### Hands-on Relay School
#### Schedule

**SUNDAY, MARCH 15, 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>3:00-6:00 p.m.</td>
<td>Facilitator Lab Station Set-up</td>
<td>EE/ME Laboratory Rooms</td>
</tr>
<tr>
<td>5:30 – 7:30 p.m.</td>
<td>Registration &amp; Reception</td>
<td>University Inn, Moscow, ID</td>
</tr>
<tr>
<td>7:00 – 8:00 p.m.</td>
<td>Facilitator Meeting</td>
<td>University Inn, Moscow, ID</td>
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**MONDAY, MARCH 16, 2015**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>6:45 -</td>
<td>Registration &amp; Refreshments</td>
<td>Smith CUE, Main Atrium</td>
</tr>
<tr>
<td>7:30</td>
<td>Welcome &amp; Announcements</td>
<td>Smith CUE 203</td>
</tr>
<tr>
<td>7:40 -</td>
<td>Being Safe and the Importance of Realizing What Safety is For</td>
<td>Smith CUE 203</td>
</tr>
<tr>
<td>8:15</td>
<td>Track Overview Lectures</td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>Smith CUE 202</td>
<td></td>
</tr>
<tr>
<td>Generation</td>
<td>Smith CUE 219</td>
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<tr>
<td>Transmission</td>
<td>Smith CUE 207</td>
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<tr>
<td>Theory</td>
<td>Smith CUE 202</td>
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<tr>
<td>Doble</td>
<td>Smith CUE 319</td>
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<tr>
<td>Enoserv RTS</td>
<td>Smith CUE 419</td>
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<tr>
<td>Manta</td>
<td>Smith CUE 209</td>
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<tr>
<td>Megger AVTS</td>
<td>Smith CUE 216</td>
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<tr>
<td>Noram SMC</td>
<td>Smith CUE 114</td>
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<tr>
<td>Omicron</td>
<td>Smith CUE 119</td>
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**Electromechanical Track attend choice of Distribution, Generation or Transmission Overview**

**Basic Track attend the Introduction to System Protection Lecture Series**

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<tbody>
<tr>
<td>8:15</td>
<td>Introduction to System Protection Lecture Series</td>
<td>Smith CUE 203</td>
</tr>
<tr>
<td>8:15</td>
<td>Introduction to Protection Basics and Terminology</td>
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<tr>
<td>9:40</td>
<td>Break</td>
<td>Smith CUE Atrium</td>
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<tr>
<td>10:00</td>
<td>Introduction to CT Basics and Testing</td>
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<tr>
<td>11:00</td>
<td>Introduction to Substation Print Reading</td>
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<tr>
<td>9:50</td>
<td>Concurrent Open Lectures</td>
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<tr>
<td>Digital Logic for Protection and Control</td>
<td>Smith CUE 202</td>
<td></td>
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<tr>
<td>Phasor Diagrams</td>
<td>Smith CUE 219</td>
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<tr>
<td>End-End Testing</td>
<td>Smith CUE 419</td>
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<tr>
<td>Relay Communications Basics</td>
<td>Smith CUE 209</td>
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<tr>
<td>Symmetrical Components 1</td>
<td>Smith CUE 319</td>
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<tr>
<td>Bus Protection</td>
<td>Smith CUE 119</td>
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</table>
Hands-on Relay School
Schedule

11:00  Concurrent Open Lectures
• Transformer Auxiliary Protective Devices  Smith CUE 202
• Fault Analysis for Relay Technicians  Smith CUE 209
• Personal Protective Bonding and Grounding  Smith CUE 419
• Math for Relay Technicians  Smith CUE 219
• Symmetrical Components 2  Smith CUE 319
• CIP-NERC Critical Infrastructure Protection  Smith CUE 119

12:00  Lunch on your own
Following lunch, all students will move to the EE/ME & Sloan Halls for the remainder of the day.

