ILLINOIS POWER AGENCY

Long-Term Renewable Resource Procurement Plan Update

Stakeholder Workshop

Adjustable Block Program structure; REC Pricing Model; Distributed Generation

June 26, 2019

Remote Participation

- Call-in number:

  888-494-4032; 9897235124#

- During the workshop please submit questions to:

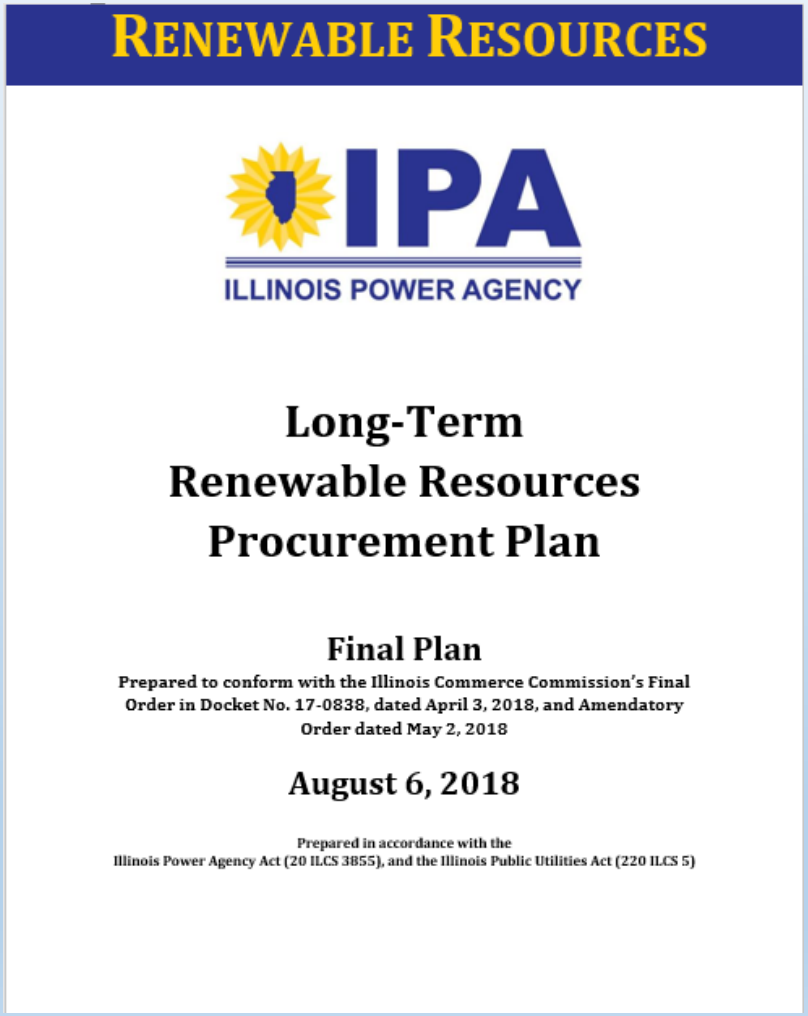
  IPA.contactus@Illinois.gov

Workshop Goals

- The purpose of this workshop is to take stakeholder input on the update to the Illinois Power Agency's Long-Term Renewable Resources Procurement Plan.
- The Agency will also issue a written Request for Comments after this workshop.
- **Discussion of potential approaches to the update of the Long-Term Renewable Resources Procurement Plan should be considered preliminary in nature.**
- The Agency will release a draft Plan update for comments, and file a Plan update for approval by the Illinois Commerce Commission.

Plan Structure

1. Introduction
2. Legislative/Regulatory Requirements of the Plan
3. RPS Goals, Targets, and Budgets
4. Renewable Energy Credit Requirements
5. Competitive Procurement Schedule
6. **Adjustable Block Program**
7. Community Renewable Generation Projects
8. Illinois Solar for All Program



Morning Agenda

- Plan update process
- Adjustable Block Program overview
- Block structure
- REC prices
- Approved Vendor registration requirements
- Project application requirements
- Contract/collateral issues

- Afternoon will focus on community solar and consumer protections

Long-Term Plan Development/ Update Process

"[The Agency] shall review, and may revise, the plan at least every 2 years thereafter. To the extent practicable, the Agency shall review and propose any revisions to the long-term renewable energy resources procurement plan in conjunction with the Agency's other planning and approval processes conducted under this Section."

