CLOSING THE ISRU CYCLE: INTEGRATED FUEL CELL DEPLOYMENT. Authors: J. Richard – Electric Vehicle Controllers, R. Gopal – PACEAS Technologies, P. Laliberté – Natural Resources Canada, D. Boucher - Northern Centre for Advanced Technologies

During the 2008 analogue deployment at the Mauna Kea site in Hawaii it was noted that despite numerous successful examples of technology integration, a complete ISRU cycle was not validated. While the experimental processing plants on-site successfully performed the assigned tasks, there was no means with which to utilize the commodities produced.

During the planning of the 2010 Mauna Kea deployment, efforts were made to solidify the relationship between the producing experiments and the experiments that consumed the products developed. One such consumer was a 6kW fuel cell. This presentation will describe the relationships between numerous experiments and the fuel cell in both a static and mobile configuration, to demonstrate the closure of the ISRU cycle.