

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

System Operator Certification Program Manual

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Program Manual Changes

No.	Date	Section	Page	Description	Version
1	05/2005	All	All	Initial white paper expanded SOC Program to include CE hours	0
2	02/2006	All	All	Program Manual	1
3	06/2006	I and II	4, 17	Fees	1.1
4	06/2006	All	All	CEH to CE hours	1.1
5	08/2006	III	16	Training Providers retaining documentation	1
6	03/2007	I	9	Remove certificate numbering convention	1.2
7	03/2007	IV	18	General housekeeping and added a 45 day limit to Step 3 of DRP. Added comment about waiting for official score when available before taking action on a dispute filed with the PCGC chairman.	1.2
8	08/2007	All	All	Updated instructions to include instructions for the new database	1.3
9	10/2007	II	15	Category defined for Carry-over CE hours.	1.3
10	11/2009	All	All	Fee Increase for exams & Credential Maintenance	1.3
11	8/2011	Executive Summary, II and III	4, 16-23, 24, and 25	Review of Content for consistency with current requirements	? – With requiring BOT approval probably should be version 2.0

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Executive Summary

Maintaining the reliability of the bulk electric system through implementation of the reliability standards requires skilled, trained and qualified system operators. The System Operator Certification Program provides the mechanism to ensure system operators are afforded the opportunity to obtain the essential knowledge and skills to operate the bulk electric system.

The System Operator Certification Program provides the framework for the examinations used to obtain initial certification in one of four NERC specialty credentials: Transmission Operator, Balancing and Interchange Operator, Balancing, Interchange and Transmission Operator, and Reliability Operator. A system operator credential is a personal credential issued to a person for successfully passing a NERC system operator certification exam. Each specialty credential was designed to focus on functional areas of system operations. For instance the Transmission Operator credential was designed specifically for individuals whose job functions are in transmission operations. Each credential is maintained by accumulating a specified number of continuing education hours within a specified period of time.

The NERC Personnel Certification Governance Committee (PCGC) is the governing body that establishes the policies, sets fees, and monitors the performance of the System Operator Certification Program. As program administrator, NERC maintains databases, records, and applications, collects fees, maintains contracts with vendors, and provides reports on system operator certification related activities. The PCGC is responsible for ensuring the program is financially sound.

Section I — Certification Examinations

Overview

The System Operator Certification Program awards certification credentials to those individuals who demonstrate that they have attained sufficient knowledge relating to NERC reliability standards, as well as the basic principles of bulk power system operations by passing one of four specialty examinations. A certificate, valid for three years, is issued to a candidate who successfully completes an examination.

The members of the Examination Working Group (EWG) represent each of the specialty areas tested in the examinations. The EWG develops the examinations under the guidance of a psychometric consultant. The examinations are based on content outlines that were developed through a job analysis. Prior to being used as a ‘scored’ question, each question is placed in a ‘pilot’ (not scored) position on the examination for one full examination cycle (eighteen months). At the end of the analysis cycle the performance of the piloted question is reviewed. Only questions that meet minimum performance criteria can be placed in a scored position on an exam. The performance of every question used in a scored position is continually tracked and, if a question falls below the minimum performance criteria, it is removed. The direct involvement of system operators, supervisors, and trainers in the examination development process remains a primary requirement for future NERC system operator certification examinations.

Earning a Credential

Examinations

There are four specialty examinations: Reliability Operator, Balancing and Interchange Operator, Transmission Operator, and Balancing, Interchange, and Transmission Operator. Each of the examinations has its own content outline that can be accessed from the Program’s Web page. The specifics of the individual examinations can be obtained from the table below. The individual content outlines for each of the specialty examinations can be obtained by clicking on the name of the exam.

Examination Title	Total Questions	Scored Questions	Passing Score (# of answers correct)
Reliability Operator Certification Examination	150	125	96
Balancing, Interchange, and Transmission Operator Certification Examination	150	125	96
Transmission Operator Certification Examination	125	100	77
Balancing and Interchange Operator Certification Examination	125	100	77

Applying for Certification Examinations

If you are not a registered user of the System Operator Certification database, you must first establish an account. If you already have a user account, sign-in to your account to access the on-line examination application.

- a. If you have forgotten your user name or password, contact the NERC office at phone number 609-452-8060 (Mon–Fri, 8:00 a.m.– 4:00 p.m. Eastern).

To access the registration and login screen:

1. Go to the System Operator Certification Web site (<http://www.nerc.com/page.php?cid=6184>)
2. Click on the link to the registration and login screen
3. **Pop-ups must be allowed** on your computer for this site to work
 - a. If pop-ups are not allowed, check with your IT department
4. If you are a new user:
 - a. Click <operator registration> bar
 - b. Fill in form, starred fields are required fields
 - i. First name and last name must exactly match the first name and last name on your government issued picture ID (all correspondence will appear as you type it)
 - ii. User ID must be at least 5 characters long
 - iii. Passwords must be at least 6 characters and contain at least one alpha and one numeric character
 - c. Go to #6
5. If you are an existing user
 - a. Enter User ID and password
6. On the Welcome page, click on <Authorization To Test> button
 - a. Select an Exam (either NERC or PJM)
 - b. If paying by credit card, fill in the billing name and address of the credit card you are using
 - c. If paying by check or money order, click in the <Pay by check> box and print the page. Mail the check and the printed page to NERC at:

North American Electric Reliability Corporation
Attn: System Operator Certification Program
116-390 Village Boulevard
Princeton, NJ 08540-5721

Applications are accepted year round (24x7x365). If you entered a valid e-mail address, after the application is approved, an e-mail will be sent to that address with your Authorization-to-Test (ATT) number. Processing by the administrator can take up to 72 hours. If you did not enter a

valid e-mail address, we will mail your Authorization-to-Test number to the address in your account. Please allow two weeks for us to mail your authorization number and receipt.

