

Southeast Energy Exchange Market (SEEM)

New SEEM Member On-Boarding Guide

Platform Guide (v01)



New SEEM Member On-Boarding Guide

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Change Control

Version	Date	Name	Description
01	1/5/23	Hartigen	Initial Draft.

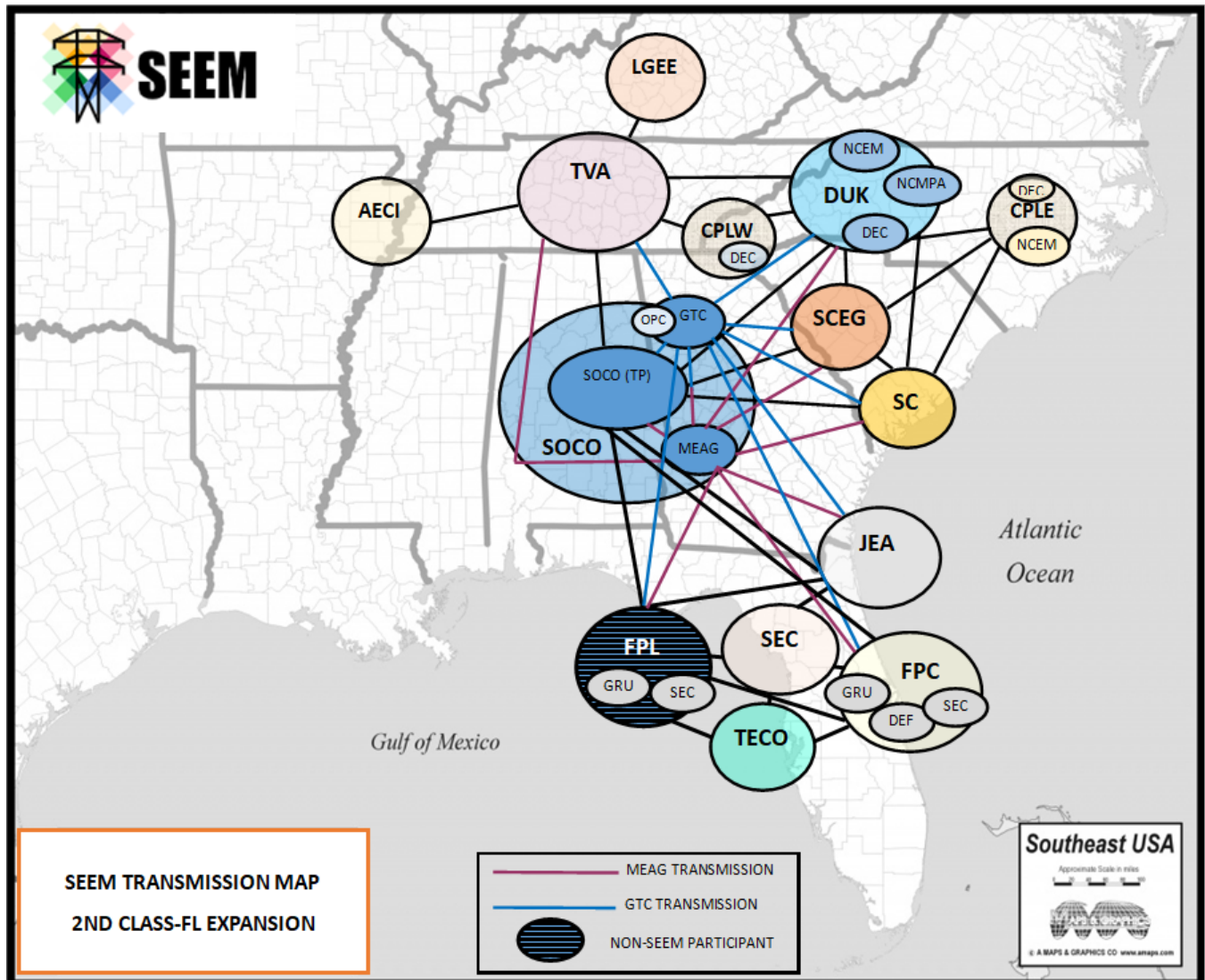
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Introduction

Welcome to SEEM!

SEEM is a unique and creative approach to enhancing the existing bilateral market. The new SEEM platform facilitates sub-hourly, bilateral trading, which allows participants to buy and sell power close to the time the energy is consumed, utilizing available unreserved transmission. Participation in SEEM is open to all entities that meet the appropriate requirements.