(16-111.5(b)(5)(ii)(B))

Long-Term Plan Development/ Update Process, cont.

- 2020 Electricity Procurement Plan
  - Draft Plan to be released August 15
  - Comments due by September 16 (30 days)
  - Plan filed with ICC by September 30 (14 days)
  - Objections to Plan due by October 7 (5 days)
  - ICC Approval by December 30 (90 days)

  - Dates adjusted to account for deadlines falling on weekends

- Proposed Long-Term Plan Update Schedule
  - Draft Plan update released August 15
  - Comments due by September 16 (30 days)
  - Plan filed with ICC by September 30 (14 days)
  - Objections to Plan due by October 15 (15 days)
  - ICC Approval by January 28, 2020 (120 days)

Long-Term Plan Development/ Update Process, cont.

- In addition to written comments, public hearings on draft Plan (and 2020 Electricity Procurement Plan) will be held in early September (expected to be in Chicago, Springfield, Moline)
- Comments on draft Plan must be:
  - "specific, supported by data or other detailed analyses, and, if objecting to all or a portion of the procurement plan, accompanied by alternative wording or proposals"

    (220 ILCS 5/16-115(b)(5)(ii)(B) [emphasis added]

Synchronization With Pending Legislative Proposals

- Plan update process and content must follow current law
- Legislature meets
  - October 28-30
  - November 12-14
- Proposed process and timeline would be updated if needed per any adopted legislative changes

Adjustable Block Program High Level Goals

- Illinois RPS based on procuring Renewable Energy Credits ("RECs")
  - Annual goals (percentage-based)
  - New wind and solar targets (numerical REC goals)

- Adjustable Block Program:
  - 1 million annual RECs by end of 2020/21 delivery year (50% of 2 million new solar REC goal)
  - 1.5 million annual RECs by end of 2025/26 delivery year (50% of 3 million new solar REC goal)

- Where Program is right now:
  - 0.47 million RECs from Community Solar
  - 0.39 million RECs from Large DG (0.08 million to be allocated)
  - 0.03 million RECs from Small DG (0.18 million to be allocated)

  - This should lead to approximately 1.15 million RECs (primarily due to higher community solar capacity factors)
  - But how quickly will Small DG blocks fill?

Blocks (666 MW)

Block Group	Block Category	Block 1	Block 2	Block 3	Block 4*
Group A (Ameren Illinois, MidAmerican, Mt. Carmel, Rural Electric Cooperatives and Municipal Utilities located in MISO)	Small	22	22	5.5	-
	Large	22	22	5.5	91.5
	Community Solar	22	22	5.5	12
Group B (ComEd, and Rural Electric Cooperatives and Municipal Utilities located in PJM)	Small	52	52	13	-
	Large	52	52	13	33
	Community Solar	52	52	13	30
Total		222	222	55.5	166.5

* Discretionary capacity

Initial Allocation

25% Small DG

25% Large DG

25% Community Solar

25% Discretionary Capacity

Adjustable Block Program Payment Schedules

- Community Solar
  - 18 months to energize, extensions allowed
  - 20% of REC value paid on energization, rest over four years*
  - Final amounts based on final small subscriber adders
- Large DG
  - 12 month to energize, extensions allowed
  - 20% of REC value paid on energization, rest over four years*
- Small DG
  - 12 months to energize, extensions allowed
  - REC value paid on energization

- Uncertainty in spending based on when projects are energized and for community solar, small subscriber adders

* For example, a project that gets first REC payment in July 2020 would get final payment in June 2024

Adjustable Block Program Status

- Program opened for project applications January 30, 2019
- Lotteries held on April 10 for community solar groups and for Group A, Large DG
  - Long waiting list for community solar
  - Block 1 (of 3) still open for small DG categories
  - Block 4 still open for large DG