An application is considered complete only when all required information is provided and fees are received.

Eligibility Period

An eligibility to take an examination is valid for one year from the date the ATT number is issued and can be used only once. Candidates are encouraged to schedule an appointment to sit for the examination promptly. If a candidate fails to schedule and sit for the examination within the one-year eligibility period, the candidate shall forfeit all payments made to NERC. Candidates who fail to take the examination within the one-year eligibility must submit a new application and pay the full fee to be considered for eligibility again.

Fees

Fee Schedule	
Application to test	\$700
Application to retest	\$700
Application to withdraw	\$100
Bad check/credit	\$25

**All funds shall be payable in U.S. dollars.

Before scheduling an examination, please do the following:

- Review all parts of this Program Manual.
- Complete and submit the application to NERC, along with the appropriate fee.
- Receive an ATT number from NERC declaring that you are eligible to take the examination. The message will also provide instructions on how you may arrange the location, date, and time of your examination. The ATT number will be needed when you contact Prometric to schedule your test appointment.

Scheduling an Examination

NERC will send you a message with your ATT number and instructions about the identification items to bring with you on the day of the examination. To select your examination location, date, and time go to the Prometric Web site at <http://securereg3.prometric.com/Welcome.aspx>. All attempts should be made to schedule your examination as soon as possible because testing center appointments are in high demand by other professions. Waiting to schedule your appointment may significantly limit the locations, dates, and times available. Examinations may be administered on any Monday through Saturday. Examinations may be taken on any day that accommodates your schedule and where and when examination space is available.

During the scheduling process you will be required to confirm your ATT number and your first and last name. You will be advised of available testing locations, dates, and times.

*Note: When you schedule your test date, you will receive a **confirmation number** from Prometric. Please retain this number, as it will be useful should you have to use Prometric’s automated cancellation system or if there is a conflict with the test center appointment. Prometric will not mail you a confirmation notice.*

Examination Content Outline

The computer-based examination consists of objective, multiple-choice questions. The questions are based on the published [Content Outline](#) for each of the NERC system operator certification examinations.

Day of the Examination

Time at Testing Center — Plan to arrive at the testing center at least thirty minutes early to sign in. You should allocate at least four hours to accommodate the total time you might be at the testing center. This includes:

Examination Time Allocation	
Examination Stages	Time Allocation
Administration & Review of Candidate Identification	30 minutes
Computer-Based Tutorial	15 minutes
Examination	2 hours & 45 minutes
Post-Examination Survey	15 minutes
Total Time to be Allocated	3 hours & 45 minutes

Computer Familiarization — A fifteen-minute tutorial on operating instructions for the computer-based examination will be provided before the start of each examination. The tutorial is self-explanatory, and no prior computer knowledge is needed. You may bypass this feature if you wish (not recommended).

Computer-based testing allows you to skip questions, mark, and return to them at a later time. During the examination, you may change your answer to any question. A clock is on the screen at all times indicating the time remaining. Before exiting the examination, the computer will indicate any question(s) you have marked for review or those that remain unanswered.

Post-Examination Survey — At the completion of the examination, you will be invited to complete a brief questionnaire on your reactions to the examination experience and the quality of the testing center staff and services. *This is also your opportunity to comment on the content of the examination and to challenge any particular examination questions or answers.*

Comments — Comments on the examination process or questions will be collected in the post-examination survey. All comments will be forwarded to NERC.

Testing Center Requirements

Required Methods of Identification — You will be required to show **two forms** of identification before being admitted to the examination. You will be required to show at least one primary form of identification and either another primary or a secondary form of identification.

- Primary identification — Primary identification is a government-issued form of identification and must have **both** your picture **and** your signature on it. Some examples of primary identification are: a driver's license (if it has both your picture and your signature), a passport, a temporary visa, or a military ID.
- Secondary identification — Secondary identification must have **either** your picture **or** your signature **or** both. Acceptable forms of secondary ID are: a second primary identification as above, or an employment ID, or a credit card or debit card.

Identification(s) that have been altered or damaged will not be accepted at the Prometric Test Center. If there is any discrepancy between the name on the identification presented to the test center staff and the NERC registration, the candidate will not be admitted to test and will be marked as a no-show. All no-shows forfeit all funds paid – no refunds are granted to no-shows.

Testing Center Regulations

- Candidates who arrive late for the examination might not be seated for the examination, depending on the criteria established by that testing center. Late arrivals that are not permitted to take the examination will be considered a no-show and must reapply and pay the full test fee to take the examination.
- No reference materials, calculators, cell phones, or recording equipment may be taken into the examination. Candidates will be provided a keyed locker to store personal items while taking the examination.
- No test materials, documents, notes, or scratch paper of any sort may be taken from the examination.
- Visitors are not permitted during the examination.
- Testing center staff is instructed to answer questions about testing procedures only. They cannot respond to inquiries regarding the examination's content.
- During the examination, candidates may use the rest rooms for a biological break; however, the examination clock will continue running during such times.
- Candidates may not leave the testing center until they have finished the examination.
- Smoking is not permitted in any testing center.
- Any candidate giving or receiving assistance, or making a disturbance, will be required to turn in their examination materials, exit the examination room, and leave the testing center. Your test will be scored as is whether you have completed it or not. The Disciplinary Action Procedure will be initiated upon notification to NERC that such activity had occurred.
- Any instances of cheating, or attempts to impersonate another candidate, will be dealt with through the Disciplinary Action Procedure.

