

Greenjacket® Precise fit cover-up delivers Reliability, ROI and Environmental Protection:

## AltaLink



**AltaLink Current Transformers and Bus**



**AltaLink Voltage Regulator**

AltaLink, a wholly-owned subsidiary of Berkshire Hathaway Energy, serves 85 percent of Albertans, and operates about 12,000 kilometers (7,500 miles) of transmission lines and 280 substations.

The reputation of any electricity provider is damaged by an outage event. AltaLink had tracked a significant number of substation outages caused by wildlife contacts. Outages had increased over 20% in the last decade, up from previous levels of 10% or less. With this statistic in hand, AltaLink attempted to address the situation by using a commercial off the shelf product. The off the shelf product was not effective and AltaLink was determined to find a solution to the wildlife-caused outages that were occurring.

Engineers at Greenjacket Inc. and AltaLink began working in 2003 to develop a precise-fit solution called Greenjacket®. The Greenjacket solution utilizes photogrammetric imaging as the basis to manufacture a precise-fit cover-up product made from a highly dielectric, polyurea material that meets the IEEE 1656 industry guideline for bird and animal cover-up.

As AltaLink's Chief Operating Officer, Dennis Frehlich is focused on making investment decisions that bring value to AltaLink's customers. "The investment decision in Greenjacket® to reduce wildlife outages at substations was an easy decision." Citing its cost effectiveness, Mr. Frehlich says, "Greenjacket® has consistently delivered 90% to 95% in outage reductions at our installed sites, saves customers downtime, and protects wildlife. There are few investments in our business that achieve those results."

"Greenjacket® has enabled us to further strengthen AltaLink's commitment to system reliability and environmental responsibility," according to Nikki Heck, AltaLink's Environmental Advisor. Ms. Heck adds, "Greenjacket Inc.'s Site Assessment Linemen and field reps that perform the site assessments get high marks; they are great to work with and respond quickly. Greenjacket Inc.'s employees are proud of their commitment to customer satisfaction."

### Greenjacket Inc.

27076 Burbank Street, Foothill Ranch, CA 92610, USA  
Toll Free Phone: 1.866.464.7996

sales@greenjacketinc.com  
www.greenjacketinc.com



**AltaLink 25kV AMI – Underground Termination**

Ken Tetzlaff, Maintenance Application Technician for AltaLink Management, said, "AltaLink uses Greenjacket® covers in our network substations. The product helps us to reduce and mitigate reliability risks associated with the bird and animal-based outages. Greenjacket Inc. worked closely with us to develop a unique and custom-based solution for the different types of equipment located in each station where cover-up was required. Engineered Greenjacket® covers are a precise fit and are easily removed and re-applied where access to connections or equipment is required. Based on the Greenjacket® history of preventing outages, we have incorporated them as a part of our engineering standards for cover-up in substations."

Specifically, AltaLink's engineering standard which defines the base level coverage to be applied to every substation, includes a detailed standard for the precise fit class of cover-up. And that standard is the Greenjacket® precise-fit solution. Every newly constructed substation is being hardened with a Greenjacket® solution on AltaLink's distribution voltage equipment.

The program is a win-win in terms of reducing bird electrocutions and the resulting outages and maintenance costs; it also results in significant savings to customers who expect highly reliable service. Statistics tracked by AltaLink, reveal a conservative Cost-Benefit analysis result with an internal rate of return of 17% to 33% and a payback of 3.5 to 7 years.

Greenjacket® has been such a success at AltaLink that in 2007 the program earned the President's Award of Excellence. The President's Award is an annual award to recognize the outstanding work and innovation of employees. According to AltaLink, "Greenjacket® forms an integral component of AltaLink's Avian Protection Plan (APP), a management system specifically designed to reduce bird impacts with electrical equipment and infrastructure."

To date, AltaLink has retrofitted approximately 125 of their 280 substations and the utility continues to aggressively target installations at existing substations on an annual basis.

For further information, please contact:

**Greenjacket Inc.**

**Marty Niles, President and Founder**  
780 448 9700 | [mniles@cantega.com](mailto:mniles@cantega.com)

**AltaLink**

**Nikki Heck, Environmental Advisor**  
406 267 2134 | [nikki.heck@altalink.ca](mailto:nikki.heck@altalink.ca)

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[sales@greenjacketinc.com](mailto:sales@greenjacketinc.com)  
[www.greenjacketinc.com](http://www.greenjacketinc.com)