

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

System Operator Reference Guide

November 18, 2020

RELIABILITY | RESILIENCE | SECURITY



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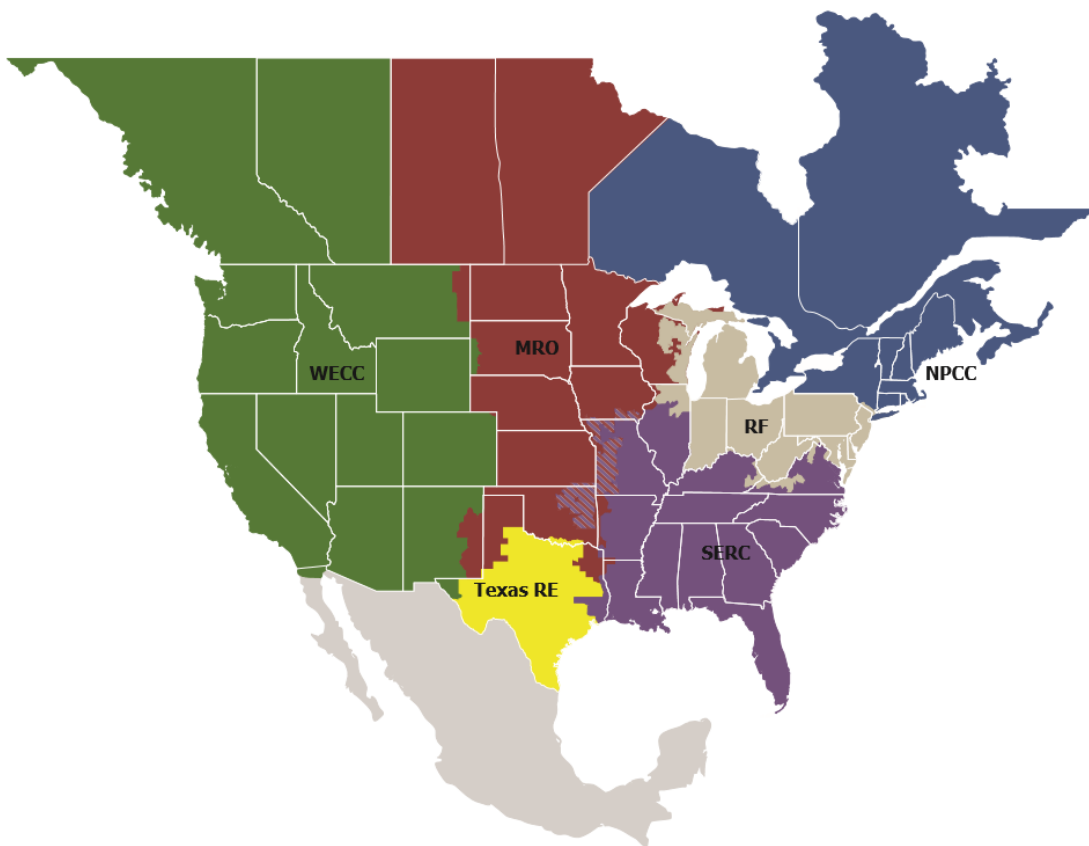
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Preface

Electricity is a key component of the fabric of modern society and the Electric Reliability Organization (ERO) Enterprise serves to strengthen that fabric. The vision for the ERO Enterprise, which is comprised of the North American Electric Reliability Corporation (NERC) and the six Regional Entities (REs), is a highly reliable and secure North American bulk power system (BPS). Our mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid.

Reliability | Resilience | Security
Because nearly 400 million citizens in North America are counting on us

The North American BPS is divided into six RE boundaries as shown in the map and corresponding table below. The multicolored area denotes overlap as some load-serving entities participate in one RE while associated Transmission Owners (TOs)/Operators (TOPs) participate in another.



MRO	Midwest Reliability Organization
NPCC	Northeast Power Coordinating Council
RF	ReliabilityFirst
SERC	SERC Reliability Corporation
Texas RE	Texas Reliability Entity
WECC	WECC

Summary

The System Operator Certification (SOC) Manual¹ provides the framework for the System Operator (SO) program. It is the SO's responsibility to read and understand the SOC Manual.

The SOC Manual is located on the System Operator Certification & Credential Maintenance Program² on NERC.com³ under One-Stop Shop⁴.

The System Operator Reference Guide (SORG) provides System Operator Certification and Continuing Education Database (SOCCED) information and 'how to' for system operators. The SORG references in the SOC Manual numerous times. NERC staff recommend the system operator refer to the manual when noted in the guide.

If you have other topic suggestions or want to comment on the SORG, submit a request via the Help Desk⁵.

¹ https://www.nerc.com/pa/Train/SysOpCert/System%20Operator%20Certification%20DL/SOC_Program_Manual_2019.pdf

² <https://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx>

³ <https://www.nerc.com/Pages/default.aspx>

⁴ <https://www.nerc.com/pa/Train/SysOpCert/Pages/SOOneStopShop.aspx>

⁵ <https://soccedsupport.zendesk.com/hc/en-us/requests/new>

Introduction

System Operator Certification & Credential Maintenance Program

In support of NERC's mission, the SOC Program promotes reliability of the North American bulk power system (BPS) by ensuring that employers have a workforce of SOs that meet minimum qualifications. NERC monitors SOs to ensure they maintain their required credentials to work in system control centers across North America. NERC's SOC exam tests specific knowledge of job skills and reliability standards. It also prepares operators to handle the BPS during normal and emergency operations. Maintain certification by completing NERC-approved Credential Maintenance Program courses and activities. These industry-accepted qualifications are set through internationally recognized processes and procedures for agencies that certify persons.