Adjustable Block Program Obligations

- Community Solar
  - $548 million total allocated (includes full small subscriber adder)
  - 20% annually is $110 million*
- Large Distributed Generation (over 10 kW)
  - $269 million allocated based on projects approved
  - 20% annually is $54 million*
  - Remaining capacity available for Large DG
    - $40 million, $8 million at 20% annually*
- Small Distributed Generation (up to 10 kW)
  - $39 million allocated based on projects approved
  - $204 million for capacity not yet allocated to projects

*Actual annual amount will depend on realized energization dates

Obligated amounts are preliminary and subject to revision based on actual project completion/commencement of REC deliveries

Adjustable Block Program Lessons Learned

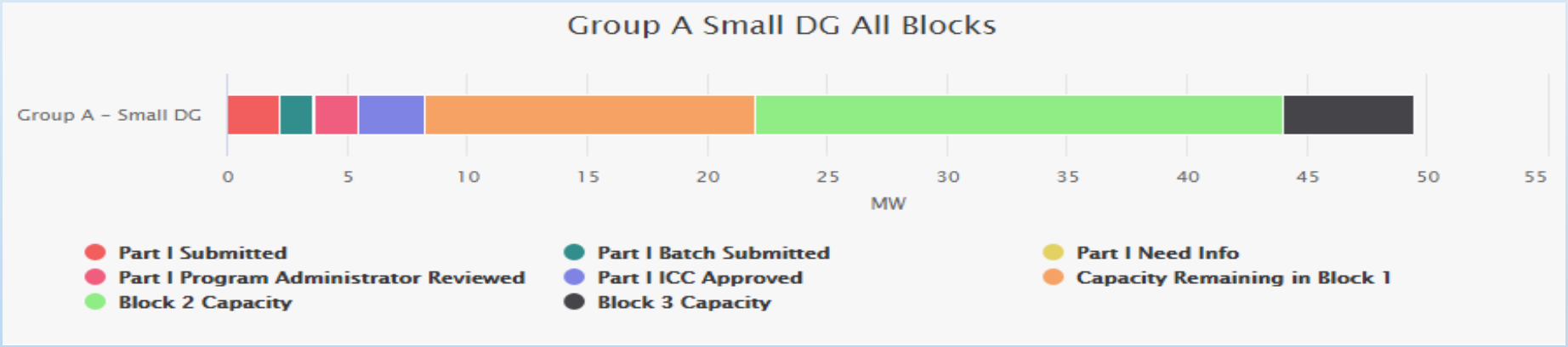
- Managing initial demand
  - In process of catching up with initial applications
  - Projects that are not moving forward
- Community Solar
  - Long waitlist
  - Intersection with interconnection process
- Distributed Generation
  - Statutory split between Small and Large DG at 10 kW as a proxy for residential/non-residential may not reflect actual market
  - Monitoring social media lead generation

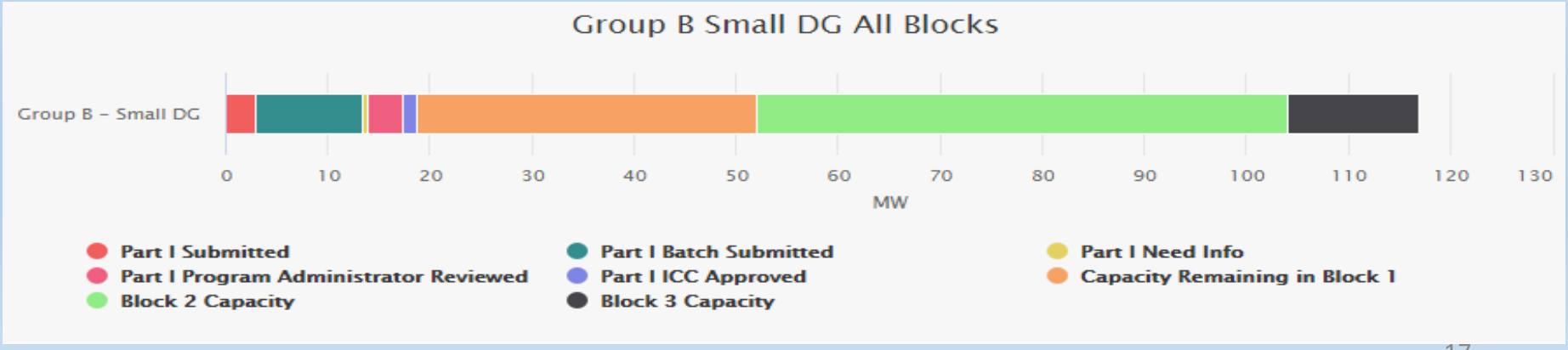
What is Happening Out in the Field?

