



PJM EQSTF Education on Options Matrix

Presented by David Egan
Manager, Interconnection Projects
To the PJM Earlier Queue Submittal Task Force
November 23, 2015

Applicant Priority Assignment

Design Component 1 Options Comparison

| Assignment of priority of applicants | Option 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|---|------------|---|------------|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|--|--|--|--|--|--|---|------------------------|---|------------------------|--|
| | Status Quo | | Proposal A | | Proposal B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Opt SQ A B C D E</p> <table border="1"> <tr><td>1</td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td></tr> <tr><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> <p>Queue Submission Requirements</p> | 1 | X | X | X | | | | 2 | | | | | | | 3 | | | | | | | 4 | | | | | | | 5 | | | | | | | 6 | | | | | | | 7 | | | | | | | Queue Position Established Upon Submittal | Can Clear Deficiencies | Queue Position Established Upon Submittal | Can Clear Deficiencies | Queue Position Established After Clearing Deficiencies |
| 1 | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Executed Application | X | | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| All other M14A and Tariff Requirements | | X | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deposit | X | | X | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PJM Involved with Establishment? | No | | No | | Yes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

36.1.4 Deficiencies in Interconnection Request:

An Interconnection Request will not be considered a valid request if Interconnection Customer has failed to pay any outstanding invoices related to prior Interconnection Requests by the Interconnection Customer and until all information required under Section 36.1 has been received by the Transmission Provider. **If an Interconnection Request fails to meet the requirements set forth in Section 36.1, except as provided below regarding the deposit, or is in arrears as described above, the Transmission Provider shall so notify the Interconnection Customer (electronically when available to all parties, otherwise written) within five (5) business days of receipt of the initial Interconnection Request.** Such notice shall explain that the Interconnection Request does not constitute a valid request and the reasons for such failure to meet the applicable requirements. Interconnection Customer shall provide the additional information that Transmission Provider's notice identifies as needed to constitute a valid request and shall make any payments on any outstanding invoices within ten (10) business days after receipt of such notice. **Upon timely correction of the deficiency, the Interconnection Request shall be assigned a Queue Position under Section 201 as of the date that Transmission Provider first received the request.** In the event the Interconnection Customer fails to provide the further information and make payments on any outstanding invoices required by Transmission Provider's deficiency notice under this Section 36.1.4, its Interconnection Request shall be deemed to be terminated and withdrawn. **Notwithstanding the above, the Interconnection Customer must submit its deposit at the time it submits its Interconnection Request. Failure to do so will result in rejection of the Interconnection Request.**

Feasibility Study Inclusion Criteria & Timing

(Queuing periods, PJM review of applications, scoping meetings, other Tariff-specified windows)

- Take requests in 6-month queues
 - November 1 – April 30
 - May 1 – October 31
- Staggered deposit structure based on first 4 months (lowest), fifth month, and sixth month (highest)
- 3-month Feasibility Studies
 - December 1 – February 28 (29)
 - June 1 – August 31
 - Month following queue close allowed for scoping meetings and case building
 - Month following completion of study for customer response

Queue Receipt Windows

- New Service Requests are received during six-month queue windows per Tariff §36.2:
 - For Interconnection Requests received during the six-month period ending October 31 the Transmission Provider shall use due diligence to complete Interconnection Feasibility Studies by the last day of February.
 - For Interconnection Requests received during the six-month period ending April 30 the Transmission Provider shall use due diligence to complete Interconnection Feasibility Studies by August 31.

Assigning a Queue Position

- Based upon date of receipt regardless of validity of request on that date per Tariff §36.1.4:
 - Upon timely correction of the deficiency, the Interconnection Request shall be assigned a Queue Position under Section 201 as of the date that Transmission Provider first received the request.

PJM Review of Request Validity (a/k/a Deficiency Review)

- PJM has 5 business days from receipt to assess validity of request per Tariff §36.1.4:
 - If an Interconnection Request fails to meet the requirements set forth in Section 36.1, except as provided below regarding the deposit, or is in arrears as described above, the Transmission Provider shall so notify the Interconnection Customer (electronically when available to all parties, otherwise written) within five (5) business days of receipt of the initial Interconnection Request.

