

# 2017 Request for Proposals for Incremental Regulation Capacity

Overview of the procurement process and  
draft documents

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June 8, 2017

# Disclaimer

- This presentation is intended to provide an overview of the draft Request for Proposals for Incremental Regulation Capacity (the “draft Regulation Service RFP”) and the corresponding draft Service Agreement for the Provision of Regulation Service (the “draft Contract”), and is being provided to interested parties for informational purposes only. Any information provided herein is not legally binding on the IESO.
- Nothing in the following presentation commits the IESO to proceeding with the Regulation Service RFP, and the IESO reserves the right, in its sole and absolute discretion, to make any changes it deems appropriate, beneficial, or necessary to the draft Regulation Service RFP, the draft Contract, or any of the related materials. In the event of any inconsistency between this presentation and the draft Regulation Service RFP and the draft Contract, the draft Regulation Service RFP and the draft Contract shall govern.
- Interested parties are encouraged to review the procurement documents and materials in full, and to consult legal advisors and technical consultants, as required, prior to submitting a Proposal. The following presentation is not a substitute for reading and understanding the Regulation Service RFP, the Contract, and the related materials.
- This presentation uses capitalization consistent with the draft Regulation Service RFP and the draft Contract.

# Introduction

- Regulation service plays an important role in ensuring reliable systems operations
  - It acts to match total system generation to total system demand on a minute-by-minute or second-by-second basis and helps correct variations in power system frequency
- Informed by the 2016 Operability Assessment, the IESO has identified the need for an additional 50 MW of Regulation service, incremental to the 100 MW of Regulation service that is typically scheduled every hour
  - A summary of the 2016 Operability Assessment is available on the Ancillary Services Market webpage: [www.ieso.ca/ancillary-services](http://www.ieso.ca/ancillary-services)

# Introduction, continued

- The Regulation Service RFP is aimed at obtaining this incremental regulation capacity from all manner of technologies
- Eligible facilities include those that are either existing and currently registered in the IESO-Administered Markets, or facilities that have the ability to register in the IESO-Administered Markets at a later date
  - Goal is to obtain incremental regulation capacity, therefore, facilities with a current IESO regulation service contract extending beyond February 1, 2018 are not eligible for the Regulation Service RFP

# Background

- For more information regarding Regulation service, including payment principles and scheduling mechanisms, refer to the “Regulation 101 webinar” held on April 25, 2017
- Additional background information related to this draft Regulation Service RFP include the earlier December 2016 draft RFP and the September 2016 Request for Information (RFI)
- All information is available for review on the IESO’s Regulation Service RFP webpage: [www.ieso.ca/regulationRFP](http://www.ieso.ca/regulationRFP)

# Potential Market Rule Amendment

- IESO anticipates proposing certain market rule amendments relating to Regulation service
- Proposal would clarify that all Regulation service providers, regardless of size or where they connect, are required to meet specific performance requirements in Market Rules, Appendix 4.2 (Generation Facility Requirements) related to:
  - Category 1 (off-nominal frequency)
  - Category 2 (speed/frequency regulation)
  - Category 3 (voltage ride through)
- Proposal to be posted on Proposed Market Rule Amendments webpage: [ieso.ca/sector-participants/change-management/proposed-market-rule-amendments](https://ieso.ca/sector-participants/change-management/proposed-market-rule-amendments)

# Procurement Timelines

| Event  | Date                   |
|--|------------------------|
| Feedback on draft procurement documents due <sup>1</sup> | June 16, 2017          |
| Final procurement documents posted <sup>2</sup>          | By end of June 2017    |
| Proposal Submission Deadline <sup>2</sup>                | End of September 2017  |
| Contracts offered <sup>2</sup>                           | November/December 2017 |

1. Feedback is to be submitted to [RegulationRFP@ieso.ca](mailto:RegulationRFP@ieso.ca)
2. Exact dates to be published in final Regulation Service RFP

# General Overview





# Additional Parameters (Section 2.1)

## Overall MW Cap

- 50 MW
- Subject to selection of a Marginal Proposal (no more than + 5MW)

## Individual Cost Cap

- Confidential maximum cost cap per Proposal
- \$/MWh per year

## Overall Cost Cap

- Confidential Overall Cost Cap for all Selected Proposals under this RFP

- Refer to Section 3.7 - Proposal Selection, for a detailed description

# Parameters Applicable to New Build Facilities

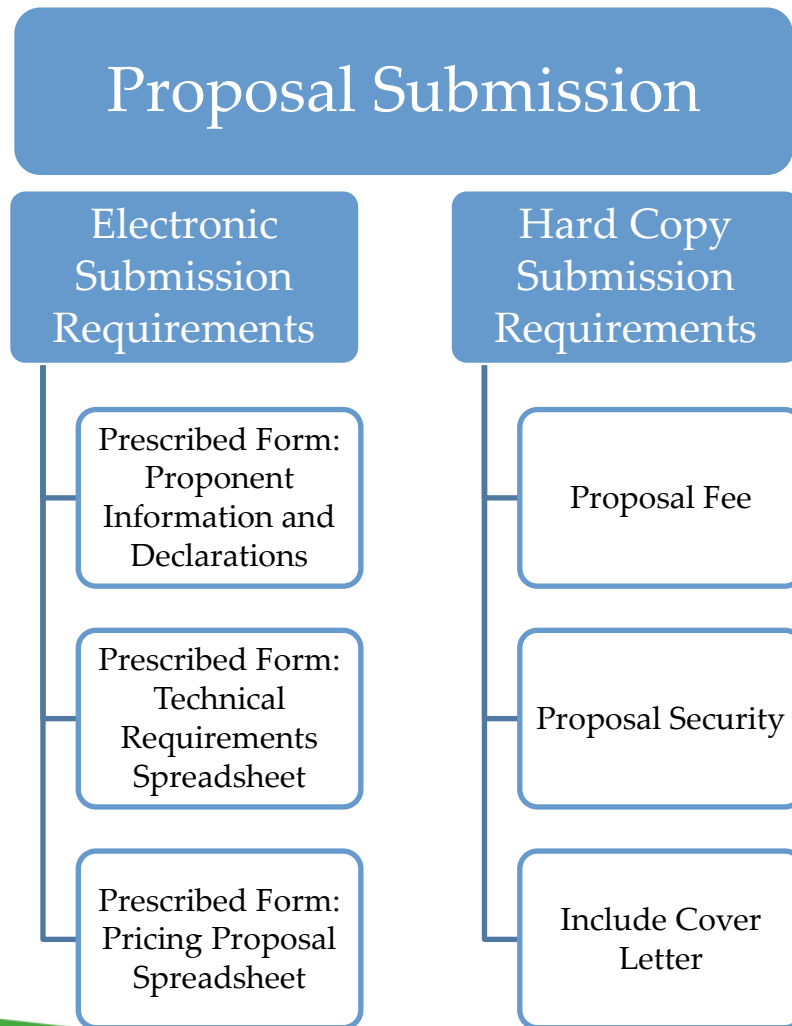
## Section 2.2 - Connection Availability for New Build Facilities