Cancellations and No-shows

You may cancel and reschedule an examination appointment either by calling Prometric at the toll free number listed in your ATT letter or through their Web site (<http://securereg3.prometric.com/Welcome.aspx>). Your request to cancel must be no later than noon, local test center time, two days (Monday–Saturday excluding local holidays) before the examination date. You may reschedule the examination date within your one-year period of eligibility without paying an additional fee. If you are late in canceling your examination appointment, do not appear for it, or arrive late, you will be considered a no-show. All no-shows will have to reapply to take the examination and pay the full test fee. Refunds will not be issued to no-shows.

Minimum Time Between Examinations

Candidates who fail the examination must wait 42 days from the date of the failed examination to sit for the same exam. All other exams are available immediately once additional payment has been satisfied. Candidates who pass one of the NERC system operator certification examinations may not take that exam again until their credential expires (4 years from the date they passed the exam).

Special Accommodations/Disabilities

Allowance will be made for all documented requests for special testing conditions. Applicants must notify NERC by [e-mail](#) or telephone. The certification coordinator will contact the applicant with further instructions. Disability requests must be supported by a letter (original copy) from a recognized health care provider and be signed by a health professional. All other requests must be similarly supported. NERC will review each request and provide appropriate accommodations. The decision will be included in the notice of eligibility/ registration approval sent to the applicant.

Note: All testing centers are in compliance with the regulations governing the Americans with Disabilities Act (ADA).

Withdrawal from Examination Process

As described in the *Eligibility Period* section of this Administrative Manual, the eligibility period is one year from the date the ATT number is issued. If a candidate wishes to withdraw from the process within the one-year period for any reason, they must request a Withdrawal on or before the last eligibility day. Candidates who submit the request within the time period will be reimbursed for the fees submitted to NERC less the Withdrawal Fee in effect at the time of the withdrawal. Failure to properly withdraw will result in the candidate forfeiting all submitted fees.

If you have already scheduled an appointment with Prometric to take the exam, you must first cancel that Prometric appointment or you will be charged a no-show fee.

Exam Withdrawal Procedure

To access the registration and login screen:

- Go to the System Operator Certification web site (<http://www.nerc.com/page.php?cid=6184>)
- Click on the link to the registration and login screen
- Pop-ups must be allowed on your computer for this site to work
 - If pop-ups are not allowed, check with your IT department
- Enter **User ID** and **Password**
- Click **Login**
- Select **Exam Authorization**
- Select **Authorization To Test List**
- Click **Withdrawal/Change**
- Select **Withdraw**
- click **Save**

Examination Change Request

If a candidate wishes to change the examination (i.e., from BI to TO, or from RC to BT, etc.) that they are registered to take, they must use the Program's Web site. An examination change request will not change the candidate's eligibility period. The eligibility period will remain valid for one year from the date that the original ATT number was issued. This change request must be submitted at least thirty days prior to the expiration of the candidate's eligibility period.

Examination Change Procedure

To access the registration and login screen:

- Go to the System Operator Certification Web site (<https://socced.nerc.mcgraw.com>)
- Click on the link to the registration and login screen
- Pop-ups must be allowed on your computer for this site to work
 - If pop-ups are not allowed, check with your IT department
- Enter **User ID** and **Password**
- Click **Login**
- Select **Exam Authorization**
- Select **Authorization To Test List**
- Click **Withdrawal/Change**
- Select **Change Exam to: (choose the exam from drop down selection)**
- click **Save**

You will be issued a new ATT number with the original expiration date. After receiving your new ATT you must schedule/reschedule an appointment with Prometric to take the exam.

Results and Awarding of Certificates

Candidates can view pass/fail results on the computer screen when the examination is terminated. Before exiting the Prometric Testing Center, a copy of this display will be provided. This is an unofficial summary of the examination.

After grading and analysis of the examination results, NERC will mail an official summary. This will take about ten to twelve weeks. The official summary will include the grade achieved and the percentage of correctly answered questions in each Content Outline category.

Candidates who pass the examination will receive the appropriate NERC-certified system operator certificate signed by the President of NERC. The date on the certificate will be the date the candidate passed the examination.

Credential Designations

N/RA/RC	Reliability Operator
BT	Combined Balancing and Interchange/Transmission Operator
BI	Balancing and Interchange Operator
TO	Transmission Operator

Confirmation of Credential to Third Parties

NERC will confirm to an employer that an individual holds a valid NERC system operator certificate (including releasing the certificate number and the issuance date) in response to a written request, on the employer's letterhead (or e-mail), providing the name of the individual. NERC will release the certificate numbers and issuance dates for individuals holding a current NERC system operator certificate to the Regional Compliance staff or designated agents of those Regions in which an individual's employer operates in response to a written request, submitted on organization letterhead (or e-mail), that provides the names of the individuals for whom information is sought. No further information will be provided.

NERC will confirm to an employment search firm, or a potential employer, whether an individual holds a valid NERC system operator certificate (including releasing the certificate number and the issuance date) if the search firm has a release from the individual. No further information will be provided.

Section II — Credential Maintenance

Effective Date: October 1, 2006

Overview

The System Operator Certification Program incorporates a requirement to use continuing education hours (CE hours) to maintain a credential that is valid for three years. Successfully passing an examination earns a credential and a certificate that is valid for three years. Accumulation of the proper number and type of CE hours from NERC-approved learning activities within that three-year period maintains the validity of that credential for the next three years. A new certificate is issued indicating the new expiration date.