Design Component 3 Status Quo

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--------|---------|-----------|----------|--|-----------------------------|
| 27 | 28 | 29 | 30 | 31 | 1 | 2 |
| April | | | | | | |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | | | | | Last business day before queue closes. | Last day of queue receipts. |

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--------|---------|-----------|----------|--------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| May | | | | | | |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | 1 | 2 | 3 | 4 |
| June | | | | | | |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |



Deficiency Cure Period

- Customers have 10 business days to clear deficiencies per Tariff §36.1.4 :
 - Interconnection Customer shall provide the additional information that Transmission Provider's notice identifies as needed to constitute a valid request and shall make any payments on any outstanding invoices **within ten (10) business days after receipt of such notice.**
- Note that the Tariff does not provide a time period for PJM to review the revised submittals, but we apply the 5 day requirement.
- Requests that do not clear deficiencies are withdrawn per Tariff §36.1.4 :

In the event the Interconnection Customer fails to provide the further information and make payments on any outstanding invoices required by Transmission Provider's deficiency notice under this Section 36.1.4, its Interconnection Request shall be deemed to be terminated and withdrawn.

Design Component 3 Status Quo

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--------|---------|-----------|--|-----------------------------|----------|
| 27 | 28 | 29 | 30 | 31 | April 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | | | | Last business day before queue closes. | Last day of queue receipts. | |

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--------|---------|-----------|----------|--------|----------|
| May 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | June 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |

PJM gets 5 business days to review, identify, notify

Customer gets 10 business days to clear all deficiencies

PJM gets 5 days to verify validity

Scoping Meeting Timing

- PJM has seven days to offer three meeting times for the scoping meeting. The maximum date for the meeting varies by the queue receipt month per Tariff §36.1.5:
 - After **receipt of a valid** Interconnection Request, Transmission Provider shall offer to arrange, **within seven business days**, for the scoping meeting, and shall provide a minimum of **three suggested meeting dates** and times for the scoping meeting.
 - The scoping meeting shall be held, or waived by mutual agreement of the parties:
 - within **45 days** after receipt of a valid Interconnection Request, if the Interconnection Request is received **in the first four calendar months** of the current New Services Queue; or
 - within **30 days** if the Interconnection Request is received **within the fifth calendar month** of the current New Services Queue; or
 - in **20 days** if the Interconnection Request is received **in the sixth calendar month** of the date of the beginning of the current New Services Queue.

Design Component 3 Status Quo – Best Case

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--------|---------|-----------|--|----------------------------|----------|
| 27 | 28 | 29 | 30 | 31 | April 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | | | | Last business day before queue closes. | Last day of queue receipts | |

