CLAIMS:

1. A surgical generator configured to generate and provide a therapeutic signal to biological tissue in electrical communication with a surgical instrument, the surgical generator comprising:

a control circuit in communication with an electrical-energy source, the electrical-energy source electrically coupled to the instrument and configured to generate the therapeutic signal, the control circuit configured to:

control an energy delivery of the therapeutic signal provided to the biological tissue during at least one of an interrogation phase and a first drying phase;

after completion of at least the first drying phase, compare an amount of energy delivered to the biological tissue during the at least one of the interrogation phase and the first drying phase to a threshold energy value; and

adjust delivery of the therapeutic signal based on the comparison.

2. The surgical generator of claim 1, wherein the control circuit is configured to:

control an electrical power of the therapeutic signal provided to the biological tissue.

3. The surgical generator of claim 1, wherein the control circuit is configured to:

control a voltage of the therapeutic signal provided to the biological tissue.

4. The surgical generator of any of claims 1-3, wherein the control circuit configured to adjust delivery of the therapeutic signal based on the comparison is configured to:

control the energy delivery of the therapeutic signal provided to the biological tissue during a second drying phase if the amount of energy delivered exceeds the threshold energy value.

5. The surgical generator of any of claims 1-3, wherein the control circuit configured to adjust delivery of the therapeutic signal based on the comparison is configured to:

control the energy delivery of the therapeutic signal provided to the biological tissue during a finishing phase if the amount of energy delivered is less than the threshold energy value.

6. The surgical generator of any of claims 1-5, comprising:

a measurement circuit coupled to the control circuit and configured to measure an impedance of the biological tissue;

wherein the control circuit is configured to:

determine a power ramp rate for delivery of the therapeutic signal based on the measured impedance.

7. The surgical generator of claim 6, wherein the control circuit is configured to:

determine a difference between first and second measured impedances; and

adjust the power ramp rate in response to the determined difference being less than a predetermined delta impedance value.

8. The surgical generator of claim 7, wherein the control circuit configured to adjust the power ramp rate in response to the determined difference being less than the predetermined delta impedance value is configured to:

increase the power ramp rate until either the determined difference is equal to or greater than the predetermined delta impedance value or the amount of energy delivered is equal to or greater than the threshold energy value.

9. The surgical generator of any of claims 1-8, comprising:

a measurement circuit coupled to the control circuit and configured to measure an impedance of the biological tissue;

wherein the control circuit is configured to:

during a finishing phase:

initiate a timer;

determine a difference between measured impedances and compare the determined difference to a predetermined delta impedance value; and

in response to the determined difference being equal to or greater than the predetermined delta impedance value and the timer being greater than a threshold time limit, generate an error signal.

10. The surgical generator of claim 9, wherein the error signal is an open circuit error signal.

11. The surgical generator of any of claims 1-10, wherein the control circuit configured to adjust delivery of the therapeutic signal based on the comparison is configured to:

repeat a drying phase.

12. A method of operating a surgical generator configured to generate and provide a therapeutic signal to biological tissue in electrical communication with a surgical instrument, wherein the surgical generator includes a control circuit in communication with an electrical-energy source, the electrical-energy source electrically coupled to the instrument and configured to generate the therapeutic signal, the method comprising:

controlling an energy delivery of the therapeutic signal provided to the biological tissue during at least one of an interrogation phase and a first drying phase;

after completion of at least the first drying phase, comparing an amount of energy delivered to the biological tissue during the at least one of the interrogation phase and the first drying phase to a threshold energy value; and

adjusting delivery of the therapeutic signal based on the comparison.

13. The method of claim 12, comprising:

controlling an electrical power of the therapeutic signal provided to the biological tissue.

14. The method of claim 12, comprising:

controlling a voltage of the therapeutic signal provided to the biological tissue.

15. The method of any of claims 12-14, wherein adjusting delivery of the therapeutic signal based on the comparison includes:

controlling the energy delivery of the therapeutic signal provided to the biological tissue during a second drying phase if the amount of energy delivered exceeds the threshold energy value.

16. The method of any of claims 12-14, wherein adjusting delivery of the therapeutic signal based on the comparison includes:

controlling the energy delivery of the therapeutic signal provided to the biological tissue during a finishing phase if the amount of energy delivered is less than the threshold energy value.

17. The method of any of claims 12-16, comprising:

measuring an impedance of the biological tissue; and

determining a power ramp rate for delivery of the therapeutic signal based on the measured impedance.

18. The method of claim 17, comprising:

determining a difference between first and second measured impedances; and

adjusting the power ramp rate in response to the determined difference being less than a predetermined delta impedance value.

19. The method of claim 18, wherein adjusting the power ramp rate in response to the determined difference being less than the predetermined delta impedance value includes:

increasing the power ramp rate until either the determined difference is equal to or greater than the predetermined delta impedance value or the amount of energy delivered is equal to or greater than the threshold energy value.

20. The method of any of claims 12-19, comprising:

during a finishing phase:

initiating a timer;

determining a difference between measured impedances and compare the determined difference to a predetermined delta impedance value; and

in response to the determined difference being equal to or greater than the predetermined delta impedance value and the timer being greater than a threshold time limit, generating an error signal.

21. A surgical generator configured to generate and provide a therapeutic signal to biological tissue in electrical communication with a surgical instrument, the surgical generator comprising:

a control circuit in communication with an electrical-energy source, the electrical-energy source electrically coupled to the instrument and configured to generate the

therapeutic signal, the control circuit configured to:

control an energy delivery of the therapeutic signal provided to the biological tissue during at least one of an interrogation phase and a first drying phase;

after completion of at least the first drying phase, compare an amount of charge delivered to the biological tissue during the at least one of the interrogation phase and the first drying phase to a charge threshold value; and

adjust delivery of the therapeutic signal based on the comparison.

22. The surgical generator of claim 21, wherein the control circuit configured to adjust delivery of the therapeutic signal based on the comparison is configured to:

control the energy delivery of the therapeutic signal provided to the biological tissue during a second drying phase if the amount of current delivered exceeds the charge threshold value.

23. The surgical generator of claim 21, wherein the control circuit configured to adjust delivery of the therapeutic signal based on the comparison is configured to:

control the energy delivery of the therapeutic signal provided to the biological tissue during a finishing phase if the amount of charge delivered is less than the charge threshold value.