

NAR Operating Procedures

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Glossary

Account: An Account is an account in the NAR system.

Account Holder: An Account Holder is a party that has registered with NAR and has established an Account within the NAR system.

Account Holders Report: A public report listing Account Holders registered with NAR. This report includes limited information for contacting the Account Holder. Account Holders can choose to remain private and not appear on this report.

Account Manager: The administrator for an Account Holder's Account, having the ability to, among other things, setup and manage additional logins and login privileges for Users.

Active Certificates: A Certificate that is held in an Active Sub-account. Such Certificates may be traded, transferred, exported or retired at the discretion of the Account Holder of the Active Sub-account.

Active Sub-account: A sub-account of an Account Holder's Account and the holding place for all Active Certificates. If the Account Holder is the owner of a Generating Unit or an Energy Efficiency Project, or is the Responsible Party of a Generating Unit or Energy Efficiency Project, their Active Sub-account will be the first point of deposit for any Certificates created that are associated with the Asset ID number, unless the Certificate is subject to a Forward Transfer. An Active Sub-account may be associated with one or more Assets.

Aggregated Project: A group of small (150 kW or less) Generating Units that are not metered together and do not share the same location but that are located within the same state and otherwise share the same essential generating characteristics and that are grouped into one Asset.

Asset: An Asset, also known as for these purposes as a project, represents one or more Generating Unit(s) or Energy Efficiency Project(s) registered by an Account Holder in NAR. Assets can be represented in NAR as projects as well.

Asset Name: The name assigned to an Asset, or project, when it is registered in NAR.

Beneficial Ownership Rights: With respect to any Certificate, Beneficial Ownership Rights means (i) any contractual or other right to direct or control the sale or other disposition of, or the Retirement of, such Certificate or (ii) any economic interest in such Certificate, including without limitation any contractual or other right to receive any proceeds from the sale or other disposition of such Certificate. The holder of Beneficial Ownership rights is referred to as a "Beneficial Owner".

British Thermal Unit (BTU): Is a unit of heat energy defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit. Specifically noting, one million BTUs, or MMBtu, where 3.412142 MMBtu equals 1 Renewable Energy Certificate.

Bulletin Board: Forum for allowing Account Holders to publicly post Certificates that they have available for sale.

Bulletin Board Sub-account: A sub-account of an Account Holder's Account and the holding place for all Active Certificates that the Account Holder has posted for sale on the Bulletin Board.

Certificate: An EEC, REC, or ZEC. A Certificate represents the Environmental Attributes which cannot be sold separately from the Certificate. A Certificate can be issued with either monthly or hourly granularity. The NAR Administrator may consider revision of the definition of a Certificate in the future if needed to better meet the needs of state and provincial programs.

Certification Programs: Voluntary initiative that has set criteria for what qualifies for its program. Examples of Certification Programs referenced in NAR are Green-e Energy and the Low Impact Hydropower Institute (LIHI).

Compliance Program: A state, regional or national program that requires load serving entities to generate, purchase and/or sell a certain amount of renewable energy. Several Compliance Programs currently use NAR, including but not limited to, Missouri, Maine and the Commonwealth of Puerto Rico.

Contract Project: One or more Generating Unit(s) that share one intertie with the distribution/transmission grid and are registered in NAR based on contractual ownership of Certificates for a fixed share of the generation. See Section 5.2 for details.

Control Area: An electric system or systems, bounded by interconnection metering and telemetry, capable of controlling generation to maintain its interchange schedule with other Control Areas and contributing to frequency regulation of the interconnection. For the purposes of this document, a Control Area is defined in broad terms to include transmission system operations, market and load-serving functions within a single organization.

Control Area Operator: The operator of a Control Area. May be a system operator, a transmission grid operator or an Account Holder.

Customer-Sited Distributed Generation: Generation interconnected behind a retail customer meter and therefore not directly interconnected with either the distribution system or transmission system (including net metered facilities).

Certificate Creation Date: The date that a Certificate is created.

Dynamic Data: Variable information that is associated with a specific MWh or MMBtu from an Asset, such as Certificate serial number or date of generation.

EIA: Means the Energy Information Administration.

Energy Efficiency Account: This type of Account can register Energy Efficiency Projects as Assets and have EECs issued to it for its projects. An Energy Efficiency Account can hold, transfer (only outgoing transfers), withdraw and retire EECs. An Energy Efficiency Account cannot receive transfers from other parties.

Energy Efficiency Project: An energy efficiency activity that has been accepted by the NAR Administrator for listing in the Registry.

Energy Efficiency Certificate (EEC): An EEC represents all of the Environmental Attributes from one (1) MWh of electricity savings from an Asset. The Registry will create one EEC per MWh of energy savings that occurs from an Energy Efficiency Project. Individual states and provinces may create different definitions of energy efficiency certificates.

Environmental Attributes: Any and all credits, benefits, emissions reductions, offsets, and allowances, howsoever entitled, attributable to generation from an Asset or savings from an Energy Efficiency Project and its displacement of conventional energy generation.

Fuel Type: Designates the type of fuel used to move a generator being registered in NAR, as specified in Appendix C.

Generating Unit: A generator, boiler, turbine, inverter or other prime mover operated to produce electric power or thermal energy.

Generation Activity Log: An electronic ledger where generation or energy savings is posted prior to Certificate creation. Each time generation or energy savings data is received by NAR for a particular Asset, the date and quantity is posted to the Generation Activity Log. Adjustments received will be posted likewise.

Generation Month: The calendar month in which the generation or energy savings occurred.

General Account: This type of Account can register Assets and have Certificates issued for its Assets. A General Account can hold, transfer (outgoing and incoming), and Retire Certificates either for its own organizational objectives or on behalf of third parties, referred to as Beneficial Owners.

Inbox: Certificate transfers to an Account Holder are first posted in the Account Holder's Inbox. The Account Holders will then either accept or reject the transfer. Upon acceptance, the Certificates will be deposited in the sub-account designated by the Account Holder.

Load-Serving Entity (LSE): Any organization selling retail electricity to end users, such as investor owned utilities, municipal utilities, and electric coops. Sometimes referred to as an "electric service provider." In NAR, LSE can also mean organizations that aggregate for member or customer LSEs.

Megawatt-hour (MWh): One thousand kilowatt-hours or one million watt-hours.

Multi-fuel Renewable Energy Generator: A generator capable of producing energy using more than one Fuel Type, excluding fuels used for start-up (which in any case cannot exceed 1% of the fuel used annually on a total heat input basis). See Section 5.2 below

NAR or Registry: As defined in Section 1 below.

NAR Administrator: The entity with the authority to administer or oversee the administration and implementation of the NAR Operating Rules. Xpansiv serves as the Administrator of NAR.

NAR Projects Report: A public report listing of all registered Assets, or projects, within the NAR system.

Nameplate Capacity: The maximum rated output of a generator, prime mover or other electric power production equipment under specific conditions designated by the manufacturer. Size classification is based on Nameplate Capacity.

Outbox: After initiating a Certificate transfer the Account Holder will see the Certificates in their Outbox. The Account Holder to whom the Certificates have been transferred will either accept or reject the transfer. If rejected, the Certificates will be returned to the Active Sub-account from which they were transferred.

Program Administrators: Administrators of Compliance and/or Certification Programs. Program Administrators can have a separate Account type (see Program Administrator Account below) allowing them functionality to denote eligibilities for the specific program as well as other verification functionalities.

Program Administrator Account: This type of Account is provided to administrators of Compliance and Certification Programs that utilize NAR and/or have eligibilities noted for certain Certificates. It will allow Program Administrators to review eligibility and compliance reports. Asset details will be displayed in a Program Administrator Account if the Account Holder registering that Asset has listed it as eligible according to the specific program.

Project Account: This type of Account can register Assets and have Certificates issued to it for its projects or Assets. A Project Account can hold, transfer (only outgoing transfers), withdraw and Retire Certificates for its own organizational objectives. A Project Account cannot receive Certificate transfers from other parties or on behalf of third parties, referred to as Beneficial Owners.

Qualified Reporting Entities (QRE): An entity reporting meter reading and other generation data to the NAR Administrator. Qualified Reporting Entities may include Control Area Operators and other independent parties accepted by the NAR Administrator, and for certain Customer-Sited Distributed Generation, the generation owner or customer. The protocol for such reporting is outlined in the North American Renewables Registry Requirements for Qualified Reporting Entities document.

Qualified Reporting Entity (QRE) Account: This type of Account is assigned to a project or Asset and is responsible for verifying generation or savings information from that project. NAR tracks the specific types of projects or Assets for which QRE's are approved to provide services, ensuring that they are suitably qualified and accredited. The QRE Account cannot hold a Certificate.

REEPS: As defined in Section 1 below.

Registration Rights: The right to register an Asset in the Registry. These rights are held by the owner of an Asset or by an entity that has been designated as a Responsible Party for a specific Generating Unit(s).