1:00
• Basic - Introduction to System Protection Lecture Series  Sloan 175
  (cont.)
  Basic Lab Facilitators report to  EE/ME B54
  Basic students report to  Sloan 175 for:
    1:00  Basics of Relay Test Equipment
    1:45  Introduction to Troubleshooting

Hands-on Experience in the Lab
• Distribution: ABB: REF615  EE/ME 56
• Generation: SEL: 700G  EE/ME 240
• Transmission: ABB: KD10  EE/ME 34
• Electromechanical: ABB: KLF  Sloan 150
• Doble Advanced: ABB: HU  Sloan 5
• Doble Beginning: GE: JBCG  Sloan 7
• Enoserv: GE: JBCG  Sloan 9
• Manta: GE: JBCG  Sloan 161
• Megger: GE: JBCG  Sloan 163
• Noram SMC: GE: JBCG  Sloan 32
• Omicron Advanced: ABB: HU  Sloan 38
• Omicron Beginning: GE: JBCG  Sloan 46
• Theory: An Introduction to Protection  Sloan 169

3:00  Break - EE/ME Building outside Room 26 & B54, Automated Tracks near Sloan 7 & 169

3:10  Continue Laboratory Testing
• Basic: GE: IAC53  EE/ME B54

5:00  Adjourn
• Dinner on your own
  Optional Social Get Together at Birch & Barley
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1:00 Hands-on Experience in the Lab

- **Basic**: ABB: RC  
  EE/ME B54
- **Distribution**: GE: F60  
  EE/ME 56
- **Generation**: SEL: 700G  
  EE/ME 240
- **Transmission**: RFL: GARD 8K  
  EE/ME 34
- **Electromechanical**: GE: JBCG  
  Sloan 150
- **Doble Advanced**: SEL: 311C  
  Sloan 5
- **Doble Beginning**: ABB: HU  
  Sloan 7
- **Enoserv**: ABB: HU  
  Sloan 9
- **Manta**: ABB: HU  
  Sloan 161
- **Megger**: ABB: HU  
  Sloan 163
- **Noram SMC**: ABB: HU  
  Sloan 32
- **Omicron Advanced**: SEL: 311C  
  Sloan 38
Hands-on Relay School
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- **Omicron Beginning**: ABB: HU Sloan 46
- **Theory**: Wind Energy Sloan 175

3:00  **Break** - EE/ME Building outside Room 26 & B54, Automated Tracks near Sloan 7 & 169

3:10  **Continue Laboratory Testing**
- **Basic**: ABB: CA EE/ME B54
- **Generation**: Beckwith: 3425A EE/ME 240

5:00  **Adjourn**
- Dinner on your own

6:30 - 9:00  **Supplier's Showcase**
- University Inn, Moscow

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**WEDNESDAY, MARCH 18, 2015**

7:30  **Hands-on Experience in the Lab**
- **Basic**: ABB: IRD9 EE/ME B54
- **Distribution**: Cooper: Form 6 EE/ME 56
- **Generation**: Beckwith: 3425A EE/ME 240
- **Transmission**: GE: L90 EE/ME 34
- **Electromechanical**: GE: CFD Sloan 150
- **Doble Advanced**: SEL: 311C Sloan 5
- **Doble Beginning**: Basler: BE1-81O/U Sloan 7
- **Enoserv**: Basler: BE1-81O/U Sloan 9
- **Manta**: SEL: 311C Sloan 161
- **Megger**: SEL: 311C Sloan 163
- **Noram SMC**: SEL: 311C Sloan 32
- **Omicron Advanced**: SEL: 311C Sloan 38
- **Omicron Beginning**: Basler: BE1-81O/U Sloan 46
- **Theory**: Distribution Faults and Event Analysis Sloan 175

10:00 **Break** - EE/ME Building outside Room 26 & B54, Automated Tracks near Sloan 7 & 169

10:10 **Continue Laboratory Testing**
- **Electromechanical**: GE: INC77 Sloan 150

