

Part A Exemption Test Proposal: Supplemental Example

Christina Duong

ICAP Mitigation Engineer

ICAP/MIWG/PRLWG Meeting

April 14, 2020

Background

- Stakeholder requested clarification on the testing order, particular related to the nesting locality interaction of Examined Facilities located in a nested locality
- The following presentation is meant to serve as an illustrative example to walk through the order of BSM exemption tests
 - The presentation includes a supplemental section (starting on [slide 24](#)) that reviews an issue discussed the April 10, 2020 ICAPWG

Proposal: Exemption Testing Process

- **Renewable Exemption Limit is calculated**
 - Exemptions are granted to Qualified Renewable Exemption Applicants up to the Renewable Exemption Limit, which is based upon UCAP, and pro rated if UCAP of Qualified Renewable Exemption Applicants exceeds limit
- **The Part A test is performed for all remaining non-exempt capacity**
 - Included in forecasted supply is UCAP MW that qualified for a Renewable Exemption
- **The Part B test is performed for all remaining non-exempt capacity**
 - Included in forecasted supply is UCAP MW that qualified for a Renewable Exemption
 - Included in forecasted supply is UCAP MW that qualified for a Part A Exemption
- **Separate from this timeline, Competitive Entry Exemptions will continue to be granted to qualifying resources irrespective of the results from Part A and Part B**

Example Examined Facilities

- **Music Fans – 300MW CRIS Requested, wind, in Zone J**
 - Requested a Renewable Exemption
- **MilkCoffee² Storage – 5MW CRIS Requested, lithium-ion battery, in Zone J**
- **Pikachu’s Power Plant – 100MW CRIS Requested, combined cycle, in Zone J**
 - Requested a Competitive Entry Exemption
- **Solar Sun by Ray – 100MW CRIS Requested, solar PV, in Zone G**
 - Requested a Renewable Exemption
- **StayPositive Storage – 30MW CRIS Requested, lithium-ion battery, in Zone H**
- **Ultimate Upgrade – 20MW CRIS Requested, Additional CRIS request from existing plant, in Zone J**

Renewable Exemption

Renewable Exemption

- **Applicants (assume 33% Unforced Capacity Percentage for wind and 50% for solar)**
 - Music Fans – 300MW, wind, Zone J
 - ~100MW UCAP
 - Solar Sun by Ray – 100MW, solar PV, Zone G
 - ~50MW UCAP
- **Zone J Renewable Exemption Limit: 90MW UCAP**
 - Music Fans granted 90MW exemption of the 100MW UCAP
 - 10MW UCAP continues to be evaluated
- **Zone G-J Renewable Exemption Limit: 30MW UCAP**
 - Capacity from Qualified Renewable Exemption Applicants totals 60MW UCAP

Renewable Exemption

- **30MW of Zone G-J Renewable Exemption is prorated among the 60MW UCAP from Qualified Renewable Exemption Applicants**
 - Music Fans granted 5MW exemption of the remaining 10MW UCAP
 - Solar Sun by Ray granted 25MW exemption of the 50MW UCAP
- **Result of Renewable Exemption determinations**
 - Music Fans – 300MW, wind, Zone J
 - 95/100MW UCAP ~ 285/300MW CRIS
 - 15MW CRIS to be further evaluated
 - Solar Sun by Ray – 100MW, solar PV, Zone G
 - 25/50MW UCAP ~ 50/100MW CRIS
 - 50MW CRIS to be further evaluated

Part A Test

Part A Exemption Test

- **Since all Examined Facilities have some amount of un-exempted capacity to be evaluated under the Part A Exemption Test**
- **Group 1**
 - Public Policy Resources
 - MilkCoffee² Storage – 5MW in Zone J
 - Solar Sun by Ray – 100MW in Zone G (partially exempted by a Renewable Exemption, 50MW CRIS to be evaluated)
 - StayPositive Storage – 30MW in Zone H
 - Other Examined Facilities
 - Ultimate Upgrade – 20MW in Zone J
- **Group 2**
 - Public Policy Resources
 - Music Fans – 300MW in Zone J (partially exempted by a Renewable Exemption, 15MW CRIS to be evaluated)
 - Other Examined Facilities
 - Pikachu's Power Plant – 100MW in Zone J

