Day 1 (Nov. 15)

8:30 Introduction (Paul Veers)

8:45 Challenges facing wind turbine tribology, main bearing failure modes, and coating to prevent failure (Gary Doll, University of Akron)

Session 1: Tribology Fundamentals (Robert Errichello, GEARTECH)

9:45 Break

10:00 EHL fundamentals (Vern Wedeven, Wedeven Associates, Inc.)

11:00 EHL surface interactions in micropitting (Pwt Evans, Cardiff University, UK)

12:00 Lunch

1:00 Lubricant properties influencing EHL film thickness and traction properties (TBD)

Session 2: Lubricant Fundamentals (Bill Herguth, Herguth Laboratories, Inc.)

2:00 Lubricant Fundamentals (TBD) formulation

3:00 Break

3:30 Lubricant Fundamentals (TBD)

4:30 Lubricant Fundamentals (Henri Braun, ExxonMobil) grease

5:30 Adjourn for Evening

6:00 Cocktail Party sponsor TBD
Day 2 (Nov. 16)

**Session 3: Tribology and Lubricant-Related Wind Turbine Failures (Shawn Sheng, NREL)**

8:00  *NREL gearbox reliability collaborative failure database project* (Mark McDade, NREL)

8:30  *Bearing and gear failure modes seen in wind turbines* (Bob Errichello, GEARTECH)

9:30  Break

10:00 *Microstructural alterations in Hertzian fatigue* (Bob Errichello, GEARTECH)

11:00 *Classic bearing failure modes (TBD)*

12:00  Lunch

**Session 4: Root Cause Hypotheses (Brian McNiff, McNiff Light Industry)**

1:00  *Introduction* (Bob Errichello, GEARTECH)

1:15  *NSK hypothesis* - (someone, NSK)

2:15  *SKF hypothesis* - (Jürgen Gegner, SKF)

3:15  Break

3:45  *Hansen hypothesis* - (Johan Luyckx, Hansen Transmissions)

5:00  *Schaeffler hypothesis* - (Walter Holweger, Schaeffler)

6:00  Adjourn for Evening

6:30  Dinner arranged by NREL but paid by individuals
Day 3 (Nov. 17)

Session 5: Possible Solutions (Jim Johnson, NREL)

8:00  Selecting synthetic gear oil *(TBD)*

9:00  Gear superfinishing (Lane Winkelmann, REM)

10:00  Break

10:15  Surface treatment and nano lubricant (Ali Erdemir, ANL)

11:15  New lubricant  (Manfred Jungk, Dow Corning)

12:15  Lunch

Session 6: R&D Roadmap Development (Aaron Greco, DOE)

1:30  Future R&D Areas

3:30  Tour of Dyno and NWTC

3:45  Adjourn