- LRP II TAT Tables (Aug. 2016) may be used as a guide for available connection capacity
- Contact Transmitter or LDC for further information regarding proposed connection location
- Connection capacity only secured once connection agreement is executed (**certain Facility Amendments permitted under the Contract**)

## Section 2.3 - Required Public Meeting for New Build Facilities

- To encourages early engagement with local communities
- Proponents must hold at least one (1) public community meeting in the Local Jurisdiction(s) where the New Build Facility is proposed to be located
- Provide evidence of meeting notice and summary report, as outlined in Section 3.3

# Proposal Submission Requirements (Section 2.6)



- Electronic and hard copy submissions must be received by the Proposal Submission Deadline
- Electronic submission time stamp determined by time of receipt by IESO email system
- Hard copy submission to be received at 120 Adelaide St. W location (16th floor)
- Each Proposal must be separately packaged/transmitted
- More than one Proposal may be submitted for a given Facility

# Proposal Submission Requirements, cont'd.

- Electronic Submissions:
  - Emailed to [RegulationRFP@ieso.ca](mailto:RegulationRFP@ieso.ca)
  - Email subject format:  
2017RegRFP\_Proponent Name\_Facility Name\_Proposal Number
- Proposal Submission example:
  - ABC Corp. submitting 4 distinct Proposals for 3 separate Facilities
  - Facility names: Springfield, Pleasantville, Toronto

2017RegRFP\_ABC  
Corp.\_Springfield\_1

- 1 Electronic Submission
- 1 Hard Copy Submission

2017RegRFP\_ABC  
Corp.\_Springfield\_2

- 1 Electronic Submission
- 1 Hard Copy Submission

2017RegRFP\_ABC  
Corp.\_Pleasantville\_1

- 1 Electronic Submission
- 1 Hard Copy Submission

2017RegRFP\_ABC  
Corp.\_Toronto\_1

- 1 Electronic Submission
- 1 Hard Copy Submission

# Permitted and Prohibited Communications (Section 2.10)

## Permitted Communications

- Participation in public stakeholder processes (including clarification or amendment of existing Market Rules)
- Electrical connection, site selection and control
- Community engagement
- Publishing notices required for regulatory approvals
- Communications with MPPs, mayors, municipal officials, and others listed in Section 2.10

## Prohibited Communications

- Obtaining or attempting to obtain advantage
- Influencing outcomes of the RFP
- Influencing government officials, regulatory officials, IESO management and staff
- **Interested Parties are encouraged to review Section 2.10 for a fulsome understanding of the communications protocols**

# Proposal Evaluation and Selection process

- Section 3.2 – Stage 1 – Completeness Requirements
- Section 3.3 – Stage 2 – Mandatory Requirements
- Section 3.4 – Stage 3 – Technical Evaluation
- Section 3.5 – Stage 4 – Pricing Evaluation
- Section 3.6 – Stage 5 – Ranking List
- Section 3.7 – Stage 6 – Proposal Selection

# Stage 1 – Completeness Requirements

## Proposal Fee

- \$2,260 (HST inclusive)
- Certified cheque, bank draft or money order
- **Returned only if Individual Cost Cap is exceeded in Stage 4 or Proposal is withdrawn before Proposal Submission Deadline**

## Proposal Security

- \$9,000 per MW up to \$90,000 (minimum \$18,000)
- Irrevocable and unconditional standby letter of credit
- **Must use language of template included as Appendix 'G' of the RFP – encouraged to start discussions early with lenders/financial institutions**

## Prescribed Forms

- Proponent Information and Declarations
- Technical Requirements Spreadsheet
- Pricing Proposal Spreadsheet
- **Pricing details must not be disclosed in any other part of the Proposal**

# Stage 2 – Mandatory Requirements

- Proposals must meet the following Mandatory Requirements, satisfied by the Proponent's confirmation in the Prescribed Form: Proponent Information and Declarations
  - Single Proposal submitted to this RFP must be in respect of no more than one Facility
  - Registered Facility or capable of becoming a Registered Facility
  - Minimum Regulation Capacity offered = 2 MW (Maximum = 50 MW)
  - Minimum Ramp Rate = 7 MW/minute
  - Minimum Duration of Service = 6 minutes
  - Minimum contract length of 3 years, and a maximum of 7 years
  - The remainder of Mandatory Requirements are listed in Section 3.3



# Mandatory Requirements – New Build Facilities

## Public Community Meeting held in Local Jurisdiction(s) where Facility is proposed

(Held on or after September 30, 2016)

