WHAT IS CLAIMED IS:

1. A method for setting a downhole tool, comprising:

positioning a downhole tool within a wellbore, the downhole tool including expandable metal configured to expand in response to hydrolysis;

subjecting the expandable metal to a wellbore fluid to expand the expandable metal into contact with one or more surfaces; and

applying a voltage to the expandable metal while the expandable metal is being subjected to the wellbore fluid.

2. The method as recited in Claim 1, further including coupling a first electrode between a first connection of a power source and the expandable metal, and coupling a second electrode between a second connection of the power source and a downhole conductive feature3.

3. The method as recited in Claim 2, wherein at least a portion of the first electrode is electrically exposed to the wellbore fluid, or alternatively wherein at least a portion of the second electrode is electrically exposed to the wellbore fluid.

4. The method as recited in Claim 2, wherein an electrical insulator physically separates the expandable metal and the downhole conductive feature.

5. The method as recited in Claim 2, wherein the first connection is a positive terminal of the power source, thereby causing the expandable metal to function as an anode, and the second connection is a negative terminal of the power source, thereby causing the downhole conductive feature to function as a cathode.

6. The method as recited in Claim 2, wherein the downhole conductive feature is conductive tubing located within the wellbore, or alternatively wherein the power source is a direct current (DC) power source.

7. The method as recited in Claim 2, wherein the expandable metal is a first expandable metal feature and the downhole conductive feature is a second expandable metal feature.

8. The method as recited in Claim 7, wherein the first expandable metal feature and the second expandable metal feature are positioned radially about a conductive tubular, or alternatively further including one or more electrical insulators physically separating at least one of the first expandable metal feature and the second expandable from the conductive tubular.

9. The method as recited in Claim 7, wherein the power source is an alternating current (AC) power source, the alternating current (AC) power source causing the first expandable metal to alternate between functioning as an anode and a cathode and causing the second expandable metal feature to oppositely alternative between functioning as the cathode and the anode.

10. The method as recited in Claim 2, wherein the expandable metal is a slurry of expandable metal particles, and further including a conductive plate coupled to the first electrode for applying the voltage to the slurry of expandable metal particles.

11. The method as recited in Claim 1, wherein the voltage is a positive voltage operable to accelerate the expansion of the expandable metal, or alternatively wherein the voltage is a negative voltage operable to decelerate the expansion of the expandable metal, or alternatively wherein the voltage is a negative voltage operable to protect the expandable metal from acid corrosion.

12. The method as recited in Claim 1, wherein the voltage ranges from 0.01 volts to 200 volts, or alternatively wherein the voltage ranges from 0.5 volts to 10 volts, or alternatively wherein a current associated with the voltage ranges from 0.05 amps to 5 amps.

13. A downhole tool, comprising:

a downhole conductive feature;

expandable metal positioned proximate the downhole conductive feature, the expandable metal configured to expand in response to hydrolysis;

a first electrode coupled to the expandable metal and operable to couple to a first connection of a power source, and thereby provide a voltage to the expandable metal; and

a second electrode coupled to the downhole conductive feature and operable to couple to a second connection of the power source.

14. A well system, comprising:

a wellbore extending through one or more subterranean formations;

a power source, the power source including a first connection and a second connection; and

a downhole tool located within the wellbore, the downhole tool including;

a downhole conductive feature;

expandable metal positioned proximate the downhole conductive feature, the expandable metal configured to expand in response to hydrolysis;

a first electrode coupled between the expandable metal and the first connection of the power source, the first electrode operable to provide a voltage to the expandable metal; and

a second electrode coupled between the downhole conductive feature and the second connection of the power source.

15. The well system as recited in Claim 14, wherein the downhole conductive feature is conductive tubing positioned within the wellbore.

16. The well system as recited in Claim 14, wherein the expandable metal is a first expandable metal feature and the downhole conductive feature is a second expandable metal feature, or alternatively wherein the first expandable metal feature and the second expandable metal feature are positioned radially about a conductive tubular, or alternatively further including one or more electrical insulators physically separating at least one of the first expandable metal feature and the second expandable from the conductive tubular.

17. The well system as recited in Claim 14, wherein the power source is a downhole battery power supply, or alternatively wherein the power source is a downhole power generator, or alternatively wherein the power source is an uphole power source, and further including an electric line extending from the uphole power source to the downhole tool.