Governance

The Personnel Certification Governance Committee (PCGC)⁶ is a NERC standing committee that provides oversight to the policies and processes used to implement and maintain the integrity and independence of the NERC SOC program. The PCGC provides reports to the NERC Board of Trustees and NERC President regarding the governance and administration of the SOC program.

The Credential Maintenance Working Group (CMWG)⁷ reports to the PCGC and is responsible for developing and maintaining the Credential Maintenance Program under the general guidelines set by the PCGC.

Process

The Exam Working Group (EWG)⁸ consists of subject matter experts from all regions of North America and is responsible for doing an extensive job analysis survey of certified operators across the industry, which provides the basis for the exams. A job analysis survey results in an exam content outline for each of the four exams. The exam content outline is the framework used to associate tasks to exam questions. NERC contracts with psychometric consultants who assist a working group of certified SOs in the development and maintenance of each exam.

The four exams are the:

- Reliability examination;
- Balancing, Interchange, and Transmission examination;
- Transmission examination; and
- Balancing examination.

After initial certification is obtained, the credential is maintained by meeting the continuing education requirements every three years.

⁶ <https://www.nerc.com/comm/PCGC/Pages/default.aspx>

⁷ <https://www.nerc.com/comm/PCGC/Pages/CMWG.aspx>

⁸ https://www.nerc.com/comm/PCGC/Documents/Exam_Working_Group_Scope_2020.pdf

Credential Maintenance Program

NERC's Credential Maintenance Program acknowledges high-quality learning activities within the electric utility industry by approving continuing education providers that meet NERC guidelines and standards. Information on how to become a NERC-recognized continuing education provider is contained in the links below.

Provider Site:

Initial and existing continuing education providers can access the System Operator Certification and Continuing Education Database (SOCCED)⁹ to do the following:

1. Create a new provider account
2. Access your existing provider account
3. Submit new individual learning activity (ILA) applications
4. Review the status of existing courses
5. Submit transcripts of delivered courses.

⁹ <https://nerc-socced.useclarus.com>

Chapter 1: SOCCED

Creating an Account in SOCCED

Candidates must establish an account in SOCCED¹⁰. During the process, the candidate will be prompted to create a username and password and provide other pertinent information.

Username: Determine by candidate
First Name: First name on driver's license or other form of legal ID
Middle Name: Optional or first letter of middle name (common first and last names should use a middle initial, at a minimum.)
Last Name: Last name on driver's license or other form of legal ID

Important: PSI requires that you must provide a photo ID that matches the name on the account (name that was sent from SOCCED to PSI). If the name on the SOCCED account that was sent to PSI to register for the exam does not match a form of legal ID, **you will not be able to take the exam.**

Acceptable forms of ID: (must include photograph)

- Driver's license
- State identification card
- Passport
- Military identification card

Updating User Profile

The candidates have the ability to make changes to their account, operator, and contact information by updating their user profile via SOCCED. See [Appendix A](#)

Duplicate SOCCED Accounts

Once a candidate has established an account, the candidate will not have to create another. Duplicate SOCCED accounts are prohibited. NERC completes routine audits on duplicate accounts. If found, NERC will move forward in closing the additional account(s), and the candidate will potentially lose information, and start over.

Forgot Username and/or Password

- Submit a Request¹¹ to the SOCCED helpdesk.
 - Include full name, email address, and phone number

¹⁰ <https://nerc-socced.useclarus.com>

¹¹ <https://soccedsupport.zendesk.com/hc/en-us/requests/new>

Help Desk

NERC Staff manages and responds to SOCCED and SO Program questions typically within 24 business hours (excluding holidays and weekends).

- Help Desk 404-446-9759 (General Questions; M-F 8:30 a.m. – 5:00 p.m. Eastern)
- Submit a Request¹² to the SOCCED helpdesk.
 - Include full name, email address, and phone number

Note: Please do not send messages via SOCCED.

Applying for an Exam

After the SO creates their account in SOCCED, the SO (candidate) can apply and pay for the exam in SOCCED.

After the candidate has applied for the exam and the payment has processed, SOCCED sends the candidate exam information to the PSI, the exam vendor.

Once PSI, the exam vendor, receives the application from SOCCED, the candidate will receive an ID# from PSI via email. Using PSI's site, the candidate creates an account and schedules the examination. Follow the instructions for scheduling examination appointments.

Examination appointments are subject to the availability of each test center and exam. See [Appendix B](#)

Time between Examinations - 42-Calendar Day Wait Period

See the SOC Manual¹³ for program information on this topic.

Candidates:

- Are permitted to purchase an exam prior to the expiration of the 42-calendar day wait period.
 - Will receive an email from SOCCED, whenever a payment is made in SOCCED.
- Are responsible for tracking the 42-calendar day wait period.
 - SOCCED does not send an email notification when the candidates is eligible to schedule the retake exam.
- Can schedule their next exam, starting at midnight of the 43rd day.

¹² <https://soccedsupport.zendesk.com/hc/en-us/requests/new>

¹³ <https://www.nerc.com/pa/Train/SysOpCert/System Operator Certification DL/SOC Program Manual 2019.pdf>

Chapter 2: PSI – Exam Vendor

Before creating an account in the PSI site¹⁴, the candidate will need their ID number from PSI. After the SO (candidate) pays for the exam:

- NERC provides the candidates exam information to PSI
- PSI sends each candidate an Examination Eligibility Confirmation email
 - This email provides the ID number that is needed to create an account and register for a test
 - The ID number begins with the prefix NRC (stands for NERC) followed by six numbers – NRC000000

After the candidate receives the ID number, they can create an account in PSI and schedule the exam.