The program provides that:

1. System operators seeking to obtain a credential must pass an examination to earn the credential.
2. A certificate, valid for three years, will be issued to successful candidates.
3. A certified system operator must accumulate a minimum number of CE hours in specific training topics (listed in Appendix A) before their certificate expires to maintain their credential. The minimum number of CE hours is based on each credential:
 - a. 200 CE hours for Reliability Operator
 - b. 160 CE hours for Balancing, Interchange, and Transmission Operator
 - c. 140 CE hours for Balancing and Interchange Operator
 - d. 140 CE hours for Transmission Operator
4. For all credentials, a minimum of 30 of the CE hours in #3 must focus on content and/or implementation of NERC standards.
5. For all credentials, a minimum of 30 of the CE hours in #3 must be in simulations (i.e., table-top exercises, training simulators, emergency drills, practice emergency procedures, restoration, black start, etc.).
6. CE hours can concurrently count for the total number required, the NERC standards required, and the simulations but will only be counted once for the total CE hours requirement.
 - a. For example: A 3 hour learning activity that includes 1 hour of instruction and a 2-hour simulation on the implementation of NERC Standards will be accounted in this manner: 3 hours towards the total requirement, 2 hours towards the Standards requirement, and 2 hours towards the simulation requirement.
7. For those certified system operators whose certificate expires after October 1, 2009, retaking the examination is not an option for credential maintenance.
8. If a certified system operator does not accumulate enough CE hours to maintain their current credential prior to the certificate expiration date, their credential will be suspended

for a maximum of one year. At the end of the suspension period, their credential will be revoked.

9. If, prior to the end of the one-year suspension, the certified system operator accumulates the proper number and type of CE hours, their credential will be reinstated with the original expiration date (three years after the previous expiration date).
10. A system operator with a revoked credential will have to pass an examination to become re-certified.

Providers Upload CE Hours

Various industries use different methods to track CE Hours and credit people with those they have earned. NERC has chosen to have the providers tell NERC who participated and how many CE Hours they earned. After delivering an approved learning activity, the provider will upload the CE Hours earned into the NERC database for those certified system operators that participated. It is incumbent upon the certified system operators to ensure that the providers credit them with the CE Hours they have earned by checking their transcripts on a regular basis.

When to Start Accumulating CE Hours

For credential maintenance, NERC will recognize only CE hours earned (date of learning activity) after April 1, 2006. Each learning activity must be approved for use for credential maintenance prior to the CE hours being issued. For each certified system operator, only CE hours earned within three years of their certificate expiration date will be recognized for maintaining their NERC credential.

Specifics of the Credential Maintenance Program

Certified system operators are required to accumulate CE hours through the NERC Continuing Education Program in recognized training topics for credential maintenance. See *Appendix A* for the list of recognized training topics. Described below are the requirements for each of the four credentials:

Transmission Operator Certification

To maintain a valid Transmission Operator credential, system operators must earn **140 CE hours** within the 3-year period preceding the expiration date of their certificate.

The 140 CE hours must include:

- A minimum of 30 CE hours must focus on content and/or implementation of NERC Standards.
- A minimum of 30 CE hours must utilize simulations (i.e., tabletop exercises, dispatcher/operator training simulators, emergency drills, or practice emergency procedures, restoration, blackstart or other reliability-based scenarios).

Balancing and Interchange Operator Certification

To maintain a valid Balancing and Interchange Operator credential, system operators must earn **140 CE hours** within the 3-year period preceding the expiration date of their certificate.

The 140 CE hours must include:

- A minimum of 30 CE hours must focus on content and/or implementation of NERC Standards.
- A minimum of 30 CE hours must utilize simulations (i.e., table-top exercises, dispatcher/operator training simulators, emergency drills, or practice emergency procedures, restoration, blackstart or other reliability-based scenarios).

Balancing, Interchange, and Transmission Operator Certification

To maintain a valid Balancing, Interchange, and Transmission Operator credential, system operators must earn **160 CE hours** within the 3-year period preceding the expiration date of their certificate.

The 160 CE hours must include:

- A minimum of 30 CE hours must focus on content and/or implementation of NERC standards.
- A minimum of 30 CE hours must utilize simulations (i.e., tabletop exercises, dispatcher/operator training simulators, emergency drills, or practice emergency procedures, restoration, blackstart or other reliability-based scenarios).

Reliability Operator Certification

To maintain a valid Reliability Operator credential, system operators must earn **200 CE hours** within the three-year period preceding the expiration date of their certificate.

The 200 CE hours must include:

- A minimum of 30 CE hours must focus on content and/or implementation of NERC standards.
- A minimum of 30 CE hours must utilize simulations (i.e., tabletop exercises, dispatcher/operator training simulators, emergency drills, or practice emergency procedures, restoration, blackstart or other reliability-based scenarios).

Certificate Renewal

System operators that have: 1) completed the credential maintenance application, 2) satisfied the CE hours requirements, and 3) paid the required fee will be issued a certificate valid for three years from the previous expiration date.

Deficits of CE Hours for Credential Holders

The credential of a certified system operator who does not accumulate the required number and balance of CE hours within the three-year period will be suspended. A system operator with a suspended certificate cannot perform any task that requires an operator to be NERC-certified. The system operator with a suspended credential will have up to twelve months to acquire the necessary CE hours.

During the time of suspension, the original anniversary date will be maintained. Therefore, a certificate, valid for three years from the previous expiration date, will be issued to a system operator who accumulates the required number of CE hours within the twelve-month suspension period. The system operator will still be required to accumulate the required number of CE hours prior to the next expiration date.

The credential will be revoked and all CE hours earned will be forfeited at the end of the twelve-month suspension period if the system operator does not accumulate the required number of CE hours. After a credential is revoked, the system operator will be required to pass an examination to become recertified.

For example, a system operator who has an expiration of July 31, 2009 00:00 does not accumulate the required number of hours prior to that date:

1. The credential will be suspended on August 1, 2009 00:00.
2. If the system operator then accumulates and submits the required number of hours by March 1, 2010, the credential will be reinstated on March 1, 2010, and will be valid until July 31, 2012.
3. The system operator will have to accumulate the required number of hours prior to July 31, 2012 00:00 or the credential will be suspended again.
4. CE hours previously used to maintain the credential cannot be reused for credential maintenance.
5. A record of the suspension between August 1, 2009 and March 1, 2010 will be maintained.

