



2021 Award Nomination

Title of Innovation:

DCPro Cathodic Protection Power Supply

Nominee(s)

John Bollinger & Farwest Corrosion Control Company

Category:

Cathodic Protection

Coatings and Linings	Instrumentation
Cathodic Protection	Testing
Materials Design	Modeling/Risk Assessment
Chemical Treatment	Other—fill in

Dates of Innovation Development:

2018 through 2020

Web site:

www.farwestcorrosion.com

Summary Description:

The DCPro cathodic protection power supply is a new variation on switch-mode power utilized for the industry. It provides many new and needed features but in a simplified packaged that is made to look and “act” like a conventional C.P. power supply (rectifier). In addition, the DCPro line is a “two sizes fits most” product that is be a solution for 80% of the C.P. industry. Therefore, the DCPro is stocked and ready to ship shortening the normal “rectifier” delivery cycle from many weeks to a few days.

Full Description:

(Please provide complete answers to the questions below. Graphs, charts, and photos can be inserted to support the answers.)

1. What is the innovation?

An update to conventional C.P. rectifiers and simplification of new switch-mode power supplies.

2. How does the innovation work?

Similar to a conventional C.P. rectifier, but greatly improved, the DCPro provides highly efficient, "clean" DC power (without AC ripple) with many features now needed and even required by the C.P. industry

3. Describe the corrosion problem or technological gap that sparked the development of the innovation. How does the innovation improve upon existing methods/technologies to address this corrosion problem or provide a new solution to bridge the technology gap?

Conventional C.P. rectifiers are electrically very inefficient, difficult to adjust to an exact DC output level and have some operational issues. The DCPro greatly improves:

- Electrical efficiency, saving power and money.
- The ability to adjust the DC output with precision via a single rotary control knob.
- Output control as the DCPro is a constant current control system

In addition, the DCPro Includes many new features needed by the C.P. industry such as electronic interruption capabilities, an RMU interface, rejection of induced AC and more as seen in the provided brochure.

4. Has the innovation been tested in the laboratory or in the field? If so, please describe any tests or field demonstrations and the results that support the capability and feasibility of the innovation.

Yes. The DCPro power suppliers were laboratory tested for months and then sent to the field for more optional tests, which lasted almost 1 year.

5. How can the innovation be incorporated into existing corrosion prevention and control activities and how does it benefit the industry/industries it serves (i.e., does it provide a cost and/or time savings; improve an inspection, testing, or data collection process; help to extend the service life of assets or corrosion-control systems, etc.)?

The DCPro can be utilized on new or existing impressed current C.P. systems up to 50 amps DC

output. The DCPro is designed to easily replace conventional rectifiers and even fits inside most existing rectifier cabinets. Of course, there is a cost to buy the DCPro but projections indicate that it can pay for itself in as little as eight years in power savings alone.

6. Is the innovation commercially available? If yes, how long has it been utilized? If not, what is the next step in making the innovation commercially available? What are the challenges, if any, that may affect further development or use of this innovation and how could they be overcome?

The DCPro is now commercially available and in stock for immediate shipment.

7. Are there any patents related to this work? If yes, please provide the patent title, number, and inventor.

No. We chose not to patent the unit as other switch-mode power supplies exist in the industry. The DCPro is different in that it is much easier to install, configure and adjust than other competitive models while maintaining the look and “feel” of a conventional rectifier.

See: <https://www.farwestcorrosion.com/>