

What is claimed is:

1. A method comprising:

providing a completion tool disposed within a wellbore penetrating at least a portion of a subterranean formation, wherein the completion tool is electrically coupled to an at least partially passivated lithium battery;

depassivating the at least partially passivated lithium battery in the wellbore by discharging the lithium battery; and

powering the completion tool with the at least partially depassivated lithium battery.

2. The method of claim 1, wherein the depassivating occurs in response to a signal received by the completion tool.

3. The method of claim 1, further comprising measuring battery performance and depassivating the at least partially passivated lithium battery if the battery performance measurement is indicative of passivation.

4. The method of claim 1, wherein the depassivating occurs automatically according to a predetermined schedule.

5. The method of claim 1, wherein the depassivating comprises discharging the at least partially passivated lithium battery to at least one of a resistor, a varistor, or a diode.

6. The method of claim 1, wherein the discharging does not provide any power to the completion tool.

7. The method of claim 1, wherein the completion tool is a flow control device.

8. The method of claim 7, wherein the completion tool is an electronic inflow control device.

9. The method of claim 1, wherein the depassivating comprises drawing a constant current from the at least partially passivated lithium battery for a period of time.

10. The method of claim 1, wherein one of the at least partially passivated lithium battery comprises a lithium thionyl chloride cell or the at least partially passivated lithium battery comprises a lithium secondary cell.

11. A system comprising:

a production string disposed in a wellbore penetrating at least a portion of a subterranean formation; and

a completion tool coupled to the production string, wherein the completion tool comprises a lithium battery and a controller configured to depassivate the lithium battery by drawing current from the lithium battery.

12. The system of claim 11, wherein the controller is configured to at least one of draw current from the lithium battery in response to at least one of a signal or a measurement of battery performance and to automatically depassivate the lithium battery.
13. The system of claim 11, wherein the current drawn from the lithium battery flows to a control circuit comprising at least one of a resistor, varistor, or diode.
14. The system of claim 11, wherein the completion tool is not coupled to an external power source other than the lithium battery.
15. The system of claim 11, wherein the completion tool further comprises circuitry for measuring battery resistance.