Renewable Energy Certificate (REC): A REC represents all of the Environmental Attributes from one (1) MWh of electricity generation from an Asset using a "Renewable Energy" Fuel Type, as specified in Appendix C. The NAR system will create one REC per MWh of generation that occurs from a Generating Unit or Contract Project using a "Renewable Energy" Fuel Type. Individual states and provinces may create different definitions of renewable certificates.

RECC: Means Renewable Energy Certificate Contract.

Renewable Energy Project: One or more Generating Unit(s) registered in NAR that share one intertie with the distribution/transmission grid and use the "Renewable Energy" Fuel Types specified in Appendix C.

Renewable Portfolio Standard (RPS): A legislative or administrative requirement imposed on electrical utilities or Load-Serving Entities in a given jurisdiction that requires them to generate a designated percentage of their total generation/retail portfolio from renewable energy resources.

Responsible Party: An Account Holder who has been assigned the Registration Rights for a given Asset. This gives the designated Account Holder full and sole management and authority over the transactions and activities related to the Asset within NAR.

Retail Purchaser Account: This type of Account is for retail purchasers of Certificates. A Retail Purchaser Account can hold, accept incoming transfers, and Retire Certificates. They can also register and maintain Renewable Energy Projects that are under one (1) MW in capacity and have Certificates issued in their Account. A Retail Purchaser Account can also retire on behalf of third parties, referred to as Beneficial Owners. A Retail Purchaser Account cannot make outgoing transfers.

Retirement Sub-account: A sub-account used as a repository for Certificates that the Account Holder wants to designate as Retired and remove from circulation. Once a Certificate has been transferred into a Retirement Sub-account, it cannot be transferred again to any other Account.

Retire, Retirement of Certificates, or Retirement: An action taken to remove a Certificate from circulation within the NAR system. Retirement may be initiated only by the Account Holder for Certificates in his/her own Accounts. Retirement is effectuated by transferring Certificates into a Retirement Sub-account or a Retirement Group Subaccount.

Revenue-Quality Meter: Any meter used by the reporting Control Area Operator for settlements.

Self-Reporting Generator: A Customer-Sited Distributed Generation installation with a Nameplate Capacity of less than one (1) MW that elects to have Dynamic Data transmitted to the NAR Administrator via the Self-Reporting Interface pursuant to Section 6.1.7

Self-Reporting Interface: A standard internet-based data entry portal which serves as the method for a Self-Reporting Generator to communicate Dynamic Data to the NAR Administrator pursuant to Section 6.1.7.

Static Data: Static data describes the attributes of the Asset. Static information generally includes information related to the characteristics such as technology type, ownership or location.

Station Service: The electric supply or thermal energy produced for the ancillary equipment used to operate a generating station or substation.

User: Any party that has been granted access by an Account Holder to “use” its Account, which may include viewing information, performing transactions and changing personal information. The Account Holder may at any time revoke the permissions granted to a User by notifying the NAR Administrator. The NAR system will be able to track the specific activities of each User through the unique login and password.

Zero Emission Certificate (ZEC): A ZEC represents all of the Environmental Attributes from one (1) MWh of electricity generation from an Asset using a “Zero Emission Energy” Fuel Type, as specified in Appendix C. The NAR system will create one ZEC per MWh of generation that occurs from a Generating Unit or Contract Project using a “Zero Emission Energy” Fuel Type. Individual states and provinces may create different definitions of zero emission certificates.

Zero Emission Energy Project: One or more Generating Unit(s) registered in NAR that share one intertie with the distribution/transmission grid and use the “Zero Emission Energy” Fuel Types specified in Appendix C.

1. Introduction

The North American Renewables Registry (**NAR** or the **Registry**) collects and tracks information regarding renewable and zero emission energy generation and energy efficiency savings originating within North America. NAR is designed to provide a policy-neutral, market driven, electronic system for participants in the voluntary and compliance renewable and zero emission energy markets. The States of Missouri and the Commonwealth of Puerto Rico have designated NAR as the compliance registry for their renewable energy standards, and the State of North Carolina has authorized NAR to serve as an eligible registry for out-of-state generators eligible for the North Carolina Renewable Energy and Energy Efficiency Portfolio Standard (**REEPS**).¹ By creating a reliable process to evidence verification, issuance and Retirement of Certificates, NAR brings increased levels of integrity and trust to purchasers, sellers and regulators in the market.

The NAR Administrator will issue one (1) electronic Certificate for each MWh (or thermal equivalent) of renewable energy, zero emission energy, or energy savings that is generated by registered Assets. NAR will track and display the certifications and program eligibilities associated with each Certificate, as established by documentation and/or third-party verification during the Asset registration process. Assets can be registered in NAR based on ownership of the Asset or, if authorized, based on acting as the Responsible Party for the Asset.

Any party, such as generators, traders, marketers, non-profits or retail purchasers, wishing to have Certificates issued, held, transferred, or Retired may establish an Account in NAR to do so. All Account Holders must agree to follow the rules and operating procedures described in this document and in the NAR Terms of Use.

All Registry Accounts use two types of sub-accounts to manage Certificates: Active Subaccounts and Retirement Sub-accounts. Active Sub-accounts are used for holding and transferring Certificates. Retirement Sub-accounts are used for retiring Certificates from circulation so that they can no longer be transferred between Account Holders, within an Account or out of the NAR system.

Certificates are initially deposited into an Active Sub-account associated with an Asset. Account Holders can then transfer Certificates to other Sub-accounts and to the Accounts of other Account Holders.

Certificates will indicate if the issued Certificate is eligible for one or more, compliance and voluntary programs. Additional eligibilities may be added.

NAR will provide Account Holders and the public with reports on activity within the system. The public reports are accessible to anyone via the public page on the NAR website. These public reports are designed to ensure Registry transparency as to Certificates issued and Retired, as well as providing visibility to the Certificate attributes and program eligibilities.

¹ In order for Certificates to be Retired against the North Carolina REEPS they will have to be exported from NAR to the North Carolina Renewable Energy Tracking System (NC RETS).

2. NAR User Registration

2.1 Participation in NAR

Participation in NAR is voluntary, though some Certification and Compliance programs require participation in NAR for purposes of program compliance. Any party that registers with NAR and pays the applicable fees² may seek to establish an Account in the Registry. NAR will track Certificates originating from Assets registered in NAR until those Certificates are transferred out of NAR.

2.2 Establishing an Account

Any person or entity wanting to participate in NAR must establish an Account. Registrants will provide basic Account registration information, such as Account Holder name, address and contact information, to the NAR Administrator through a secure webpage on the NAR website and agree to the Terms of Use. The NAR Administrator will review the Account application and may request more information before, in its sole discretion, approving or rejecting the application. An Account will remain active until terminated. Termination can be initiated by the Account Holder by notifying the NAR Administrator. Accounts can also be terminated if an Account Holder fails to pay the Registry fees or is otherwise in default under the Terms of Use. The Terms of Use describe these issues, as well as additional important terms, and should be read and understood by anyone applying to be an Account Holder.

2.3 Account Password Reset

If an Account Holder forgets the password for their NAR Account, the Account Holder will click on “Forgot Password” and will be prompted to enter their login name and additional verifying information. Account Holders will then be prompted to answer the security question they created during their account registration. Once submitted, a new password will be sent to the Account Manager’s email address.³

² As described in the NAR Terms of Use and the NAR Fee Schedule, available online at <https://apx.com/nar-documents-and-reports/>

³ An Account Holder may want to Retire Certificates for any number of reasons, including, but not limited to, Retiring Certificates on behalf of the Indirect Owners of the Certificates or making claims about the environmental quality benefits of the Certificates.

3. Account Structure

There are six types of Accounts in NAR:

- **General Account**
- **Project Account**
- **Energy Efficiency Account**
- **Retail Purchaser Account**
- **Qualified Reporting Entity (QRE) Account**
- **Program Administrator Account**

Accounts that can hold Certificates (General, Project, Energy Efficiency and Retail Purchaser Accounts) are organized using two principal types of Sub-accounts, Active and Retirement. When an Account is created in the system, a single default Retirement Subaccount and a single default Active Sub-account are created automatically. Account Holders can re-name these default Sub-accounts and create as many additional Active and Retirement Sub-accounts as necessary to meet their individual needs. Retirement Sub-accounts cannot be renamed if they hold Certificates. When Certificates are deposited into an Account by the NAR Administrator, they are placed into an Active Sub-account that is designated when an Asset is registered. When Certificates are transferred into an Account, the recipient Account Holder will identify the Active Subaccount into which they will be deposited. Each Account Holder will be able to view a listing of Certificates held in each Sub-account and their attributes (e.g. documents, eligible program certifications and original details).

Accounts that can hold Certificates will also have a single Bulletin Board Sub-account, used to post Certificates for sale on the Registry's Bulletin Board as well as an Export sub-account. See Section 9 below.