### Public Community Notice

Published in 1 newspaper with  
circulation in each Local Jurisdiction at  
least 15 days before meeting

**OR**

If no newspaper exists, posted in 6  
conspicuous locations within each  
Local Jurisdiction

Provided to the clerk or other  
designated official of each Local  
Jurisdiction

Distributed to each property  
neighbouring the location of the New  
Build Facility

# Mandatory Requirements – New Build Facilities, continued

## Prescribed Form: Proponent Information and Declarations

**Exhibit A: Copy of the meeting summary report(s)**

**Exhibit B: Copy of public community meeting notice**

Copy of the meeting summary report(s) including a summary of feedback received and action items, if any

Copy of the page of the newspaper in which the public community meeting notice was published  
OR

If no newspaper exists, photographic proof of the notice posted in 6 conspicuous locations

# Stage 3 and 4 – Technical and Pricing Evaluation

### APPENDIX "C" TECHNICAL REQUIREMENTS SPREADSHEET INSTRUCTIONS

- This Appendix "C" contains instructions for completing the Prescribed Form: Technical Requirements Spreadsheet.
- The Prescribed Form: Technical Requirements Spreadsheet is a Microsoft Excel file, which is available on the Website and must be completed and submitted with the Proposer's Proposal.
- This Appendix "C" is not required to be submitted with the Proposer's Proposal.
- Apart from the completion of any blanks (i.e., green-shaded areas) in the Prescribed Form: Technical Requirements Spreadsheet, no amendments may be made to the wording of the Prescribed Form.
- Fill in green-shaded areas only. Any additional information provided by Proposers outside of these designated cells will not be considered by the IESO. Some values are automatically populated based on a calculation using values from other cells.
- Capitalized terms not defined herein shall have the meaning ascribed to them in the RFP.
- Use the units of measurement required for each data field in the Prescribed Form: Technical Requirements Spreadsheet. Refer to the "units of measurement" table below for guidance.
- The Prescribed Form: Technical Requirements Spreadsheet must pertain to only one (1) Facility.
- Proposers should use the following naming convention for the filename of a submitted Prescribed Form: Pricing Proposal Spreadsheet (Proposer name)\_(Facility name)\_Technical Requirements Spreadsheet (Proposal Number).  
Example: ABC Corporation\_Facility123\_Technical Requirements Spreadsheet

### Section 2: TECHNICAL REQUIREMENTS

| Row   | Name of data input          | Instructions   |
|-------|-----------------------------|--|
| ROW A | Offered Regulation Capacity | <p><b>Instructions</b><br/>This value MUST be entered from the corresponding Pricing Proposal. This value is used in the Offered Duration of the Cost Per MWh Per Year.</p> <p><b>Acceptable inputs:</b><br/>Minimum allowable value: 0.0 MW<br/>Maximum allowable value: 5.0 MW<br/>Example 1: If a storage maximum of 5.0 MW at 1 MW, then the Offered is 5.0 MW.<br/>Example 2: If a generator 25.0 MW above and 25 point, then the Offered is 25.0 MW.</p> |

### APPENDIX "D" PRICING PROPOSAL SPREADSHEET INSTRUCTIONS

- This Appendix "D" contains instructions for completing the Prescribed Form: Pricing Proposal Spreadsheet.
- The Prescribed Form: Pricing Proposal Spreadsheet is a Microsoft Excel file, which is available on the Website and must be completed and submitted with the Proposer's Proposal.
- This Appendix "D" is not required to be submitted with the Proposer's Proposal.
- Apart from the completion of any blanks (i.e., green-shaded areas) in the Prescribed Form: Pricing Proposal Spreadsheet, no amendments may be made to the wording of the Prescribed Form.
- Fill in green-shaded areas only. Any additional information provided by Proposers outside of these designated cells will not be considered by the IESO. Some values are automatically populated based on a calculation using values from other cells.
- Capitalized terms not defined herein shall have the meaning ascribed to them in the RFP.
- Use the units of measurement required for each data field. The IESO will not alter a Proposal, and in all cases will assume that the Proposer has followed the prescribed units of measurement when evaluating all answers given in the Prescribed Form: Pricing Proposal Spreadsheet. Refer to the "units of measurement" table below for guidance.
- The Prescribed Form: Pricing Proposal Spreadsheet must pertain to only one (1) Facility.
- Proposers should use the following naming convention for the filename of a submitted Prescribed Form: Pricing Proposal Spreadsheet (Proposer name)\_(Facility name)\_Pricing Proposal (Proposal Number).  
Example: ABC Corporation\_Facility123\_Pricing Proposal

| Row   | Name of data input                           | Instructions and examples  | Unit of measurement | Scoring methodology | Maximum number of points available |
|-------|--|--|---------------------|---------------------|------------------------------------|
| ROW W | Offered availability cost component per year | <p><b>Description</b><br/>This value represents the fixed annual cost of providing Regulation service for a period of one calendar year.</p> <p>These values are used as inputs in calculating the Total Cost Per MWh Per Year (Row AB).</p> <p><b>Acceptable inputs:</b><br/>Minimum acceptable value: \$0 per year</p>   | \$ per year         | N/A                 | N/A                                |
| ROW X | Opportunity cost rate                        | <p><b>Description</b><br/>This value represents the opportunity cost rate of providing one MWh of Regulation service instead of other possible services the Facility could have provided.</p> <p>These values are used as inputs in calculating the Total Cost Per MWh Per Year (Row AB).</p> <p><b>Acceptable Values:</b><br/>Minimum acceptable value: \$0 per MWh</p> | \$ per MWh          | N/A                 | N/A                                |