Part A Group 1 Examined Facilities

- **Public Policy Resources (Ranked by lowest Unit Net CONE)**
 - \$150/kW-yr for StayPositive Storage – 30MW in Zone H
 - \$200/kW-yr for MilkCoffee² Storage – 5MW in Zone J
 - \$300/kW-yr for Solar Sun by Ray – 100MW in Zone G (partially exempted by a Renewable Exemption, 50MW CRIS to be evaluated)
- **Other Examined Facilities (Ranked by lowest Unit Net CONE)**
 - \$50/kW-yr for Ultimate Upgrade – 20MW in Zone J

Year 1

- **Capacity included in BSM Forecast:**
 - Solar Sun by Ray (partially) – 50MW of exempted CRIS in Zone G (via Renewable Exemption)
- **Test StayPositive Storage (Zone H)**
 - Passes, capacity included in subsequent tests
- **Test MilkCoffee² Storage (Zone J)**
 - Under NYC Locality, fails
 - Under G-J Locality, passes, capacity included in subsequent tests
- **Test remaining capacity from Solar Sun by Ray (Zone G)**
 - Fails, capacity not included in subsequent tests
- **Test Ultimate Upgrade (Zone J)**
 - Under NYC Locality, fails
 - Under G-J Locality, fails, capacity not included in subsequent tests

Year 2

- **Capacity included in BSM Forecast:**
 - Solar Sun by Ray (partially) – 50MW of exempted CRIS in Zone G (via Renewable Exemption)
 - StayPositive Storage – fully exempted in Zone H (via Part A “Year 1” Exemption)
 - MilkCoffee² Storage – fully exempted in Zone J (via Part A “Year 1” Exemption)
- **Test remaining capacity from Solar Sun by Ray (Zone G)**
 - Passes, capacity included in subsequent tests
- **Test Ultimate Upgrade (Zone J)**
 - Under NYC Locality, fails
 - Under G-J Locality, fails, capacity not included in subsequent tests

Year 3

■ Capacity included in BSM Forecast:

- Solar Sun by Ray (via Renewable Exemption and Part A “Year 2” Exemption)
 - fully exempted in Zone G
- StayPositive Storage – fully exempted in Zone H (via Part A “Year 1” Exemption)
- MilkCoffee² Storage – fully exempted in Zone J (via Part A “Year 1” Exemption)

■ Test Ultimate Upgrade (Zone J)

- Under NYC Locality, fails
- Under G-J Locality, fails, capacity not included in subsequent tests

Part A Group 2 Examined Facilities

- **Public Policy Resources (Ranked by lowest Unit Net CONE)**
 - \$400/kW-yr for Music Fans – 300MW in Zone J (partially exempted by a Renewable Exemption, 15MW CRIS to be evaluated)
- **Other Examined Facilities (Ranked by lowest Unit Net CONE)**
 - \$100/kW-yr for Pikachu's Power Plant – 100MW in Zone J

Year 4

- **Capacity included in BSM Forecast:**
 - Solar Sun by Ray (via Renewable Exemption and Part A “Year 2” Exemption)
 - fully exempted in Zone G
 - StayPositive Storage – fully exempted in Zone H (via Part A “Year 1” Exemption)
 - MilkCoffee² Storage – fully exempted in Zone J (via Part A “Year 1” Exemption)
 - Music Fans (partially) – 285MW of exempted CRIS in Zone J (via Renewable Exemption)
- **Test remaining capacity from Music Fans (Zone J)**
 - Under NYC Locality, fails
 - Under G-J Locality, fails, capacity not included in subsequent tests
- **Test Pikachu’s Power Plant (Zone J)**
 - Under NYC Locality, fails
 - Under G-J Locality, fails, capacity not included in subsequent tests