- What is the customer response to a new program?
- Are there community-level barriers to DG participation?
- Are there DG interconnection barriers?
- Are certain customer sectors proving harder to engage?
- How is the market going to adapt to bifacial panels?
- Are there challenges in finding labor for installations?

Program Structure

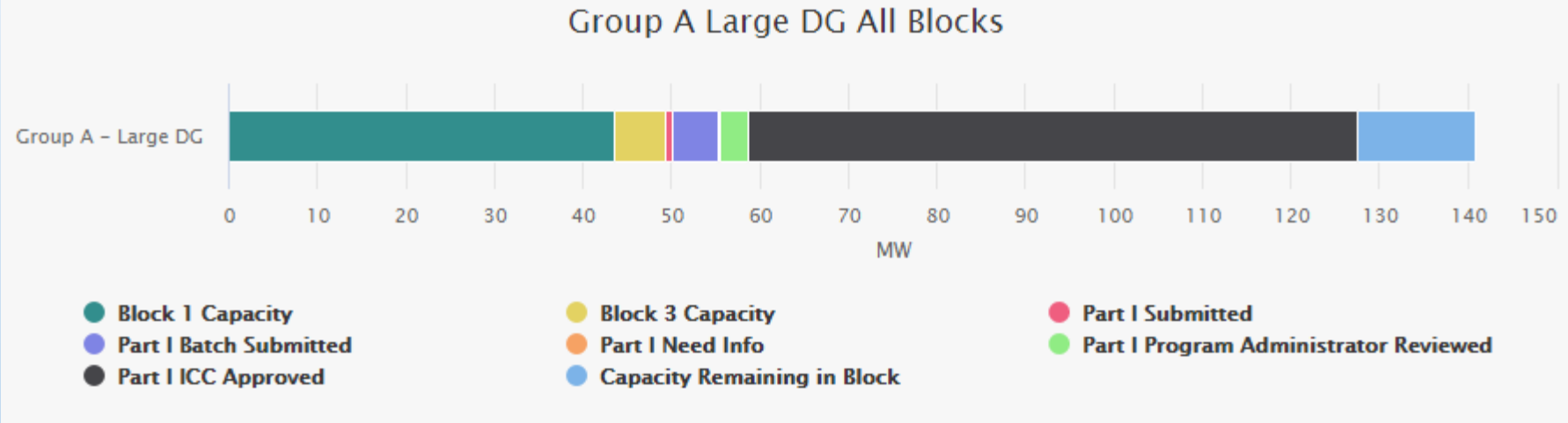
IPA expects blocks for small DG to remain open after 2019

