To: R. L. Greenman, Secretary
    Committee for Investigation of New Materials

From: E. A. Finney

Subject: "Surface Modified 1M" Metal Coatings (Dow Chemical Company,

In accordance with your letter of August 26, 1966, descriptive literature and
panels submitted by the manufacturer have been reviewed. Comments concerning
this aggregate-portland cement-binder-water mixture may be summarized as
follows:

1. **For:** The material has the potential of being applied as a heavy coating
   (about 1/16-in. thick) in a single spray application presumably for protection
   of structural steel. Coatings on the panels submitted are tough and not brittle.
   Possibly the material could be used as a coating over galvanized beam guard
   rails, since it is similar in appearance to Witco-Guard.

2. **Against:** The coating's rough surface texture would foster dirt collection
   and retention. Being a latex mixture, it has application temperature limitations
   of 50 to 90 F, as indicated in the company literature. Care must be exercised in
   storing latex materials to keep the emulsion from breaking.

The coating appears to be a modification of Dow's portland cement latex grout,
which the Department has under test for repair of shallow spalling on several con-
crete bridge decks. In these experimental applications, it has given fair to good
performance. If the producer has case histories concerning performance of this
material in field exposure as a steel coating, they would be of interest. Its poten-
tial as a bridge steel coating would be enhanced if the mixture were formulated to
a finer texture.

OFFICE OF TESTING AND RESEARCH

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cc: A. J. Permoda