### Summary of Technical Proposal

| Unique Identifier  | ROW A | ROW B | ROW D | ROW T | ROW U | ROW V | Total Score |
|--------------------|-------|-------|-------|-------|-------|-------|-------------|
| Technical Proposal | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0         |

### Regulation RFP

### TECHNICAL PROPOSAL

### FOR IESO INTERNAL USE

### Appendix C

### Section 1: Facility Characteristics

| Facility-Level Information         | Data Input Column |
|------------------------------------|-------------------|
| Proposer name                      |                   |
| Facility name                      |                   |
| Facility ID no.                    |                   |
| Facility type                      | SELECTFROMLIST    |
| Facility size                      | SELECTFROMLIST    |
| Maximum Capacity (MW)              |                   |
| Facility status                    |                   |
| Generation location (Mileage: Y/N) |                   |
| Generation location (Mileage: Y/N) |                   |
| Technical Proposal Number          |                   |

### Section 2: Technical Proposal

| Row   | Name of data input                      | Unit of measurement |
|-------|---|---------------------|
| ROW A | Offered Regulation Capacity             |                     |
| ROW B | Offered Reg. Rate                       |                     |
| ROW C | Offered Energy Capacity                 |                     |
| ROW D | Offered Duration of Service             |                     |
| ROW E | Available Hours - January               |                     |
| ROW F | Available Hours - February              |                     |
| ROW G | Available Hours - March                 |                     |
| ROW H | Available Hours - April                 |                     |
| ROW I | Available Hours - May                   |                     |
| ROW J | Available Hours - June                  |                     |
| ROW K | Available Hours - July                  |                     |
| ROW L | Available Hours - August                |                     |
| ROW M | Available Hours - September             |                     |
| ROW N | Available Hours - October               |                     |
| ROW O | Available Hours - November              |                     |
| ROW P | Available Hours - December              |                     |
| ROW Q | Total Available Hours                   |                     |
| ROW R | Maximum output under Regulation service |                     |
| ROW S | Maximum output under Regulation service |                     |
| ROW T | Offered Hours in Service                |                     |
| ROW U | Offered Capacity in Service             |                     |
| ROW V | Available Weighted Regulation Capacity  |                     |

### END OF THIS SPREADSHEET TAB

### Summary of Pricing Proposal

| Unique Identifier | ROW AB |
|-------------------|--------|
| Pricing Proposal  | 0.0000 |

### Regulation RFP

### PRICING PROPOSAL

### FOR IESO INTERNAL USE

### Appendix D

### Section 1: Proposer Information

| Facility-level information | Data Input Column |
|----------------------------|-------------------|
| Proposer name              |                   |
| Facility name              |                   |
| Proposal Number            |                   |

### Section 2: Pricing Proposal

| Row    | Name of data input                           | Unit of measurement | Data Input Column |
|--------|--|---------------------|-------------------|
| ROW V  | Offered availability cost component per year | \$/year             |                   |
| ROW X  | Opportunity cost rate                        | \$/MWh              |                   |
| ROW Y  | Residual variable cost rate                  | \$/MWh              |                   |
| ROW Z  | Offered Regulation Capacity                  | MW                  |                   |
| ROW AA | Total Available Hours                        | Hours/year          |                   |
| ROW AB | Total Facility Cost Per MWh Per Year         | \$/MWh/year         | 0.0000            |

### END OF THIS SPREADSHEET TAB

Appendix 'C' and Appendix 'D' contain the instructions to complete the Prescribed Form: Technical Requirements Spreadsheet and the Prescribed Form: Pricing Proposal Spreadsheet, respectively

# Stage 3 – Technical Evaluation

## Technical Evaluation – 70 points available

- Offered Regulation Capacity – 10
- Offered Ramp Rate – 10
- Offered Contract Service Term – 20
- Offered Months to Service Commencement – 10
- Offered Duration of Service – 20

+

## Pricing Evaluation – 30 points available

=

**Combined  
score out of  
100 (Total  
Point  
Score)**

The technical evaluation is worth 70% of the Proponent's score

Complete the Prescribed Form: Technical Requirements Spreadsheet

# Prescribed Form: Technical Evaluation Spreadsheet – Section 1

## Facility-Level Information

Proponent name:

Facility name:

Facility ID no.:

Facility type:

Fuel type:

Nameplate Capacity (MW):

Facility status:

Connection location (Eligible TS):

Connection location (Eligible Circuit):

Proposal Number:

Only to be completed for Existing Facilities

Only to be completed for New Build Facilities

1. Select Eligible TS if connecting on a Distribution System;
2. Select Eligible Circuit if connecting to the IESO-Controlled Grid

Ensure number is same on all Prescribed Forms for a given Proposal

# Prescribed Form: Technical Evaluation Spreadsheet – Section 2

| Row   | Row Name  |
|-------|---|
| ROW A | Offered Regulation Capacity                                   |
| ROW B | Offered Ramp Rate   |
| ROW C | Offered Energy Capacity                                       |
| ROW D | Offered Duration of Service                                   |
| ROW E | Available Hours - January                                     |
| ROW F | Available Hours - February                                    |
| ROW G | Available Hours - March                                       |
| ROW H | Available Hours - April                                       |
| ROW I | Available Hours - May   |
| ROW J | Available Hours - June  |
| ROW K | Available Hours - July  |
| ROW L | Available Hours - August                                      |
| ROW M | Available Hours - September                                   |
| ROW N | Available Hours - October                                     |
| ROW O | Available Hours - November                                    |
| ROW P | Available Hours - December                                    |
| ROW Q | Total Available Hours   |
| ROW R | Maximum setpoint value for operation under Regulation control |
| ROW S | Maximum setpoint value for operation under Regulation control |
| ROW T | Offered Months to Service Commencement                        |
| ROW U | Offered Contract Service Term                                 |
| ROW V | Availability-Weighted Regulation Capacity                     |

