

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

## **Appendix 6**

# **System Operator Certification Program Manual**

**Effective January 18, 2007**

## 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

---



---

**Table of Contents**

<b>Program Manual Changes</b> .....	<b>ii</b>
<b>Executive Summary</b> .....	<b>1</b>
<b>Section I — Certification Examinations</b> .....	<b>2</b>
Overview .....	2
Earning a Credential .....	2
Examinations .....	2
Applying for Certification Examinations .....	3
Eligibility Period .....	3
Fees .....	4
Scheduling an Examination .....	4
Examination Content Outline .....	4
Day of the Examination .....	5
Testing Center Requirements .....	6
Cancellations and No-shows .....	7
Minimum Time Between Examinations .....	7
Special Accommodations/Disabilities .....	7
Withdrawal from Examination Process .....	7
Examination Change Request .....	8
Results and Awarding of Certificates .....	8
System Operator Certificate Numbering Convention .....	9
Credential Designations .....	9
Confirmation of Credential to Third Parties .....	9
<b>Section II — Credential Maintenance</b> .....	<b>10</b>
Overview .....	10
When to Start Accumulating CE Hours .....	11
Specifics of the Credential Maintenance Program .....	11
Certificate .....	12
Deficits of CE Hours for Credential Holders .....	12
Carry-Over Hours .....	13
Reporting of CE Hours Earned by Certified System Operators .....	13
Application for Credential Maintenance .....	13
Procedure for applying for credential maintenance .....	13
Hardship Clause .....	14
Changing Certification Levels .....	14
Transition Plan — 5-year Program to 3-year Program .....	15
<b>Section III — Program Rules</b> .....	<b>16</b>
Rules for NERC-Certified System Operator .....	16
Recognized Learning Activities .....	16
Provider Access to Database .....	16
System Operator Access to Database .....	16
Retain Documentation .....	16
Learning Activity Credit Only Once Per Year .....	16
Learning Activity Approved Status Revoked after CE Hours Granted .....	16
Instructor Credits .....	17
Treatment of Disputes Between Certified System Operator and Providers .....	17
Fees .....	17
<b>Section IV — Dispute Resolution</b> .....	<b>18</b>
<b>Section V — Disciplinary Action</b> .....	<b>20</b>
<b>Glossary</b> .....	<b>23</b>
<b>Appendix A — Recognized Operator Training Topics</b> .....	<b>24</b>

## **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 provided the education and training necessary to obtain the essential knowledge and skills and are therefore qualified 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 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. The credential is maintained by accumulating a specified number of continuing education hours within a specified period of time. The program will allow system operators to maintain their credential through continuing education rather than to recertify by retaking an examination.

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 not-for-profit and financially sound, and annually reviews the program to ensure that it is adequately funded.

## 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 is issued to a candidate who successfully completes an examination. Certificates issued prior to the implementation of the new continuing education hours requirement will be valid for five years. Certificates issued after the implementation of this requirement will be valid for three years.

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 in the scoring process, each question is ‘piloted’ (not scored) for one full examination cycle (eighteen months), and the performance of each question is continually tracked. The direct involvement of system operators, supervisors, and trainers in the examination development process will remain a primary requirement of 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)	Passing Score (% of answers correct)
Reliability Operator Certification Examination	150	125	93	74.4
Balancing, Interchange, and Transmission Operator Certification Examination	150	125	93	74.4
Transmission Operator Certification Examination	125	100	76	76
Balancing and Interchange Operator Certification Examination	125	100	76	76

## Applying for Certification Examinations

1. You must first establish a NERC.net user account. Once you are registered, you can access the on-line application form.
  - a. If you do not have a NERC.net user account, please [click here](https://soc.nerc.net/registration/default.aspx) (<https://soc.nerc.net/registration/default.aspx>) to set up your free account.
2. If you already have a NERC.net user account, please [click here](https://soc.nerc.net/default.aspx) (<https://soc.nerc.net/default.aspx>) to sign-in to your NERC.net user account to access the on-line examination application form.
  - 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).
3. Select *Exam Application Form*
4. Select the examination you wish to take then click *SUBMIT*
5. You may submit your payment either by selecting credit card (VISA or MasterCard only) or invoice for check payments. A copy of the invoice and check or money order must be mailed to NERC to complete your examination application process.

North American Electric Reliability Council  
System Operator Certification Program  
116-390 Village Boulevard  
Princeton, New Jersey 08540-5731

Applications are accepted year round. Allow two weeks for the processing of your application and receipt of notification that you are approved to take the examination.

An application is considered complete and processed only when all required information is provided and fees are received. After the application is processed, the Authorization-to-Test (ATT) letter containing the assigned ATT number is sent to each eligible candidate by e-mail followed by regular mail.