1. You **MUST** bring one of the following photo IDs: driver's license, state identification card, passport, or military identification card. No forms of temporary identification will be accepted.
2. The second form of identification must display your name and signature for signature verification (e.g., credit card with signature, social security card with signature, or employment/student ID card with signature).

Changing Exam Type

The SOC Manual provides candidates the ability to change the examination type that was previously registered for in SOCCED. Once the examination type is changed, their SOCCED account is updated immediately. The exam type change will cancel the existing exam authorization and create a new exam authorization with a new eligibility window for the candidate to schedule the new exam with the third party exam proctor PSI.

Note:

- PSI must receive notification no later than by close of business time for *that* test center at least two business days prior to the scheduled exam appointment for making this change or for submitting any additional change.
- The candidate may not be able to keep the original exam date and location.

After the SO changes the exam type, they should notify NERC Staff through the SOCCED help desk at Submit a Request¹⁵.

SOCCED sends an updated exam profile to PSI. PSI will send an updated ID# to the candidate via email. After the candidate received the updated ID number, they can schedule the exam.

See **Figure 1** – How to Change Exam Type

¹⁴ <https://schedule.psiexams.com/>

¹⁵ <https://soccedsupport.zendesk.com/hc/en-us/requests/new>

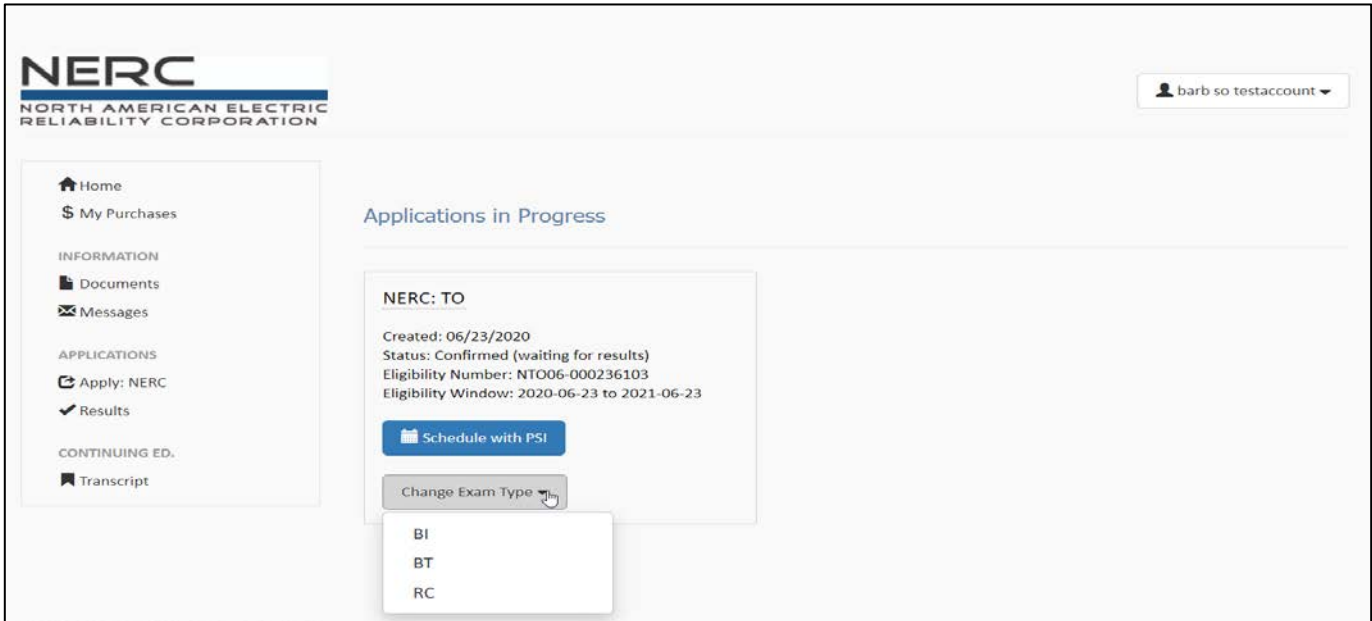


Figure 1: Change Exam Type

Certificates

Candidates who pass the examination will receive a hard copy of the NERC-certified system operator certificate and wallet card via the mailing address on their SOCCED account in 6 weeks post the exam. The certificate reflects the NERC CEO signature, certification number, and the effective and expiration date.

Credential Maintenance and Renewal

NERC issues a certificate that is valid for three years to successful candidates. To maintain a valid certificate, the SO must earn the required Continuing Education Hours (CEHs) within the three years preceding the expiration date. Once the candidate has successfully earned their hours, the candidates will complete a certificate renewal and pay the renewal fees through SOCCED to remain active an additional three years. See [Appendix C](#)

Credential Renewal Payment Timing

When renewing your credential, you must take into account the payment processing time. SOCCED does not allow renewal until the payment has processed.

The [Table 2.1](#) below shows the amount of time needed for payment via credit card and check.

Table 2.1: Credential Renewals Payment Timing	
Payment Type	Processing Time
Credit Card	Allow 24-48 Hours
Check	Allow 7 - 10 Days

Examples

- Paying by credit card
 - If your certification renewal date is October 13, you must submit your credit card payment before October 11 so that you can renew your certification prior to October 12 at 00:00.
- Paying by check

- If your certification renewal date is October 13, you must submitted your check payment before October 2 so that you can renew your certification prior to October 12 at 00:00.