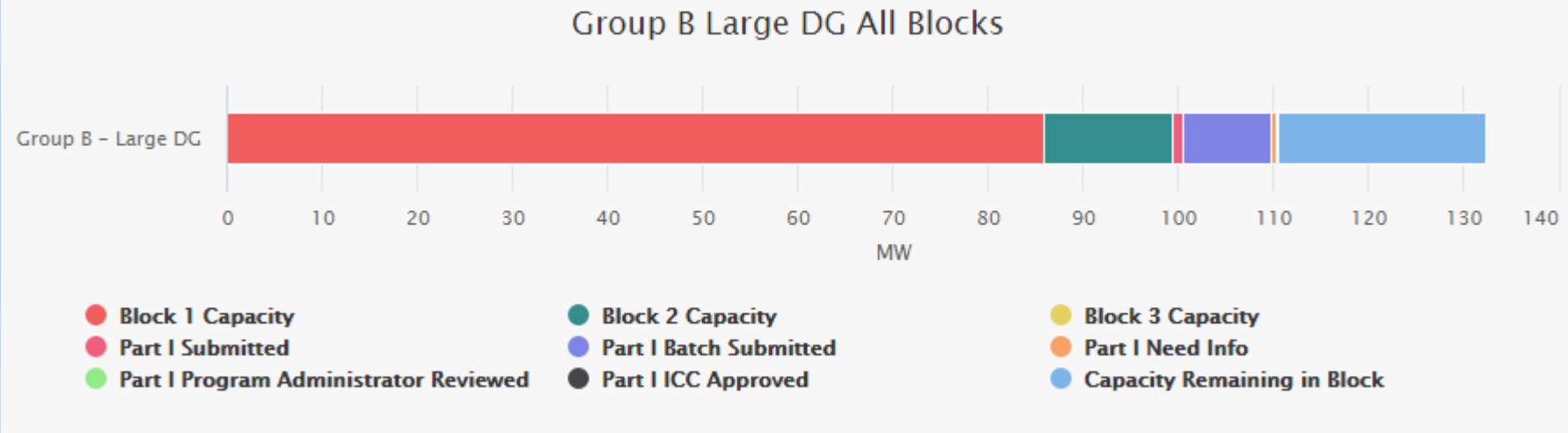




Program Structure

Less clear when the large DG Block 4 will fill





Program Structure

- Depending on budget analysis, some additional capacity might be possible to open. Should block sizes be adjusted?
    - Block sizes based on standard capacity factor, should block sizes better match actual observed capacity factors?
    - Does the Group A/B ensure sufficient geographic diversity of projects?
    - Will discuss community solar waiting list in the afternoon workshop
- Should the batch process be updated or eliminated?
    - For all projects, or perhaps just for larger projects?
    - Other options to ensure aggregation of smaller systems?

REC Pricing

- Should REC Pricing continue to follow the 4% decline between blocks, or should the REC Pricing Model be reset?
  - If Small DG blocks (and Large DG Block 4) are still open after updated Plan is approved, how to transition to new prices if reset?
  - What happens when 5% net metering cap is reached and smart inverter rebate updated (including residential customers)

Continuing a 4% Decline Between Blocks

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Block Group	Block Category		Block 1	Block 2	Block 3	Block 4	Block 5
Group A (Ameren Illinois, MidAmerican, Mt. Carmel, Rural Electric Cooperatives, and Municipal Utilities located in MISO)	Small DG	≤10 kW	$85.10	$81.70	$78.43	$75.29	$72.28
	Large DG	>10 - 25 kW	$78.70	$75.55	$72.53	$69.63	$66.84
		>25 - 100 kW	$64.41	$61.83	$59.36	$56.99	$54.71
		>100 - 200 kW	$52.54	$50.44	$48.42	$46.48	$44.62
		>200 - 500 kW	$46.85	$44.98	$43.18	$41.45	$39.79
		>500 - 2,000 kW	$43.42	$41.68	$40.02	$38.42	$36.88
	Community Solar	≤10 kW	$96.12	$92.28	$88.58	$85.04	$81.64
		>10 - 25 kW	$87.07	$83.59	$80.24	$77.03	$73.95
		>25 - 100 kW	$70.95	$68.11	$65.39	$62.77	$60.26
		>100 - 200 kW	$60.47	$58.05	$55.73	$53.50	$51.36
		>200 - 500 kW	$55.46	$53.24	$51.11	$49.07	$47.11
		>500 - 2,000 kW	$52.28	$50.19	$48.18	$46.25	$44.40
		Co-located systems exceeding 2 MW in aggregate size	$47.03	$45.15	$43.34	$41.61	$39.95
Group B (ComEd, and Rural Electric Cooperatives and Municipal Utilities located in PJM)	Small DG	≤10 kW	$72.97	$70.05	$67.25	$64.56	$61.98
	Large DG	>10 - 25 kW	$73.23	$70.30	$67.49	$64.79	$62.20
		>25 - 100 kW	$65.61	$62.99	$60.47	$58.05	$55.73
		>100 - 200 kW	$53.75	$51.60	$49.54	$47.56	$45.66
		>200 - 500 kW	$48.07	$46.15	$44.30	$42.53	$40.83
		>500 - 2,000 kW	$44.64	$42.85	$41.14	$39.49	$37.91
	Community Solar	≤10 kW	$91.89	$88.21	$84.69	$81.30	$78.05
		>10 - 25 kW	$82.82	$79.51	$76.33	$73.28	$70.35
		>25 - 100 kW	$66.65	$63.98	$61.42	$58.96	$56.60
		>100 - 200 kW	$56.12	$53.88	$51.72	$49.65	$47.66
		>200 - 500 kW	$51.09	$49.05	$47.08	$45.20	$43.39
		>500 - 2,000 kW	$47.88	$45.96	$44.13	$42.36	$40.67
		Co-located systems exceeding 2 MW in aggregate size	$42.59	$40.89	$39.25	$37.68	$36.47