### Eligibility Period

Eligibility to take the examination remains in effect for one year from the date the ATT number is issued. Candidates are encouraged to schedule an appointment to sit for the examination promptly. If a candidate fails to schedule and take the examination during 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	\$350
Application to retest	\$350
Application to withdraw	\$50
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 letter containing the assigned ATT number by e-mail and regular mail from NERC declaring that you are eligible to take the examination. The letter 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 an ATT letter by e-mail and regular mail with 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://www.prometric.com>. 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
<b>Total Time to be Allocated</b>	<b>3 hours &amp; 45 minutes</b>

**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, 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 government-issued ID 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, 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 whether you have completed it or not. The Disciplinary Action Procedure will be initiated upon notification by Prometric 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://www.prometric.com>). 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 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 retest. Candidates who pass one of the NERC system operator certification examinations may take the examination thirty-six months after the date they were last certified (this only applies to those certificates valid for five years that were issued prior to the implementation of continuing education hours as a means of credential maintenance).

## **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 physician or psychologist. 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 stated period for any reason, they must complete the Candidate Withdrawal request on the system operator certification Web site 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 application. 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.

### To access the Exam Withdrawal

On the [System Operator Certification Program](#) homepage, logon to your NERC.net account:

- Enter [User name](#) and [Password](#)
- Click on [Logon](#)
- Click on [Exam Withdrawal](#)
- Select the exam you are registered to take and from which you wish to withdraw, then click on [Submit](#)

### Examination Change Request

If a candidate wishes to change the examination (i.e., from BI to TO, or from RC to BIT, 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.

### To access the Examination Change

On the [System Operator Certification Program](#) homepage, logon to your NERC.net account:

- Enter [User Name](#) and [Password](#)
- Click on [Logon](#)
- Click on [Exam Change](#)
- Select the exam for which you are authorized then click on [Submit](#)
- Select the desired exam from the drop-down list, then click on [Submit](#)

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 based on the examination taken and signed by the President of NERC. The date on the certificate will be the day the candidate took the examination.

## System Operator Certificate Numbering Convention

Numbering certificates for certified system operators follows a specific convention. There have been two numbering conventions used since the start of the program.

The original credential, issued from 1998 into 2002, was the NERC Certified System Operator. These certificates were assigned the letter N followed by four digits indicating the year the candidate registered, followed by a four digit sequential number.

Example: N19980109 = NERC Certified System Operator that registered in 1998 and was the 109th system operator registered in the program.

When the specialty credentials were implemented in late 2002, a new numbering convention was implemented. The new numbering convention consists of a two-letter designation of the credential type, followed by six digits that indicate year and month the credential was awarded, followed by a three digit sequential number in that month.

Example: RA200306109 = NERC Certified Reliability Operator certified in June of 2003 and was the 109th system operator certified in that month.

### Credential Designations

N/RA/RC	Reliability Operator
BT	Combined Balancing and Interchange/Transmission Operator
BA	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 will have to pass an examination to earn a 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, 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. A minimum of 30 CE hours must focus on content and/or implementation of NERC standards.
5. A minimum of 30 CE hours 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 both NERC standards and simulations but will only be counted once for the total CE hours requirement.
  - a. For example: A one-hour simulation learning activity that focuses on NERC Standards can count towards the requirements for both NERC standards and simulation. However, the credential holder will only be awarded a total of one CE hour toward the total CE hours requirement. In other words, the CE hours will not be double counted.
7. 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 certified.

## When to Start Accumulating CE Hours

CE hours earned (date of learning activity) in the six months prior to the implementation date will be recognized if they are earned from an approved learning activity that meets the certification program requirements. Each learning activity will have to be approved for use for credential maintenance prior to the CE hours being issued.

## 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., table-top 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., table-top 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., table-top exercises, dispatcher/operator training simulators, emergency drills, or practice emergency procedures, restoration, blackstart or other reliability-based scenarios).

### **Certificate**

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.

### **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, should the system operator accumulate the required number of CE hours within the twelve-month suspension period, they will be issued a certificate that will be valid for three years from the previous expiration date. The system operator will be required to accumulate the required number of CE hours prior to the current expiration date.

At the end of the twelve-month suspension period, if the system operator has not accumulated the required number of CE hours, the credential will be revoked and all CE hours earned will be forfeited. After a credential is revoked, the system operator will be required to pass an examination to become certified.

For example, a system operator whose credential expires on July 31, 2009 does not accumulate the required number of hours prior to that date:

1. The credential will be suspended on August 1, 2009.
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 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.

## **Carry-Over Hours**

For all credentials, up to 30 CE hours accumulated in the six months prior to the certificate expiration date and not used for credential maintenance may be carried over to the next three-year 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 hours requirement first and continuing sequentially by the date of the learning activities.

## **Reporting of CE Hours Earned by Certified System Operators**

Normally, the Providers will make the submittals of electronically into the NERC system operator certification database. However, should some conflict occur, the certified system operator must be able to submit proof of having acquired the necessary CE hours from the Continuing Education Program's approved learning activities.

System operators will be 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 deficit.

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).

## **Application for Credential Maintenance**

### **Procedure for applying for credential maintenance**

Application procedure will be completed after the software is developed.

## 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:

Manager–Personnel Certification  
NERC  
116-390 Village Boulevard  
Princeton, New Jersey 08540

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, extended military service, extended 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.