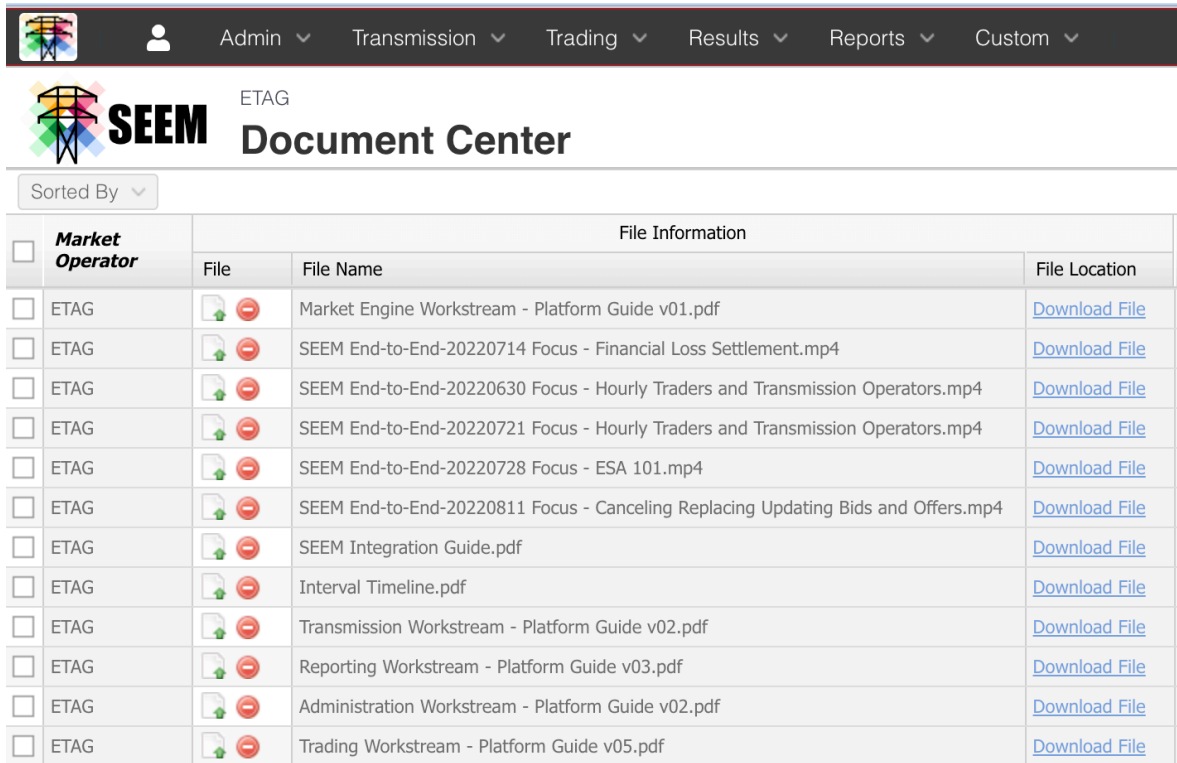
Below is a high-level illustration of SEEM, inclusive of the new Florida SEEM Members.



























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Training Materials

Once you have access to the SEEM Platform, new SEEM Members will be able to access a library of recorded training sessions and platform guides.



<input type="checkbox"/>	Market Operator	File Information		
		File	File Name	File Location
<input type="checkbox"/>	ETAG	 	Market Engine Workstream - Platform Guide v01.pdf	Download File
<input type="checkbox"/>	ETAG	 	SEEM End-to-End-20220714 Focus - Financial Loss Settlement.mp4	Download File
<input type="checkbox"/>	ETAG	 	SEEM End-to-End-20220630 Focus - Hourly Traders and Transmission Operators.mp4	Download File
<input type="checkbox"/>	ETAG	 	SEEM End-to-End-20220721 Focus - Hourly Traders and Transmission Operators.mp4	Download File
<input type="checkbox"/>	ETAG	 	SEEM End-to-End-20220728 Focus - ESA 101.mp4	Download File
<input type="checkbox"/>	ETAG	 	SEEM End-to-End-20220811 Focus - Canceling Replacing Updating Bids and Offers.mp4	Download File
<input type="checkbox"/>	ETAG	 	SEEM Integration Guide.pdf	Download File
<input type="checkbox"/>	ETAG	 	Interval Timeline.pdf	Download File
<input type="checkbox"/>	ETAG	 	Transmission Workstream - Platform Guide v02.pdf	Download File
<input type="checkbox"/>	ETAG	 	Reporting Workstream - Platform Guide v03.pdf	Download File
<input type="checkbox"/>	ETAG	 	Administration Workstream - Platform Guide v02.pdf	Download File
<input type="checkbox"/>	ETAG	 	Trading Workstream - Platform Guide v05.pdf	Download File

SEEM Website

The SEEM Website can be accessed via the following URL:

<https://southeastenergymarket.com/>

To access the Public Data section, each user will need to register for an account that is distinct from the SEEM Platform user account.

