APPENDIX U-9

EXECUTIVE SUMMARY OF INVESTIGATION OF LOW-ENERGY NON-PERMISSIBLE ELECTRICAL ITEMS (WATCHES AND CALCULATORS)

U.S. Department of Labor

Mine Safety and Health Administration
Approval and Certification Center
765 Technology Drive
Triadelphia, West Virginia 26059

November 17, 2011

MEMORANDUM FOR NORMAN G. PAGE
Accident Investigation Team Leader

FROM: JOHN P. FAINI
Chief, Approval and Certification Center

SUBJECT: Executive Summary of Investigation of Low-Energy Non-Permissible Electrical Items (Watches and Calculators) Recovered from Performance Coal Company's Upper Big Branch – South Mine

The Approval and Certification Center (A&CC), as requested by Upper Big Branch Mine Accident Investigation Team Leader, Norman Page, conducted a laboratory investigation associated with respect to low-energy non-permissible electrical items (watches and calculators) recovered from a fatal mine explosion at the Upper Big Branch Mine-South on April 5, 2010.

The components received were:

1. Exhibit No. B-15-G, a watch with missing one side of the band.
2. Exhibit No. B-21-A, a black rubber banded watch.
3. Exhibit No. B-1-D, a blackened watch attached to a clip and taped.
4. Exhibit No. B-15-F, a black calculator.
5. Exhibit No. B-4-B, a Le World calculator.
6. Exhibit No. PE-0172, a wrist watch with missing parts taken from Crosscut 69 Inby.
7. Exhibit No. PE-0245, a black wrist watch taken from Shield 59.
8. Exhibit No. PE-0244, a wrist watch with missing parts and a ink-pen taken from Shield 84.

The investigation began with a preliminary inspection of all the non-permissible watches and calculators received. The preliminary inspection included decontamination of items that were considered potentially biohazardous, documenting visual observations, and photographing as-received conditions of the components. All of the watches were functional except Exhibit Nos. PE-0172 and PE-0244. The battery and some other parts of the non-functional watches were missing. Some of the watches and calculators had bubbling and discoloration effects.

The next phase of the investigation included a detailed inspection of all the low-energy non-permissible watches and calculators. The detailed inspection involved determining whether the calculators could be energized and disassembling the equipment to address any signs of arcing, sparking, and electrical heating internal to the equipment. The Exhibit No. B-15-F, a black calculator, could not be energized. After disassembling and inspecting all the exhibits, no signs of arcing, sparking, or electrical heating were observed.

The watches and calculators are non-approved and non-permissible MSHA items, a comparison to approval drawings was not conducted.