Updating REC Pricing Model Approach

- REC Pricing model based on NREL CREST model
  - Models lifecycle cost of system and nets against expected net metering value
  - REC price reflects 15-year expected production
- Preliminary analysis of updating ITC to 26%, system costs (from latest NREL Report), net metering rates, and capacity factors (community solar):
  - DG REC prices similar to Block 1 REC prices
  - Community solar REC prices similar to Block 4 REC prices
- Values not yet examined
  - DC/AC ratio
  - Debt financing level (45%)
  - Target IRR (12%)
  - Net metering value retained by customer (20%)
- Updating Community Solar small subscriber adder will be discussed this afternoon.

REC Pricing Considerations

- Does market response (rate of project applications) reflect appropriateness of REC prices?
- If updating REC Pricing Model are there better data sources/assumptions?
- Are the breakpoints for REC Prices in the 10 kW -2 MW range appropriate?

Approved Vendor Requirements

- Anything in the registration process that could benefit from updating (more/less information)
- Designee issues
- Marketing material submission
- Annual reporting
- ICC DG Installer Certification / Qualified Persons
- Discipline (mitigating impact to customer/host)

Project Requirements

- Update any project application requirements?
  - Signed interconnection agreement
  - Non-ministerial permits
  - Default capacity factors (modify/eliminate)
  - Metering requirements (all revenue grade?)
  - Shading study
  - Net metering application approval letter
  - Proof of site control
  - Co-location/expansion of DG projects

Contracts and Collateral Issues

Language from Long-Term Plan for contract development:

"The Agency, in consultation with its Program Administrator and/or its Procurement Administrator, will develop standard REC delivery contracts between the utilities and Approved Vendors much as its Procurement Administrator has done for the competitive procurement processes. This will include the opportunity for interested parties to comment on the contracts. Ultimately the contracts will reflect the consensus of the Agency, the utilities, and Commission Staff. Contracts, once finalized, will not be subject to negotiation."

Competitive Procurement Approach (220 ILCS 5/16-111.5(e)(2))

The procurement administrator, in consultation with the utilities, the Commission, and other interested parties and subject to Commission oversight, shall develop and provide standard contract forms for the supplier contracts that meet generally accepted industry practices. Standard credit terms and instruments that meet generally accepted industry practices shall be similarly developed. The procurement administrator shall make available to the Commission all written comments it receives on the contract forms, credit terms, or instruments. If the procurement administrator cannot reach agreement with the applicable electric utility as to the contract terms and conditions, the procurement administrator must notify the Commission of any disputed terms and the Commission shall resolve the dispute. The terms of the contracts shall not be subject to negotiation by winning bidders, and the bidders must agree to the terms of the contract in advance so that winning bids are selected solely on the basis of price.

ABP Contract Legal Requirements

(i) The Agency shall procure contracts of at least 15 years in length.

(ii) For those renewable energy credits that qualify and are procured under item (i) of subparagraph (K) of this paragraph (1), the renewable energy credit purchase price shall be paid in full by the contracting utilities at the time that the facility producing the renewable energy credits is interconnected at the distribution system level of the utility and energized. The electric utility shall receive and retire all renewable energy credits generated by the project for the first 15 years of operation.