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Below is a summary of all the activities and steps that need to be completed to participate in SEEM. There is a section for each item below that provides additional details.

Transmission Service Provider (TSP)

Step	Name	Objective
1	TSP: Discovery (nuances)	Understand nuances of the transmission system and determine if there are any unique scenarios to address that might impact the Market Engine & Network Model.
2	TSP: Validate Network Model	SEEM Admin will complete the first draft of the Network Model for each TSP in the Network Model spreadsheet template. Each TSPs will review and validate the Network Model.
3	TSP: NFEETS - OASIS Configuration	Ensure that each transmission provider creates NFEETS transmission service that is for SEEM transactions only. Each TSP should create a process to manage these values.
4	TSP: NFEETS – OASIS ATC Offerings Configuration	Ensure that each TSP creates a process to publish NFEETS transmission ATC as OASIS offerings on an hourly basis which covers four 15-minute segments intra-hour. This value should be a combination of available transmission plus unused transmission that was not utilized by the transmission owner.
5	TSP: NFEETS - WebTrans Configuration	Ensure that each transmission provider configures their native WebTrans to display NFEETS transmission values and to have proper steps in place for validation and for the transmission provider to act on NFEETS TSRs.
6	TSP & BA: ETAG Auto Approval Configuration	Ensure that each TSP and Balancing Authority establishes a process for SEEM E-tag validation, including automation steps. SEEM tags must be implemented/confirmed 5 mins after the Trade Match has occurred.
7	TSP: Agreements	Provides NFEETS agreement which allows each marketing participant to order NFEETS transmission on each SEEM TSP. Each TSP also needs to amend its tariff language to include NFEETS via Participating Transmission Provider Certification.
8	TSP: Training	TSPs will be part of a transmission workstream that involves each SEEM transmission provider. The objective is for all TSPs to set up correct system settings, automation steps, and internal transmission processes for SEEM transactions. Cross Workstream Scenarios and Full End-to-End tests will also take place which will include transmission and tag authorizations.

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Trading (Marketing Participants)

Step	Name	Objective
1	PSE: Discovery (nuances)	Understand any nuances in how specific transactions within the region may need to be handled (such as e-Tagging nuances) and determine if there are any unique scenarios to address that might impact the Market Engine.
2	Trading: Validate Sources and Sinks	Each Marketing Participant must have at least one source or sink to participate in SEEM. These values must align with EIR Registry Source/Sinks that are found on E-tags
3	Trading: Supply OASIS Credentials	Each Marketing Participant must supply SEEM with valid OASIS credentials (username, password, certificate) to be utilized by SEEM to reserve NFEETS on behalf of the market participant.
4	Trading: Agreements	Each Marketing Participant must sign SEEM trading agreements with other SEEM Marketing Participants to ensure they can transact with each other.
5	Trading: Training	Trading Training is designed to simulate Real-Time processes and to test bid/offer submission, TSR creation/validation, and E-tag processes.
6	Trading: PSE validation	If a PSE has validation enabled, it must create a new rule to automate approval in its own vendor tag approval system

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Administration & Integration

Step	Name	Objective
1	Admin: Entity Security Administration	ESAs manages all users in the SEEM Platform and assigns different roles and permissions to each user depending on their job function.
2	Admin: Single Sign-On (SSO)	SSO is an optional but preferred mechanism for logging into the SEEM Platform. Coordination between the IT team and SEEM Admin is necessary.
3	Admin: Training	ESAs will be trained to manage all necessary functions for adding users and assigning roles and permissions. Transmission and Marketing ESAs have access to different parts of the system.
4	Integration: Swagger API	SEEM uses an Open API specification for the APIs where the documentation is hosted on Swagger Hub. Each participant is given an account to access the documentation along with the SEEM Integration Guide.