Rollover Hours

For all credentials, up to 30 (Operating Topic) CE hours accumulated in the six months prior to the certificate expiration date and not used for credential maintenance and change of credential type may be carried over to the next three-year period. The course originally associated with those hours will not carry over – just the CE hours. Excess CE Hours in the Standards category or the Simulation category will not be carried over into the next period.

CE hours will be allocated on a first-in, first-out basis. In other words, CE hours from a learning activity occurring first according to the calendar will be used to satisfy the CE hour requirement first and continuing sequentially by the date of the learning activities.

Reporting of CE Hours Earned by Certified System Operators

The learning activity providers are required to electronically submit the CE hours earned by certified system operators into the NERC System Operator Certification and Continuing Education Database (SOCCED). Learning activity providers are also required to give the certified system operators paper proof of having earned the CE hours. If a conflict occurs, the certified system operator will be able to submit the paper copy as proof of having acquired the necessary CE hours from the Continuing Education Program's approved learning activities.

System operators are able to track their status/progress towards maintaining their credential through the NERC system operator certification web site. Certified system operators should review their CE hours records at least 90 days before their certificate expiration date to allow sufficient time to acquire CE hours prior to the system operator's certificate expiration date should there be a conflict.

If a Provider does not submit the CE hours, the certified system operator must submit proof of sufficient CE hours to the NERC Manager of Personnel Certification no less than 30 days before the system operator's certificate expiration date. NERC staff may be able to process/resolve discrepancies in credential holder CE hours records in less than 30 days; however, submissions received at NERC within the 30-day window may not be credited to the system operator's account in time to prevent the credential from being suspended. Suspended credentials based on incomplete data will be reinstated retroactively once proof of completion is verified.

For system operators who meet the CE hours requirements, and upon receipt of an application and necessary fees, NERC will issue a new certificate with an expiration date three years from the previous expiration date (a new certificate will be mailed to the address on record).

Changing Certification Levels

Certified system operators that want to change to a different credential can do so. Many system operators hold a Reliability Operator credential but are not working in a reliability operator capacity. Those certified system operators could easily change to a credential that more closely matches the work they perform without taking an examination. However, system operators currently holding a Transmission Operator or Balancing and Interchange Operator credential will have to pass an examination to move to a different credential such as the combined Balancing, Interchange, and Transmission Operator credential or the Reliability Operator credential. To change to a different credential the system operator must first meet the proper number and type of hours for the new credential.

A certified system operator can change the type of their credential by indicating their desire in SOCCED when they request to maintain their credential. . A system operator has the following options:

To change a credential from:

- Balancing and Interchange Operator to any other NERC credential: the system operator must pass the examination for that credential.
- Transmission Operator to any other NERC credential: the system operator must pass the examination for that credential.
- Balancing, Interchange, and Transmission Operator to Reliability Operator: the system operator must pass the examination for that credential. Reliability Operator to any other NERC credential: the system operator must submit the proper number and type of hours for the new credential.

- Balancing, Interchange, and Transmission Operator to Transmission Operator or Balancing and Interchange Operator: the system operator must submit proper number and type of hours for the new credential.

Application for Credential Maintenance

Procedure for applying for credential maintenance

A certified system operator can apply to maintain their credential through SOCCED:

To access the registration and login screen:

1. Go to the System Operator Certification Web site (<http://www.nerc.com/page.php?cid=6|84|194>)
2. Click on the link to the registration and login screen
3. **Pop-ups must be allowed** on your computer for this site to work
 - a. If pop-ups are not allowed, check with your IT department
4. Enter your USERID and password, click <submit>
5. On the Welcome page click on the <Operators> button
6. Select <View Transcripts>
7. In the upper left corner select the certificate number for the credential you wish to maintain (for many of you, there will be only one certificate number. For others, there will be two or more certificate numbers. CE hours are credited to only one certificate number unless you inform a CE Provider to apply the hours you earned to each of your certificates).
8. Review the CE hours associated with that certificate
9. Credential maintenance and Change Credential Type buttons will appear as you attain the required milestones. For certified system operators with the following credentials:
 - a. Transmission Operator:
 - i. The Credential Maintenance button will appear when you reach the 140 CE hour requirement. Clicking this button will bring up a screen to confirm your desire to maintain your credential as well as payment of the fee. You do not have the option to change to another credential without taking the exam for the new credential.
 - b. Balancing and Interchange Operator
 - i. The Credential Maintenance button will appear when you reach the 140 CE hour requirement. Clicking this button will bring up a screen to confirm your desire to maintain your credential as well as payment of the fee. You do not have the option to change to another credential without taking the exam for the new credential.
 - c. Balancing/Interchange and Transmission Operator
 - i. A Change Credential Type button will appear when you reach the 140 CE hour requirement allowing you to change to either a Transmission Operator credential or a Balancing and Interchange credential. Clicking this button will bring up a screen to confirm your desire to change your credential, to which credential you wish to change, as well as payment of