Credential Status Change

SOs that do not accumulate enough CEHS prior to their certificate expiration date, the status of the credential will change to suspended. The suspension will last for one year.

SOs can accumulate hours during the suspension status and have their credential reinstated with the original expiration date. However, if the hours are not obtain by end of the expiration date, the credential status will change to expired. The credential will be revoked and the candidate will have to pass an exam to become recertified.

Timing of Renewals

The timing of a credential renewal is imperative for SOs to avoid suspension or expired certificates. SOs should accumulate the required hours and perform a renewal by 11:59 p.m. Eastern, one day prior to their expiration date to avoid a status change.

Example

A SO who has an active credential from August 2, 2017 to August 2, 2020, will need to accumulate the required number of hours prior to their expiration date of August 2, 2020 to renew. If required hours are not met by 11: 59 p. m. Eastern of August 1, 2020, the status of the credential will change to suspended by 12:00 a.m. August 2, 2020.

If the SO is in the suspension status, the SO has until 11:59 p.m. Eastern of August 1, 2021 to accumulate the required number of hours to renew. If the hours are not met, the status of the credential will change to expired by 12:00 a.m. August 2, 2021. The credential will be revoked, and the SO will be required to re-take the exam to become certified.

Time Zone

SOCED operates in the Eastern Prevailing Time Zone. SOs should note the time zone to prevent a timing issue when completing their credential renewal. As shown in [Table 2.2](#) below. If you are located in the Pacific time zone, you will be required to complete your renewal by 9:00 p.m. Pacific prior to expiration date.

Time Zone	Time
Eastern Time Zone	12:00 a.m.
Central Time Zone	11: 00 p.m.
Mountain Time Zone	10: 00 p.m.
Pacific Time Zone	9: 00 p.m.

Reviewing Your Transcript

As noted in the SOC Manual, each SO is responsible to review and ensure the accuracy of their transcript in SOCED. See [Appendix D](#)

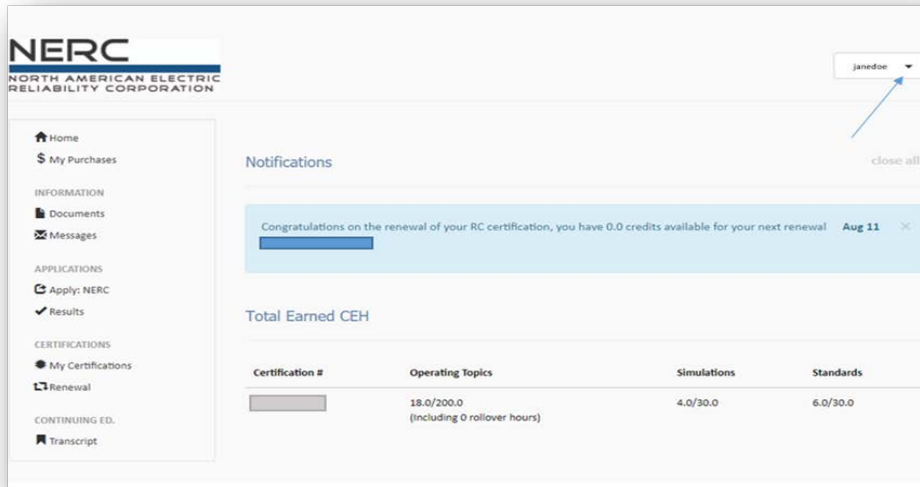
Provider Access to Review and Update Your Transcript

See the SOC Program Manual for information on SO's responsibility concerning credential maintenance.

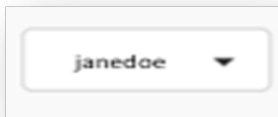
The SO is responsible for giving their credential maintenance providers access by updating their SOCED profile account. When a SO leaves their company, the SO should update their SOCED profile by removing the credential provider name. See [Appendix E](#)

