Experimental Advanced Renewable Program (EARP) – Anaerobic Digester

David Ronk
EARP-AD Agenda

- EARP Overview – David Ronk
- How to Participate – Keith Troyer
- EARP-AD Process – Keith Troyer & Matt Good
EARP Overview

- What is EARP?
- Why EARP-AD?
- EARP-AD Eligibility
- New AD Assessment Tool
What is EARP?

- **Experimental Advanced Renewable Program (EARP)**
  - 2008 Energy Legislation requires 10% renewables by 2015
  - EARP is part of Consumers Energy’s Renewable Energy Plan
  - EARP-Solar began in 2009 for solar PV
  - EARP-AD will begin in 2014 for anaerobic digestion

- **Pricing Structure**
  - Consumers Energy provides a long-term contract to participants for purchase of the output of customer-owned generators
  - Premium fixed rate for generator output
Why EARP-AD?

- Estimating costs and benefits of AD investment includes numerous variables.
- **Standard-offer approach**
  - will provide certainty about the value of electric production to the owner/operator.
  - Energy, Capacity, and Renewable Energy Attributes are bundled together and purchased by Consumers Energy under a single price.
- The **long-term agreement serves as evidence for developers seeking financing**.

**Program Details:**
- Fixed-rate offer price: $86/MWh
- Contract length: 20 Years
- Total program size: 2.4 MW
- Total Payments to participants: $26 million
EARP-AD Eligibility

- Participant must be an existing Consumers Energy Electric Customer
  - Payment will be made directly to the Consumers Energy Account Holder of the existing facility.
  - Participant must generate electricity from the contiguous property of the existing service.

- Generation technology must be AD from:
  - Agricultural waste
  - Wastewater treatment
  - Food processing
  - Other biodegradable material
Satisfactory payment History
- Past 12 months, no more than 1 late payment charge

AC Nameplate Limit
- Minimum: 150 kW
- Maximum: 1 MW (1000 kW)

Michigan Labor OR Michigan Materials
- Michigan Labor
  - 60% for systems constructed before 2013
  - 65% for systems constructed in 2013 and 2014
  - 70% for systems constructed after 2014
- Michigan Materials
  - 50% of all equipment and materials
Consumers Energy and MSU have developed a tool that will analyze potential AD locations.

In conjunction with the Michigan Waste Biomass Inventory, this tool can be used to estimate interconnection costs for EARP-AD applicants.

An input data sheet will be required from the developer to perform this consultation.

More information will be made available on the EARP website prior to the April 1, 2014 solicitation.
How to Participate
Keith Troyer
How to Participate

- EARP-AD Schedule
- EARP-AD Application
- Application Review
- Random Selection Process
Solicitation

- Consumers Energy will issue a formal solicitation for EARP-AD applications on April 1, 2014
- If the solicitation is not fully subscribed, a 4th quarter solicitation will be issued

EARP website: www.consumersenergy.com/EARP

- Schedule of deadlines and milestones
- Program information
- Official EARP-AD application
Preliminary information is necessary to complete the EARP-AD application

- Generator AC nameplate capacity
- Estimated annual production
- % of Michigan Workforce Labor
- % of Michigan Equipment
- Generator Location
- Additional information may be required
Download the Official Application from www.consumersenergy.com/EARP

Sample Applications will be available on the website prior to the April 1st solicitation.

An application fee of $10 per kW will be required.
  - Projects not selected will have their application fee returned.
  - The application fee of selected projects will be applied toward the cost of any required electric distribution system modifications.
The following documents must be received by the EARP Coordinator by the Application Due Date to be eligible

- EARP-AD Application
- EARP-AD Application Fee
- A copy of your most recent Electric Utility Bill

Allow adequate time if sending by US Mail

Applications may be emailed to the EARP Coordinator

- All Applications must be signed by the Electric Account Holder to be considered complete
EARP Application Review

- Consumers Energy will review all official applications that were submitted on or before the application due date.

- You will receive a letter indicating the results of our review:
  - Application Incomplete
    - You must resubmit your corrected application before the Due Date to be considered.
  - Application Complete
    - You will receive a unique identifier for the random selection (if needed)
    - Random Selection Details (Time and Place)

- Application Review Letters will be mailed no later than 5 days after the Application Due Date.
Random Selection Process

- Random selection event is required if eligible applied capacity > available phase capacity

- Applications randomly selected until the desired capacity is awarded for the solicitation

- Attendance is not required to be selected in the random selection
  - All applicants in the random selection process will be notified by mail whether they are selected or not
  - Results will be posted on the Consumers Energy Website
EARP-AD Participant Process

Keith Troyer & Matt Good
EARP-AD Participant Process

1. EARP Provisional Award
2. EARP Agreement for Service
3. Interconnection Application
4. Interconnection Application Review

- Engineering Review
- Distribution Study
- GIOA Executed/Construction Begins
- Meter Install, Testing, & Inspection