Each Account and Sub-account will have a unique identification number. For ease of reference, Account Holders may attach aliases to Sub-accounts (e.g., by customer or by product name).

3.1 Deposits to Active Sub-Accounts

There are three ways that Certificates are deposited in an Active Sub-account.

- a. Within an Account, Certificates can be transferred from one Active Subaccount or Bulletin Board Sub-account to another.
- b. An Account Holder can accept a transfer of Certificates from another Account Holder.
- c. Certificates generated by an Asset and deposited by the NAR Administrator.

3.2 Transfers from Active Sub-Accounts

There are two ways to withdraw or remove Certificates from Active Sub-accounts:

- a. Transfer the Certificates to the Account of another Account Holder.
- b. Transfer the Certificates to another of the Account Holder's own Subaccounts.

3.3 Retirement Sub-Accounts

A Retirement Sub-account is used as a repository for Certificates that the Account Holder wants to designate as Retired.⁴ There are three ways that Certificates are deposited in a Retirement sub-account:

- a. Within an Account, Certificates can be transferred from an Active Subaccount or a Bulletin Board Sub-account to a Retirement Sub-account.
- b. An Account Holder can accept a transfer of Certificates from another Account Holder directly into a Retirement Sub-account.
- c. A Standing Order Transfer can be set up by the Account Holder to automatically deposit Certificates into a Retirement Sub-account.

Certificate Retirement can only be initiated by an Account Holder in respect of the Certificates in its Account. The NAR Administrator is not responsible for the Retirement of Certificates by Account Holders, as it relates to voluntary or compliance-related Retirement deadlines or otherwise.

An Account Holder choosing to Retire a Certificate or block of Certificates will use the transfer screen to identify the quantity of Certificates to Retire and the reason for Retirement (an optional field). The Account Holder must select the Retirement Subaccount to which the Certificates will be deposited. The Retirement Sub-account will show the serial numbers of the Certificates Retired, the date of Retirement and the reason for Retirement. In addition, there will be a mechanism to view the Asset characteristics/Certificate fields and documents associated with the Retired Certificates. Once Certificates are Retired, they cannot be moved or transferred out of the Retirement Sub-account to any other Account or Account Holder.

NAR system validations ensure that Certificates deposited in a Retirement Sub-account are no longer transferable to another party or another Sub-account. Retirements are permanent transactions that cannot be reversed or modified. System reports allow Account Holders to show evidence of the Retirement to Program Administrators or the public.

3.4 Retirements on Behalf of Beneficial Owners

In order to provide full transparency to markets and regulators, as well as enhancing the integrity of the Registry's ownership records, as a general matter Account Holders can hold Certificates on behalf of any other party. Holders of a General Account or Retail Purchaser Account can hold Certificates on behalf of Beneficial Owners solely for purposes of retiring such Certificates if that Account Holder is eligible to sign and has submitted an executed Regulated Persons Attestation to the NAR administrator.

Retirements on Behalf of Beneficial Owners are subject to the following provisions:

- a. All legal title to and Beneficial Ownership Rights in any Certificate Retired must be held by one or more Beneficial Owners that have authorized the Retirement of the Certificate and the disclosure of information relating to such Certificate to NAR and the NAR Administrator.
- b. If an Account Retires Certificates on behalf of a Beneficial Owner, the Account Holder shall report, concurrently with each Retirement, the following information:

⁴ An Account Holder may want to Retire Certificates for any number of reasons, including, but not limited to, Retiring Certificates on behalf of the Indirect Owners of the Certificates or making claims about the environmental quality benefits of the Certificates.

(1) the name and email address of the Beneficial Owner (and, if applicable, of each other individual or organization comprising the Beneficial Owner on whose behalf such Retirement is made), and (2) the reason for such Retirement of Certificates.

3.5 Transfers Between NAR Accounts

General, Project and Energy Efficiency Account Holders may transfer Active Certificates to other NAR Account Holders at any time. Certificates will be specified by their serial numbers. The Account Holder will select the recipient from a pull-down list of Account Holders. After the transfer has been initiated, the Certificates that are pending transfer will be marked as “transfer pending” in the Account Holders Outbox. This will have the effect of “freezing” the Certificates so that they cannot be moved to another Sub-account or to another Account Holder.

After the transfer has been initiated, the system will send an electronic notification of the request to transfer Certificates to the proposed recipient. The transfer recipient can review the Certificate transfer details from the Account Holder’s Outbox and must confirm or reject the transfer within fourteen (14) calendar days of when it was requested by the transferor. If confirmed, the transfer recipient must designate the Sub-account to which the Certificates are to be delivered. As soon as the recipient has confirmed or rejected the transfer, NAR will send an electronic notification to the transferor indicating the action taken. The transferor may cancel any transfer before such transfer has been confirmed by the recipient by withdrawing the transfer from the Account Holder’s Outbox in NAR. If the transfer is withdrawn, NAR will notify the recipient of the action.

3.6 Compatible Tracking Systems

NAR is enabled to accept transfers of eligible Certificates from compatible tracking systems. A compatible tracking system has an operational process with NAR on how to handle imports and/or exports and has implemented the required technology to evidence it. NAR has imports and exports enabled with other registries in North America. The list of currently eligible Certificate imports and exports is maintained on the Xpansiv website.

3.6.1 Imports from other Tracking Systems

In order to import a Certificate from another tracking system the Account Holder in the exporting tracking system will need to follow that tracking system’s procedures for an export. This generally includes designating a specific batch of Certificates for export and designating the importing registry (i.e. NAR) and the importing NAR Account Holder.

The NAR Account Holder will see the imported Certificates in their Inbox module with a note stating that these are import Certificates. The Certificate transferor will be NAR Administrator.

The imported Certificates will have a unique Serial Number that references the originating registry instead of NAR. The Certificate data screen will also contain the original Serial Number from the issuing registry. All Projects from which Certificates have been imported into NAR will be listed on the public ‘Imported Facilities’ report. No information about the quantity transferred and the parties involved in the transaction will be publicly posted.

Tracking systems track fuel types differently. Certificates in NAR will issue with the Fuel Type used by NAR as detailed in Appendix C.

3.6.2 Exports to other Tracking Systems

In order to export a Certificate to another tracking system the NAR Account Holder will designate a specific batch of Certificates for export and designate the registry and account holder to whom the Certificates should be delivered. Exports can be made to any counterparty in the receiving tracking system. The NAR Account Holder who initiates the export does not have to be the recipient.

After the transfer has been initiated, it will show up in the NAR Account Holder's Outbox module as "Pending." It will remain "Pending" until the NAR Administrator confirms that the Certificates are eligible for export to the importing tracking system.

4. Access to Accounts and Confidentiality

4.1 Account Access

An Account Manager is established as part of the Account registration process. The individual listed in the initial Account application will be considered the Account Manager and have the ability to setup and manage additional logins and login privileges for his or her organization. The Account Manager will have full access to the organization's Account. Login permissions can be designated to allow view-only access to information or to allow activities such as performing transfers and submitting/updating information. Such privileges can also be further attached to specific Sub-accounts or Assets. This provides Account Holders with significant flexibility when assigning logins. Login setup can be done during the Account registration process or at any time the Account Manager wishes to add additional Users to the Account. The Account Manager will supply contact information for each login as well as designate the login name and password.

NOTE: The NAR Terms of Use shall apply to any person who receives access to a Registry Account from an Account Holder or Account Manager.

Once a login is established, NAR will send an email to the login contact specified by the Account Manager with details on the individual's login name. The Account Manager is required to communicate the password. Upon logging into the Registry for the first time, the new User will be prompted by the Registry to change his or her password. The new User will then be able to perform the functions or view the information per the permissions granted by the Account Manager. The Account Manager or NAR Administrator may at any time remove or add permissions to a login by using the account administration screens.

The NAR My Event Log report tracks and displays all actions performed within the Account by login name and timestamp. Account Managers will have access to the My Event Log report for their Account(s).

4.2 Levels of Account Access

When an Account Holder creates logins for additional Users, the Account Holder assigns to the login one of two levels of access specific rights to login:

4.2.1 Account Holder – Supervisor

When completing the login profile for a new User, the Account Manager can assign "Account Holder – Supervisor" privileges to a login. The new User will be able to register assets, manage Certificates, and create additional logins, if necessary. The Account Manager can also give this login a subset of these privileges if needed.

4.2.2 Account Holder – View Only

When completing the login profile for a new User, the Account Holder can assign the login "Account Holder – View Only" privileges. This provides the login with limited view rights. The Account Manager will then identify the specific Sub-accounts and Certificates that the login will be able to access and view. Please note, view only permissions do not apply to hourly functionality at this time.

4.3 Confidentiality

As stated in the Privacy Policy and the Terms of Use, certain Account information will be held confidential. Account information will only be used and released in aggregate through the public reporting process.

