
Brake Pad Partnership Update

April 2001

The Brake Pad Partnership Project is a multi-stakeholder effort to understand the impacts on the environment that may arise from brake pad wear debris generated in the use of passenger vehicles. Working together, manufacturers, regulators, storm water management agencies, and environmentalists are developing an approach for evaluating potential impacts on water quality, using copper in South San Francisco Bay as an example. Brake Pad manufacturers have committed to adding this evaluation approach to their existing practices for designing products that are safe for the environment while still meeting the performance requirements demanded of these important safety-related products.

Steering Committee

Michael Endicott
Sierra Club

Tim Merkel, PhD
Director Global Technology
Federal Mogul Friction Products
Chairman, Brake Manufacturers Council
Product Environmental Committee

Kelly D. Moran, PhD
President, TDC Environmental
Representing the Bay Area Stormwater
Management Agencies Association

Jim Pendergast
Chief, Health Protection and Modeling
Branch
U.S. Environmental Protection Agency

Pat Thesier
Executive Consultant
Sumitomo Electric Automotive, Inc.

Jim Trainor, PhD
President, J.T. Trainor & Associates, Inc.
Representing friction material manufactur-
ers

Chris Watson, PhD
Vice-President Sales & Engineering
TMD Friction, Inc.
Alternate: Roger Dabish, TMD Friction

Facilitator: Sarah Connick
Sustainable Conservation

Technical Advisor: Mark Schlautman, PhD
Assistant Professor
Clemson University

Partnership News

The Brake Pad Partnership Steering Committee is moving forward in the development of a generic model for assessing the impact of wear debris from brake pads on the aquatic environment, using copper in the South San Francisco Bay as an example. The Steering Committee has made several important achievements since the June 2000 Stakeholder meeting at Stanford University.

Progress on Generating, Collecting and Characterizing Brake Pad Wear Debris

In conjunction with the Steering Committee, the Brake Manufacturers Council Product Environmental Committee (BMC/PEC) has nearly completed development of the protocol for generating wear debris representative of that likely to be generated under on-road driving conditions. The protocol involves the use of a brake dynamometer--a laboratory machine that simulates vehicle braking conditions. This machine has been specially equipped to simulate on-road driving conditions, and to capture the airborne and heavier brake wear particles produced in the braking process. The price of this portion of the BPP's effort was some \$750,000, all of which was paid for by the brake pad manufacturers through the BMC/PEC. Thus far, the effort has proven very successful, with the copper material balance from the most recent tests demonstrating 90% and 102% recoveries.

The BMC/PEC, with the Steering Committee, is also developing a set of recommended tests for characterizing the physical and chemical nature of the wear debris. This information will feed into the Steering Committee's subsequent task, which is to assess the fate and transport of wear debris in the environment. The protocol for wear debris generation, collection, and characterization, along with initial results from tests using these procedures will be presented to the BPP's Work Group and additional stakeholders at a stakeholder meeting on May 31, 2001. The BMC/PEC plans to publish the protocol and test results in peer-reviewed publications that will reach friction materials manufacturing and environmental professionals.

South San Francisco Bay Copper Action Plan Update

In summer 2000, the Santa Clara Valley Watershed Management

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Profiles

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Sarah Connick has 17 years of experience in the field of environmental science and policy, including six years as a study director with the National Academy of Sciences'

Water Science and Technology Board. Her doctoral research focused on the use of collaborative processes for making water policy in California. In addition to having nearly completed her PhD in Environmental Science, Policy, and Management at University of California, Berkeley, she holds an AB in Chemistry from Bryn Mawr College, and an MS in Environmental Engineering from Stanford University.

Mark Schlautman is an Assistant Professor in the Department of Agricultural and Biological Engineering at Clemson University, and holds a joint appointment in the Department of Environmental



Toxicology and the Clemson Institute of Environmental Toxicology. Mark's principal expertise is in aquatic chemistry, and the fate and transport of trace metals, organic materials and radionuclides in the environment. Mark received his BS in Chemical Engineering from the University of Nebraska-Lincoln, and an MS and PhD in Environmental Engineering Science from the California Institute of Technology.

Initiative(WMI) concluded that impairment of the lower South San Francisco Bay by copper was unlikely. The WMI recommended that South San Francisco Bay be removed from the list of water bodies impaired by copper on the condition that a Copper Action Plan (CAP) is implemented. The CAP entails a series of activities aimed at preventing copper levels in the Bay from increasing, including brake-related investigation and monitoring actions, and participation in the BPP. The San Francisco Bay Regional Water Quality Board's recent amendments to the permits for wastewater treatment plant and stormwater runoff discharges to the lower South San Francisco Bay, translated these commitments into legally enforceable requirements.

New Faces

The BPP welcomed two new faces to the team in 2000. Dr. Mark Schlautman, an environmental engineering professor at Clemson University, is serving as the BPP's technical consultant, thanks to a Switzer Environmental Leadership Grant provided by the San Francisco Foundation. Mark's skills are an ideal match for the technical needs of the BPP--as an expert in the fate and transport of particles into water bodies, he provides independent scientific assessment of the group's efforts. Mark is assisting the Steering Committee in its effort to determine the technical steps needed to develop the approach for assessing the fate and transport of wear debris in the environment, and understanding of the toxicity of wear debris constituents to aquatic organisms.

Sarah Connick, a project manager at Sustainable Conservation, joined the BPP team in December 2000, and is transitioning into full-time management of the effort as Liz O'Brien is making a move to the greener pastures of Sustainable Conservation's constructed wetlands project. Sarah comes to Sustainable Conservation with extensive experience in environmental policy and collaborative processes.

**Annual Stakeholder Meeting
May 31, 2001**

Save the Date: The BPP Annual Stakeholder Meeting will be held on MAY 31, 2001 in the South San Francisco Bay area at Stanford University.

The agenda will include a review and discussion of the brake wear debris generation protocol, an action plan for brake wear debris characterization, and a conceptual road map for investigation of fate and transport, as well as a report on the second year of the BMC's copper use monitoring program.

Questions or comments:

Contact Sarah Connick sconnick@suscon.org
or Liz O'Brien lobrien@suscon.org
or call (415) 977-0380 at Sustainable Conservation.

Mailing List Update

We are updating our mailing list-if you would like to continue receiving information on the Brake Pad Partnership, please complete and return the enclosed update form.
Thank you.

Mailing List Update

Brake Pad Partnership

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San Francisco, CA 94105

fold here

**Annual Stakeholder Meeting
May 31, 2001**

Save the Date: The BPP Annual Stakeholder Meeting
will be held on MAY 31, 2001 in the South San
Francisco Bay area at a location to be announced.