- Parallel Operation Authorization
- Commercial Operation
- Billing Initiation
EARP Provisional Award

- Customers selected will receive an EARP Award Packet with instructions on how to proceed.
- Provisional award letter
- EARP Agreement for Service
- Interconnection application
- EARP-AD Process Guide with milestone dates
EARP-AD Participant Process

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EARP Agreement for Service

- Included with EARP award packet
- To be signed by participant and returned within 10 business days
- Important EARP Agreement Milestones:
  - Effective Date
  - Commercial Operation Date

- A sample EARP Agreement for Service will be available on the website prior to April 1, 2014
  - [www.consumersenergy.com/EARP](http://www.consumersenergy.com/EARP)

- Next step: Begin the Interconnection Process
EARP-AD Participant Process

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Interconnection Application

- First step in obtaining a Generator Interconnection and Operating Agreement (GIOA)
- Included with EARP-AD Provisional Award packet
- To be completed and returned within 10 business days
  - Interconnection Application Form
  - Interconnection Application Fee
    - $150 for systems larger than 150 kW up to 550 kW (Cat. 3)
    - $250 for systems larger than 550 kW, up to 2 MW* (Cat. 4)
  - One-Line Electrical Diagram (PE Stamped)
  - Site Plan

*EARP-AD is limited to a maximum nameplate of 1 MW
EARP-AD Participant Process

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Interconnection Application Review

- The application will be reviewed and results issued within 10 Business Days

- Incomplete
  - Explanation will be sent to the customer
  - Additional information and/or resubmittal will be required

- Complete
  - Engineering team will determine if an Engineering Review is required
EARP-AD Participant Process

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Engineering Review

- Customer will execute an Engineering Review Agreement and provide the review fee

- Reason: Will generator cause any safety or reliability issues on distribution system?

- Within 25 business days, the following results will be issued
  - Major Components Affected
  - Potential system upgrades
  - Non-binding estimate for interconnection
  - Whether or not a Distribution Study will be required
Earp-AD Participant Process

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Note: The diagram illustrates the sequential steps involved in the EARP-AD Participant Process.
Distribution Study

- Customer will execute a Distribution Study Agreement and provide the study fee

- Reason: Will generator require any modifications to the existing distribution system?

- Within 45 business days, the following results will be issued
  - Estimated completion timeframe
  - Cost estimate for modifications
EARP-AD Participant Process

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Generator Interconnection and Operating Agreement (GIOA)

- Required for any generator that will be connected in parallel to Consumers Energy’s distribution system

Consumers Energy requires the following prior to scheduling or performing any modifications to its system:

- Executed GIOA
  - Contact List
- Facilities Agreement (if modifications are required)
- Payment for modifications (if required)

Both a fully executed GIOA AND written authorization are required prior to parallel operation.
EARP-AD Participant Process

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Installation must receive approval from any required permitting agencies before meter set.

Consumers Energy will provide the relay settings necessary for interconnection protection.

Commissioning Test
- To be witnessed by Consumers Energy
- Verifies the safe operation of protection equipment
EARP-AD Participant Process

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Parallel Operation Authorization

- Consumers Energy will review commissioning test report and approve or disapprove the interconnection.
  - If approved, authorization to operate in parallel will be granted
  - If disapproved, Consumers Energy will provide necessary corrective actions to Project Developer
- Final step in the Interconnection process
- Required to achieve Commercial Operation under the EARP Agreement for Service
- Next Step: Final EARP milestones and documents
EARP-AD Participant Process

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Commercial Operation Date

- Commercial Operation Date (COD)
- Requirements to achieve COD will be provided in the EARP Agreement for Service, including
  - GIOA
  - Parallel Operation Authorization
- Customer will begin accumulating credit for energy generated
- Must occur within 1 year from Provisional Award Date
- Beginning of the 20 year EARP Agreement for Service Term
EARP-AD Participant Process

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Bill Initiation

- All required EARP Agreement for Service documents must be completed prior to billing initiation

- Bill Initiation will begin after the following are met
  - COD
  - Receipt of required contract documents
## EARP AD Schedule*

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Public Informational Meeting</td>
<td>November 26, 2013</td>
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<tr>
<td>Solicitation Open</td>
<td>April 1, 2014</td>
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<tr>
<td>Applications Due</td>
<td>June 4, 2014</td>
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<tr>
<td>Random Selection</td>
<td>June 18, 2014</td>
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<tr>
<td>Provisional Award</td>
<td>July 2, 2014</td>
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<tr>
<td>Interconnection Application</td>
<td>July 17, 2014</td>
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<td>EARP-AD Agreement for Service</td>
<td>July 17, 2014</td>
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<tr>
<td>Proof of Intent Due</td>
<td>August 14, 2014</td>
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<tr>
<td>Commercial Operation</td>
<td>July 1, 2015</td>
</tr>
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*All dates subject to change*
Questions?

- E-mail: EARP@cmsenergy.com
- Website: www.consumersenergy.com/EARP
- Phone: (517) 788-8900