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Contact: ISO Director, Operations		Approved by: M/LCC Heads
		Review Due Date: December 3, 2011

Master/ Local Control Center Procedure No. 17
(M/LCC 17)


ISO and Local Control Center Joint Training

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1. References

NERC Reliability Standard PER-005 - System Personnel Training
 SOP-RTMKTS.0200.0010 - Administer Operations Training Program
 SOP-RTMKTS.0200.0025 - Maintain OPTD Training Records
 SOP-RTMKTS.0200.0030 - Administer System Operator Continuing Training Program
 SOP-RTMKTS.0200.0070 - Evaluate Training Program Effectiveness

2. Background

Joint ISO/LCC training efforts have historically been undertaken to provide the following:


- A coordinated refresher training program for ISO New England (ISO) and Local Control Center (LCC) System Operators that addresses US Federal Energy Regulatory Commission (FERC), North American Electric Reliability Corporation (NERC), Northeast Power Coordinating Council, Inc. (NPCC), ISO, and LCC policies, procedures, guidelines, standards, and instructions;
- Instruction and information dissemination over the course of the year that provides consistent expectations and reinforces an operational philosophy set forth by the Master/Local Control Center Heads (M/LCC Heads);
- An environment that provides ISO and LCC System Operators an opportunity to interact and discuss common operational issues, thereby promoting more efficient system operation and improved teamwork between ISO and LCC System Operators.

The intent of this procedure is to establish protocols for all formal training efforts undertaken jointly by the ISO and LCC Operations Training organizations. It addresses processes and requirements necessary to the application of a systematic approach to operator training, the adoption of which is required by NERC Reliability Standard PER-005 - System Personnel Training.

3. Definitions

Joint Cycle Training - The portion of the operator refresher training program that is developed and implemented jointly by the ISO and LCC organizations. Joint training occurs two times a year in most years, and 3-times a year on a rotating basis when there is required joint training with New England nuclear power plants. ISO and LCC trainers jointly develop and implement training that addresses the instructional objectives common to members of a training audience consisting of both ISO and LCC System Operators. The training is conducted during the time period established in Attachment A - Joint Trainers' Task Force (JTTF) Charter.

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Training Pilot - Course implementation that occurs prior to the official delivery of the course intended to ensure time allocations and the efficiency and effectiveness of instructional techniques.

Instructional Package - Collection of instructional materials consisting of Classroom Lesson Plan; written test items and tests; and all accompanying materials (e.g., PowerPoint and Turning Point “Presentations,” handouts, student worksheets, as appropriate).

Joint Trainers Task Force (JTTF) - A task force comprised of trainers from each of the New England LCCs and ISO organizations.

Long Range Training Plan - Rolling training schedule of broad topic areas to be addressed in the ISO and ISO/LCC Joint Training Cycles.

4. Applicability

This procedure is applicable to joint ISO/LCC training programs only. ISO and each of the LCCs may have internal procedures that are already established for the development and delivery of programs, which would be superseded by this procedure for only those programs implemented jointly.

5. Responsibilities


5.1 ISO Director, Operations

1. The ISO Director, Operations is responsible for:
 - A. Ensuring that the System Operator training undertaken jointly by the ISO and LCC organizations is conducted according to the guidelines established by the M/LCC Heads and the JTTF.
 - B. Ensuring that the System Operator training undertaken jointly by the ISO and LLC organizations is developed applying the Systematic Approach to Training (SAT) process.

5.2 M/LCC Heads

1. M/LCC Heads are responsible for:
 - A. Determining which training cycles will be designated for ISO/LCC joint training
 - B. Reviewing and approving the Joint Training Cycle Schedule annually


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- C. Reviewing and approving training topics for joint training on an annual basis
- D. Ensuring personnel engaged in the performance of any stage of the SAT process are qualified


5.3 Joint Trainers Task Force

1. JTTF (as defined in the JTTF Charter) is responsible for:
 - A. Preparing the Proposed Joint Training Cycle Schedule annually
 - B. Determining training settings, both primary and alternate instructors (the primary instructor being responsible for development, implementation), and technical reviewers for short-notice training and each joint training cycle no later than two months prior to each respective cycle
 - C. Determining training requirements for joint training based on:
 - 1) Common objectives determined by the M/LCC JTTF and derived from Job and Task Analysis (JTA) data and changes to JTA data, when such data becomes available, as set forth in the M/LCC JTTF Charter (Attachment A).
 - 2) FERC, NERC and NPCC training requirements
 - D. Developing/delegating the development of joint training and submitting all required development documents to the ISO Manager, Operational Performance and Training Department (OPTD), in a timely manner;
 - E. Executing the changes to the developed materials identified during review for ISO/LCC joint training sessions, in a timely manner;
 - F. Contacting the ISO OPTD Administrator at least one week before the training cycle when a trainee NERC Certification will expire during, or shortly after completion of, the training cycle to allow timely upload of CEH information to the NERC SOCCED.
 - G. Piloting the training;
 - H. Delivering and documenting all joint training in accordance with this procedure.