- the fee. Up to 30 additional hours above the amount required to obtain the changed credential will be rolled over to the next three year period.
- ii. The Credential Maintenance button will appear when you reach the 160 CE hour requirement. Clicking this button will bring up a screen to confirm your desire to maintain your credential as well as payment of the fee.
- d. Reliability Operator
 - i. A Change Credential Type button will appear when you reach the 140 CE hour requirement allowing you to change to either a Transmission Operator credential or a Balancing and Interchange credential. Clicking this button will bring up a screen to confirm your desire to change your credential, to which credential you wish to change, as well as payment of the fee. Up to 30 additional hours above the amount required to obtain the changed credential will be rolled over to the next three year period.
 - ii. When you reach the 160 CE hour milestone, a selection will be added allowing you to change to the Balancing/Interchange and Transmission Operator credential. Clicking this button will bring up a screen to confirm your desire to change your credential, to which credential you wish to change, as well as payment of the fee. Up to 30 additional hours above the amount required to obtain the changed credential will be rolled over to the next three year period.
 - iii. The Credential Maintenance button will appear when you reach the 200 CE hour requirement. Clicking this button will bring up a screen to confirm your desire to maintain your credential as well as payment of the fee.
- e. Hardship Clause

It is understood that due to unforeseen events and extenuating circumstances, a certified system operator may be unable to accumulate the necessary CE hours in the time frame required by the Program to maintain the credential. In such an event, an individual must submit a written request containing a thorough explanation of the circumstance and supporting information to:

North American Electric Reliability Corporation
Attn: Manager–Personnel Certification
116 Village Boulevard Suite 390
Princeton, NJ 08540-5721

The PCGC retains the right to invoke this Hardship Clause and deviate from the Program rules as it deems appropriate to address such events or circumstances. Examples of extenuating circumstances would include, but not limited to, military service, illness of the system operator or within the system operator’s immediate family, or system operator temporary disability that results in an extended period of time away from work.

Section III — Program Rules

Rules for NERC-Certified System Operator

Recognized Learning Activities

CE hours will be recognized for credential maintenance only for training topics/learning activities listed in *Appendix A* and where Providers have complied with the Continuing Education Program rules.

Learning Activity Credit

1. Emergency Operations Training Topics

CE hours for emergency operations will not be recognized for credential maintenance more than twice a year **based on the credential anniversary** (i.e., during the twelve-month period preceding the system operator's credential anniversary). CE courses can be counted as an Emergency Operation courses if the training is related to emergency preparedness, operational communications and situational awareness, analysis and troubleshooting, or response to any emergency as defined by NERC as:

“Any abnormal system condition that requires automatic or immediate manual action to prevent or limit the failure of transmission facilities or generation supply that could adversely affect the reliability of the Bulk Electric System.”

2. Other Training Topics

CE hours for a particular course or learning activity other than emergency operations training will not be recognized for credential maintenance more than once a year **based on the credential anniversary** (i.e., during the twelve-month period preceding the system operator's credential anniversary) .

3. Instructor Training

For those instructors who are also certified system operators, 1.0 CE hour for each CE hour of a learning activity delivered will be recognized towards the instructor's system operator credential maintenance. Emergency Operations topics can be counted twice per year **based on the credential anniversary** (i.e., during the twelve-month period preceding the system operator's credential anniversary).

Provider Access to Database

Providers will be able to access the database to upload certified system operator CE hours activity. The process for doing this is included in the CE Program Manual.

System Operator Access to Database

Certified system operators will be able to access the database to track their CE hour activity. The process for doing this is listed above.

Retain DocumentationThe certified system operator is responsible for Section III – Program Rules documentation for proof of credential maintenance. Documentation includes:

- Name and contact information of the Provider
- Title and identification number of the learning activity and description of its content
- Date(s) of the learning activity
- Location (if applicable)
- Number and type of CE hours
- System operator’s NERC certificate number

Training Providers shall retain comparable documentation. Electronic forms of documentation are acceptable.

Learning Activity Approved Status Revoked after CE Hours Granted

CE hours granted for a course or learning activity that had been approved for credential maintenance will still be recognized if, subsequent to the system operator attending the course or learning activity, the approved status is revoked.

Treatment of Disputes Between Certified System Operator and Providers

Disputes between a Provider and a certified system operator must be resolved between the Provider and the certified system operator. NERC will not become involved in resolving the dispute. Additionally, it is the obligation of the certified system operator to periodically review their CE hours’ records in the NERC system operator certification database and to maintain their own training records to provide proof that CE hour requirements have been achieved.

Fees

Fee Schedule**	
Application to test	\$700
Application to maintain or change credential using CE hours	\$600
Application to retest	\$700
Application to withdraw	\$100
Bad check/credit application	\$25

**All funds must be payable in U.S. dollars.

The System Operator Certification Program must be financially independent. The on-going expenses to develop and maintain the examinations and the management and administrative costs associated with both the examination process and credential maintenance must be paid using these fees. These fees will be periodically reviewed and adjusted accordingly.

Section IV — Dispute Resolution

Applicability

Any dispute arising under the NERC agreement establishing the *NERC System Operator Certification Program*, or from the establishment of any NERC rules, policies, or procedures dealing with any segment of the certification process, or as a result of Disciplinary Action shall be subject to the NERC System Operator Certification Dispute Resolution Process (hereafter called the “Process”). The Process is for the use of persons who hold an NERC system operator certification or persons wishing to be certified to dispute the validity of the examination, the content of the test, the content outlines, or the registration process. The Process is not for trainers or certified persons disputing CE hours.

Disputes regarding the scoring of an exam should be delayed until the official score results are known. The instant scoring at the test center is an unofficial score. An official score will be issued only after the exam results have been reviewed by the psychometric consultant. The chairman of the PCGC may choose to wait until an official score is available before taking action on a dispute.

1. Dispute Resolution Process

The dispute resolution process consists of three steps.

a. **NERC System Operator Certification Program Staff**

The first step in the process is for the person with a dispute to contact the NERC System Operator Certification Program staff. Contact may be made by a phone call or e-mail to the program staff. This first step can usually resolve the issues without further actions. It is expected that most disputes will be resolved at this step.

