Summary of Substantive Changes between the 2012a and the 2013 editions of ASTM D2513, “Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings”

Presented to the IAPMO Standards Review Committee on July 8, 2013

General: The changes to this standard should not have an impact on currently listed products. The changes are:

• Added the requirement that manufacturers shall, upon request, supply data for Code E material to verify stability against deterioration from unprotected UV exposure. (see Section 4.10.2)

2. Referenced Documents
2.1 ASTM Standards: Added referenced standards for the testing, and evaluation to determine the time effects of outdoor weathering and unprotected UV exposure, on plastics, as follows:

- D1435 Practice for Outdoor Weathering of Plastics
- D2565 Practice for Xenon-Arc Exposure of Plastics Intended for Outdoor Applications
- G155 Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials

4. Materials: clarified that Code C material shall be considered stabilized for 10 years without testing, and added the requirement that manufacturers shall, upon request, supply data for Code E material to verify stability against deterioration from unprotected UV exposure as follows:

- 4.10.1 PE compounds designated as Code C containing 2 to 3% carbon black shall be considered stabilized against deterioration for not less than 10 years without the need for additional testing.

- 4.10.2 PE compounds designated as Code E shall be considered stabilized against deterioration from unprotected exposure to UV for not less than 3 years when meeting the following criteria following exposure to actual outdoor (natural sunlight) weathering for up to 3 years in accordance with Practice D1435 or accelerated weathering in accordance with Practice D2565 and Practice G155 for the equivalent of at least 3 years natural sunlight: (a) all tensile bar specimens tested in accordance with Test Method D638 shall have an elongation at break value greater than 400% indicating the equivalency of the PE material before and after UV exposure against the elongation at break requirement in Specification D3350; and (b) all tensile bar specimens tested in accordance with Test Method D638 shall retain a minimum of 50% of their original elongation at break values. Test data shall be made available from the manufacturer upon request.

NOTE 6—Studies have shown HDPE exposed to Xenon Arc via Practice G155-A Cycle 1 give approximately 4.4 times the acceleration to outdoor Florida exposure. Therefore approximately 2000 hours Xenon Arc testing would equal about 1-year outdoor exposure in Florida or 2-years in southern Canada.

NOTE 6—The determination for outdoor storage resistance NOTE 7—The determination for UV resistance is often based on measuring the ductility proper...