Appendix A: Updating User Profile

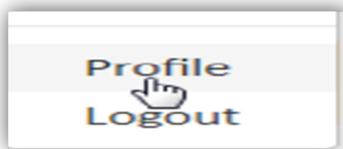
1. Login in to SOCCED



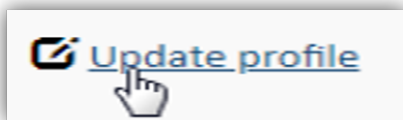
2. Select Dropdown arrow



3. Select Profile



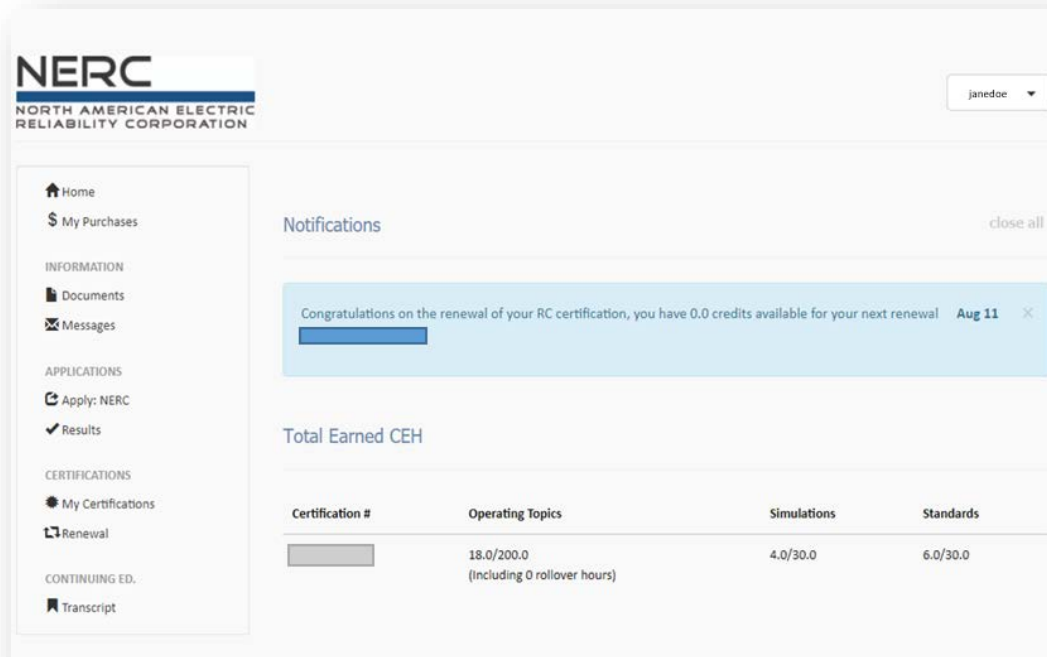
4. Select Update Profile



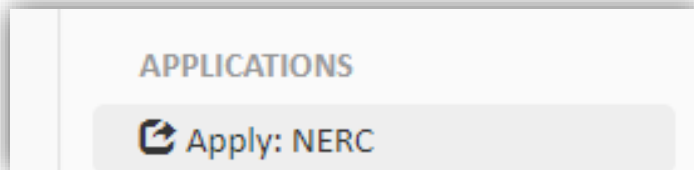
- a. Make necessary changes
- b. Select Save Changes

Appendix B: Applying for Exam

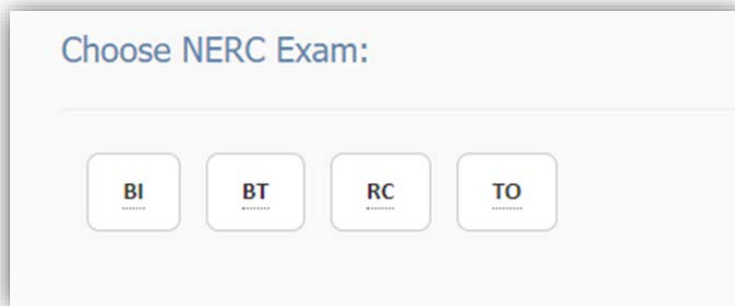
1. Login to SOCCED Account



1. Select Apply: NERC

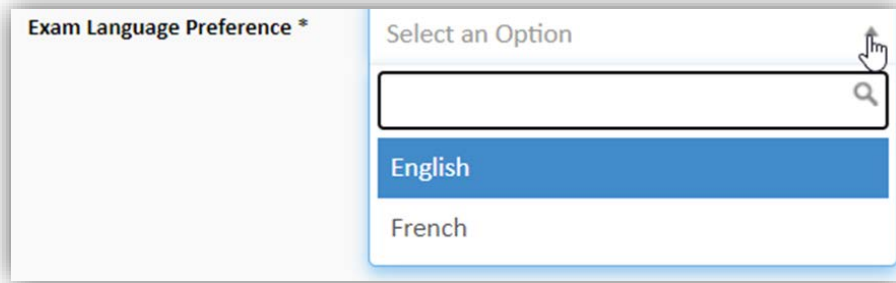


2. Choose NERC Exam:



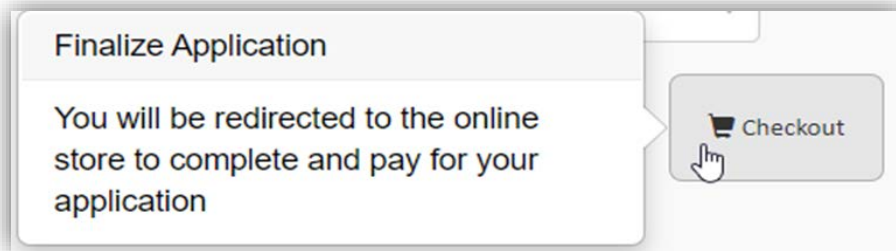
3. Select Exam Language Preference

- a. English
- b. French



The screenshot shows a form titled "Exam Language Preference *". To the right of the title is a dropdown menu labeled "Select an Option". The dropdown is open, showing a search bar and two options: "English" (highlighted in blue) and "French". A mouse cursor is positioned over the search bar.