If the issue(s) is not resolved to the satisfaction of the parties involved in the first step, the issue can be brought to the Personnel Certification Governance Committee (PCGC) Dispute Resolution Task Force.

b. **Personnel Certification Governance Dispute Resolution Task Force**

If the NERC staff did not resolve the issue(s) to the satisfaction of the parties involved, a written request must be submitted to the chairman of the PCGC through NERC staff within 45 days of the conversation with the NERC staff explaining the issue(s) and requesting further action. Upon receipt of the letter, the PCGC chairman will present the request to the PCGC Dispute Resolution Task Force for action. This task force consists of three current members of the PCGC. The PCGC Dispute Resolution Task Force will investigate and consider the issue(s) presented and make a decision. This decision will then be communicated to the submitting party, the PCGC chairman, and the NERC staff within 45 calendar days of receipt of the request.

If a French-Canadian or Mexican party raises a dispute, the PCGC shall appoint a French-Canadian speaking or Spanish-speaking interpreter, respectively, as requested.

c. Personnel Certification Governance Committee

If the PCGC Dispute Resolution Task Force’s decision did not resolve the issue(s) to the satisfaction of the parties involved, the final step in the process is for the issue(s) to be brought before the PCGC. Within 45 days of the date of the Task Force’s decision, the disputing party shall submit a written request to the PCGC chairman through NERC staff requesting that the issue(s) be brought before the PCGC for resolution. The chairman shall see that the necessary documents and related data are provided to the PCGC members as soon as practicable. The PCGC will then meet or conference to discuss the issue(s) and make their decision within 60 calendar days of the chairman’s receipt of the request. The decision will be provided to the person bringing the issue(s) and the NERC staff. The PCGC is the governing body of the certification program and its decision is final.

2. Process Expenses

All individual expenses associated with the Process, including salaries, meetings, or consultant fees, shall be the responsibility of the individual parties incurring the expense.

3. Decision Process

Robert’s Rules of Order shall be used as a standard of conduct for the Process. A simple majority vote of the members present will decide all issues. The vote will be taken in a closed session. No one on the PCGC may participate in the dispute resolution process, other than as a party or witness, if he or she has an interest in the particular matter.

A stipulation of invoking the appeals process is that the entity requesting the appeal agrees that neither NERC (its members, Board of Trustees, committees, subcommittees, and staff), any person assisting in the appeals process, nor any company employing a person assisting in the appeals process, shall be liable, and they shall be held harmless against the consequences of or any action or inaction or of any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the appeals proceeding. This “hold harmless” clause does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.

Section V — Disciplinary Action

1. Purpose

This disciplinary action procedure is necessary to protect the integrity of the system operator credential. Should an individual act in a manner that is inconsistent with expectations, this procedure describes the process to investigate and take action necessary to protect the credential.

2. Grounds for Action

The following shall serve as grounds for disciplinary action:

- a. Willful, gross, and/or repeated violation of the NERC standards as determined by a NERC investigation.
 - i. Both the organization and the certified system operator are bound by the NERC reliability standards. If a certified system operator, either in concert with the organization or on his or her own initiative, performs a willful, gross, and/or repeated violation of the NERC standards, he or she is liable for those actions and disciplinary actions may be taken against him or her.
- b. Willful, gross, and/or repeated negligence in performing the duties of a certified system operator as determined by a NERC investigation.
- c. Intentional misrepresentation of information provided on a NERC application for a system operator certification exam or to maintain a system operator credential using CE hours.
- d. Intentional misrepresentation of identification in the exam process.
 - i. This includes, but is not limited to, a person identifying himself or herself as another person to obtain certification for the other person.
- e. Any form of cheating during a certification exam.
 - i. This includes, but is not limited to, bringing unauthorized reference material in the form of notes, crib sheets, or other methods of cheating into the testing center.
- f. A certified system operator's admission to or conviction of any felony or misdemeanor directly related to their duties as a system operator.

3. Hearing and Appeals Process

Upon report to NERC of a candidate's or certified system operator's alleged misconduct, the NERC Personnel Certification Governance Committee (PCGC) Credential Review Task Force will convene for the determination of facts. An individual, government agency, or other investigating authority can file reports.

Unless the task force initially determines that the report of alleged misconduct is without merit, the candidate or certified system operator will be given the right to notice of the allegation. A hearing will be held and the charged candidate or certified system operator will be given an

opportunity to be heard and present further relevant information. The task force may seek out information from other involved parties. The hearing will not be open to the public, but it will be open to the charged candidate or certified system operator and his or her representative. The task force will deliberate in a closed session, but the task force cannot receive any evidence during the closed session that was not developed during the course of the hearing. The task force's decision will be unanimous and will be in writing with inclusion of the facts and reasons for the decision. The task force's written decision will be delivered to the PCGC and by certified post to the charged candidate or certified system operator. In the event that the task force is unable to reach a unanimous decision, the matter shall be brought to the full committee for a decision.

The task force's decision will be one of the below:

a. No Action

Allegation of misconduct was determined to be unsubstantiated or inconsequential to the credential.

b. Probation

A letter will be sent from NERC to the offender specifying:

- i. The length of time of the probationary period (to be determined by the PCGC).
 - (a) Credential will remain valid during the probationary period.
 - (b) The probationary period does not affect the expiration date of the current certificate.
- ii. During the probationary period, a subsequent offense of misconduct, as determined through the same process as described above, may be cause for more serious consequences.
 - (a) Extension of probation,
 - (b) Revocation for cause, or
 - (c) Termination of credential.

c. Revoke for Cause

A letter will be sent from NERC to the offender specifying:

- i. The length of time of the revocation period (to be determined by the PCGC).
 - (a) Credential is no longer valid.
 - (b) Successfully passing an exam will be required to become recertified.
 - (c) An exam will not be authorized until the revocation period expires.

d. Termination of Credential

A letter will be sent from NERC to the offender specifying:

- i. Permanent revocation of credential.
- ii. Offending party will not be approved to sit for a future examination.