Transmission Service Provider (TSP)

The SEEM Platform uses available NFEETS transmission to flow energy across the SEEM footprint. NFEETS transmission is typically the last valid hourly non-firm point-to-point transmission value + any unused transmission that was procured by a PSE but never used. Each TSP calculates the NFEETS service and values in its transmission system as well as creating the process to update or overwrite values in the SEEM Platform

TSP Discovery

Each transmission provider will relay any relevant information to the SEEM Admin regarding special tariff relationships that currently exist amongst TSPs and any nuances that may be present. This could be pancaking agreements or in/out flow restrictions such as wheeling in/out of Florida. TSPs will each have designated people that will attend bi-weekly transmission workstream meetings to ensure that all required processes for SEEM are being fulfilled.

Validate Network Model

The SEEM Admin will lead and create a representation of each transmission provider's transmission system in the SEEM network model. This comprises all available paths and valid segments (SEEM Segments) to flow energy. Since the objective of the market clearing engine is to optimize and solve transactions using zero cost (\$0 tariff) NFEETS across the entire SEEM Market footprint, there will likely be many SEEM transaction paths involving transmission providers that Market Participants may not be used to seeing.

NFEETS Configuration - OASIS

Each transmission provider must create NFEETS transmission in its WebTrans system. NFEETS values can be updated 15 minutes prior to the interval using a manual override process in the SEEM Platform. At 30 minutes prior to flow (T-30) the SEEM platform will scrape NFEETS values for the next hour for SEEM transactions. Each TSP must be cognizant of updating NFEETS values in real time. Each TSP sets its own loss rate and loss factor in the SEEM Platform. SEEM Transmission workstream members can aid and share examples on how to configure non-Hartigen vendor solutions.

NFEETS ATC Configuration - OASIS

Each TSP must determine how they will calculate SEEM ATC and their methodology (MOD-28, MOD-30, etc.). They must also ensure that their SEEM related posted paths have OASIS ATC offerings published at least hourly so that SEEM can consume those values.

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SEEM Transmission workstream members can aid and share examples on how to configure non-Hartigen vendor solutions.

NFEETS Configuration - webTrans

Each TSP will need to make webTrans modifications to add the NFEETS contract enabled with all SEEM Marketing Participants as active customers to reserve this service. SEEM Transmission workstream members can aid and share examples on how to configure non-Hartigen vendor solutions.

ETAG Auto Approval Configuration

Each Transmission Provider will need to ensure that their e-Tagging solution for both TSP and BA are configured to automatically approve all e-Tags submitted by SEEM01. SEEM Transmission workstream members can aid and share examples on how to configure non-Hartigen vendor solutions.

Transmission Agreements

Each SEEM Transmission Provider will need to execute the following agreements before a new SEEM Marketing Participant can transact in SEEM:

Agreement	Description
NFEETS Agreement	To transact in SEEM, TSPs must execute NFEETS agreements with all Marketing Participants in the SEEM footprint. This allows the Marketing Participant to reserve NFEETS transmission automatically from the SEEM Platform.
Participating Transmission Provider Certification	To transact in SEEM, TSPs must execute the Participating Transmission Provider Certification that at a high-level certifies: 1) The TSPs tariff has been amended to include NFEETS 2) The TSPs service allows for a continuous contract path for energy exchanges

Training

Training for TSPs will involve live intervals where users will sign into the system during a designated date and interval and will submit TSP Capability values as if they were in production. TSP capabilities are expected to be realistic but do not have to mirror production data. Cross-Workstream Training will entail the addition of transmission validation and testing of certain functions such as tag curtailments. Each TSP will also have a dedicated 1-on-1 session with the SEEM admin as well.

Trading (Marketing Participants)

Marketing Participants in SEEM, via the SEEM Platform, enter prices and 4 MW quantities they are willing to purchase and sell at (bids and offers) for each 15-minute market interval they want to participate in. The market optimization engine of the SEEM Platform will use those bids and offers in identifying all valid transactions according to the market rules. Market rules examples include having ATC on entire transaction paths, mutual net positive benefit, and each Marketing Participant having at least three enabling agreements with non-affiliated counterparties. The submission of bids and offers can be done directly in the SEEM Platform or via API submission. Energy transactions are for 15-minute intervals and use Non-Firm Energy Exchange Transmission Service (NFEETS) to move power across Balancing Authorities and Transmission systems. NFEETS service has a \$0 tariff rate but does charge for losses. Loss Rates and Loss Factors are considered when determining the trade price.

PSE Discovery

Each Marketing Participant will relay any relevant information to the SEEM Admin regarding any special requirements or complicated e-Tagging (such as additional Market or Physical path entities) required for their units participating in SEEM.