4. Select Checkout for Credit Card Payment

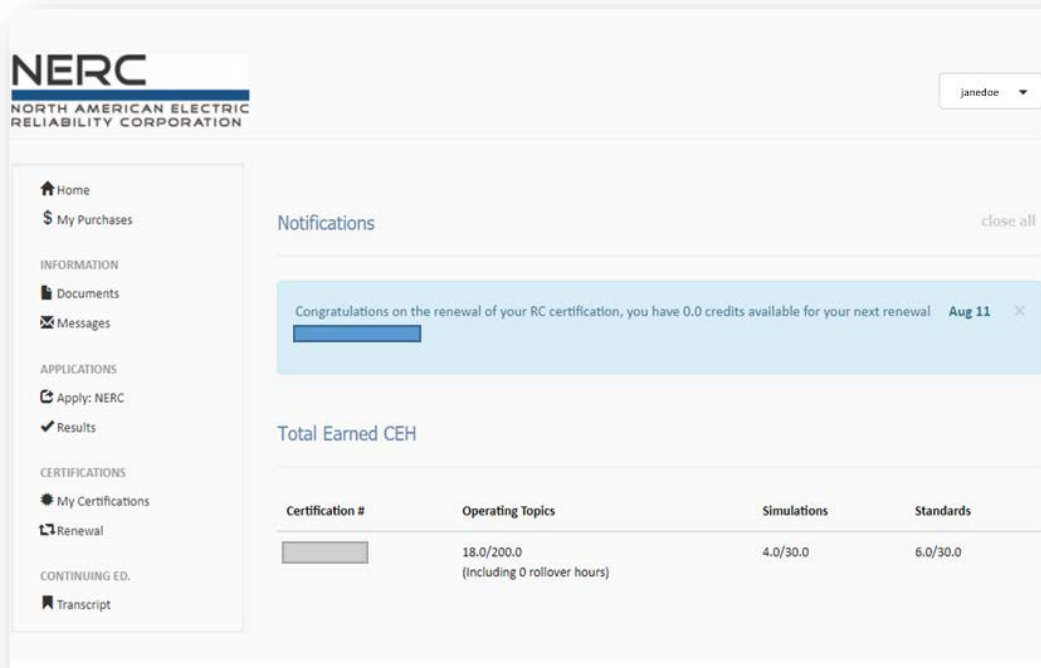


The screenshot shows a "Finalize Application" section. A text box contains the message: "You will be redirected to the online store to complete and pay for your application". To the right of the text box is a "Checkout" button with a shopping cart icon and a mouse cursor pointing to it.

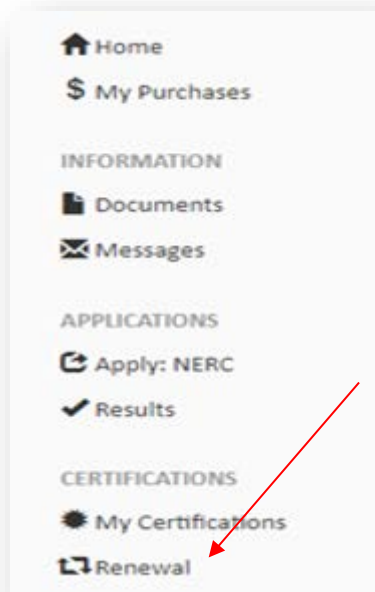
5. Select Send a Check for Check Payment
6. Complete [PSI Schedule Steps](#)

Appendix C: Renewing Credential

1. Login to SOCCED Account



2. Select Renewal



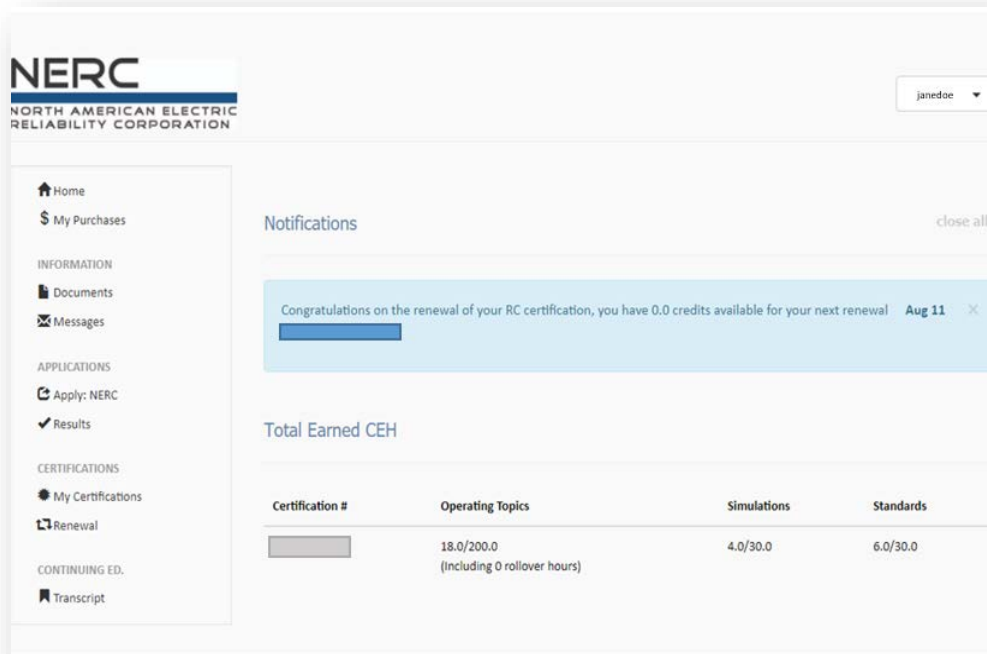
- 3. Please ensure the box is checked to allow the **Finish & Pay** Icon to turn **blue** to submit payment.
 - a. **Note:** If the box is not checked, the Finish & Pay will remain gray, and you cannot process the payment.

The screenshot displays the 'Renewal Progress' interface. At the top left, it shows 'RC Expires: 10/06/2020' with a small square checkbox next to it, indicated by a red arrow. To the right, three requirement categories are listed: 'Operating Topics' (Requirement fulfilled, 200), 'Simulations' (Requirement fulfilled, 30), and 'Standards' (Requirement fulfilled, 30). Below this is a 'Fee Summary' section with a table. The table has two columns: 'Description' and 'Fee'. The 'Total' row shows a fee of '\$0.00', with a red arrow pointing to this value. A 'Finish & Pay' button is located at the bottom right, which is currently gray. At the bottom left, there is an orange button labeled 'Change Certification Level or Type'.

