**APC Project meeting – October 4, 2013**

Teleconference call: 11:00 am – 12:00 pm

**Agenda**:

* Welcome to new partners: Brandon Hance (Novelis)
* Mechanical testing of sheet materials (DP600, TRIP780, AA5182-O:
  + Waterloo: tensile testing at different strain rates; status of EM ring expansion test (Task 1.2)
    - SHB tests on AA5182, ferritic steel and martensitic steel
  + CANMET: hydraulic bulge tests, Nakazima tests to determine as-received FLC
* Metallurgical characterization of materials (Task 1.6)
  + Javad completed his PhD dissertation (DP500, DP780, DP980)
  + Brent working on characterization of DP600
  + Arash starting to work on characterization of AA5182
* Amino industrial trials (full-scale dash panels)
  + Modifications to the die and the 2-step forming process (Task 3.2) completed
  + Sequential hydromechanical – EHF process (Task 3.3) April/May 2013
  + Schedule a day for students to attend the trials at Amino Fall 2013
  + Hybrid hydromechanical – EHF process (Task 7.3) 2014
  + Surface characterization of as-received sheets – Suppliers/Windsor (Task 1.4)
* Lab-scale EHF trials at Ford - (Task 4)
  + EH free-formed tests conducted on DP600 and AA5182: little or no change in formability
  + EH die-formed tests in 34° conical die, plane strain, to be continued
* Numerical simulations – (Task 2)
  + FE model developed for EH free-forming and die-forming using Eulerian mesh for the water and Lagrangian mesh for the sheet material
  + Rate-dependent VUMATS developed with various yield criteria (Hill48, Barlat-2D and -3D) and various hardening models (Johnson-Cook, Power law, KHL, modified KHL)
  + Micro-mechanical modelling of behaviour of DP600 steel (using RVE)
* Plan a face-to-face update meeting of the partnership in November, 2013
* Other agenda items