5. Asset Registration

An Asset is registered by an Account Holder by entering Static Data into NAR describing the attributes of the Asset, subject to the review and approval by the NAR Administrator. Once the Asset is approved, Dynamic Data is entered to identify renewable and zero emission energy generation or energy savings for which Certificates are to be issued.

5.1 Registering an Asset

To ensure that double-counting does not occur, Assets being registered in NAR must have 100% of their output or energy savings, respectively, tracked by NAR. If a Generating Unit or Energy Efficiency Project was registered in another tracking system at one point, the NAR Administrator should be notified of this during the registration process, and the Account Holder should be prepared to provide documentation to prove the Asset has been removed from the previous tracking system.

In order to create Certificates, an owner of a generator must first establish an Account within the NAR system as described above and then register the generator as a Generating Unit. The Account types that can register renewable, thermal, or zero emission projects are the Project Account, the General Account and the Retail Purchaser Account (subject to a size limitation). An owner of an Energy Efficiency Project who wants NAR to create Certificates in respect of that project must first establish an Account within the NAR system as described above and then register the project as an Energy Efficiency Project. Registration with NAR does not imply or confer acceptance into or eligibility for any voluntary certification program or any state's Renewable Portfolio Standard or energy efficiency program.

5.2 Registering an Energy Efficient Project

To register an Energy Efficiency Project as an Asset, the owner or the Responsible Party⁵ must:

- Have an approved Account;
- Submit a completed on-line registration form containing information related to the characteristics of the Asset;
- Submit proof of title and/or additional documentation proving the Account Holder is either the owner of the generator or Energy Efficiency Project or has the owner's permission to act as the Responsible Party and register the generator or Energy Efficiency Project in NAR in order to receive Certificates⁶; and
- Pay any applicable registration fee.⁷

The NAR Administrator will review the submitted documentation and may require additional documentation to be submitted before a generator is accepted as an Asset.

⁵ The Responsible Party is an entity to whom the owner of a generator or energy efficiency project has given Registration Rights. This is described in detail in Section 5.10.

⁶ Generators or Energy Efficiency Projects that are jointly owned must have a single party, privately appointed among the owners, to act as the Account Holder. ⁷ See the NAR Fee Schedule for a description of all Registry fees.

5.3 Registering a Contract Project

NAR will allow the registration of a Contract Project based on contractual ownership of the electricity and Certificates associated with a specific Renewable Energy or Zero Emission Energy Project on a limited basis.⁷ For each applicable contract, Account Holders are required to enter details describing the Renewable or Zero Emission Energy Project associated with the contract. This facilitates Account Holder data-entry and creates consistency across all types of Certificates, since all future owners of the Certificates from a Contract Project can view the generator details in the same manner as is displayed for Certificates issued to a Generating Unit. Serial numbers differentiate between Certificates from Generating Units versus Contract Projects.⁸

Account Holders can only register contracts as Contract Projects if the contract and its associated Generating Unit(s) are not already registered in NAR or any other Certificate tracking registry. If either was registered in another tracking system at one point, the NAR Administrator should be notified of this during the registration process and the Account Holder should be prepared to provide documentation to prove the contract and its associated generator has been removed from the previous tracking system.

An owner of a contract who wants NAR to create Certificates in respect of the generation purchased there under must first establish an Account within the NAR system as described above and then register the contract as a Contract Project. The only Account type that can register a Contract Project is a General Account. Registration with NAR does not imply or confer acceptance into or eligibility for any voluntary certification program or state's Renewable Portfolio Standard program.

To register a contract as a Contract Project, the owner must:

- Have an approved General Account in NAR;
- Submit a completed on-line registration form containing information related to the characteristics of the contract and its related project;
- Submit contractual documents that document the ownership of the environmental attributes produced by the associated Generating Unit(s) as well as the associated energy or Fuel Type; and
- Pay any applicable registration fee.⁹

The NAR Administrator will review the submitted documentation and may require additional documentation to be submitted before a contract is accepted as a Contract Project.

When and if an Asset associated with Contract Project registers in NAR as a Generating Unit, all Contract Project registrations associated with the newly registered Asset must be terminated. The Account Holder of the Contract Project will no longer be directly issued Certificates.

5.4 Multi-fuel Generators

A "Multi-fuel Generator" is one that is capable of producing energy using more than one Fuel Type, excluding fuels used for start-up (which in any case cannot exceed 1% of the fuel used annually on a total heat input basis). Such facilities must register with NAR as a Multi-fuel Generator. If the relative quantities of electricity

⁷ This is done in part to accommodate the transition from markets with no existing Certificate tracking system to markets where electronic tracking of Certificates is required by voluntary and Compliance Programs and customers.

⁸ Serial numbers for Certificates from Generating Units include 'REC' or 'ZEC' while serial numbers for Certificates from a Contract Asset include 'RECC'.

⁹ See the NAR Fee Schedule available at <https://gpx.com/nar-documents-and-reports/> for a description of all Registry fees.

production from each fuel cannot be measured or calculated, and verified, the generator is not eligible to register in NAR.

For Multi-fuel Generators, the owner or Responsible Party is required to indicate the percentage of electricity output coming from each Fuel Type for each period of generation reported. The NAR system will use total electricity output and this percentage to issue fuel-specific Certificates for the electricity output associated with generation. Account Holders with Multi-fuel Generators may be asked by the NAR Administrator to produce documentation supporting the indicated electricity output by fuel source. Supporting documentation could include third-party verification reports.

5.5 Small Generator Reporting & Aggregation

A group of small Generating Units that are not metered together and do not share the same location but that are located within the same state and otherwise share the same Essential Generating Characteristics can be registered as an Aggregated Project in NAR under the following conditions:

- The nameplate capacity of each Generating Unit is less than 150 kW;
- The Generating Units being aggregated are located in the same state;
- The Generating Units being aggregated utilize the same technology/Fuel Type; and
- The aggregated Nameplate Capacity has to be less than one (1) MW.

If the Generating Units being aggregated became operational in different years, the Aggregated Project will be assigned the oldest operational year.

When registering several Generating Units into one Asset (Aggregated Project flag set to “yes”), the NAR Administrator will:

- a. Collect project level information that is shared across all Generating Units;
- b. Collect Generating Unit-level registration information for each Generating Unit aggregated in the Aggregated Project; and
- c. Verify that the total aggregated Nameplate Capacity does not exceed one (1) MW.

FOR MISSOURI LOCATED SMALL GENERATORS ONLY:

If the Generating Units being aggregated are less than 10 kW and the generation is based on estimates rather than metering records, they can be registered without providing the project-level detail for each unique project provided that the following conditions are met:

- a. The estimation methodology has been approved by the Missouri Department of Natural Resources; and
- b. The Account Holder registering the Asset keeps records of all individual Generating Units and estimates and makes them available upon request from the NAR Administrator.

5.6 Verification of Static Data Submitted During Asset Registration

Upon completion of the Asset registration process, the NAR Administrator will review attestations, EIA reports and other data sources to verify the Static Data provided to NAR by the Account Holder.

In the event data submitted is found to be false or if there is a discrepancy between the information submitted during the on-line registration process and the materials provided to verify the information, the NAR Administrator will notify the registrant that the information could not be positively verified. A process of either correcting the registration form, or withdrawing the registration form, or providing proof that the information on the registration form is correct will ensure between the NAR Administrator and the registrant until the NAR Administrator is satisfied that the information provided meets NAR standards for accuracy.

In some cases, the NAR Administrator may require the Account Holder to contract with a third-party verifier to perform a site visit to further verify information as needed. The cost of verification will be borne by the Account Holder registering the Asset.

5.7 Updating Static Data

After the initial Asset registration in NAR, Account Holders can continually notify NAR of the following that have the effect of changing Static Data tracked by the system:

- a. A change in Fuel Type for a generator, and the date on which the change occurred, within thirty (30) calendar days from when the change is implemented.
- b. A change in Asset ownership, and the date on which the change occurred, within thirty (30) calendar days after the change occurs. A change in ownership must be confirmed by a letter signed by both the prior and new owners of the Asset, and provided to the NAR Administrator. Neither NAR nor the NAR Administrator will be liable for depositing Certificates into an Account that no longer represents an Asset if the incorrect deposit occurs as a result of a lack of notification by the prior and new owners of the Asset.
- c. A change to Asset eligibility for any programs or certification tracked by NAR. This must be communicated by the Account Holder before any Certificates affected by the change are issued or within thirty (30) calendar days after the change occurs.
- d. A change to any of the “essential generating characteristics” of the Asset.

5.8 Misrepresentation of Static Data:

Account Holders can be removed from NAR for cause, including willful misrepresentation of Static Data. NAR reserves the right to withhold issuing Certificates, to freeze an account associated with a particular Asset, or to withhold participation in NAR for Assets that have willfully misrepresented Static Data.