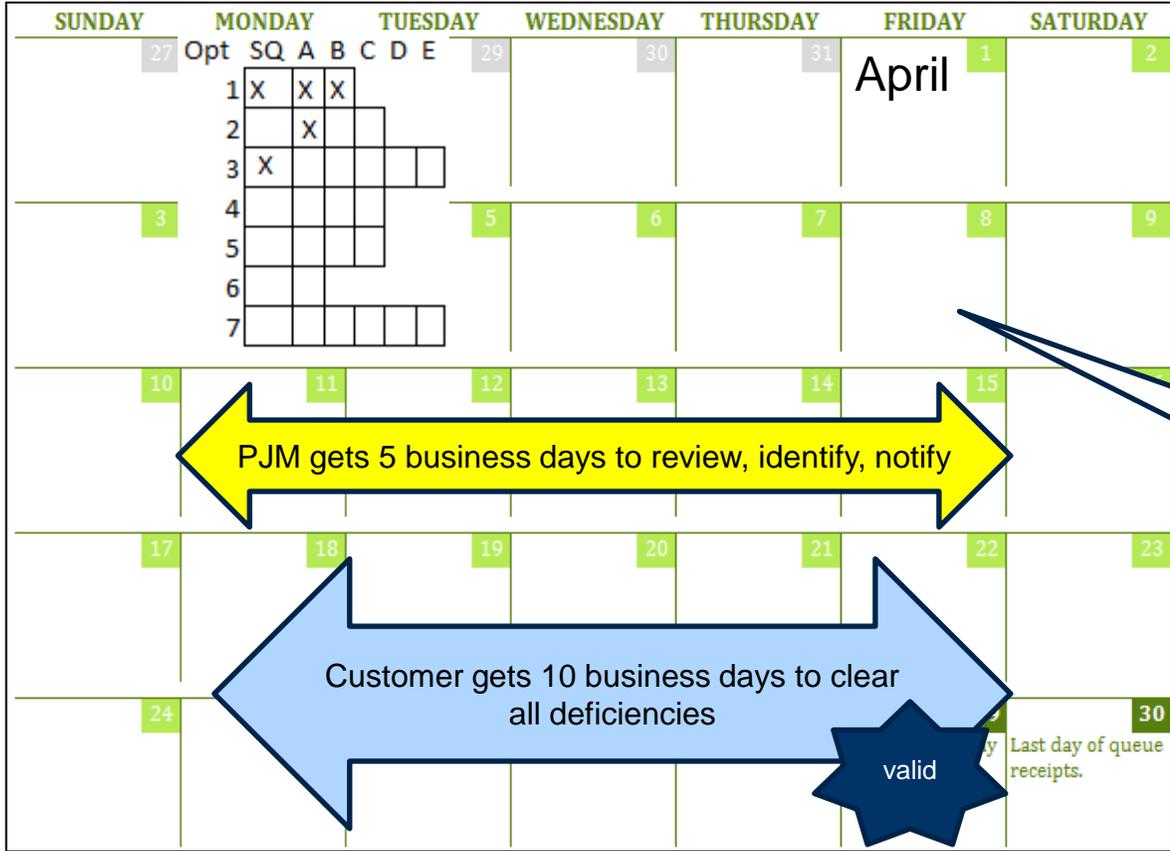


| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--------|---------|-----------|----------|--------|----------|
| May 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | June 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |

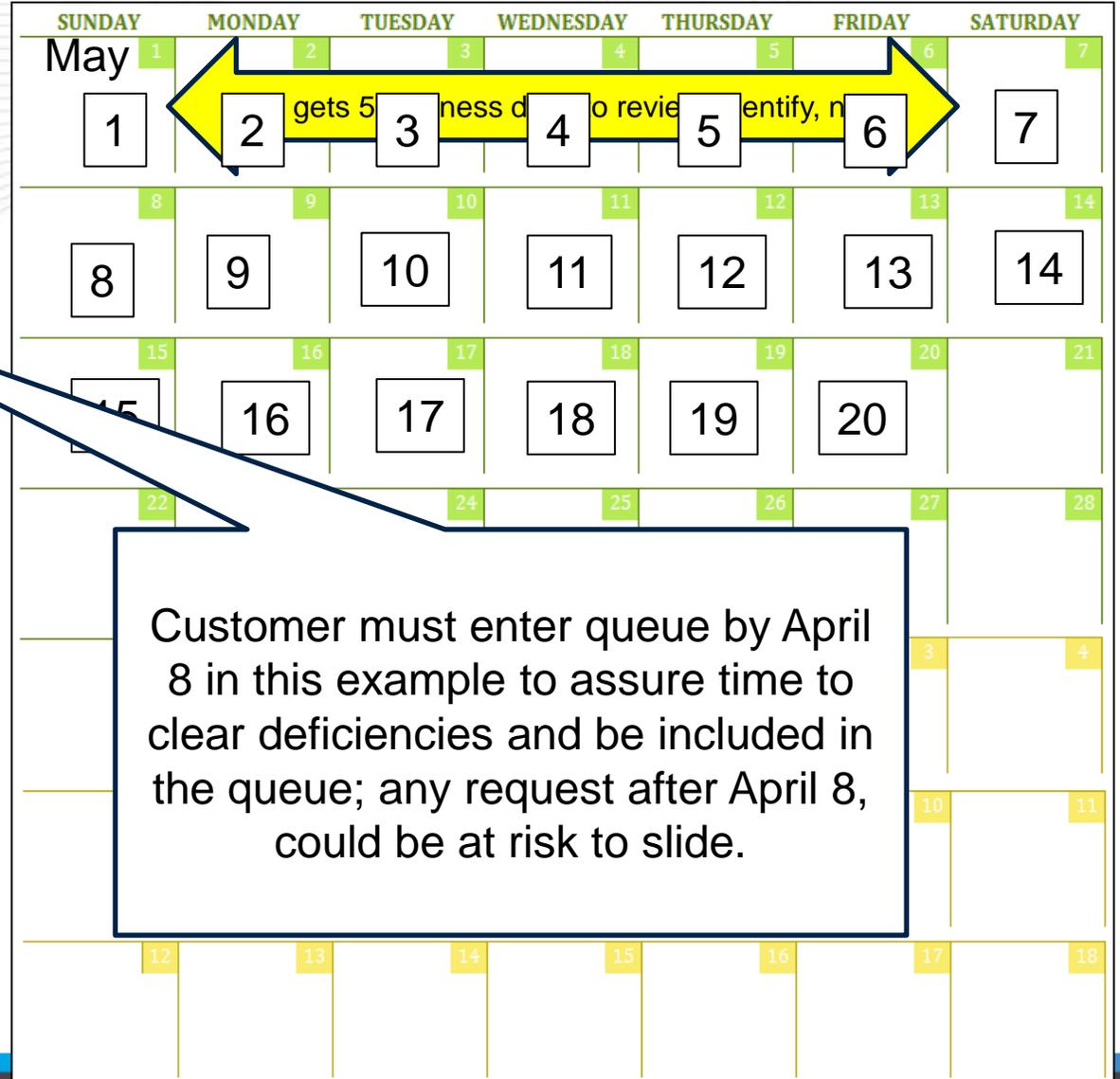


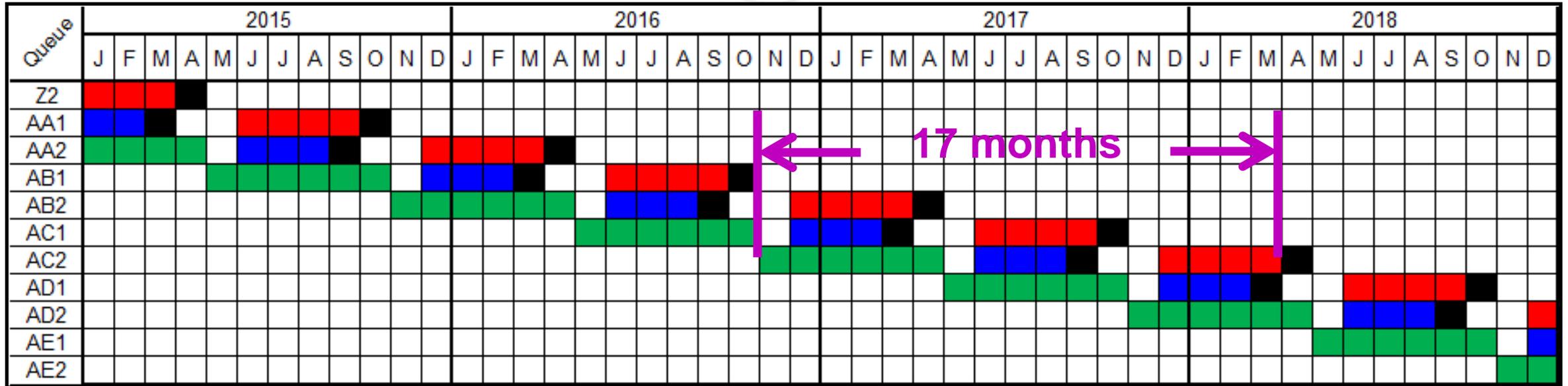
Feasibility Study Timing

- Tariff §36.2 anticipates all Scoping Meetings and modeling are completed in the month following the queue closure:
 - Following the closure of an interconnection queue on October 31 and April 30, the Transmission Provider will utilize the following one month period to conduct any remaining scoping meetings and assemble the necessary analysis models so as to **initiate the performance of the Interconnection Feasibility Studies on December 1 and June 1, respectively.**



