Dynamic Mapping of ERCOT Interconnection Process

Gavin Dillingham, PhD
Satish Ravindran P.E, CEM, LEED Green Assoc.
HARC
Agenda

• Interconnecting in Texas – Greater than 10 MW
• Process Requirements
• Introduce Interconnection Dynamic Mapping Tool
SECO DOE Project

• Regulatory and Policy Barriers to CHP
  – Department of Energy and State Energy Conservation Office – SEP

• Air Permitting
• Stand-by Rates
• Power Export
• Interconnection
Interconnection > 10MW – Stakeholder interviews

• Interconnection process > 10 MW is DEMANDING
• Two thirds of projects in state > 10MW
• Process times average 270 days to 1020 days
• ERCOT transmission infrastructure is strained-requires expensive upgrades
• Unclear understanding of modeling requirements
Interconnection > 10MW – What we heard from ERCOT

• Developers may use incorrect equipment – does not match with study
• Uncertainty of modeling data required by developers
• Incorrect understanding of process and documents
• Timelines are not followed
• Upgrades to infrastructure takes a long time
• Telemetry not set up properly
Interconnection > 10 MW

- Affects Project Design and Economics
- Developers need deeper understanding of the technical requirements of process
- Solid understanding of market protocols and operating guides
- Closer communication between TSP, ERCOT and developers
Process Requirements

- Stringent ERCOT Compliance Review
- Increasing Technical Data Requirements
- Complex Facility studies
- Generator Modeling requirements differ for each project
- Testing and Telemetry requirements
Online Interconnection Wizard

• An interactive / simplified Users Guide
• Avoid paperwork delays and incorrect submissions
• A system to notify approaching deadlines
• Avoid communication delays
• Breaks complicated steps into simplified single task sub-steps
Online Interconnection Wizard

- Keep track of timelines
- Tips and Tricks based on feedbacks from other stakeholders – common pitfalls, incorrect information etc.
- One place to manage multiple projects
Online Interconnection Wizard

Interconnection Studies and Project Development
Screening study and GINR

Documents Required
1. Generation Entity Info Sheet
2. Preliminary RARF
3. Screening Study Fee

ERCOL Interconnection Guide Book

I have submitted all required documents.

Tips for successful GINR application
1. Provide accurate information and test data about generators
2. Provide all data for stability studies and sub synchronous studies
3. Don’t forget the proposed commercial operation date (COD) and proposed Point of Interconnect (POI)!
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

- Submit Documents
- ERCOT Approval
- Screening Study

Documents Required
1. Generation Entity Info Sheet
2. Preliminary RARF
3. Screening Study Fee

- ERCOT Interconnection Guide Book

I have submitted all required documents.
When did you submit them?

Tips for successful GINR application
1) Provide accurate information and test data about generators
2) Provide all data for stability studies and sub synchronous studies
3) Don’t forget the proposed commercial operation date (COD) and proposed Point of Interconnect (POI)!
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

- Submit Documents
- ERCOT Approval
- Screening Study

Documents Required
1. Generation Entity Info Sheet
2. Preliminary RARF
3. Screening Study Fee

ERCOT Interconnection Guide Book

I have submitted all required documents.
When did you submit them?
03/10/2015

Tips for successful GINR application
1) Provide accurate information and test data about generators
2) Provide all data for stability studies and sub synchronous studies
3) Don’t forget the proposed commercial operation date (COD) and proposed Point of Interconnect (POI)!

Interconnection Status
Good

Step 1: Submit Documents
7-10 Days

Step 2: ERCOT Approval

Step 3: Screening Study
90 Days
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

1. Generation Entity Info Sheet
2. Preliminary RARF
3. Screening Study Fee

 Documents Required

I have submitted all required documents.

When did you submit them? 03/10/2015

Tips for successful GINR application

1) Provide accurate information and test data about generators
2) Provide all data for stability studies and sub synchronous studies
3) Don’t forget the proposed commercial operation date (COD) and proposed Point of Interconnect (POI)!
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

- Submit Documents
- ERCOT Approval
- Screening Study

Interconnection Status
- Good

You have submitted all required documents on March 10, 2015.

Has ERCOT approved your submission?
- Yes
- No

When did you get notified?

Step 1: Submit Documents
- Finished

Step 2: ERCOT Approval
- 7-10 Days

Step 3: Screening Study
- 90 Days
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

Submit Documents  ERCOT Approval  Screening Study

You have submitted all required documents on March 10, 2015.

Has ERCOT approved your submission?
Yes  No

When did you get notified?

Interconnection Status
Good

Step 1: Submit Documents
Finished

Step 2: ERCOT Approval
7-10 Days

Step 3: Screening Study
90 Days
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

Submit Documents • ERCOT Approval • Screening Study

Interconnection Status
Good

You have submitted all required documents on March 10, 2015.

Has ERCOT approved your submission?
Yes • No

When did you get notified?
03/18/2015

Step 1: Submit Documents
Finished

Step 2: ERCOT Approval
7-10 Days

Step 3: Screening Study
90 Days
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

Submit Documents  ERCOT Approval  Screening Study

Success! Your data has been successfully saved.

You have submitted all required documents on March 10, 2015.

Has ERCOT approved your submission?
Yes  No

When did you get notified? 03/18/2015

ERCOT has approved your submission on March 18, 2015.

Interconnection Status

Good

Step 1: Submit Documents

Finished

Step 2: ERCOT Approval

7-10 Days

Step 3: Screening Study

90 Days
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

Submit Documents  ERCOT Approval  Screening Study

Interconnection Status

Good

You have submitted all required documents on March 10, 2015.

Has ERCOT approved your submission?

Yes  No

When did you get notified?

Step 1: Submit Documents

Finished

Step 2: ERCOT Approval

7-10 Days

Step 3: Screening Study

90 Days

Previous  Next
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

Submit Documents • ERCOT Approval • Screening Study

You have submitted all required documents on March 10, 2015.

Has ERCOT approved your submission?
Yes
No

When did you get notified?

Interconnection Status
Re-submit Application

Step 1: Submit Documents
Re-submit Application

Step 2: ERCOT Approval
7-10 Days

Step 3: Screening Study
90 Days
Online Interconnection Wizard

Project ABC #01

Interconnection Studies and Project Development
Screening study and GINR

Submit Documents ● ERCOT Approval ● Screening Study

Success! Your data has been successfully saved.

You have submitted all required documents on March 10, 2015.

Has ERCOT approved your submission?

Yes

No

When did you get notified? 03/18/2015

ERCOT has denied your submission on March 18, 2015.
You have 10 days to re-submit with additional information.

Step 1: Submit Documents

10 Days
Re-submit Application

Step 2: ERCOT Approval

7-10 Days

Step 3: Screening Study

90 Days