



BC Transit
HYBRID HYDROGEN FUEL CELL PROJECT
“The One Year (plus) Anniversary ”

To advance the application of fuel cell bus and hydrogen fueling infrastructure technologies from a demonstration mode to a commercial mode.

IMPLEMENTATION PHASES

Phase 1 – Procurement

Phase 2 – Operation/Evaluation

Phase 3 – Reporting/Recommendation

Scope

- Acquire a 20 fuel cell bus fleet through a commercial tendering process
- Construct a new maintenance and refueling facility to service the fleet
- Have the new fleet provide transit service during the Olympics

PHASE ONE – A SUCCESS

- The 20 Fuel Cell Bus Fleet provided transit service in Whistler during the Olympics
- The new Fleet was well received by the international community
- The World's largest hydrogen refueling station was opened in advance of the Olympic Games

Scope

- Operate the fuel cell buses as the backbone of the transit service in Whistler
- Evaluate bus and fueling performance, maintenance and service availability over this period

PHASE 2 - SUCCESSES

- Logged over 1 million km of service
- Availability for service has increased
- Number of road calls have dropped
- Refueling station has been 99.9% reliable
- Customer reaction very positive

PHASE 2 - CHALLENGES

- Increase the availability to the same rate as a diesel bus fleet
 - » Average daily roll out 72%, we want 85%

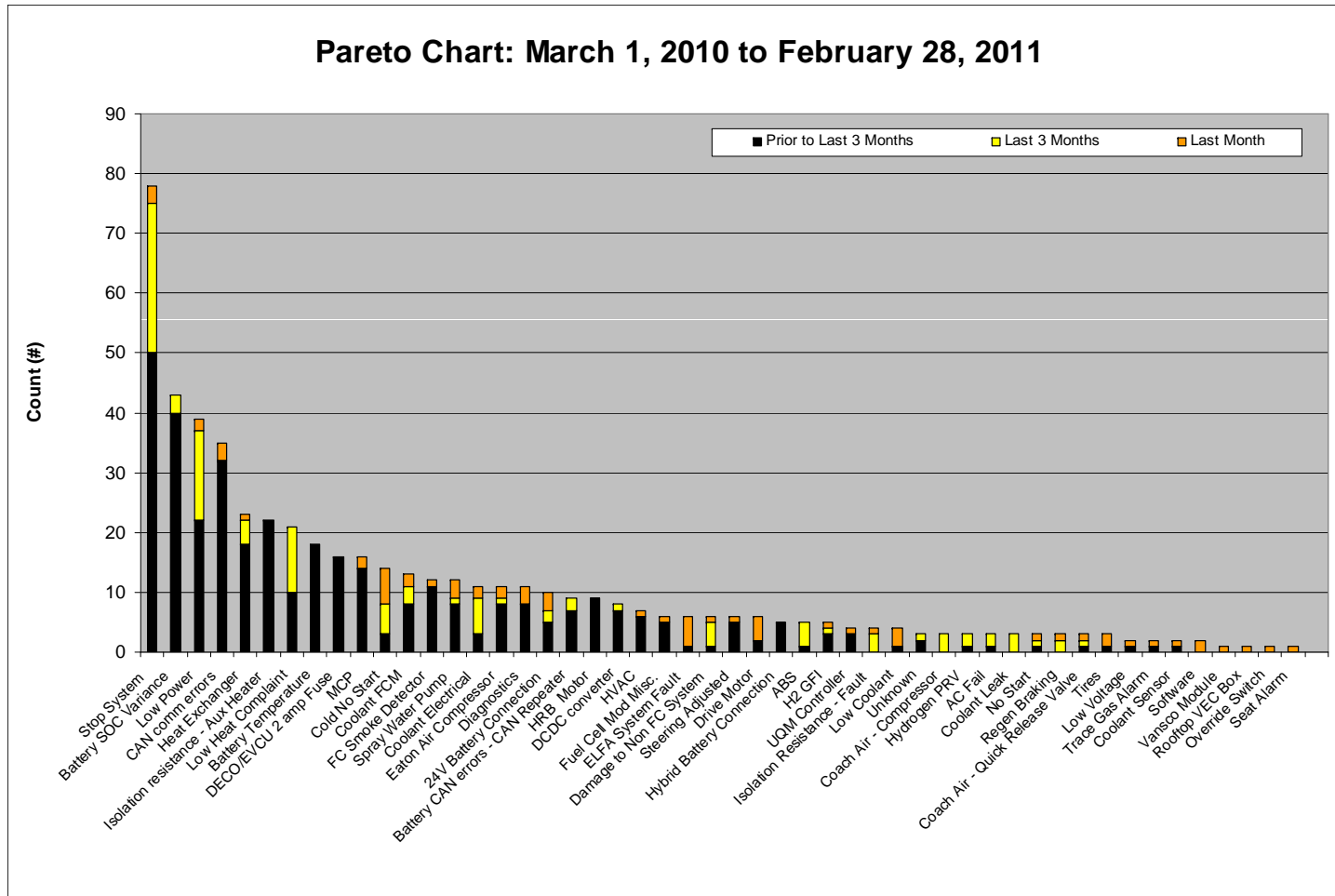
- Increase the range to minimize mid-day refueling
 - » Current summer range is 350km
 - » Current winter range is 240km
 - » Goal is 450km

- Optimize the time taken for preventative maintenance
 - » Currently taking 2.4hrs/1000km

STEPS BEING TAKEN

- New Flyer and Ballard support has been strong
- Committed to a quality product
- Extensive upgrade of hardware has occurred
- In the process of upgrading the software system
- Installing an additional tank (range should increase to 465km in the summer and 320 in the winter)
- Working as a team with Whistler Transit to improve the maintenance time
- All these initiatives have been at their own expense

Example of Improvement



- BC Transit is an active member of the Hydrogen Bus Alliance (HBA)
- HBA is an international organization representing transit operating companies
- Experience from 60 FCB deployments worldwide
- Acts as a source of knowledge and support for agencies who want to employ hydrogen fuel cell technology
- Key tool for information sharing



PHASE 3 REPORTING/RECOMMENDATION

Come back in 2014!