**Insulator Performance and Applications WG**

**June 25th, 2007**

**Chair: Allen Bernstorf**

**Attendance:**  The meeting was convened at 1:00 p.m. Fifty individuals were present.

**Minutes:** The minutes of the last meeting were approved as submitted

**Agenda:** The agenda for the current meeting was accepted.

**Reports:** The following reports were made.

15.09.03.01: Task Force on Aging of Outdoor Insulator Dielectric Materials

Chair: Dr. John Kuffel – Kinectrics

Dr Kuffel reported that this task force is new. Tony Baker, Tony Carreira, Ezio del Bello, Bob Gemignani, Ravi Gorur, Jean-Marie George and Andrew Phillips volunteered to staff the task force. The work will focus on composites.

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| **Planned Date** | Winter 2008 | Summer 2008 | Winter 2009 | Summer 2009 | Winter 2010 |
| **Task** | Outline | First Draft/PAR | Final Draft | Submission | Review Resolved |
| **Actual** |  |  |  |  |  |

15.09.03.02: Task Force on Improving In-Service Contamination Performance

Chair: David Shaffner

The task force is reducing the paper’s volume and adding pictures.

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| **Planned Date** | Winter 2007 | Summer 2007 | Winter 2008 | Summer 2008 |
| **Task** | Rough Draft | Final Draft | Submission | Review Resolved |
| **Actual** | On Schedule | Late |  |  |

15.09.03.03 – Task Force on Electric Field Modeling of Nonceramic Insulators

Chair: Dr. Andrew Phillips

Dr. Phillips noted that his TF had met by webcast and are all modeling the same configuration. The objective is to determine how much detail is needed and establish guidelines for future modelers. He has asked all of the members to comment by July 6th regarding their ability to model the configuration.

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| **Planned Date** | Summer 2007 | Winter 2008 | Summer 2008 | Winter 2009 | Summer 2009 |
| **Task** | Outline | Rough Draft/PAR | Final Draft | Submission | Review Resolved |
| **Actual** | On Schedule |  |  |  |  |

15.09.03.04: Task Force on Bird Related Outages

Chair: Dr. Raji Sundararajan

Dr. Sundararajan noted that a co-chair is being arranged. The plan is to use IEEE 1264 as a guide and draft a paper. Parties interested in donating to the work should contact Raji. A survey conducted in 1996 will be used as a basis and a secondary survey may be attempted.

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| **Planned Date** | Summer 2007 | Winter 2008 | Summer 2008 | Winter 2009 | Summer 2009 |
| **Task** | Outline | Rough Draft/PAR | Final Draft | Submission | Review Resolved |
| **Actual** | On Schedule |  |  |  |  |

15.09.03.05: Task Force on Insulator Contamination Testing and Dielectric Aging Performance.

Chair: Dr. Anibal de la O Lavalle

Dr. Lavalle noted that one of the most important parameters in contamination testing is the stiffness of the Voltage source. The TF is currently working to refine the focus.

Tommy Salmon of Dominions Power reported on work they’ve been performing regarding polymer materials used in insulators and equipment and also RTV coatings on porcelain. He reported observing degradation in the polymers after as little as 3 years. They are working with an insulator monitor to help determine when insulators should be washed. However, he also observed that washing is not typically performed. He pointed out that “Not all polymers are equal.”

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| **Planned Date** | Summer 2007 | Winter 2008 | Summer 2008 | Winter 2009 | Summer 2009 |
| **Task** | Outline | Rough Draft/PAR | Final Draft | Submission | Review Resolved |
| **Actual** | Late |  |  |  |  |

15.09.04.01: Guidelines for in-Service Classification of NCI Damage

Chair: Tony Carreira

Mr. Grisham noted that Mr. Gnandt has requested that he be replaced as chair of this Task Force. Tony Carreira volunteered to serve as TF Chair. It was further noted that ground rules had been established for this task force and guidelines for identifying the severity of the issue.

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| **Planned Date** | Winter 2008 | Summer 2008 | Winter 2009 | Summer 2009 | Winter 2010 |
| **Task** | Outline | Rough Draft/PAR | Final Draft | Submission | Review Resolved |
| **Actual** |  |  |  |  |  |

15.09.04.02: Task Force on Corona Testing of Hardware & Insulators

Chair: Dr. John Kuffel

Dr. Kuffel reported that the guide is close to being finished The method involves establishing an e-field on a conductor to know what voltage meets that gradient and then introducing hardware to look for corona at that voltage level. He observed that he’d like to have some High Voltage labs with field plotting capability perform some round robin tests to finish the effort.