- **Rows A, B, D, T and U** all contribute to the technical score which can range between 10.7 and 70 points
- **Appendix 'C'** sets out the applicable minimum and maximum values that may be submitted in all rows in the spreadsheet

# Prescribed Form: Technical Evaluation Spreadsheet – Section 2

| Row   | Row Name  |
|-------|---|
| ROW A | Offered Regulation Capacity                                   |
| ROW B | Offered Ramp Rate   |
| ROW C | Offered Energy Capacity                                       |
| ROW D | Offered Duration of Service                                   |
| ROW E | Available Hours - January                                     |
| ROW F | Available Hours - February                                    |
| ROW G | Available Hours - March                                       |
| ROW H | Available Hours - April                                       |
| ROW I | Available Hours - May   |
| ROW J | Available Hours - June  |
| ROW K | Available Hours - July  |
| ROW L | Available Hours - August                                      |
| ROW M | Available Hours - September                                   |
| ROW N | Available Hours - October                                     |
| ROW O | Available Hours - November                                    |
| ROW P | Available Hours - December                                    |
| ROW Q | Total Available Hours   |
| ROW R | Maximum setpoint value for operation under Regulation control |
| ROW S | Maximum setpoint value for operation under Regulation control |
| ROW T | Offered Months to Service Commencement                        |
| ROW U | Offered Contract Service Term                                 |
| ROW V | Availability-Weighted Regulation Capacity                     |

- **ROW C** is only to be completed for Energy Limited Facilities
- If **ROW C** is left blank, it will indicate that the Facility is NOT energy limited and it will receive a score of 20 in **ROW D** (Offered Duration of Service)
- For all other values entered in **ROW C** within the acceptable range, **ROW D** will automatically be calculated by dividing **ROW C** by **ROW A** and multiplying by 60

# Prescribed Form: Technical Evaluation Spreadsheet – Section 2

| Row   | Row Name  |
|-------|---|
| ROW A | Offered Regulation Capacity                                   |
| ROW B | Offered Ramp Rate   |
| ROW C | Offered Energy Capacity                                       |
| ROW D | Offered Duration of Service                                   |
| ROW E | Available Hours - January                                     |
| ROW F | Available Hours - February                                    |
| ROW G | Available Hours - March                                       |
| ROW H | Available Hours - April                                       |
| ROW I | Available Hours - May   |
| ROW J | Available Hours - June  |
| ROW K | Available Hours - July  |
| ROW L | Available Hours - August                                      |
| ROW M | Available Hours - September                                   |
| ROW N | Available Hours - October                                     |
| ROW O | Available Hours - November                                    |
| ROW P | Available Hours - December                                    |
| ROW Q | Total Available Hours   |
| ROW R | Maximum setpoint value for operation under Regulation control |
| ROW S | Maximum setpoint value for operation under Regulation control |
| ROW T | Offered Months to Service Commencement                        |
| ROW U | Offered Contract Service Term                                 |
| ROW V | Availability-Weighted Regulation Capacity                     |

- **Rows D, Q and V are calculated automatically:**
  1. **ROW D** will automatically be calculated as previously discussed
  2. **ROW Q** is the summation of the entries in **ROWS E – P**
    - **NOTE:** Value must be transcribed to **ROW AA** in the Prescribed Form: Pricing Proposal Spreadsheet
  3. **ROW V** is derived by multiplying **ROW A** by **ROW Q** and dividing by 8760



# Offered Regulation Capacity – ROW A

|                              |   |
|------------------------------|---|
| Minimum allowable value      | $\pm 2.0$ MW<br>(yields a minimum score of 2 points)                                  |
| Maximum allowable value      | $\pm 50.0$ MW   |
| Maximum score threshold      | $\pm 10.0$ MW or higher<br>(yields a maximum score of 10 points)                      |
| Points available (out of 70) | 10<br>Linear score between 2 and 10 points, calculated using equation in Appendix 'C' |

Entered by Proponent

# Offered Ramp Rate – **ROW B**

|                                     |   |
|-------------------------------------|---|
| <b>Minimum allowable value</b>      | 7.0 MW per minute<br>(yields a minimum score of 0.7 points)                             |
| <b>Maximum allowable value</b>      | No maximum value  |
| <b>Maximum score threshold</b>      | 100 MW per minute<br>(yields a maximum score of 10 points)                              |
| <b>Points available (out of 70)</b> | 10<br>Linear score between 0.7 and 10 points, calculated using equation in Appendix 'C' |

Entered by Proponent

# Offered Duration of Service – **ROW D**

|                              |   |
|------------------------------|---|
| Minimum allowable value      | 6 minutes<br>(yields a minimum score of 1 point)                                      |
| Maximum allowable value      | No maximum value  |
| Maximum score threshold      | 120 minutes<br>(yields a maximum score of 20 points)                                  |
| Points available (out of 70) | 20<br>Linear score between 1 and 20 points, calculated using equation in Appendix 'C' |

Automatically calculated

# Offered Months to Service Commencement – ROW T

|                              |   |
|------------------------------|---|
| Minimum allowable value      | 0 months  |
| Maximum allowable value      | 36 months   |
| Scoring thresholds           | <ul style="list-style-type: none"><li>• Maximum score: 10 points for 0 months to <math>\leq 12</math> months</li><li>• 6 points for <math>&gt; 12</math> months to <math>\leq 24</math> months</li><li>• Minimum score: 3 points for <math>&gt; 24</math> months to <math>\leq 36</math> months</li></ul> |
| Points available (out of 70) | 10  |