5.9 Terminating an Asset’s Participation in NAR

If an Asset’s owner or Responsible Party wants to remove an Asset from the NAR system, they can do so by notifying the NAR Administrator and specifying the following:

- a. The date the Asset should be/will be removed from the NAR tracking system,
- b. The name of the Asset’s reporting QRE, if applicable; and
- c. The Sub-account to which Certificates have been deposited (if the usual Account for deposit is being closed as well).

NAR will issue Certificates for an Asset up to the date of Asset termination as instructed by the Asset's owner or Responsible Party. No Certificates will be issued for adjustments that occur after the termination date. If the Account to which the Asset is linked is also closed at the same time, the Asset's owner or Responsible Party must also specify the Account to which any remaining Certificates that have not yet been issued should be deposited. Failure to do so will result in loss of Certificates.

If the NAR Administrator has cause to suspend the Asset's participation in NAR, no Certificates will be created while the Asset is under suspension.

5.10 Changing the Account with Which an Asset is Associated

If the Asset's owner or Responsible Party wants to change the Account with which an Asset is associated, they can do so by notifying the NAR Administrator and providing the information requested by the NAR Administrator, including, but not limited to:

- a. The new Account number with which the Asset will be associated;
- b. The date the change will be effective; and
- c. Any documentation required for legal purposes or to meet certification requirements.

Certificates from the Asset that were created up to the day the Account change takes effect will remain in, or be deposited into, the Account that the Asset was associated with at the time the generation or savings occurred. For example, if an Asset's owner changes the Account with which the Asset is associated from Account A to Account B, and the change is effective on March 1, then the Certificates relating to generation or savings that occurred prior to March 1, will be deposited into Account A (even though the date of deposit will likely be after March 1, given the expected time delay between actual generation or savings and Certificate issuance).

When changing the Account with which an Asset is associated, there cannot be any time where the Asset is not associated with an Account. If there is such a lapse, this will be treated as a deregistration/re-registration of the Asset instead of a change of Account, and the relevant fees will be assessed.

5.11 Assignment of Registration Rights

An Asset's owner or Responsible Party may assign an Asset's Registration Rights to an Account Holder for the purposes of allowing that party the ability to control and manage the disposition of any Certificates resulting from the operation of the Asset. This assignment of Registration Rights will give the designated Account Holder full and sole management and authority over the transactions and activities related to the Asset within NAR. For the purposes of NAR, this Account Holder will be considered the Responsible Party for that Asset.

NAR will require both parties to confirm an assignment of Registration Rights, the date the assignment will be effective and the date the assignment will be terminated, if there is one.

5.11.1 Termination of Registration Rights

Registration Rights may be terminated by either the Asset's owner or Responsible Party. Termination of Registration Rights has the effect of deregistering the Asset from NAR. If the Registration Rights assignment has been terminated, no new Certificates will be issued from that Asset until it is registered again.

6. Dynamic Data in NAR – Generation

Data/Energy Savings

6.1 Generation Data Requirements for Generating Units

NAR will not create Certificates for generation supplying station service. Data used to issue Certificates for renewable generation must be derived from a Revenue-Quality Meter and communicated to the NAR Administrator by a Qualified Reporting Entity unless the Nameplate Capacity is less than one (1) MW, in which case it can be self-reported.

6.1.1 Revenue Metering Standards

All generators participating in NAR must use a Revenue-Quality Meter. For generators that are interconnected to a utility or Control Area Operator, a “Revenue-Quality Meter” is any meter used by the reporting Control Area Operator for settlements. The data must be electronically collected by a meter data acquisition system, such as an MV-90 system, or pulse accumulator readings collected by the Control Area’s energy management system, and verified through a Control Area checkout/energy accounting or settlements process which occurs monthly. The preferred source for the data is a meter data acquisition system. If the Control Area does not have an electronic source for collecting revenue meter data, then manual meter reads will be accepted. Manual meter reads must be performed by a QRE.

For generators that do not go through a Control Area settlements process and that are not Customer-Sited Distributed Generation, the data must be from a Revenue-Quality Meter adjusted to reflect the energy delivered into the transmission grid at the high side of the transformer and communicated to the NAR Administrator by a QRE if the Nameplate Capacity is one (1) MW or more. For Customer-Sited Distributed Generation, the original data source for reporting total energy production must be from Revenue-Quality Metering at the AC output of an inverter, adjusted to reflect the energy delivered into either the transmission or distribution grid at the high side of the transformer. In the absence of a meter measuring production as described above (i.e., if there is no meter at the inverter), the original data source for reporting total energy production must be from Revenue Quality Metering placed to measure only the hourly positive generation flowing to the distribution system, adjusted to reflect the energy delivered into either the transmission or distribution grid at the high side of the transformer. If the Customer-Sited Distributed Generation uses all of the energy produced on site, then no adjustment for transformer losses is needed.

For thermal projects, the facility’s useful thermal energy (excluding energy used to produce electricity) may be measured by an industry-accepted meter for measuring British Thermal Units (Btu).

6.1.2 Measurement of Generation and Adjustments

The output from each Asset registered in NAR will be measured at the point of interconnection to the transmission or distribution company’s facility, or adjusted to reflect the energy delivered into either the transmission or distribution grid at the high side of the transformer. Losses occurring on the bulk transmission or distribution systems after the metering point are not reflected in the Certificates created. NAR will not create

Certificates for that portion of the generation or thermal energy that is used to supply station service, and therefore, generation data should also be netted of station service supplied from the generator's side of the point of interconnection. For wholesale generators also serving onsite loads, NAR will create Certificates for the on-site load distinct from station service, if the generator's owner or Responsible Party can provide evidence that the metering used is capable of distinguishing between on-site load and station service. Otherwise, the NAR Administrator will assume a conservative default fraction of total generation will be deemed to be from station service unless it can be proved otherwise. If adjustments are needed, due to metering, reporting, error or any other reason, the reporting entity must report the adjustment as soon as possible to the NAR Administrator. If Certificates have not yet been created for the original generation amount to which the adjustment applies, the credit or debit will be posted to the Generation Activity Log, and will be reflected in the number of Certificates created that month. If Certificates have been created, the adjustment will be treated as a prior period adjustment described below in Section 6.1.3.

6.1.3 Prior Period Adjustments

Adjustments can be made by an Account Holder after the data is reported and used to issue Certificates in NAR. These adjustments are known as prior period adjustments. The Account Holder will access the Project Output Data Review screens to submit an adjustment to the NAR Administrator. If accepted by the NAR Administrator, the credit or debit to the generation volume reported in the current month will post to the Generation Activity Log. Consequently, the adjustment will be realized when Certificates are next issued. If new Certificates are created, the vintage of the Certificates shall reflect the actual generation period. The NAR Administrator will not accept adjustments for generation reported more than two years prior.

6.1.4 Notification of Adjustments

The Account Holder will be informed of all credit or debit adjustments as soon as the adjustment has been posted to the Generation Activity Log. Once NAR informs the Account Holder of a need for adjustment, the Account Holder then has ninety (90) calendar days to dispute or accept the adjustment. If after ninety (90) days the Account Holder has failed to respond, the NAR Administrator will automatically accept the adjustment.

6.1.5 Data Transmittal

Data files are to be electronically transmitted to NAR using a secure protocol and a standard format specified by the NAR Administrator. The data shall reflect, at a minimum, the month and year of the generation, monthly accumulated MWhs for each meter ID and the associated meter ID(s) for each resource. For projects issuing Certificates at the hourly granularity, the data must be provided at hourly intervals and reflect, at a minimum, the month, year and hour of the generation, hourly accumulated MWh for the full month for each meter ID and the associated meter ID(s) for each resource. For thermal projects, the data shall reflect, at a minimum, the month and year of the generation, monthly accumulated MMBtu with a single value for each meter ID and the associated meter ID(s) for each resource. The owner of the Generating Unit, as the owner of the metered data, or the Responsible Party, has the responsibility to direct the Control Area Operator to release generation data to NAR.

The data must be transmitted by a single entity, which must be either (1) a QRE or (2) a Self-Reporting Generator (for Customer-Sited Distributed Generation installations less than one (1) MW Nameplate Capacity that have opted to be so treated).

6.1.6 Requirements of Data Reporting Entities

NAR will accept generation and/or thermal activity data from QREs and Self-Reporting Generators. The NAR Requirements for Qualified Reporting Entities document describes the terms and conditions under which the QRE agrees to exchange information and conduct business with NAR. This document identifies the protocols for collection of information such as meter IDs, data format, communication protocols and timing, and security requirements for data collection. The document also outlines the necessary requirements to qualify as a QRE.

6.1.7 Special Requirements for Self-Reporting Generators Only

A Self-Reporting Generator must enter actual cumulative meter readings measured in kWh, MWh, or MMBtu and the date of the meter reading via the Self-Reporting Interface. Actual cumulative meter readings must be entered no less frequently than annually. Self-Reporting Generators that do not enter meter readings via the Self-Reporting Interface as required will receive a reminder notice from the NAR Administrator. Any such generator not entering a cumulative meter reading within thirty (30) days of receipt of such a notice may be deemed inactive by the NAR Administrator and have its Generating Activity Log suspended. If and when a Self-Reporting Generator's Generation Activity Log is reactivated, the next meter read shall be the new baseline for accumulated generation data. A Self-Reporting Generator must submit metering records to substantiate generation reporting.