4. Appeal Process

The decision of the task force may be appealed using the NERC [System Operator Certification Dispute Resolution](#) process.

5. Credential Review Task Force

The Credential Review Task Force shall be comprised of three active members of the PCGC assigned by the Chairman of the PCGC on an ad hoc basis. No one on the credential review task force may have an interest in the particular matter.

The task force will meet in a venue determined by the task force chairman.

If a French-Canadian or Mexican party raises a dispute, the PCGC shall appoint a French-Canadian speaking or Spanish-speaking interpreter, respectively, as requested.

Glossary

- G01. **CE Hour:** Sixty minutes of participation in a group, independent study, or self-study learning activity as approved by the NERC Continuing Education Program.
- G02. **Continuing Education Program Provider:** The individual or organization offering a learning activity to participants and maintaining documentation required by these criteria.
- G03. **Certification:** An official recognition that indicates the recipient has passed a NERC exam or completed a specified number of continuing education hours.
- G04. **Credential:** NERC designation that indicates the level of qualification achieved (i.e., Reliability Operator; Balancing, Interchange, and Transmission Operator; Balancing and Interchange Operator; and Transmission Operator).
- G05. **Credential Maintenance:** Meet NERC CE hours' requirements to maintain a valid NERC-issued system operator credential.
- G06. **NERC-Approved Learning Activity:** Training that maintains or improves professional competence and has been approved by NERC for use in its Continuing Education Program.
- G07. **Probation:** A step in the disciplinary process during which the certificate is still valid. During the probationary period, a subsequent offense of misconduct, as determined through the same process as described above, may be cause for more serious consequences.
- G08. **Revoked:** A NERC certificate which has been suspended for more than twelve months. While in this state, a certificate holder cannot perform any task that requires an operator to be NERC-certified. The certificate holder will be required to pass an exam to be certified again. Any CE hours accumulated prior to or during the revocation period will not be counted towards certificate maintenance.
- G09. **Revoke for Cause:** A step in the disciplinary process during which the certificate is no longer valid and requiring successfully passing an exam to become certified. However, an exam will not be authorized until the revocation period expires. CE hours earned before or during this revocation period will not be counted for maintaining a credential.
- G10. **Suspended:** Certificate status due to an insufficient number of CE hours being submitted prior to the expiration of a certificate. While in this state, a certificate holder cannot perform any task that requires an operator to be NERC-certified.
- G11. **Termination of Credential:** A step in the disciplinary process whereby a credential is permanently revoked.
- G12. **Type of CE Hours:** NERC-approved learning activity covering topics from Appendix A, NERC standards, and/or simulations for which there is a minimum requirement for credential maintenance.

Appendix A — Recognized Operator Training Topics

1. Basic Concepts

a. Basic AC/DC Electricity

- i. Capacitance
- ii. Inductance
- iii. Impedance
- iv. Real and reactive power
- v. Electrical circuits
- vi. Magnetism

b. Basic Power System Mathematic Concepts

- i. Basic trigonometry
- ii. Ratios
- iii. Per unit values
- iv. Pythagorean Theorem
- v. Ohm's Law
- vi. Kirchhoff's Laws

c. Characteristics of the Bulk Electric System.

- i. Transmission lines
- ii. Transformers
- iii. Substations
- iv. Power plants
- v. Protection
- vi. Introduction to power system operations and Interconnected operations
- vii. Frequency

2. System Protection principles

- a. Transmission lines
- b. Transformers
- c. Busses
- d. Generators
- e. relays and protection schemes
- f. Power system faults
- g. Synchronizing equipment Under-frequency load shedding
- h. Under-voltage load shedding
- i. Communication systems utilized

3. Interconnected Power System Operations

- a. Voltage control
- b. Frequency control
- c. Power system stability
- d. Facility outage both planned and unplanned
- e. Energy accounting

- f. Inadvertent energy
- g. Time error control
- h. Balancing of load and resources

4. Emergency Operations

- a. Loss of generation resource(s)
- b. Loss of transmission element(s)
- c. Operating reserves
- d. Contingency reserves
- e. Line loading relief
- f. Load shedding
- g. Voltage and reactive flows during emergencies
- h. Loss of EMS
- i. Loss of primary control center

5. Power System Restoration

- a. Restoration philosophies
- b. Facility restoration priorities
- c. Black start restoration
- d. Stability (Angle and voltage)
- e. Islanding and Synchronizing

6. Market Operations

- a. NAESB standards
- b. Standards of Conduct
- c. Tariffs
- d. OASIS applications (Transmission Reservations)
- e. E-Tag application
- f. Transaction Scheduling
- g. Market applications
- h. Interchange

7. Tools

- a. Supervisory Control and Data Acquisition (SCADA)
- b. Automatic Generation Control application (AGC)
- c. Power flow application
- d. State Estimator application
- e. Contingency analysis application
- f. P-V Curves
- g. Load forecasting application
- h. Energy accounting application
- i. Voice and data communication systems
- j. Demand side management programs

8. Operator Awareness

- a. Identifying loss of facilities
- b. Recognizing loss of communication facilities
- c. Recognizing telemetry problems
- d. Recognizing and identifying contingency problems
- e. Proper Communications (3-part or way)
- f. Communication with appropriate entities including the Reliability Coordinator
- g. Cyber and physical security and threats

9. Policies & Procedures

- a. ISO/RTO operational and emergency policies and procedures
- b. Regional operational and emergency policies and procedures
- c. Company specific operational and emergency policies and procedures

10. NERC Reliability Standards

application and/or implementation of NERC reliability standards