Entered by Proponent

# Offered Contract Service Term – ROW U

|                              |   |
|------------------------------|---|
| Minimum allowable value      | 3 years   |
| Maximum allowable value      | 7 years   |
| Scoring thresholds           | <ul style="list-style-type: none"><li>• Maximum score: 20 points for 3 years</li><li>• 16 points for 4 years</li><li>• 12 points for 5 years</li><li>• 8 points for 6 years</li><li>• Minimum score: 4 points for 7 years</li></ul> |
| Points available (out of 70) | 20  |

Entered by Proponent

# Stage 4 – Pricing Evaluation

## Technical Evaluation – 70 points available

- Offered Regulation Capacity – 10
- Offered Ramp Rate – 10
- Offered Contract Service Term – 20
- Offered Months to Service Commencement – 10
- Offered Duration of Service – 20

+

## Pricing Evaluation – 30 points available

=

**Combined  
score out of  
100 (Total  
Point  
Score)**

The pricing evaluation is worth 30% of the Proponent's score

Complete the Prescribed Form: Technical Requirements Spreadsheet

# Prescribed Form: Pricing Proposal Spreadsheet – Section 1

## Facility-level information

Proponent name

Facility name

Proposal Number

### IMPORTANT:

Must be identical to what is included in the Prescribed Form: Technical Requirements Spreadsheet

Ensure number is same on all Prescribed Forms of a single Proposal

# Prescribed Form: Pricing Proposal Spreadsheet – Section 2

| ROW    | Row Name                                     |
|--------|--|
| ROW W  | Offered availability cost component per year |
| ROW X  | Opportunity cost rate                        |
| ROW Y  | Residual variable cost rate                  |
| ROW Z  | Offered Regulation Capacity                  |
| ROW AA | Total Available Hours                        |
| ROW AB | Total Facility Cost Per MW Per Year          |

- **ROW Z** must be identical to **ROW A** in the Prescribed Form: Technical Evaluation Spreadsheet
- **ROW AA** must be identical to **ROW Q** in the Prescribed Form: Technical Evaluation Spreadsheet



# Variable Costs: **ROW X** and **ROW Y**

- **ROW X**      **Opportunity Cost Rate:** Represents the cost of providing one MWh of Regulation service instead of other possible services the Facility could have provided
- **ROW Y**      **Residual Variable Cost Rate:** Represents all other variable costs not captured in ROW X
- These rates...
  - may be combined at the Proponent's discretion, and represented as a single variable cost in either ROW X or ROW Y
  - will be used in Schedule 6 of Contract to calculate variable regulation payments for hours in which the Facility is scheduled to provide Regulation service
  - may be used by the IESO to determine when the IESO schedules regulation capacity from each Facility

# Prescribed Form: Pricing Proposal Spreadsheet – Section 2

| ROW    | Row Name                                     |
|--------|--|
| ROW W  | Offered availability cost component per year |
| ROW X  | Opportunity cost rate                        |
| ROW Y  | Residual variable cost rate                  |
| ROW Z  | Offered Regulation Capacity                  |
| ROW AA | Total Available Hours                        |
| ROW AB | Total Facility Cost Per MW Per Year          |

- **ROW AB** will be calculated automatically using the formula set out in Appendix 'D'.
- This value will contribute to 30% of the Proponent's total score

# Total Facility Cost Per MW Per Year

## – ROW AB

|                              |  |
|------------------------------|--|
| Minimum allowable value      | \$0 per MW/year  |
| Maximum allowable value      | No maximum, but subject to a confidential <b>Individual Price Cap</b> (\$ per MW/year) |
| Maximum score threshold      | Lowest cost per MW per Year proposal receives a score of 30 points                     |
| Points available (out of 30) | 30<br>(scoring is a linear weighting relative to other bidders)                        |

Automatically calculated

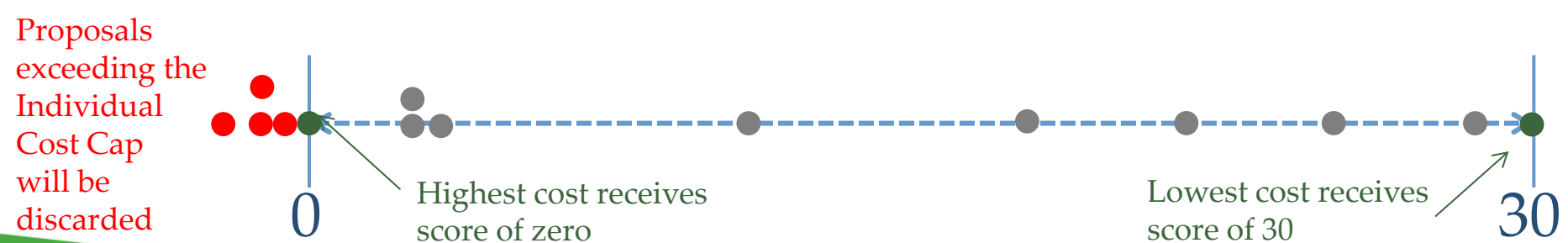
# Pricing Score

The pricing score is calculated as follows:

$$\text{Pricing score} = \frac{(\text{Highest Total Cost} - \text{Total Facility Cost Per MW Per Year})}{(\text{Highest Total Cost} - \text{Lowest Total Cost})} \times 30$$

Where:

- **Total Facility Cost Per MW Per Year** is the value calculated in **ROW AB**
- **Lowest Total Cost** is the lowest Total Facility Cost Per MW Per Year derived from all Proposals that reach Stage 4, subject to the lowest allowable limit of \$0 per MW year
- **Highest Total Cost** is the highest Total Facility Cost Per MW Per Year derived from all Proposals that reach Stage 4, subject to the Individual Cost Cap
- A Proponent's score will be calculated by the Pricing Evaluation Team



# Stage 5 – Ranking List

- Proposals that pass Stage 4 will be ranked in Stage 5 from highest to lowest Total Point Score