6.1.8 Multi-fuel Generators

For Multi-fuel Generators, Certificates will be created for the renewable Fuel Type(s) only.¹⁰ Each Certificate issued for a Multi-fuel Generator will reflect only one fuel source, with the total number of Certificates issued for a Fuel Type being proportional to the overall output for that reporting period.

The generator or its associated Account Holder must submit supporting documentation related to the derivation of the proportion of electric output per Fuel Type for each period for which the generator or Account Holder is issued Certificates. The NAR Administrator will require copies of such calculations, and supporting documentation may be subject to audit by the NAR Administrator, state regulators, QREs, certification organizations or their agents.

For purposes of creating Certificates reflecting the fuel source mix of Multi-fuel Generators, the proportion of Certificates attributable to each Fuel Type shall be determined consistent with the following rules:

- a. For biomass co-fired with fossil fuels or using fossil fuels for startup or supplemental firing: In each month, the Certificates for each Fuel Type in such Multi-fuel Generator will be created in proportion to the ratio of the net heat content of each fuel consumed to the net heat content of all fuel consumed in that month, adjusted to reflect differential heat rates for different fuels, if applicable.

¹⁰ For example, a coal-fired generator that uses less than 1% of biomass co-firing can be considered a Multi-fuel Generator and have biomass Certificates issued in respect of that biomass-fired generation.

- b. Other: Multi-fuel Generators not fitting the descriptions provided by certification organizations (e.g., Green-e Energy) should request from the certification organization a decision on allocating output for each Fuel Type for their situation. Such a decision will set a precedent for similarly situated generators. Any new methodology must be approved by the certification organization and presented to the NAR Administrator prior to Certificates being issued for that generator.

In addition, upon registration, all Multi-fuel Generators must submit to the NAR Administrator a report prepared by an independent professional engineer containing documentation for measuring and verifying the quantities of each Fuel Type, the net heat content of each fuel source, and the heat rate, if applicable. More details on this requirement are found in Appendix B.

6.2 Generation Data Requirements for Energy Efficiency Projects

Certificates are issued for energy savings resulting from a specific Energy Efficiency Project. Data used to issue Certificates for energy savings must be a result of a specific measurement and verification process that includes independent certification of the energy savings. The energy savings are reported by a Qualified Reporting Entity and cannot be self-reported.

6.2.1 Data Transmittal

Data files are to be electronically transmitted to NAR using a secure protocol and a standard format specified by the NAR Administrator. The data shall reflect, at a minimum, the month and year of the energy savings, monthly accumulated savings for each project. For projects issuing Certificates at the hourly granularity, the data must be provided at hourly intervals and reflect, at a minimum, the month, year and hour of the generation, hourly accumulated MWh for the full month for each meter ID and the associated meter ID(s) for each resource. The data must be transmitted by a Qualified Reporting Entity.

6.3 Generation Activity Log

Each Project, General, Energy Efficiency and Retail Purchaser Account registered in NAR that issues Certificates at monthly granularity will have a Generation Activity Log associated with it. The Generation Activity Log is an electronic ledger where generation and energy savings information is posted prior to Certificate creation. Each time data is received by NAR for a particular Asset, the date and quantity of MWh is posted to the Generation Activity Log. Similarly, adjustments received will be posted likewise. The status of each entry in the Generation Activity Log will be noted, where the possible values are:

- **NAR Accepted:** This label is used for all data that has been reported to NAR, has passed the NAR feasibility test and has been logged to the Generation Activity Log, but has not been accepted (or disputed) by the Account Holder.
- **NAR Pending:** The NAR Administrator is waiting for the resolution of a situation before the Certificates can be issued. For example, if the NAR Administrator is waiting to receive a 'Fuel Type' allocation from a Multi-fuel Generator or other update from an Account Holder.
- **Account Holder Accepted:** The Account Holder has accepted the posted generation, but the Certificates have not yet been issued.

- **NAR Admin Accepted:** The NAR Administrator has accepted the posted generation, but the Certificates have not yet been issued.
- **Account Holder Disputed:** The Account Holder has disputed the posted amount of generation.
- **NAR Admin Disputed:** The NAR Administrator has disputed the posted amount of generation.
- **Certificates Created:** Certificates have been created.

The status of each entry in the Generation Activity Log will be changed consistent with the information received by the NAR Administrator. Certificates will be issued based on the total whole number of MWh on the Generation Activity Log that are marked “Account Holder Accepted” or “NAR Accepted.” Only Certificates that are marked as such will contribute to Certificate creation. Any fractional MWh will be rolled forward until sufficient generation is accumulated for the creation of a Certificate. Each time an item is posted to the Generation Activity Log, the Account Holder will be notified electronically.

The Generation Activity Log will include the following entries:

Account Holder’s Name

Activity Date

NAR Asset ID for associated data posted

Activity Description identifying Data Submitted, Fractional Data Remaining, Certificates Created, etc.

Reporting Period Start

Reporting Period End

Quantity Loaded of generation or energy savings reported to NAR during the current month

Fuel Type

Status

Note (displaying serial numbers or data upload file names)

7. Creation of Certificates

Monthly Certificates are issued in whole numbers only.

Hourly Certificates are issued with up to five decimal places, based on the granularity of the underlying meter data. Like monthly Certificates, hourly Certificates may be subdivided and transferred; however, only the **whole-number portion** can be subdivided.

For example, an hourly REC with a quantity of **500.12345** may be subdivided multiple times across the whole number (500), but the fractional amount (**0.12345**) must be transferred as a single, indivisible block.

RECs from thermal energy can be issued from registered cogeneration facilities. Within the registry, these RECs will be distinguished using a specific thermal **Fuel/Project Type**, consistent with how other resource types (e.g., Wind or Solar) are categorized within NAR. Certificates issued for thermal energy will be converted from **MMBtu to MWh equivalents** at a rate of **one Certificate per 3.412142 MMBtu**.

7.1 Certificate Creation

Each Certificate shall have a unique serial number. Certificate serial numbers shall contain codes embedded in the number. The table below identifies the serial number format used in NAR.

Table 1: NAR Serial Number Identifiers

| Identifier | Display Order | Data Type | Length | Range of Codes | Comments |
|----------------------|---------------|--------------|--------|--|---|
| Originating Registry | 1 | Alphanumeric | 3 | NAR, ERCOT, MRETS, NCRETS, WREGIS, MIRECS, PJM, NYGATS, NEPOOL | Used to identify originating registry |
| Certificate type | 2 | Alphanumeric | 4 | REC = Renewable Energy Certificate issued for a Generating Unit RECC = Renewable Energy Certificate issued for Environmental Attributes obtained pursuant to a contract with a renewable energy facility not registered as a Generating Unit EEC = Energy Efficiency Certificate issued for an Energy Efficiency Project ZEC = Zero Emission Certificate issued for a Generating Unit | Used to identify if the issuance is based on a facility registration with NAR |
| Asset ID | 3 | Numeric | 6 | 1-999999 | Unique ID assigned to each Asset record in NAR |

| | | | | | |
|----------------------|---|--------------|---|--|---|
| State | 4 | Alphanumeric | 2 | AL, AK, AZ, AR, CA, CO, CT, DE, FL, GA, HI, ID, IL, IN, IA, KS, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NV, NH, NJ, NM, NY, NC, ND, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VT, VA, WA, WV, WI, and WY | State Abbreviation identifying the State in which the energy generation or energy savings occurred |
| Vintage Month | 5 | Numeric | 2 | 01-12 | The month in which the energy generation or energy savings occurred |
| Vintage Year | 6 | Numeric | 4 | 07-99 | The year in which the energy generation or energy savings occurred |
| Issuance Granularity | 7 | Alphanumeric | 1 | H = Hourly | The granularity in which the Certificates are issued and this only relates to hourly certificates, monthly RECs do not have a label |
| Batch Number | 7 | Numeric | 5 | Numeric value assigned to each batch of credits created 1 – 99,999 unique per originating generator or project per vintage | |
| Serial Block Start | 8 | Numeric | 9 | Numeric values assigned by registry from 1 - 999,999,999 | A number to identify the first Certificate in a block of Certificates |
| Serial Block End | 9 | Numeric | 9 | Numeric values assigned by registry from 1 - 999,999,999 | A number to identify the last Certificate in a block of Certificates |

7.2 Process and Timeline for Certificate Creation

Historical generation and energy savings data can be submitted for Assets for vintages up to two years prior to when the Asset was first registered in NAR. Reporting of such historical data has to take place within 3 months of registering the Asset in NAR. Reporting of generation and energy savings data for vintages after the date when the Asset was registered in NAR has to be completed within one year of when the generation took place.