12:00 **Lunch on your own**

1:00  **Hands-on Experience in the Lab**
- **Basic**: Basler: BE1-27/59 & 46 EE/ME B54
- **Distribution**: Beckwith: M-7651-A EE/ME 56
- **Generation**: ABB: REG650 EE/ME 240
- **Transmission**: GE: L90 EE/ME 34
- **Electromechanical**: GE: GCY Sloan 150
- **Doble Advanced**: SEL: 311C Sloan 5
- **Doble Beginning**: SEL: 311C Sloan 7
- **Enoserv**: SEL: 311C Sloan 9
- **Manta**: SEL: 311C Sloan 161
- **Megger**: SEL: 311C Sloan 163
Hands-on Relay School
Schedule

- Noram SMC: SEL: 311C  Sloan 32
- Omicron Advanced: SEL: 311C  Sloan 38
- Omicron Beginning: SEL: 311C  Sloan 46
- Theory: Are Flash  Sloan 175

3:00  Break - EE/ME Building outside Room 26 & B54, Automated Tracks near Sloan 7 & 169

3:10  Continue Laboratory Testing
- Basic: Basler: BE1-810/U  EE/ME B54
- Transmission: SEL: 487E  EE/ME 34

5:00  Adjourn

6:00  Social, No-host Bar
University Inn, Moscow

6:30 - 9:00  Banquet and Entertainment
University Inn, Moscow, ID

THURSDAY, MARCH 19, 2015

7:30  Hands-on Experience in the Lab
- Basic: GE: BDD  EE/ME B54
- Distribution: SEL: 751A  EE/ME 56
- Generation: Basler: BE1-11G  EE/ME 240
- Transmission: SEL: 487E  EE/ME 34
- Electromechanical: ABB: HU  Sloan 150
- Doble Advanced: SEL: 311C  Sloan 5
- Doble Beginning: SEL: 311C  Sloan 7
- Enoserv: SEL: 311C  Sloan 9
- Manta: SEL: 311C  Sloan 161
- Megger: SEL: 311C  Sloan 163
- Noram SMC: SEL: 311C  Sloan 32
- Omicron Advanced: SEL: 311C  Sloan 38
- Omicron Beginning: SEL: 311C  Sloan 46
- Theory: Distributed Generation Operation and Protection  Sloan 175

10:00  Break - EE/ME Building outside Room 26 & B54, Automated Tracks near Sloan 7 & 169

10:10  Continue Laboratory Testing
- Transmission: SEL: 421  EE/ME 34

12:00  Lunch on your own

1:00  Hands-on Experience in the Lab
- Basic: SEL: 551  EE/ME B54
- Distribution: SEL: 787  EE/ME 56
- Generation: GE: CEX57/GSY51  EE/ME 240
- Transmission: SEL: 421  EE/ME 34
- Electromechanical: ABB: KD10  Sloan 150
- Doble Advanced: SEL: 311C  Sloan 9
Hands-on Relay School
Schedule

- **Doble Beginning**: SEL: 311C Sloan 46
- **Enoserv**: SEL: 311C Sloan 5
- **Manta**: SEL: 311C Sloan 7
- **Megger**: SEL: 311C Sloan 161
- **Noram SMC**: SEL: 311C Sloan 163
- **Omicron Advanced**: SEL: 311C Sloan 38
- **Theory**: Distributed Generation Operation and Protection Sloan 175

3:00  **Break** - EE/ME Building outside Room 26 & B54, Automated Tracks near Sloan 7 & 169

3:10  **Continue Laboratory Testing**

5:00  **Adjourn**
  
Dinner on your own

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**FRIDAY, MARCH 20, 2015**

*All tracks will convene in Smith CUE 203 for this day*

7:30  **Closing Remarks**

7:45  **Feature Presentation**
  
The Salem Smart Power System

9:00  **Break**

9:15  **Feature Presentation**
  
MetCalf Substation

10:30 **ADJOURN**

PLEASE TURN IN YOUR EVALUATIONS!

THANK YOU!