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5.4 ISO Manager, OPTD

1. The ISO Manager, OPTD (or designee) is responsible for:
 - A. Serving as Chair of the JTTF
 - B. Establishing the standards and processes for conducting and developing ISO/LCC joint training programs;
 - C. Reviewing and approving all materials developed for ISO/LCC joint training sessions;
 - D. Ensuring that the coordination and implementation of training occurs as scheduled;
 - E. Approving the selection of instructors that is performed by the JTTF;
 - F. Designating a Records Administrator to be responsible for the record-keeping processes for all ISO/LCC joint training in accordance with SOP-RTMKTS.0200.0025 - Maintain OPTD Training Records;
 - G. Ensuring timely compliance with the standards and processes for ISO/LCC joint training as set forth in this procedure;
 - H. Evaluating the effectiveness of joint training programs.


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6. Procedure


6.1 Scheduling and Assigning of Responsibilities

1. M/LCC Heads determine which training cycles will be designated for ISO/LCC joint training. The default designations of Joint Training are Cycle 2 and 3.
2. The JTTF determines training requirements for joint training based on commonalities in Job and Task Analysis (JTA) data and data changes, when such data becomes available, as well as on FERC, NERC, and NPCC requirements.
3. The JTTF determines the immediacy of the need to address joint training requirements and designates each training requirement as either
 - A. Short notice: If the need is deemed immediate, the JTTF determines training setting and schedule and assigns responsibility for development and delivery, as well as naming an alternate instructor if required by the absence of the primary responsible instructor.
 - B. Addressable in Cycle Training: If the need is deemed addressable in Cycle Training, the Trainers JTTF:
 - 1) Allocates the need to either the Joint Training Cycle Schedule or the Joint Training Cycle Requirements Data Base;
 - 2) Stipulates the Cycle and day in which the requirement should be addressed;
 - 3) Determines the training setting;
 - 4) Assigns a responsible and, when possible, an alternate instructor no later than two months prior to each respective cycle.
4. The Chair of the JTTF develops the Joint Training Cycle Schedule by September first previous to the effective year. This training schedule is published to the M/LCC Heads, The JTTF and the OPTD shared document site. The updated schedule will be incorporated into the Long Term Training Plan.
5. ISO Manager, OPTD, informs the M/LCC Heads by October 1st, previous to the effective year, that the training scheduled for Cycle 2 of the upcoming year will include the following Summer Outlook information:
 - A. The 50/50 and 90/10 assessment
 - B. Projected peak load and capacity analysis

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- C. Summer Capacity Action Plan
 - D. Expected transmission outages
 - E. Capacity and Transmission Emergency Procedures review
6. M/LCC Heads reviews and approves the Joint Training Cycle Schedule prior to October 1st previous to the effective year.

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6.2 Development of Joint Training


1. Instructional Objectives

- A. Responsible instructor translates assigned training requirements into instructional objectives.
- B. Responsible instructor submits instructional objectives electronically to the ISO Manager, OPTD using Attachment B - Translation of Training Requirements into Instructional Objectives, six weeks but no fewer than three weeks prior to Training Pilot. Exceptions to this requirement must be approved by both the respective LCC Head and the JTTF Chair.
- C. ISO Manager, OPTD reviews/approves instructional objectives using Attachment C - Instructional Objective Review and Approval, which shall be retained electronically in the Share Point data base.

2. Testing

- A. Responsible instructor develops test items and tests.
 - 1) Written Items
 - a. Enough test items shall be developed so that each objective can be addressed with a test item and so that an alternate testing instrument can be created with 100% of the test items changed.
 - b. Test item types shall include one or more of the following: multiple choice, completion, drawing/labeling, matching, anchored essay. True/false items shall NOT be used.
 - 2) Simulation Tests
 - a. An Evaluator Guide that ensures that each objective is tested shall be developed for all simulation tests.
 - b. A place to record the successful completion of each simulation task shall be provided in the respective Evaluator Guide.
 - c. A written test may be developed to use for retesting if the questions are scenario-based.
- B. Responsible instructor submits test items and tests electronically to the ISO Manager, OPTD six weeks but no fewer than three weeks prior to Training Pilot. Exceptions to this requirement must be approved by both the respective LCC Head and the JTTF Chair.

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3. Instructional Materials

- A. Responsible instructor develops Classroom Lesson Plan in a format similar to that in Attachment D - Classroom Lesson Plan.
- B. Responsible instructor develops accompanying training materials, as appropriate:
 - 1) PowerPoint or Turning Point “Presentations”
 - 2) Handouts
 - 3) Student Worksheets
- C. Responsible instructor submits all lesson materials to the ISO Manager, OPTD four weeks, but no fewer than two weeks prior to Training Pilot. Exceptions to this requirement must be approved by both the respective LCC Head and the JTTF Chair.
- D. ISO Manager, OPTD reviews and approves the instructional package using Attachment E - Instructional Package Review and Approval, which shall be filed electronically and the instructional package submitted to SharePoint for archiving.