## Tie Breaking Rules

| Tie-breaking hierarchy order | Criteria                               |
|------------------------------|--|
| 1                            | Offered Contract Service Term          |
| 2                            | Offered Months to Service Commencement |
| 3                            | Offered Regulation Capacity            |
| 4                            | random number generator                |

# Stage 6 – Proposal Selection Example

Total Point  
Score: 100

## Ranking List

Proposal A1 – 10 MW

Proposal B – 24 MW

Proposal A2 – 15 MW

Proposal C – 10 MW

Proposal D – 4 MW

Proposal E – 5 MW

## Selected Proposals

Overall MW Cap: 50 MW

# Stage 6 – Proposal Selection Example Cont.

Total Point  
Score: 100



## Ranking List

\*\*\* Proposal 3 is in respect of same facility as Proposal 1 – violating the **Single Proposal Screen**

**Proposal A2 – 15 MW \*\*\***

Proposal C – 10 MW

Proposal D – 4 MW

Proposal E – 5 MW

## Selected Proposals

-----  
**Overall MW Cap: 50 MW**  
=====

Proposal B – 24 MW

Proposal A1 – 10 MW

# Stage 6 – Proposal Selection Example Cont.

Total Point  
Score: 100

## Ranking List

\*\*\* Proposal 3 is in respect of same facility as Proposal 1 – violating the **Single Proposal Screen**

**Proposal A2 – 15 MW \*\*\***

**Proposal E – 5 MW**

## Selected Proposals

-----  
**Overall MW Cap: 50 MW**  
-----

**Proposal D – 4 MW**

**Proposal C – 10 MW**

**Proposal B – 24 MW**

**Proposal A1 – 10 MW**



# Stage 6 – Proposal Selection Example Cont.

Total Point  
Score: 100

## Ranking List

\*\*\* Proposal 3 is in respect of same facility as Proposal 1 – violating the **Single Proposal Screen**

**Proposal A2 – 15 MW \*\*\***

Marginal Proposal concept:

- If the Overall MW Cap has not been reached and the next Proposal will exceed the Overall MW Cap, such Proposal shall be accepted so long as it does not exceed the Overall MW Cap by more than 5 MW (“the Marginal Proposal”)

Total:  
53 MW

## Selected Proposals

**Overall MW Cap: 50 MW**

Proposal E – 5 MW

Proposal D – 4 MW

Proposal C – 10 MW

Proposal B – 24 MW

Proposal A1 – 10 MW

# Offer Notice and Contract Execution

Offer Notice sent to  
Selected Proponents;  
unsuccessful Proponents  
are also notified in writing

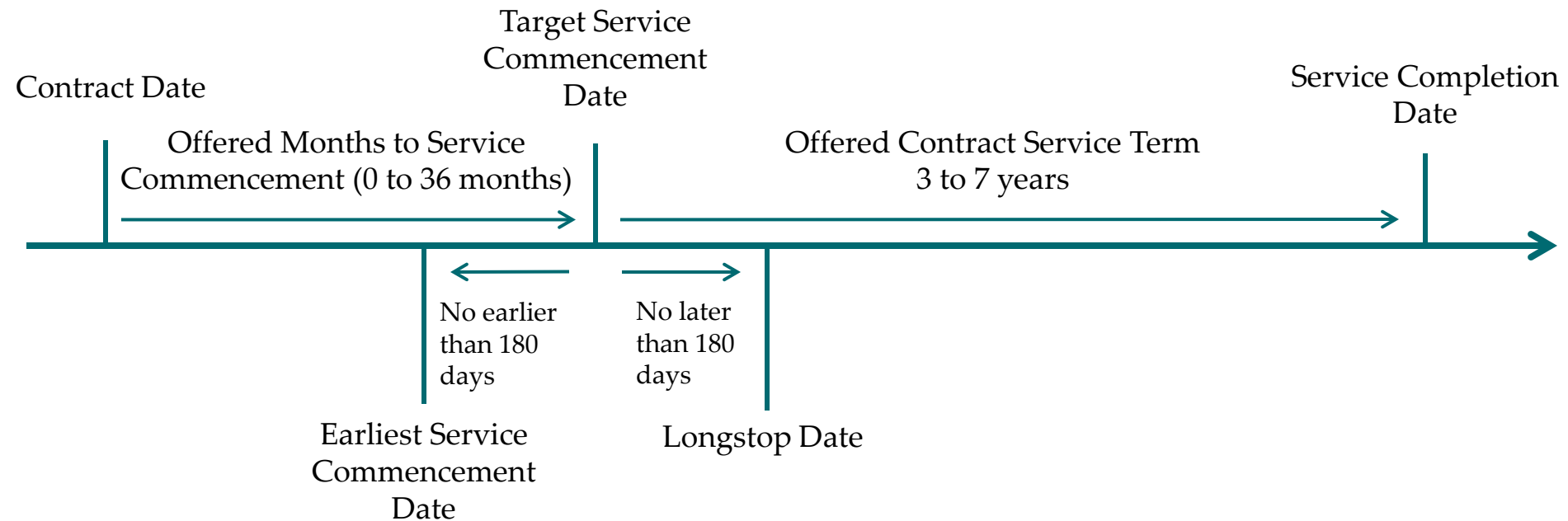
Deadline for executed  
Contract and Closing  
Documents to be delivered  
to the IESO

20 Business Days

# Draft Contract – Key Provisions

- Article 3: Development of the Contract Facility
- Article 4: Operation of the Contract Facility
- Article 7: Default and Termination
- Article 9: Force Majeure
- Schedule 2: Procedures for Testing Regulation Service Capability
- Schedule 3: Technology Specific Provisions, Conventional Facilities and Energy Storage Facilities
- Schedule 6: Payment