(iii) For those renewable energy credits that qualify and are procured under item (ii) and (iii) of subparagraph (K) of this paragraph (1) and any additional categories of distributed generation included in the long-term renewable resources procurement plan and approved by the Commission, 20 percent of the renewable energy credit purchase price shall be paid by the contracting utilities at the time that the facility producing the renewable energy credits is interconnected at the distribution system level of the utility and energized. The remaining portion shall be paid ratably over the subsequent 4-year period. The electric utility shall receive and retire all renewable energy credits generated by the project for the first 15 years of operation.

ABP Contract Legal Requirements

(iv) Each contract shall include provisions to ensure the delivery of the renewable energy credits for the full term of the contract.

(v) The utility shall be the counterparty to the contracts executed under this subparagraph (L) that are approved by the Commission under the process described in Section 16-111.5 of the Public Utilities Act. No contract shall be executed for an amount that is less than one renewable energy credit per year.

(vi) If, at any time, approved applications for the Adjustable Block program exceed funds collected by the electric utility or would cause the Agency to exceed the limitation described in subparagraph (E) of this paragraph (1) on the amount of renewable energy resources that may be procured, then the Agency shall consider future uncommitted funds to be reserved for these contracts on a first-come, first-served basis, with the delivery of renewable energy credits required beginning at the time that the reserved funds become available.

(vii) Nothing in this Section shall require the utility to advance any payment or pay any amounts that exceed the actual amount of revenues collected by the utility under paragraph (6) of this subsection (c) and subsection (k) of Section 16-108 of the Public Utilities Act, and contracts executed under this Section shall expressly incorporate this limitation.

Contracts: PROCESS

- BACKGROUND – previously used for standard wholesale product procurements
- Comment periods and webinars
  - Successful?
  - Need more or different approach?
- Timeline needed
  - Launch may be different from ongoing
  - Better baseline understanding of mechanics now
- Finalization – consensus required across certain parties
  - Right group?
  - Right process?
- Ambiguities: how to provide more clarity?
- Other process issues?

Contracts: FORM

- BACKGROUND – copied from reliance on master agreement previously used for standard wholesale product procurements
- Three-legged structure? (plus exhibits/attachments)
  - Synthesized could be more simple
  - Some confusion resulting from applicability of Master Agreement terms
- Third-party rights/role
  - Create confusion?
  - How best to address non-party (IPA, ICC) interest?
- Development of associated forms/attachments
  - Assignment form (under development)
  - System removal (beyond simply updating Schedule C)
- What creates simplicity, clarity, and certainty, and reduces risk?

Contracts: TERMS

- **Termination provisions**
  - Clarification around midstream termination
  - Contract vs. batch vs. system
- **Treatment of collateral for non-development**
  - Post-execution, pre-posting
  - Post-posting
- **Interconnection cost off-ramp**
  - Right levels? (threshold and collateral retained)
  - Right timing? (14 days after receipt of restudy)
  - Other circumstances/development risks requiring similar treatment?
- **Assignment provisions**
  - How to ensure there's not an endless string of assignments?
  - Right balance around when consent is required?
  - Assignment to AV without a REC contract?
- **Force majeure**
  - Made adjustments to brownfield requirements
  - Risks that we're not properly acknowledging?
- **Payment provisions**
  - 20% up front, "ratably" for 4 years thereafter
  - Is quarterly optimal?
- **Other issues?**

Contracts: COLLATERAL

- Amount of collateral (5%)
  - Right level?
- Form of collateral
  - More flexibility on letters of credit?
  - Other forms beyond Cash/LOC?
- Timing of posting collateral
  - 30 business days from trade date
- Pre-execution collateral?
  - May help development certainty?
- Drawdowns and true-ups
  - REC performance calculated across AV's whole portfolio of projects, including banking into future years for overproduction
  - 3-year rolling average for REC performance
  - 90% safe harbor for community solar subscription rate
  - Evaluation of anchor & non-anchor subscription shares separately for ILSFA community solar [Not ABP issue]
- Release of collateral
  - Reduction in posted collateral only after a shortfall & drawdown
  - A batch's collateral released when the 15-year term ends

Contracts: Other Issues

- ICC approval process
  - Notification of contract approval to Approved Vendors
  - Publishing information about underlying contracts
- Quarterly/annual reports
- Other miscellaneous issues re: contracting?

Other Stakeholder Topics for Discussion