4. Individual Learning Activity (ILA)

- A. Responsible instructor completes a NERC Continuing Education (CE) ILA application (located under “Applications and Forms” at <http://www.nerc.com/page.php?cid=6|82|208>)
- B. Responsible instructor submits completed NERC CE ILA application to the ISO Manager, OPTD no later than two weeks prior to Training Pilot.
- C. Completed ILA Applications shall be reviewed and entered into the SOCCED by the ISO Records Administrator no later than one week after the implementation of the training segment.

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6.3 Conduct of Joint Pilot

1. A pilot shall be conducted for all jointly developed and implemented training for purposes of:
 - A. Ensuring the effectiveness of time allotments
 - B. Ensuring the accuracy and completeness of instructional content
 - C. Giving informal feedback on instructional effectiveness to responsible instructors.
2. All responsible instructors or alternates shall attend the Pilot training session.
3. Agreed upon changes to materials and delivery methods shall be executed by each respective instructor prior to implementation of training.
4. The materials and delivery methods presented at the pilot, with any changes executed as a result of the pilot, shall not be deviated from during the first implementation of the training.

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6.4 Implementation of Instruction


1. Attendance

- A. Failure to attend a topic and/or tardiness of more than 15 minutes shall result in no CEH being awarded to that participant for that topic.
- B. Rosters (containing the information required in Attachment F - Sample Roster) shall be signed for all sessions. Failure to sign a roster shall result in no CEH being awarded to that participant for that session.
- C. Rosters shall be submitted to the designated ISO OPTD Records Administrator by close-of business on the Monday following the training week.
- D. When an unregistered trainee desires to attend the cycle training for any reason, the LCC or ISO Training Coordinator shall contact the ISO OPTD Administrator before close of business on Monday of the week of training to ensure that the trainee is included in all ISO TEN-administered applications and to ensure that the trainee receives appropriate credit for attending the course.

2. Testing Protocol

- A. Participants shall complete any required testing utilizing ISO-TEN no later than one week after training segment completion. Exceptions to this requirement must be approved by both the respective LCC Head and the JTTF Chair.
- B. An honor statement will be included in the instructions of all ISO TEN Administered tests that will remind the trainee that all work on the test will be their own and that by starting the exam they are stating that they have neither given nor received aid to complete the exam. This serves as the Learning Contract described in the NERC Continuing Education Administrative Manual.
- C. The ISO OPTD Records Administrator shall upload all testing data to the Quality Training System Database (QTD) no later than one month from the conclusion of the training segment.
- D. Written Test Item Analysis shall be conducted by the ISO OPTD Records Administrator using ISO-TEN no later than one week after the last day of the training cycle
- E. The ISO OPTD Records Administrator shall upload all Written Test Item Analysis Data records to the program files maintained on SharePoint no later than one week from the receipt of test scores data.


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- F. The ISO Manager, OPTD (or designee), shall re-evaluate all test items receiving either higher than 90% or lower than 20% correct responses for instructional validity/reliability problems and submit feedback to the responsible instructor.
- G. The responsible instructor shall re-obtain content accuracy feedback from either an independent SME or another instructor for all test items receiving lower than 20% correct responses
- H. The responsible instructor shall either revise or replace any test item receiving lower than 20% correct responses by the next implementation of the training topic
- I. The minimum passing score is 80%. Remediation policy shall follow the NERC CEH Provider's Manual


3. Student Course Evaluations

- A. Student Course Evaluations (Attachment G - Student Evaluation Form) shall be solicited from all participants at the conclusion of each session.
- B. Student Course Evaluations shall be submitted to ISO Manager, OPTD at the conclusion of each training segment.
- C. ISO OPTD Records Administrator shall :
 - 1) Upload ISO Student Course Evaluation data to the QTS data base
 - 2) Generate Student Evaluation Summaries (Attachment H - Student Evaluation Summary) using the QTS data base function
 - 3) Upload Student Evaluation Summaries to the program files maintained on SharePoint no later than one week from the conclusion of the training segment.

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6.5 Training Program Effectiveness Evaluation

The effectiveness of the continuing education effort, as addressed through ISO/LCC Joint Training shall be evaluated as directed in SOP-RTMKTS.0200.0070 - Evaluate Training Program Effectiveness

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7. Revision History

Rev. No.	Date	Reason
0	12/03/09	Initial draft
1	02/01/10	Added SOP titles to Section 1 References, Section 5.4 step F, and to Section 6.5

8. Attachments

Attachment A - Joint Trainers' Task Force Charter

Attachment B - Translation of Training Requirements into Instructional Objectives

Attachment C - Instructional Objective Review and Approval

Attachment D - Classroom Lesson Plan

Attachment E - Instructional Package Review and Approval

Attachment F - Sample Roster

Attachment G - Student Evaluation Form

Attachment H - Student Evaluation Summary