# Article 3: Development of the Contract Facility



# Article 3: Service Commencement

- Service Commencement conditions:
  - ASP authorized as a Market Participant
  - Contract Facility registered as a Registered Facility
  - Capable of satisfying Performance Standards for Ancillary Services set out in Market Rules Chapter 5, Appendix 5.1, Section 1.1
  - Communications protocols with the IESO approved and in place
  - Contract Facility has achieved Certification in accordance with Schedule 2, and ASP has received notice from the System Operator confirming Certified Capabilities
  - ASP has received a registration approval notification (RAN) document from the System Operator
  - ASP has delivered duly executed Officer's Certificate (using appropriate form in Schedule 1)
  - ASP has received Service Commencement Notice from IESO

# Article 3: Connection Change for New Build Facilities

- If the Contract Facility is a New Build Facility, the ASP may, with the IESO's consent, change the Local Jurisdiction and/or Proposed Connection Location on 1 (one) occasion
- To receive the IESO's consent for a change of the location of the Contract Facility from the Local Jurisdiction(s) identified in Table 1 of Schedule 4, the ASP must satisfy the requirements laid out in Section 3.2 of the Service Agreement
- The requirements are substantially the same as those required for New Build Facilities in the RFP for public community meetings, including the evidence required

# Article 4: Operation of the Contract Facility

- From and after the Service Commencement Date, the ASP shall provide Regulation Service in accordance with the terms and conditions of the Market Rules, the Agreement, the Proposal and all Applicable Laws
- Some key covenants:
  - Have the ability to provide the minimum amount of Regulation Capacity set out in Table 1 of Schedule 4, at any applicable hour
  - Have the ability to provide the minimum Ramp Rate as set out in Table 1 of Schedule 4
  - Be capable of providing Regulation Service at all times when scheduled by System Operator, except for Energy Limited Facilities, who shall be capable of providing Regulation Service for the Duration of Service
  - Provide hourly Regulation Capacities scheduled day-ahead
  - Deliver hourly quantities of Regulation Service requested by the System Operator

# Article 7 and Article 9

- Events of Default include:
  - Event of Default under Market Rules
  - Contract Facility Amendment not consented to by IESO
  - Service Commencement has not occurred by Longstop Date
  - If Tested Capabilities do not meet or do not exceed Certified Capabilities
  - Change of Control/Assignment without IESO approval, if required
- Termination for Change in Market Rules
  - If a Market Rule change has a Material Adverse Effect on a Party, the Party may terminate the agreement upon 30 days with written notice
  - The Parties may enter into negotiations to adjust the Monthly Payments to reflect the effects of the Change in Market Rules
  - Section 7.5 does not apply to a change in Market Rules in respect on scheduling or communications related to Energy Storage Facilities
- Force majeure provisions in Market Rules only apply after Service Commencement



# Schedule 2: Procedures for Testing Regulation Service Capability

- Contract Facility must achieve Certification prior to Service Commencement
  - If Tested Capabilities < Proposed Capabilities, IESO may:
    - Accept the Tested Capabilities, in which case they become Certified Capabilities OR
    - Reject the Tested Capabilities in which case the ASP may request to have the Contract Facility tested again
- All Certification Tests shall be conducted in accordance with the Market Rules Chapter 5, Section 4.9.2 and Appendix 5.1 – Performance Standards for Ancillary Services
- Annual Certification Tests, in accordance with the Outage scheduling process at a time mutually agreeable to the ASP and IESO

# Schedule 3: Scheduling and Providing Regulation Service (Technology Specific Provisions)

## Type 1 - Conventional Facilities

- ASP provides day-ahead daily Regulation Service offer in form and schedule determined by IESO
- IESO to determine:
  - Schedule for the daily Regulation Service offer submission to the System Operator and procedure for making changes
  - Change management procedures for submissions between the ASP and System Operator
  - Mechanisms for the ASP to notify the System Operator of Planned Outages or Forced Outages
- System Operator will make an economic selection (based on each ASP's variable costs) and confirm the Regulation Service schedule with the ASP

## Type 2 - Energy Storage Facilities

- Due to limitations with respect to the current tools available to the System Operator, the System Operator does not currently have the capability to schedule or communicate with Energy Storage Facilities in the same manner as all other Facilities
- Energy Storage Facilities will operate under the same General Provisions as Conventional Facilities, with some exceptions listed under Section 1.3 Interim Provisions
- The terms of Section 1.3 Interim Provisions may be changed or voided by the IESO providing 90 days written notice to the ASP

# Schedule 3: Interim Provisions for Energy Storage Facilities

- The following interim provisions will apply to a Contract Facility that is an Energy Storage Facility:
  - The Contract Facility shall only participate in the IESO-Administered Markets as a provider of Regulation Service for the duration of the Term
  - **The Contract Facility shall not participate in the Energy Market or Operating Reserve Market for the duration of the Term**
- The remaining provisions are listed in Schedule 3, Type 2, Section 1.3 and should be reviewed in depth by interested Energy Storage Facility providers

# Schedule 6: Payment

## Monthly Payment

### Fixed Monthly Payment

Equal to Annual  
Availability Cost split into  
12 equal payments

Pro-rated and reduced by  
the Annual Availability  
Cost Shortfall Payment

### Variable Monthly Payment

Equal to the Regulation  
Capacity Offered  
multiplied by the sum of  
the Opportunity Cost  
Rate and Residual  
Variable Cost Rate

# Next Steps and Resources

- Receive written feedback by June 16, 2017 at [RegulationRFP@ieso.ca](mailto:RegulationRFP@ieso.ca)
- Finalize RFP material and post by end of June
- All information/material will be posted at [ieso.ca/regulationRFP](http://ieso.ca/regulationRFP)
- To subscribe to the Regulation RFP mailing list, go to [ieso.ca/subscribe](http://ieso.ca/subscribe)

# QUESTIONS or COMMENTS?