## Changing Certification Levels

Certified system operators that want to transition to a lower 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 transition 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 higher credential such as the combined Balancing, Interchange, and Transmission Operator credential or the Reliability Operator credential.

A certified system operator can change the type of their credential by indicating their desire on their credential maintenance application. 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.

## **Transition Plan — 5-year Program to 3-year Program**

A certified system operator whose certificate expires during the first three years after implementation of this Program has the option to either accumulate the required number of CE hours according to the rules stated previously or passes the examination for the desired credential. Certified system operators who accumulate the required number and balance of CE hours will receive a certificate that will be valid for three years from the expiration date on their current certificate. System operators who pass an examination will receive a certificate valid for three years from the date they pass the examination.

Certified system operators whose certificate expires after the third anniversary of the implementation of this Program, must accumulate the required number CE hours prior to the expiration date of their certificate regardless of the issuance date of their certificate.

## 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.

#### 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 will be determined after the database is developed.

#### 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 will be determined after the database is developed.

#### Retain Documentation

The certified system operator is responsible for retaining appropriate 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 Credit Only Once Per Year

CE hours for a particular course or learning activity 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)

*Exception: CE hours for courses dealing with emergency operations will be recognized no more than two times per year based on the credential anniversary. (i.e., during the 12-month period preceding the system operator's credential anniversary)*

#### 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.

**Instructor Credits**

For those instructors who are also certified system operators, 1.0 CE hour for each CE hours of a learning activity delivered will be recognized towards the instructor’s system operator credential maintenance. CE hours for a particular course or learning activity 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)

*Exception: CE hours for courses dealing with emergency operations will be recognized no more than two times per year based on the credential anniversary. (i.e., during the twelve-month period preceding the system operator’s credential anniversary)*

**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	\$350
Application to maintain or change credential using CE hours	\$350
Application to retest	\$350
Application to withdraw	\$50
Bad check/credit application	\$25

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

The Program must be financially independent as well as not-for-profit. 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 necessitate these fees. These fees will be periodically reviewed and adjusted accordingly.

## Section IV — Dispute Resolution

### 1. Applicability

Any dispute arising under the NERC agreement establishing a *NERC System Operator Certification Program* or from the establishment of any NERC rules, policies, or procedures dealing with any segment of the certification process 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 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.

### 2. 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.

Any dispute that requires resolution will first be brought to the NERC System Operator Certification Program staff. Should the issue(s) not be resolved to the satisfaction of the parties involved, 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 should be submitted to the chairman of the PCGC through 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. 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.

### **3. 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.

### **4. 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 certified.
  - (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 removal of credential.

#### **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 can not 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 can not 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 electricity including capacitance, inductance, impedance, real and reactive power
  - b. Single phase & three phase power systems
  - c. Transmission line and transformer characteristics
  - d. Substation layouts including the advantages and disadvantages of substation bus schemes
2. **Production & Transfer of Electric Energy**
  - a. How generators produce electricity
  - b. Types of generators including advantages and disadvantages of each type
  - c. Economic operation of generators
  - d. Real and Reactive power flow
3. **System Protection**
  - a. Transmission line, transformer, and bus protection principles
  - b. Generator protection principles
  - c. Types of relays used in different protection schemes
  - d. The role of communication systems in system protection
4. **Interconnected Power System Operations**
  - a. Voltage control
  - b. Frequency control
  - c. Power system stability
  - d. Facility outage response
  - e. Automatic Generator Control (AGC) including the different modes of AGC
  - f. Extra High Voltage (EHV) operation
  - g. Energy accounting
  - h. Inadvertent energy
5. **Emergency Operations**
  - a. Loss of generation resource
  - b. Operating reserves
  - c. Contingency reserves
  - d. Line loading relief
  - e. Loop flow
  - f. Load shedding
  - g. Voltage and reactive flows during emergencies
  - h. Loss of critical transmission facilities
6. **Power System Restoration**
  - a. Restoration philosophies
  - b. Facility restoration
  - c. Black start restoration
  - d. Load shedding
  - e. Under-frequency load shedding
  - f. Under-voltage load shedding

**7. Market Operations**

- a. Standards of Conduct
- b. Tariffs
- c. Transmission reservations and transmission priorities
- d. Transaction tagging

**8. Tools**

- a. Supervisory Control and Data Acquisition
- b. Automatic Generation Control application
- 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. OASIS application
- j. E-Tag application
- k. Voice and data communication systems

**9. Operator Awareness**

- a. Identifying loss of facilities
- b. Recognizing loss of communication facilities
- c. Recognizing telemetry problems
- d. Recognizing and identifying contingency problems
- e. Communication with appropriate entities including the Reliability Coordinator

**10. Policies & Procedures**

- a. NERC reliability standards
- b. ISO/RTO operational and emergency policies and procedures
- c. Regional operational and emergency policies and procedures
- d. Local & company specific policies and procedures
- e. Emergency operating plans
- f. Line loading relief procedures
- g. Physical and cyber sabotage procedures
- h. Outage management and switching procedures

**11. NERC Reliability Standards**

- a. Application and/or implementation of NERC reliability standards