

NRC/EPRI MOU Addenda on HDPE Piping Research - MOU Kickoff Meeting -

**September 1, 2011
NRC Church Street Office
Rockville, MD**

Agenda

Item	Presenter	Duration
Opening Remarks	E. Focht/B. Clark	5 minutes
Introductions	All	
Review MOU Tasks	E. Focht/B. Clark, et.al	120 minutes
Tensile Testing		
Fatigue Testing		
Viscoelastic characterization		
Fracture toughness properties		
FEA of fracture specimens		
SCG testing Coupons		
SCG testing - Pipes		
Discussion – Open to Public	All	30 minutes
Action items	E. Focht	5 minutes
Adjourn		

Purpose of the Meeting

- The NRC and EPRI put an MOU into place in March 2007 to which specific Addenda covering specific research projects are added.
- The purpose of this meeting is to plan work to be conducted under a recently approved addenda titled, “Cooperative Research Project on High-Density Polyethylene (HDPE) Piping”



Objectives of the Meeting

- Review current plans for work on the tasks covered by the MOU.
- Identify gaps in the current plans and propose solutions to fill the gaps.
- Identify areas where cooperation may lead to faster completion of the work.



Process

- EPRI and NRC will alternate presenting plans for each task under the MOU task by task.
- Identify gaps and proposed solutions task by task.
- Discussion on task by task basis – open to public.
- Breaks as needed



Review of MOU Tasks

Task	Responsibility	Deliverables	Proprietary	Completion Date
Tensile testing of the Code-specific material	EPRI: Materials and specimens	Tensile test data for PE4710 with cell classification 445574C at 40 °F, 70 °F, 140 °F, 160 °F and 185 °F..	No	12/31/2011
	NRC: Materials and specimens guidance on testing conditions	Tensile test data for PE4710 with cell classifications 445474C and 445574C at 140 °F and 176 °F	No	12/31/2010
Fatigue testing of the Code-specific material	EPRI: Materials and specimens	S-N curves for PE4710 with cell classification 445574C at 70 °F and one higher temperature TBD	No	12/31/2011
	NRC: None	None	No	
Viscoelastic characterization of bi-modal HDPE resins	EPRI: Materials and specimens from two bi-modal resins	Provide creep test data on two or more PE4710 resins for at least three temperatures and three stress levels	No	12/31/2011
	NRC: Materials and specimens from one bi-modal resin	Provide creep test data on one or more PE4710 resins for at least three temperatures and three stress levels	No	12/31/2011
Fracture toughness properties evaluation	EPRI: None	None	No	
	NRC: Materials and specimens from one bi-modal resin	Fracture toughness data from one PE4710 resin	No	12/31/2011

Review of MOU Tasks

Task	Responsibility	Deliverables	Proprietary	Completion Date
Fracture analysis via finite element analysis	EPRI: Data from SCG coupon tests will be provided for this task	None	No	12/31/2011
	NRC: FEA analysis of coupon and piping specimens	Results of finite element analyses: driving force versus time for coupon and pipe sample geometries	No	
Progress meeting	EPRI and NRC	Joint meeting to discuss results of each organization's independent analysis of data and conclusions drawn	No	03/31/12
SCG testing of coupons	EPRI: Materials and specimens from two or more bi-modal resins with three notch types	Displacement –time, da/dt and failure time data from SCG coupon testing with “designer” and razor notches and controls for parent and fusion joint materials	No	12/31/2013
	NRC: Materials and specimens from one bi-modal resin with one notch type	Displacement –time and failure time data from SCG coupon testing with razor notches for parent and fusion joint materials	No	12/31/2013
SCG testing of pipe sections	EPRI: Materials and specimens from two or more bi-modal resins with three notch types	Failure time data from flawed pipe long-term pressure testing with “designer” and razor notches and control for parent (two pipe diameters) and fusion joint (one pipe diameter) materials	No	12/31/2013
	NRC: Materials and specimens from one bi-modal resin with one notch type	Failure time data from flawed pipe long-term pressure testing with razor notches for parent and fusion joint materials (one pipe diameter)	No	12/31/2013
Progress meeting	EPRI and NRC	Joint meeting to discuss results of each organization's independent analysis of data and conclusions drawn	No	03/31/14