Description	Fee
Total	\$0.00

Appendix D : Reviewing Your Transcript

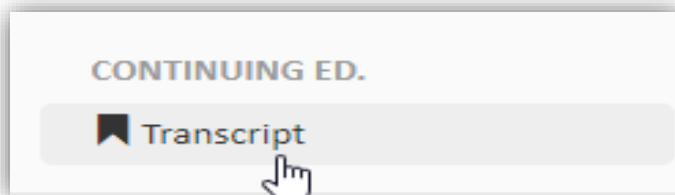
1. Login to your SOCCED account.



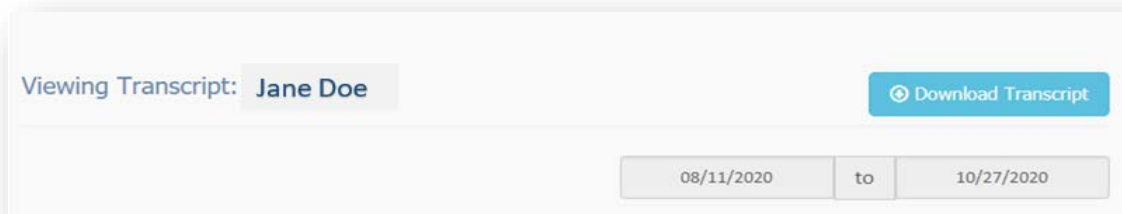
The screenshot shows the NERC user dashboard. The top left features the NERC logo and the text "NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION". The top right shows the user name "janedoe" with a dropdown arrow. A left sidebar contains navigation links: Home, My Purchases, INFORMATION (Documents, Messages), APPLICATIONS (Apply: NERC, Results), CERTIFICATIONS (My Certifications, Renewal), and CONTINUING ED. (Transcript). The main content area has a "Notifications" section with a message: "Congratulations on the renewal of your RC certification, you have 0.0 credits available for your next renewal Aug 11". Below this is a "Total Earned CEH" section with a table:

Certification #	Operating Topics	Simulations	Standards
	18.0/200.0 (including 0 rollover hours)	4.0/30.0	6.0/30.0

2. Select "Transcript" on the left under Continuing ED.

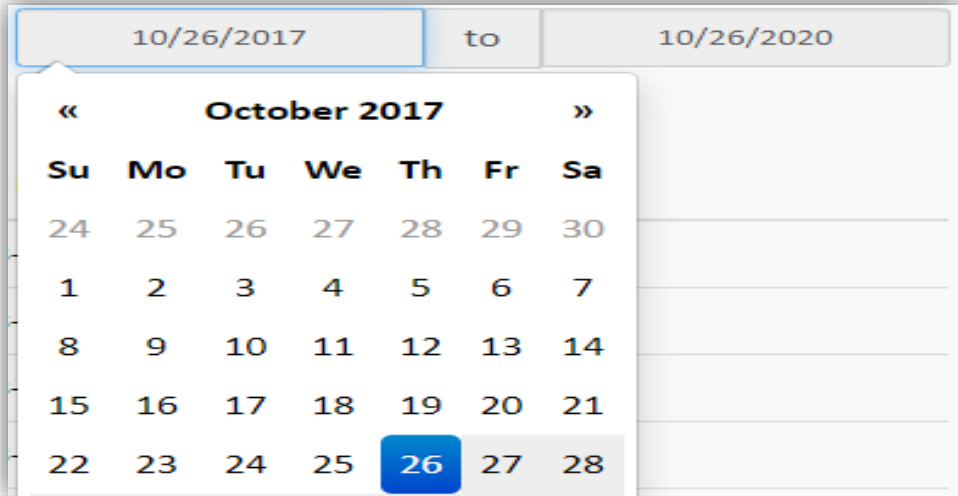


3. Select Date Range:

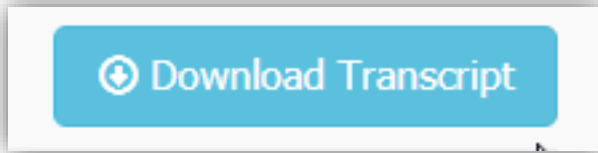


The screenshot shows the transcript viewing interface. It includes the text "Viewing Transcript: Jane Doe" and a "Download Transcript" button. Below this is a date range selector with the following values:

08/11/2020 to 10/27/2020



4. Select Download Transcript

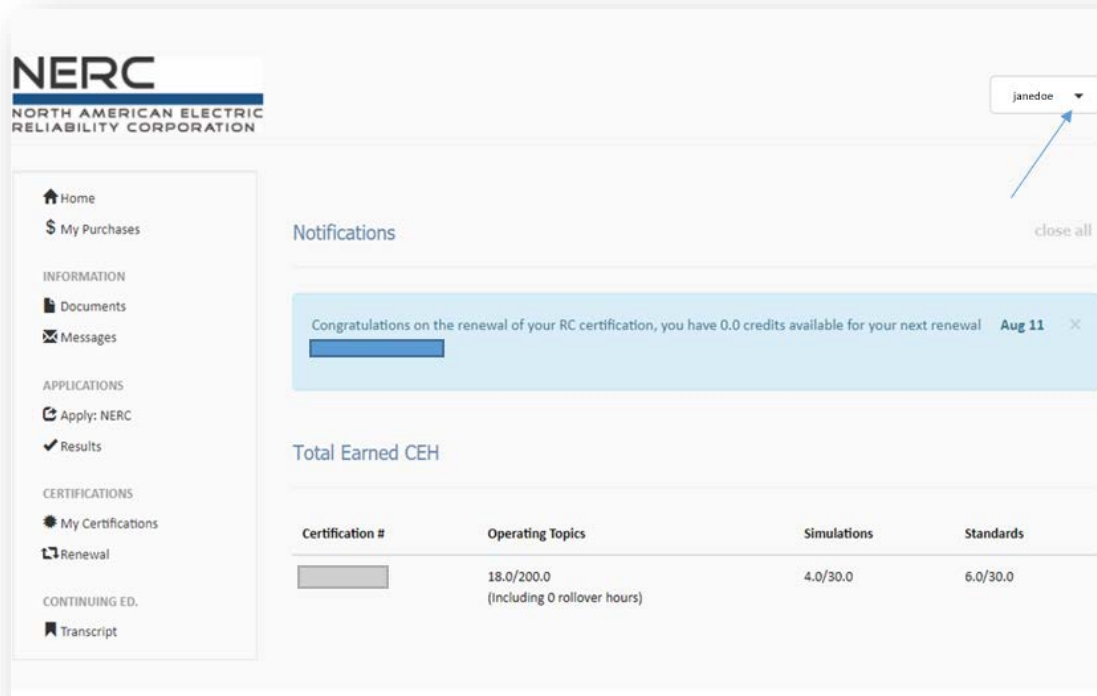


5. The transcript will appear in a form of an excel spreadsheet as a csv file.

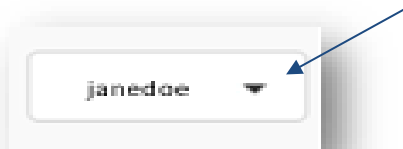
Cert # Jane Doe RC20#####	Expiration Date 10/31/2019	Status active			
Course Title	Enrollment Date	Operating Topics	Standards	Simulations	
SOS_INTL_001_HEP_OL_134(historic_2015-07-31)	2016-02-02 00:00:00+00:00	4.5	4.5		0
GTS_001_VLT_CTRL_STAB_2017	2018-05-24 00:00:00+00:00	24	20.5		11.5
SOS_INTL_001_VARv2_OL_188(historic_2016-02-28)	2016-03-02 00:00:00+00:00	3		2	0
NWPP_070_PNCA_2017	2018-04-25 00:00:00+00:00	1		0	0
ERCOT_001_OTS_2017_Day_1	2017-04-25 00:00:00+00:00	2		2	0
NWPP_070_SW_2017	2018-04-27 00:00:00+00:00	2		2	0
SOS_INTL_001_EOPv3_OL_193(historic_2015-08-15)	2016-03-28 00:00:00+00:00	6.5		2	0
NWPP_070_RS	2018-04-25 00:00:00+00:00	1		1	0
OES-NA_001_CETAC_2018_CTA	2018-05-03 00:00:00+00:00	4		0	1
NWPP_070_OLT_EIM 101	2018-05-31 00:00:00+00:00	1.5		0	0
ERCOT_001_OTS_2017_Day_3	2017-04-27 00:00:00+00:00	4		0	0
SOS_INTL_001_PRC_OL_167 (historic_2016-04-30)	2017-03-13 00:00:00+00:00	2		2	0
NWPP_070_OLT_POD_EA_MR_BCF_2018	2018-04-25 00:00:00+00:00	1		1	0
SOS_INTL_001_EOPv3_OL_193(historic_2016-08-31)	2017-03-14 00:00:00+00:00	6.5		2	0

Appendix E: Provider Access to View Transcript

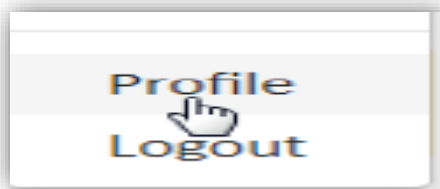
1. Login to SOCCED account.



2. Select the dropdown arrow:



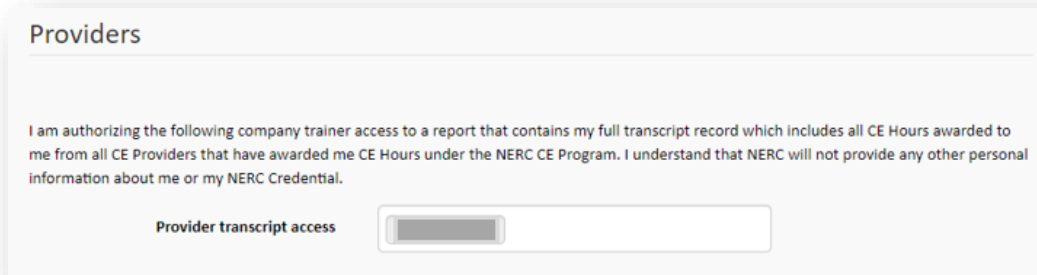
3. Select Profile



4. Select Update profile



5. Scroll to the bottom of the page until you see the “Providers” section.
6. Begin to type the name of the Provider within the Provider transcript access Box
 - a. Select the name to be added

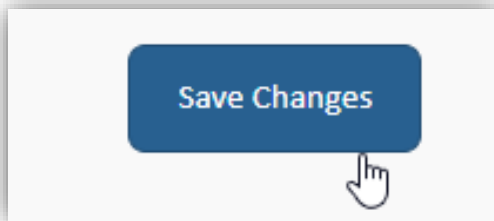


Providers

I am authorizing the following company trainer access to a report that contains my full transcript record which includes all CE Hours awarded to me from all CE Providers that have awarded me CE Hours under the NERC CE Program. I understand that NERC will not provide any other personal information about me or my NERC Credential.

Provider transcript access

7. Select Save Changes to submit



Appendix F: Version History

Table F.1: SOC Reference Guide Version History

Revision No.	Date	Chapter	Description	Version
0	11/18/2020	All	The System Operator Certification Reference Guide was approved by the Personnel Certification Manager	1.0