Validate Sources and Sinks

Each marketing participant must have an EIR registered Source or Sink in one of the SEEM Balancing Authorities to partake in the SEEM. These sources/sinks must be sent to the SEEM Admin and must match EIR registry data. Associated PSEs for these sources/sinks must be provided as well.

Provide OASIS Credentials

To transact in SEEM, marketing participants must provide SEEM with valid OASIS user credentials (username, password, certificate). These credentials will be utilized by SEEM to reserve NFEETS on behalf of the market participant as determined by the SEEM market engine.

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Trading Agreements

Each Marketing Participant will need to execute the following agreements before transacting in SEEM:

Agreement	Description
SEEM Participant Application	This is the first step in the process. The SEEM Participant Application requests the following details: Legal name, applicant contact details, acknowledgements, Entity Security Administrator (ESA) contact information, access confidential portion of the SEEM website, source/sink designations, warrants other agreements, identifies affiliates, state where activity will be transacted.
NFEETS Agreement	To transact in SEEM, Marketing Participants must execute NFEETS agreements with all Transmission Providers in the SEEM footprint. This allows the Marketing Participant to reserve NFEETS transmission automatically from the SEEM Platform.
Enabling Agreement	To transact in SEEM, Marketing Participants must warrant that it has no less than three Enabling Agreements with other SEEM Participants, and further acknowledges that it can only transact with other SEEM Participants in which an enabling agreement is in place.
Participant Agreement	To transact in SEEM, Marketing Participants must execute the SEEM Participant Agreement. This agreement is executed with the SEEM Agent.
Declaration of Authority	This agreement is necessary if another entity is authorized to transact on behalf of a SEEM Marketing Participant.

Marketing Participants manage their own contracts with each counterparty regarding credit. SEEM does not manage counterparty credit and does not perform settlements. The SEEM platform provides data and reports to help assist in settlement data validation. bMarketing Participants must provide affiliated relationship data to the SEEM Admin

Training

Training for Marketing Participants will involve live intervals where users will sign into the system during a designated date and interval and will submit bids and offers as if they were in production. Bids and offers are expected to be realistic but do not have to mirror production data. Cross-Workstream Training will entail the addition of transmission validation and testing of certain functions such as tag curtailments. Each Marketing Participant will also have a dedicated 1-on-1 session with the SEEM admin as well.

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PSE Auto Approval

Each PSE that currently takes action on tags via approval/denial will need to setup automated approval on SEEM E-tags due to the short time window in which E-tag has to be approved. This automated approval takes place in the PSE's vendor tagging software.

Administration & Integration

Once configured, SEEM Participants can configure and maintain their own security for their company with segregation of duties between Trading and Transmission (as necessary). This is accomplished through company designated ESAs. The SEEM platform supports data entry through the platform and through a set of automated APIs using the Open API specification. These APIs include Bids and Offers, Capability Overrides, Loss Rates, as well as Matches.

Entity Security Administration

ESAs are considered the gatekeeper for each SEEM participant. These users typically are IT staff or are business users who control user access/roles/permissions/security etc. ESAs can be assigned as a transmission ESA, Trading ESA or have access to both. Extra care must be taken to ensure that proper segregation of duties and information sharing is not violated.

ESAs are tasked with assigning roles and permissions to each user to ensure that the user has the proper access to the SEEM platform. Roles and Permissions can either be read-only or read/write.

Single Sign-On (SSO)

The preferred login mechanism for SEEM is Open ID connect through Azure AD. We highly encourage every participant to use this approach for end-users to authenticate due to its security features and ease of setup and maintenance. Alternatively, SEEM can support multi-factor authentication. To set up SSO, a meeting between the participant's IT (a person with administrative rights to Azure AD) and SEEM IT. Typically, the participant's IT simply needs to grant access one time to the SEEM Platform and then SSO is enabled for users configured in the system by the ESA.

Training (Admin)

ESA training ensures that staff knows how to add users and how to control/maintain security for each company to successfully access relevant parts of the SEEM Platform. ESA training will also be reviewed during 1-on-1 sessions with SEEM Admin

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Swagger API

The SEEM API specification is hosted on Swagger Hub. Upon joining SEEM each company is given an account (usually the primary API developer) to view the specification and download the sample code. All available APIs as well as validation rules are outlined in the Swagger API definition and any technology capable of using REST-based APIs (JSON over HTTPS) can be used for integrating with SEEM. The system supports both Azure AD and the more populate API-Key approach for authentication.

Sample Interval in SEEM