Year 5

- **Capacity included in BSM Forecast:**
 - Solar Sun by Ray (via Renewable Exemption and Part A “Year 2” Exemption)
 - fully exempted in Zone G
 - StayPositive Storage – fully exempted in Zone H (via Part A “Year 1” Exemption)
 - MilkCoffee² Storage – fully exempted in Zone J (via Part A “Year 1” Exemption)
 - Music Fans (partially) – 285MW of exempted CRIS in Zone J (via Renewable Exemption)
- **Test remaining capacity from Music Fans (Zone J)**
 - Under NYC Locality, passes, capacity included in subsequent tests
- **Test Pikachu’s Power Plant (Zone J)**
 - Under NYC Locality, fails
 - Under G-J Locality, fails, capacity not included in subsequent tests

Year 6

■ Capacity included in BSM Forecast:

- Solar Sun by Ray (via Renewable Exemption and Part A “Year 2” Exemption)
– fully exempted in Zone G
- StayPositive Storage – fully exempted in Zone H (via Part A “Year 1” Exemption)
- MilkCoffee² Storage– fully exempted in Zone J (via Part A “Year 1” Exemption)
- Music Fans (via Renewable Exemption and Part A “Year 5” Exemption)
– fully exempted in Zone J

■ Test Pikachu’s Power Plant (Zone J)

- Fails, capacity not included in subsequent tests

Part A Exemption Test Result Summary

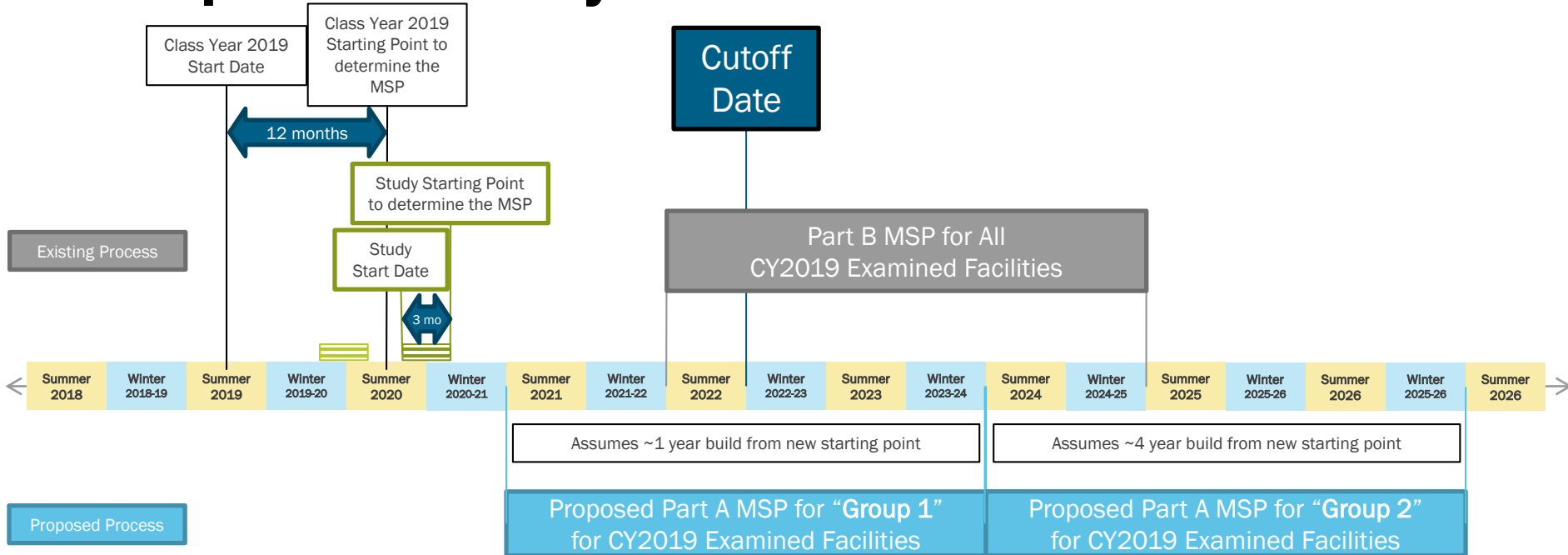
- **Part A Group 1 Examined Facilities**
 - StayPositive Storage – 30MW in Zone H
 - Part A Exemption starts in “Year 1”, Offer Floor applied on capacity prior to then
 - MilkCoffee² Storage – 5MW in Zone J
 - Part A Exemption starts in “Year 1”, Offer Floor applied on capacity prior to then
 - Solar Sun by Ray – 100MW in Zone G
 - Renewable Exemption effective when determination is accepted at the conclusion of study for 50MW
 - Part A Exemption starts in “Year 2”, Offer Floor applied on capacity prior to then for 50MW
- **Part A Group 2 Examined Facilities**
 - Music Fans – 300MW in Zone J (partially exempted by a Renewable Exemption, 15MW CRIS to be evaluated)
 - Renewable Exemption effective when determination is accepted at the conclusion of study for 285MW
 - Part A Exemption starts in “Year 5”, Offer Floor applied on capacity prior to then for 15MW
- **Remaining amount of un-exempted capacity to be evaluated under the Part B Exemption Test**
 - Ultimate Upgrade – 20MW in Zone J
 - Pikachu’s Power Plant – 100MW in Zone J