Once generation data is received by the NAR Administrator and a data validity check is performed by the Registry, it will post in the Account Holder’s Generation Activity Log or Meter Data Review Screen and the Registry will notify the Account Holder via email. The posting will be marked “NAR Accepted” (or “Pending” for Hourly) on the Generation Activity Log or Meter Data Review Screen. Once the data is accepted by the Account Holder, the generation posting will be marked “Certificate Created” (or “Approved”) and Certificates

will be issued immediately (or within 24 hours for Hourly). If the Account Holder takes no action, data in “NAR Accepted” or “Pending” status will result in Certificate issuance 14 days after the data was reported. The exception to this schedule is if the generation data is a ‘Pending’ status (or “Failed Feasibility” for hourly) due to it failing feasibility (see Section 8) or if multi-fuel allocations are required (see below).

The Account Holder must notify the NAR Administrator if it believes the energy generation or energy savings data recorded on the Generation Activity Log or Meter Data Review Screen is inaccurate for any reason. The Account Holder may register a dispute any time after the generation is posted and will have 14 calendar days to do so. While the generation posting dispute is being resolved, the generation posting will be marked “Account Holder Disputed.” If the Account Holder does not register a dispute with the NAR Administrator, the Certificates will be created in 14 days.

For Multi-fuel Generators, Certificates will not be issued until the Account Holder both accepts the generation data and supplies supporting fuel allocation data. The Account Holder must submit to NAR the proportion of energy output to be allocated to each Fuel Type. The Account Holder provides the Fuel Type allocation via the Generation Data Review screen located in the Account Holder’s Asset Management Module. The fuel allocation information will remain available in NAR for audit purposes. Account Holders must retain for audit the work papers demonstrating how they determined the fuel allocation for each reporting period.

For Self-Reporting Generators, there are two ways to load data for Certificate issuance. Data can be manually submitted to the Registry using the portal, and as long as it passes validation checks, the data will be in “Account Holder Accepted” status and Certificates will be issued the next day. If the data is batch-uploaded and passes validation checks, the data will be in “NAR Accepted” status. The Account Holder can accept the data and Certificates would be issued the next day, or taking no action would result in issuance in 14 days.

7.3 Certificate Creation for Accumulated Generation

Generation data from generators selecting monthly issuance that have a Nameplate Capacity under 25kW and that are not reported to NAR on a monthly basis may be accumulated over one or more months prior to submittal to NAR for Certificate issuance. The vintage on the issued Certificate will be the last month and year of generation contributing to an accumulated MWh. Certificate creation for accumulated generation will occur on the same schedule as all other generation in NAR.

7.4 Data Fields Carried on Each Certificate

Each Certificate carries a list of data fields. These fields include those listed below and additional fields may be added or amended:

| Data Field | Comments |
|-----------------------|---|
| Certificate Data: | |
| NAR ID or Resource ID | Unique ID assigned to each Asset record in NAR. |

| | |
|--|--|
| Asset Type | Used to identify if the issuance is based on a Generating Unit or an Energy Efficiency Asset |
| Asset or Resource Name | Name of Asset |
| Primary Facility Name | Name of facility |
| Certificate Vintage | Vintage of Generation |
| Certificate Serial Numbers | See details above |
| Quantity of Certificates | Total Certificates |
| Avoided Carbon, Green-e Climate Protocol (Metric Tons CO2e) | If eligible, calculated based on resource type and location |
| Avoided Carbon, US EPA Climate Leaders Protocol (Metric Tons CO2e) | If eligible, calculated based on resource type and location |
| Meter Data From: NA | |
| Meter Data To: NA | |
| Production Hour Start | Date and hour start time for hourly issued RECs |
| Certificate Creation Date: | Date Certificates were issued in NAR |
| Asset Documents/Attestations: View | Any associated documents (metering records etc.) |
| Asset Static Data: | |
| County | County facility is located in |
| State or Province | State or Province facility is located in |
| Country | Country facility is located in |
| NERC Region | NERC Region facility is located in |
| eGrid Sub-Region | eGRID Sub-Region facility is located in |
| Qualified Facility (Y/N) | Whether facility is a Qualifying Facility |
| Commenced Operation Date | Date the facility commenced operation |
| Fuel Type/Energy Source | Fuel Type abbreviation |
| Nameplate Capacity | Nameplate Capacity of facility |
| Reporting Entity Type | QRE or Self-reporting |
| Reporting Entity Contact Company or Organization name | Name of QRE, if applicable |
| Utility to which Facility is interconnected | Utility Interconnect |

| | |
|---|--|
| Repowered Indicator (Y/N) | Denotes whether facility is Repowered |
| Repowered Amount: NA | Denotes the portion, if applicable, of Unit that is repowered |
| Repower date (required if Repowered Indicator = Y) | Date of repowering |
| Eligibility for State and Provincial RPS Selections | (not currently applicable) |
| Eligibility for Voluntary Programs: | |
| KS | Denotes eligibility for the Kansas Renewable Energy Standard |
| MO | Denotes eligibility for the Missouri Renewable Electricity Standard |
| NC | Denotes eligibility for the North Carolina Renewable Energy and Energy Efficiency Standard |
| NY | Denotes eligibility for the New York Renewable Portfolio Standard |
| Green-e Energy Eligible | Denotes eligibility and, if applicable, certification number |
| Green-e Climate Eligible | Denotes eligibility and, if applicable, certification number |
| US EPA GPP Eligible | Denotes eligibility and, if applicable, certification number |
| LIHI Certified | Denotes eligibility and, if applicable, certification number |

8. Certificate Errors and Correction

8.1 Generation Data Validity Check

All generation data received by NAR will undergo an automatic data validity check to ensure that erroneous and technically infeasible data is not entered into NAR. The data validity check will compare reported electricity or thermal production to an engineering estimate of maximum potential production, calculated as a function of technology type, associated maximum capacity factor, Nameplate Capacity, fuel (if relevant) and time period since the previous cumulative meter reading entered. If data entered exceeds an estimate of technically feasible generation, the NAR Administrator will be notified and the generation will be posted to the “Certificate Data Loaded Log” report. The NAR Administrator will contact the Account Holder if the generation data entered is infeasible.

8.2 Certificate Errors Discovered After Certificate Issuance

Once a Certificate is created, no changes can be made to that Certificate. In the event that an error is discovered after Certificates have been issued, the NAR Administrator will take measures to rectify the problem, depending on the nature and the egregiousness of the error. If the error is related to the number of Certificates issued, the NAR administrator will first attempt to rectify this by making an adjustment to the Generation Activity Log associated with the generator. If the error is found in one of the fields on the Certificate, the NAR Administrator will handle each situation on a case-by-case basis.

Examples of actions that could be taken include, but are not limited to, notifying purchasers of the erroneous Certificates, freezing the account of the offending party, levying an administrative fine or banning participation in NAR.

9. Bulletin Board

The NAR Bulletin Board allows Account Holders to publicly post Certificates that they have available for sale. Any Account Holders, as well as the public, can view the available Certificates, including the following details:

- Company and Contact Name of Account Holder holding the Certificates
- Asset Name
- Fuel/Project Type
- Certificate Vintage
- Certificate Serial Numbers
- Certificate Quantity
- Certificate Eligibilities

In order to post Certificates on the Bulletin Board, the Account Holder must transfer them from an Active Sub-account to its Bulletin Board Sub-account. The Account Holder can transfer them back to an Active or Retirement Sub-account at any time, at which point they will no longer appear on the Bulletin Board.

10. NAR State Renewable Energy Requirements

Account Holders with commitments in Kansas and Missouri can make transfers to their Retirement Sub-accounts to support their annual compliance or goals with the requirements of the Kansas Corporation Commission or Missouri Public Service Commissions the case may be.

Kansas Voluntary Goal:

1. The Account Holder will create a Kansas Goal Sub-account for the data year using the “Create New Sub-Account” link. The Account Holder selects the Sub-account Type “Kansas Goal.” Aggregators will need to list the specific Account Holders they are reporting for compliance.
2. Account Holders uses the Transfer Credit screen to initiate Certificate transfers from an Active Sub-Account into a Kansas Goal Sub-Account in NAR.
3. When the Account Holder is finished, they will click “Submit” to officially Retire the Certificates on behalf of their data year goal with the Kansas Corporation Commission.
4. The last step is for the Account Holder to access the “Program Administrator Access Selection” located under their Account Holder Reports. In this selection page, the Account Holder will check the box next to “Kansas Corporation Commission”. This will allow the Kansas Corporation Commission to review the
5. Account Holders Certificates retired for compliance. The Kansas Corporation Commission will review the Account Holders Compliance Retirement Subaccount by looking at their compliance report.

