configured and programmed to operate independently of each other.

10. The power transmission and distribution system according to claim **1**, wherein the load side is a sub-sea load side.