CLAIMS

1.- A system for supplying electrical energy, in particular to an on-board network of a submarine, of the type including electrical energy storage means (1) based on lithium batteries and means (5, 10, 12) for distributing this energy to user loads of the network, these distributing means including one or more means (9, 11, 14) for cutting off and isolating one or more branches (13) for connection of the user loads of the network in particular in the event of a short-circuit, characterized in that it includes:

- means (17) for monitoring the evolution of output current of the energy storage means in order to detect the occurrence of a short-circuit in the network,

- means (6, 7, 8) for disconnecting the energy storage means from a part of the network in the event of such a detection,

- means (15) for generating a controlled short-circuit current, in order to trigger the operation of the cutoff and isolation means (14) associated with a short-circuited branch (13) among the one or more branches, so as to isolate the short-circuited branch from said part of the network,

- means (16) for connection to the network for the means (15) for generating a controlled short-circuit current,

- means (16) for disconnecting the means (15) for generating a controlled short-circuit current from the network, and

- means (6, 7, 8) for reconnecting the electrical energy storage means to said part of the network.

2.- The supply system according to claim 1, characterized in that the means (17) for monitoring the evolution of the current delivered by the electrical energy storage means include means for analyzing the variation of this current over time in order to detect the appearance of a short-circuit once this variation exceeds a predetermined threshold.

3.- The supply system according to claim 1 or 2, characterized in that the electrical energy storage means (1) include several branches in parallel (2, 3, 4), each of which include disconnection means (6, 7, 8).

4.- The supply system according to any one of the preceding claims, characterized in that the disconnection means (6, 7, 8) of the battery include controlled semiconductor switching members.

5.- The supply system according to claim 4, characterized in that the controlled semiconductor switching members comprise MOSFET transistors.

6.- The supply system according to any one of the preceding claims, characterized in that the cutoff and isolating means of the branches for connection of the user loads comprise circuit breakers (14).

7.- The supply system according to any one of the preceding claims, characterized in that the distribution means comprise at least one battery panel (5), at least one main panel (10) and at least one secondary panel (12) for distribution of electrical energy, connected between the energy storage means and the user loads.

8.- The supply system according to any one of the preceding claims, characterized in that it further includes means (20) for measuring isolation from said part of the network after disconnection of the energy storage means, to avoid reconnecting these storage means to the network, if an isolation fault of the network is detected.