Missouri Compliance Process:

6. The Account Holder will create a Compliance Retirement Sub-account for the compliance year using the “Create New Sub-Account” link. The Account Holder selects the Sub-Account Type “Retirement.” Aggregators will need to list the specific Account Holders they are reporting for compliance.
7. Account Holders will access their Active Certificates in their other Sub-accounts, select the Certificates to transfer to the Compliance Sub-accounts. Once on the Transfer Certificates page, the Account Holder will select the Compliance Subaccount from the drop-down menu, check the box next to “Used by the Account Holder for a Renewable Portfolio Standard”, click “Missouri” next to the State drop-down menu and click the year from the “RPS Compliance Period” drop-down menu.
8. When the Account Holder is finished, they will click “Submit” to officially Retire the Certificates on behalf of their annual compliance obligation with the Missouri Public Service Commission.
9. The last step is for the Account Holder to access the “Program Administrator Access Selection” located under their Account Holder Reports. In this selection page, the Account Holder will check the box next to “Missouri Public Service Commission”. This will allow the Missouri Public Service Commission to review the Account Holders Certificates retired for compliance. The Missouri Public Service Commission will review the Account Holders Compliance Retirement Sub-account by looking at their compliance report.

8. Public Reports

Public reports are available on the NAR website. Public reports may be added to meet future needs of Account Holders and Program Administrators using the Registry. See the Terms of Use for more information regarding confidentiality.

11.1 Account Holder Reports

Account Holder reports for a specific Account will only be accessible to users of the Account and the NAR Administrator. Account Holders can view up-to-date data in these reports at any time.

Appendix A: Essential Generation Characteristics for Aggregate Metering

Aggregate metering is a term used here to describe what occurs when more than one generating unit is registered as one Generating Unit. In order to do this, the generating units must be associated with a single revenue meter and they are only allowed to register as an aggregate facility in NAR if all of the generating units associated with the single meter have the same “essential generation characteristics.”

As a principle, the “essential generation characteristics” for the purposes of aggregate metering should be any characteristics that affects the Certificate’s eligibility for any state program, certification program or in general determines value in the marketplace. The following list defines the essential characteristics that must be the same across generating units that are registered as one Generating Unit.

Essential Characteristics for Purposes of Aggregate Metering Organized by Fuel Type

WIND: Fuel Type, Date when generating unit first commenced operation, Repowered indicator, Repowered date

HYDRO: Fuel Type, Generation technology, Date when generating unit first commenced operation, Repowered indicator, Repowered date, Nameplate Capacity, LIHI certification

SOLAR: Fuel Type, Generation technology (Solar PV or Concentrated Solar Power), Date when generating unit first commenced operation, Repowered indicator, Repowered date

BIOGAS: Fuel Type, Date when Generating Unit first commenced operation, Repowered indicator, Repowered date, Generation technology, Multi-fuel indicator

BIOMASS: Fuel Type, Date when Generating Unit first commenced operation, Repowered indicator, Repowered date, Generation technology, Multi-fuel indicator

BIODIESEL: Fuel Type, Date when Generating Unit first commenced operation, Repowered indicator, Repowered date, Generation technology, Multi-fuel indicator

GEOTHERMAL: Fuel Type, Date when Generating Unit first commenced operation, Repowered indicator, Repowered date, Capacity

HYDROGEN: Fuel Type, Date when Generating Unit first commenced operation, Repowered indicator, Repowered date

Appendix B: Documentation Requirements for Multi-fuel Generators

Upon registration with NAR as a Multi-fuel Generator, each such Multi-fuel Generator's Account Holder must submit to the NAR Administrator a report prepared by an independent professional engineer containing documentation of a methodology for calculating the electricity production associated with each fuel used during a month. Following the NAR Administrator's review and acceptance of such a report's methodology, the Multi-fuel Generator's Account Holder may seek creation of Certificates. This requirement will be waived for Generating Units that provide fuel-split information to a state, provincial or other regulatory authority.

Documentation of the following information used to calculate the proportion of electric output per Fuel Type generated by the Generating Unit during a calendar month must be maintained by Multi-fuel Renewable Energy Generators seeking Certificates, using the best available sources of information. If the Multi-fuel Generator already provides documentation to regulatory entities addressing each of the items below or otherwise provides substantiation of the percentage of generation from each Fuel Type to regulatory entities, this documentation may substitute, upon approval of the NAR Administrator, for the requirements listed below.

1. Quantities of each Fuel Type (if applicable) must be measurable and verified by documentation provided to Control Area Operators, Environmental Protection Agency or state air regulators, if available. If such documentation is not available, verifiable documentation of fuel quantities consumed during the month may be considered, such as metered liquid or gaseous fuel input where the meter is read by an independent third party so long as such entity has an agreement with the NAR Administrator, or financial records of fuel supply deliveries coupled with plant reports documenting mass of each fuel consumed in each calendar month.
2. Documentation of net heat content for each fuel source (if applicable) must be supported by documentation of heat content measurement by an independent laboratory.
3. If specification of a heat rate is required, the heat rate must be determined according to testing certified by an independent professional engineer consistent with the protocol accepted for plant heat rate testing in the plant's Control Area. If different heat rates apply for different fuels, the determination for each applicable heat rate must meet the requirements of this paragraph.

Appendix C: NAR Fuel Types¹¹

| Abbreviation | Fuel Type/Generation Technology | Certificate Type |
|--------------|--|------------------|
| BA1 | Biomass – Animal Waste - Swine Waste, Solid or Gas | Renewable Energy |
| BA2 | Biomass – Animal Waste - Poultry Waste, Solid or Gas | Renewable Energy |
| BAM | Biogas - Agricultural Methane | Renewable Energy |
| BAO | Biomass – Other | Renewable Energy |
| BAP | Biomass Combustion - Agricultural Products | Renewable Energy |
| BAW | Biomass Combustion - Agricultural Waste | Renewable Energy |
| BBL | Biomass Combustion - Black Liquor | Renewable Energy |
| BCA | Biomass Combustion - Animal Waste | Renewable Energy |
| BGA | Biogas - Animal Waste | Renewable Energy |
| BGW | Biogas - Wastewater Methane | Renewable Energy |
| BIG | Biogas | Renewable Energy |
| BLB | Biogas - Liquid Biofuels | Renewable Energy |
| BLF | Biogas - Landfill Methane | Renewable Energy |
| BML | Biomass Combustion - Liquid Biofuels | Renewable Energy |
| BWP | Biomass Combustion - Wood Products | Renewable Energy |
| BWW | Biomass Combustion - Wood Waste | Renewable Energy |
| CO1 | Coal (used for Multi-fuel Generators; will not create Certificates) | N/A |
| CSP | Concentrated Solar Power | Renewable Energy |
| DI1 | Diesel (used for Multi-fuel Generators; will not create Certificates) | N/A |
| FC1 | Fuel Cells using Hydrogen derived from fossil fuels (used for Multi-fuel Generators; will not create Certificates) | N/A |
| FHP | Federal Hydroelectric | Renewable Energy |
| GE1 | Geothermal Energy | Renewable Energy |

¹¹ Additional Fuel Types may be added in the future.

| | | |
|-----|--|----------------------|
| H2O | Hydroelectric Water - Dam/Impoundment | Renewable Energy |
| HNY | Hydroelectric Water - NY RPS Eligible | Renewable Energy |
| HRR | Hydroelectric - Run-of-River | Renewable Energy |
| HTI | Hydroelectric – Tidal | Renewable Energy |
| HWA | Hydroelectric - Wave power | Renewable Energy |
| HWN | Hydroelectric Water - Dam/Impoundment (New) | Renewable Energy |
| HYD | Fuel cells using hydrogen derived from renewables | Renewable Energy |
| JET | Jet Fuel (used for Multi-fuel Generators; will not create Certificates) | N/A |
| MS1 | Municipal solid waste | Renewable Energy |
| NG1 | Natural Gas (used for Multi-fuel Generators; will not create Certificates) | N/A |
| NRO | Non-Renewable - Other (used for Multi-fuel Generators; will not create Certificates) | N/A |
| NU1 | Nuclear | Zero Emission Energy |
| OIL | Oil (used for Multi-fuel Generators; will not create Certificates) | N/A |
| SO1 | Solar Photovoltaics | Renewable Energy |
| SOL | Solar Serving On-Site Load | Renewable Energy |
| TBG | Thermal – Biogas | Renewable Energy |
| TBL | Thermal – Black Liquor | Renewable Energy |
| TLB | Thermal – Liquid Biofuels | Renewable Energy |
| TWP | Thermal – Wood Products | Renewable Energy |
| TWW | Thermal – Wood Waste | Renewable Energy |
| TNG | Thermal – Natural Gas | N/A |
| WND | Wind | Renewable Energy |

Appendix D: List of Referenced Documents

North American Renewables Registry Operating Procedures

North American Renewables Registry Terms of Use

North American Renewables Registry Fee Schedule

North American Renewables Registry Asset Owner's Designation of Responsible Party

North American Renewables Registry Requirements for Qualified Reporting Entities