Gravel and Lightly Surfaced Road Rehabilitation Protocol Teleconference

Date of Teleconference: October 31st, 2007
Time of Teleconference: 9:00 am – 10:30 am

Invitees:

Chuck McMillan, Surface Standards Specialist, Alberta Infrastructure and Transportation, chuck.mcmillan@gov.ab.ca
Heather Budney, Industrial Minerals Specialist – Alberta Geological Survey, Heather.Budney@eub.ca
Ted Harrison, P. Eng – EXH Engineering Services Ltd., tharrison@exheng.com
Bill Sadar – RTL Road Technologies, info@cisl.ca
Joe Filice – Alberta Infrastructure and Transportation, Joe.Filice@gov.ab.ca
Stephan Wehr, Director, GHG Services – The Delphi Group, swehr@delphi.ca
Roger Skirrow, Alberta Infrastructure and Transportation, roger.skirrow@gov.ab.ca
Alan Snow, Alberta infrastructure and Transportation, alan.snow@gov.ab.ca
Roland Merkosky, Geotech Project Engineer, roland.merkosky@umaaecom.com
Bob Markle, Encana, bob.markle@encana.com
Bob Wilson, Infrastructure Foreman – Woodlands County, bob.wilson@woodlands.ab.ca

Attendees:

Chuck McMillan, Surface Standards Specialist, Alberta Infrastructure and Transportation, chuck.mcmillan@gov.ab.ca
Heather Budney, Industrial Minerals Specialist – Alberta Geological Survey, Heather.Budney@eub.ca
Stephan Wehr, Director, GHG Services – The Delphi Group, swehr@delphi.ca
Jim Gaven, Roadway Construction Standards Specialist, Alberta Infrastructure and Transportation, Jim.Gavin@gov.ab.ca
Garett Schmidt, VP Operations and Sales - Road Badger Inc., gschmidt@roadbadger.com
Kris Davis, VP, Contract Services – Road Badger Inc., kdavis@roadbadger.com
Ray Gillard, President and CEO – Road Badger Inc., sales@roadbadger.com
Keith Driver, VP, Operations – Baseline Emissions Management Inc., keith@baselineemissions.com
Stephanie Barrows, Project Analyst –Baseline Emissions Management Inc., stephanie@baselineemissions.com

Written Participation:

Kate Page, Epcor, KPage@epcor.ca

ISSUES:

Stephan Wehr - P11 and B12 – Fuel Extraction and Processing definitions should not include all on-site processing as much of these SSs are excluded.

Solution – Definitions changed to include only those fuels used for transportation.

Road Rehabilitation Equivalence:

Stephan Wehr – It might not be appropriate to exclude P8 and B9 (Road Rehabilitation – Operation of Equipment).
Jim Gaven – Agrees that excluding these SSs is appropriate as energy used should be in the same magnitude.

Solution – We will come up with a comparison of the number of passes by the number of machines used in each process to determine whether or not the energy use is equivalent.

Aggregate Production Emission Factor:

Jim Gaven – Believes that 9.98 kg of emissions / Tonne of aggregate isn't correct. He believes the number should be closer to 5.5 kg / Tonne as the 9.98 number is from the UK where aggregate is mined from quarries. This, he believes, would take much more energy than in AB where open pits are mined.
Heather Budney – Believes that the only difference in energy between open pit and quarry mining is the blasting of the quarry.

Solution – We have circulated the Stats Can numbers (approximately 10.36 kg / Tonne), Canada Technical Asphalt Association numbers (10 kg / T), as well as the QPA report where 9.98 kg / T is sited.

Title of Project

Original Protocol title was "Road Rehabilitation Protocol". As the scope of the protocol does not cover paved roads, this title was thought to be incorrect.

Solution – We have changed the title to "Gravel and Lightly Surfaced Road Rehabilitation Protocol"

Use of Binders

Keith – Is there an emissions database of binders?

No emissions with asphalt – bottom of the barrel or argument refining ghg divided among various products in a barrel of oil.

Keith – Can we use GHG Genius as a reference for other binding agents?
Stephan – Might be an okay place to start, but is more geared towards vehicles

Solution:

The calculator has spaces for 4 types of "other" binders as well as their emissions factors which are to be justified by the project proponent to the verifier.

Definition of Aggregate in Protocol

Heather Budney – Aggregate is more than just sand and gravel – can also include recycled asphalt, concrete, mine waste rock, shell material. Should we be more specific as to the AB type of aggregate?

Solution – Heather has sent a widely used definition of aggregate that we will summarize and include in the protocol.

Baseline Condition – Amount of Aggregate Used

Jim Gaven – 200 T / km might be a better number than 400. 400 T / km is a number used for the first-time construction of a road and not for road maintenance.
Kris – We used AB Transportation and Infrastructure Guidance Document to come up with the 400 T / km number.

Solution – As Alberta Transportation has no more time to provide comments, we have left this number as 400 T / km as taken from the Highway Maintenance Guidelines Manual. This number is only included as guidance.

Truck Fuel Efficiency

Stephan – This number should probably be given to the project proponent as it can be a big question mark.

Solution – We are looking into this factor

Oil Production Emission Factor

Stephan – Wasn't sure he agreed with our factor.

Solution – We will add an appendix which explains how we get our factor and circulate it to the panel

Gravel Density

Questions arose regarding our density number – 1.63. This is loose gravel. Compacted gravel is 2.33.

Solution – We will advise proponents to use 1.63 for density of gravel roads and 2.33 for density of cold-mix roads.

Comments Received after Edited Protocol was sent out:

Aggregate:

Heather noted that the emissions factor of 9.98 kg / T of aggregate only relates to sand, gravel and crushed stone. With our new expanded definition of aggregate, the emissions factors must also be expanded to take these into account.

Solution:

If a material other than sand, gravel or crushed stone is used the emissions are assumed to be negligible as other materials are either reclaimed or recycled and not produced specifically for this use. This has been reflected throughout the protocol and calculator.

Emissions Factor for Transportation:

Kris notes that the 39.5 L / 100 km is an average for all fleets and has more specific data supporting 45 L / 100 km.

Solution:

The efficiency was changed to 43.5 L / 100 km as per the Canadian Vehicles Survey of 2000 which lists this as the average efficiency of heavy trucks.

Exclusion of SSs:

Stephan pointed out that the use of the term “functionally equivalent” is not the proper way to exclude an SS.

Solution:

We have changed such exclusions to “emissions from project and baseline conditions are expected to be equivalent”.

Alberta Utilities and Transportation has no more time to spend on this initiative. See attached emails.