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| **Planned Date** | Summer 2007 | Winter 2008 | Summer 2008 |
| **Task** | PAR Approved | Paper Submitted | Review Resolved |
| **Actual** | ??? |  |  |

15.09.09.03: Icing Test Methods and Mitigation Techniques

Chair: Dr. Masoud Farzaneh

Dr. Farzaneh noted that his joint task force now has 5 transactions papers to its credit. He observed that the first draft for this document has been written and that he hopes to have the second draft for the Winter meeting.

15.09.09.04: High Temperature Conductor Effects on Ceramic and Non-Ceramic Insulator Performance

Chair: Jack Varner.

Mr. Varner noted that the TF has agreed to focus on Non-Ceramic Insulators and then later look at ceramic insulators. He observed that conductors are now under consideration that will run at 250 to 300°C. Utility management believes that if they can operate at those temperatures, they may be able to avoid additional right-of-way. The TF has collected some data and performed some additional testing that indicates a correlation between temperature and strength. The TF also recommended that 15.09.09.05 be merged into this group for a single effort.

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| **Planned Date** | Summer 2007 | Winter 2008 | Summer 2008 | Winter 2009 | Summer 2009 |
| **Task** | Outline | Rough Draft/PAR | Final Draft | Submission | Review Resolved |
| **Actual** | On Schedule |  |  |  |  |

15.09.06.06: Review of Mechanism that Affects the In-Service Strength and End-of-Life Decisions for Ceramic and Glass Insulators

Chair: Ezio del Bello

Mr. del Bello noted that the initial draft of their paper is complete. He asked to re-confirm membership. They have to have a draft complete within a month and a final draft by the end of the year. The work reviews mechanisms of aging, suggests criteria for collecting data and proposes an approach for determining end of life. It is a guide for the average utility engineer.

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| **Planned Date** | Summer 2007 | Winter 2008 | Summer 2008 | Winter 2009 | Summer 2009 |
| **Task** | Outline | Rough Draft/PAR | Final Draft | Submission | Review Resolved |
| **Actual** | On Schedule |  |  |  |  |

15.09.09.07: Design Guide on Braced Post Assemblies TF

Chair: Tony Baker

The paper has been approved. Final submissions are being prepared.

**Panel Sessions:** The following ideas were presented along with the schedule.

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| **Topic** | **Moderator** | **Members** | **Paper Due Date** | **Target Panel Date** |
| ~~Brittle fracture~~ | ~~Tom Grisham~~ |  | ~~August, 2007~~ | ~~April 2008~~ |
| Braced Line Posts | Tony Baker | Bernstorf | August 2007 | April 2008 |
| Strength Ratings | Andrew Schwalm |  | June 2007? | January 2008 |
| Fiberglass Rod Failure Mechanisms | Dr. Andrew Phillips |  |  | January 2008 |
| Live Line Maintenance | Tony Carreira | Jack Varner | ESMO 2009??? |  |
| High Temperature Systems (insulators, conductor and hardware) | ???? |  | /??? |  |
| “Lightning and Overhead Lines” | John McDaniels |  | August 2007 | April 2008 |

**Standards:**

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| --- | --- | --- | --- |
| **Number** | **Name** | **Date** | **Action** |
| 1572 | IEEE Guide for Application of Composite Line Post Insulators | 2004 |  |
| 987 | IEEE Guide for Application of Composite Insulators | 2002 |  |

**Tutorials:**

None are planned at this time.

**New Business:**

Mr. Grisham and Dr. Schwalm addressed the group regarding plans for moving forward with Lightning and Insulators. It was noted that efforts should be made to assure applicability for utility engineers.

**Next Meeting and Meeting Room Requests:**

The next meeting will be held in conjunction with the Technical Committee Meetings to be held in San Antonio, TX, in January. Task Forces requesting time and meeting rooms for individual meetings during that event include:

* 15.09.04.01 – Guidelines for In-Service Classification of NCI Damage – Chair: Tony Carreira
* 15.09.03.01 – Task Force on Aging of Outdoor Insulator Dielectric Materials – Chair: Dr. John Kuffel
* 15.09.09.06 – Review of Mechanism that Affects the In-Service Strength and End-of-Life Decisions for Ceramic and Glass Insulators – Chair: Ezio del Bello

**Adjournment:**

The meeting was adjourned at approximately 5:15 p.m.

Respectfully submitted,

R. Allen Bernstorf

**Notable Dates:**

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| **Date** | **Deadline** | **Event** |
| July 15, 2007 | Panel Session Request for Time for 2008 T&D | April 2008 T&D Show |
| September 7, 2007 | Panel Session Paper Submission for 2008 T&D | April 2008 T&D Show |
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