Part B Test

Part B Exemption Test

- **Part A Mitigation Study Period “Year 2” is the first year of the (Part B) Mitigation Study Period**
- **Remaining amount of un-exempted capacity to be evaluated under the Part B Exemption Test**
 - Ultimate Upgrade – 20MW in Zone J
 - Pikachu’s Power Plant – 100MW in Zone J

Proposed Study Periods for Part A



The dates contained in this figure are for illustrative purposes only and do not necessarily reflect the timeframe of an ongoing study.

Part B Exemption Test

- **Capacity included in BSM Forecast (Capacity exempted by a Renewable Exemption or Part A Exemption beginning prior to or in “Year 2”):**
 - StayPositive Storage – 30MW in Zone H
 - Part A Exemption starts in “Year 1”, Offer Floor applied on capacity prior to then
 - MilkCoffee² Storage – 5MW in Zone J
 - Part A Exemption starts in “Year 1”, Offer Floor applied on capacity prior to then
 - Solar Sun by Ray – 100MW in Zone G
 - Renewable Exemption effective when determination is accepted at the conclusion of study for 50MW
 - Part A Exemption starts in “Year 2”, Offer Floor applied on capacity prior to then for 50MW
 - Music Fans – 285MW in Zone J
 - Renewable Exemption effective when determination is accepted at the conclusion of study for 285MW
 - Part A Exemption starts in “Year 5” after MSP – remaining 15MW not included in BSM Forecast for Part B
- **Remaining amount of un-exempted capacity to be evaluated under the Part B Exemption Test**
 - \$50/kW-yr for Ultimate Upgrade – 20MW in Zone J
 - Passes 3 year forecast, capacity included in subsequent tests
 - \$100/kW-yr for Pikachu’s Power Plant – 100MW in Zone J
 - Under NYC Locality, fails
 - Under G-J Locality, fails, capacity not included in subsequent tests

Part B Exemption Test Result Summary

■ Examined Facilities

- Ultimate Upgrade – 20MW in Zone J
 - (Part B) Exemption effective when determination is accepted at the conclusion of study
- Pikachu's Power Plant – 100MW in Zone J
 - Not exempt

Part B Test for Part A Exempted Capacity (Supplemental Section)

Rank Examined Facilities by Unit Net CONE

- **Already completed Part B Exemption Test**
 - \$50/kW-yr for Ultimate Upgrade – 20MW in Zone J – exempt
 - \$100/kW-yr for Pikachu’s Power Plant – 100MW in Zone J – not exempt
- **To be tested as for a Part B Exemption instead of the received Part A Exemption**
 - \$150/kW-yr for StayPositive Storage – 30MW in Zone H
 - \$200/kW-yr for MilkCoffee² Storage – 5MW in Zone J
 - \$300/kW-yr for Solar Sun by Ray – 100MW in Zone G (partially exempted by a Renewable Exemption, 50MW CRIS to be evaluated)
 - \$400/kW-yr for Music Fans – 300MW in Zone J (partially exempted by a Renewable Exemption, 15MW CRIS to be evaluated)

Part B Test for Part A Exempted Capacity

- **To be tested as for a Part B Exemption instead of the received Part A Exemption**
 - \$150/kW-yr for StayPositive Storage – 30MW in Zone H
 - \$200/kW-yr for MilkCoffee² Storage – 5MW in Zone J
 - \$300/kW-yr for Solar Sun by Ray – 100MW in Zone G (partially exempted by a Renewable Exemption, 50MW CRIS to be evaluated)
 - \$400/kW-yr for Music Fans – 300MW in Zone J (partially exempted by a Renewable Exemption, 15MW CRIS to be evaluated)
- **When evaluating each individual Examined Facility that the NYISO has found will qualify for a a Part A Exemption (see list above), all other Part A Exempted Capacity is included in the supply stack for the BSM Forecast**
- **Under these assumption, all Examined Facilities in this example fail the Part B test and none would be exempted under MST 23.4.5.7.2(b)**
 - Part B tests if the average of the ICAP Spot Market Auction prices in the Mitigation Study Period, in accordance with Section 23.4.5.7.15 > the reasonably anticipated Unit Net CONE of the Installed Capacity Supplier

Additional Hypothetical Example

Additional Hypothetical Examined Facility

- **Koalafied Kilowatts– 100MW CRIS Requested in Zone J**
 - Partially exempted 75MW CRIS by a Renewable Exemption
 - Partially exempted 25MW CRIS by a Part A Exemption (beginning in any year)
 - This CRIS would be evaluated under Part B
- **\$75/kW-yr for Koalafied Kilowatts**

Part B Test Inclusion

■ The BSM Forecast would include:

- Capacity that received a Renewable Exemption or Part A Exemption, beginning when the exemption begins other than the capacity being tested
- Capacity that received a Part B exemption in previous Part B Exemption Test(s) of the same study (e.g. capacity from an Examined Facility with a lower Unit Net CONE)
 - In this Example, Ultimate Upgrade was tested prior to Koalafied Kilowatts, due to a lower Unit Net CONE, and received an exemption via Part B Exemption Test

Koalafied Kilowatts' Part B Exemption Test

- **Capacity included in BSM Forecast** (Capacity exempted by a Renewable Exemption or Part A Exemption beginning prior to or in “Year 2” that is not the capacity being tested):
 - StayPositive Storage – 30MW in Zone H
 - Part A Exemption starts in “Year 1”, Offer Floor applied on capacity prior to then
 - MilkCoffee² Storage – 5MW in Zone J
 - Part A Exemption starts in “Year 1”, Offer Floor applied on capacity prior to then
 - Solar Sun by Ray – 100MW in Zone G
 - Renewable Exemption effective when determination is accepted at the conclusion of study for 50MW
 - Part A Exemption starts in “Year 2”, Offer Floor applied on capacity prior to then for 50MW
 - Music Fans – 285MW in Zone J
 - Renewable Exemption effective when determination is accepted at the conclusion of study
 - Ultimate Upgrade – 20MW in Zone J
 - (Part B) Exemption effective when determination is accepted at the conclusion of study
- **Part B Exemption Test for Koalafied Kilowatts' CRIS MW requested is conducted (i.e., the 75 MW that of Renewable Exemption and remaining 25MW CRIS Requested that has qualified for a Part A Exemption)**
 - When including Koalafied Kilowatts capacity, does the average of the ICAP Spot Market Auction prices in the BSM Forecast for the MSP greater than the Examined Facility's Unit Net CONE?
 - Yes, the capacity passes Part B, and therefore receives a Part B Exemption for 100 MW
 - No additional headroom for Part A Exemptions is created

Koalafied Kilowatts' Part B Exemption Test Results

- **The 100 MW CRIS Requested that qualified for a 75 MW of Renewable Exemption and a 25 MW Part A Exemption also passed the Part B Exemption Test**
- **Koalafied Kilowatts– 100MW CRIS Requested in Zone J**
 - Part B exemption effective when determination is accepted at the conclusion of study
 - Koalafied's 100 MW CRIS was included in the BSM Forecast when evaluating all subsequent Examined Facilities in the Part B Exemption Test

Competitive Entry Exemption

Competitive Entry Exemption

- **Pikachu's Power Plant – 100MW in Zone J**
 - Requested an evaluation for a Competitive Entry Exemption
- **Examined Facility found eligible for Competitive Entry Exemption**

Inform each Examined Facilities of their BSM Determination

Questions?

Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policymakers, stakeholders and investors in the power system