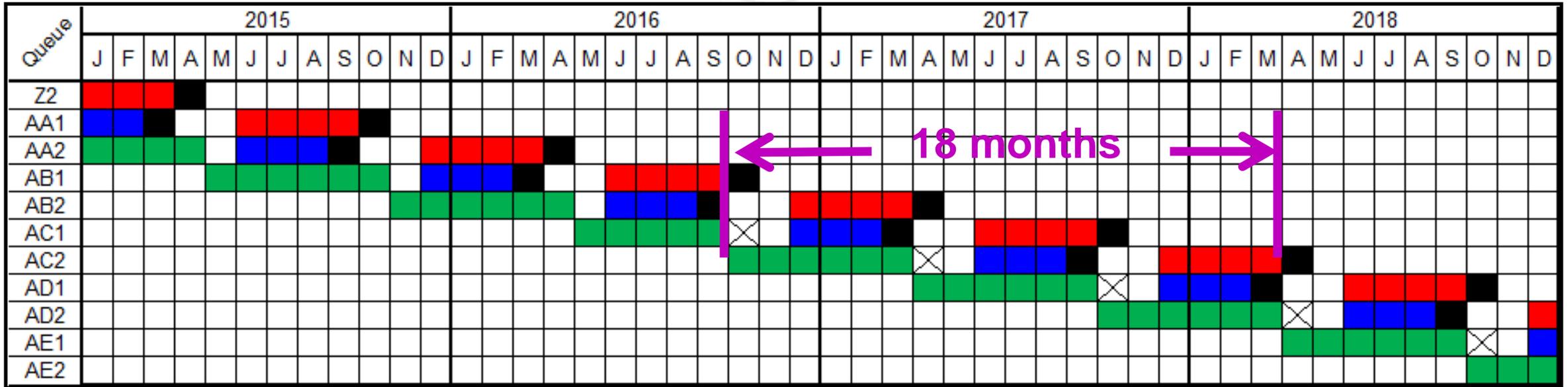
Queues not valid on last day slide





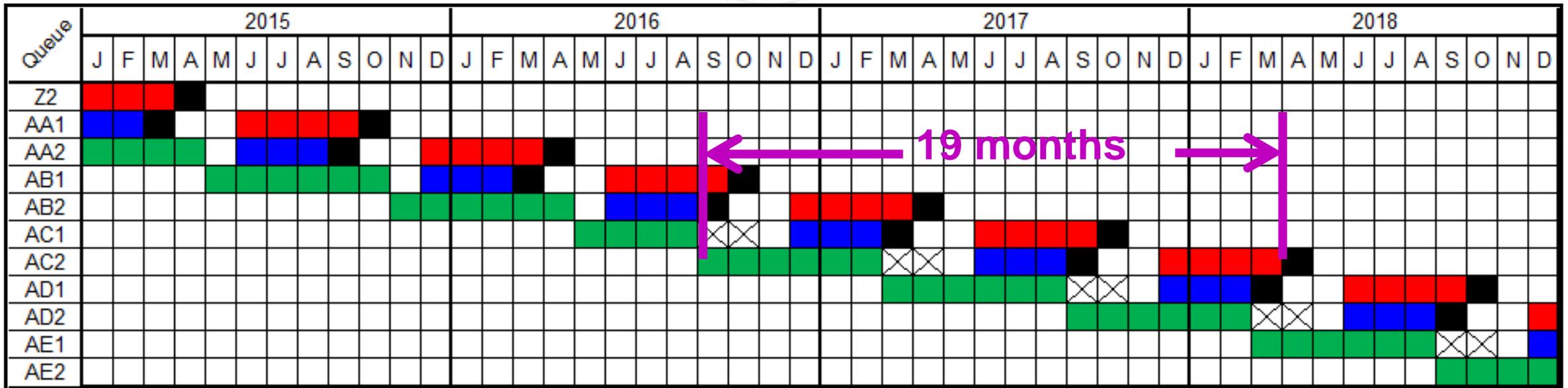
- PJM Receives Queue Requests
- Feasibility Study Period
- X Deficiency Clear
- Scoping Meeting & Model Build
- 30 Day Review and Agreement Return by Customer
- System Impact Study Period

| Opt | SQ | A | B | C | D | E |
|-----|----|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | | | | |
| 3 | X | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |



- PJM Receives Queue Requests
- Feasibility Study Period
- X Deficiency Clear
- Scoping Meeting & Model Build
- 30 Day Review and Agreement Return by Customer
- System Impact Study Period

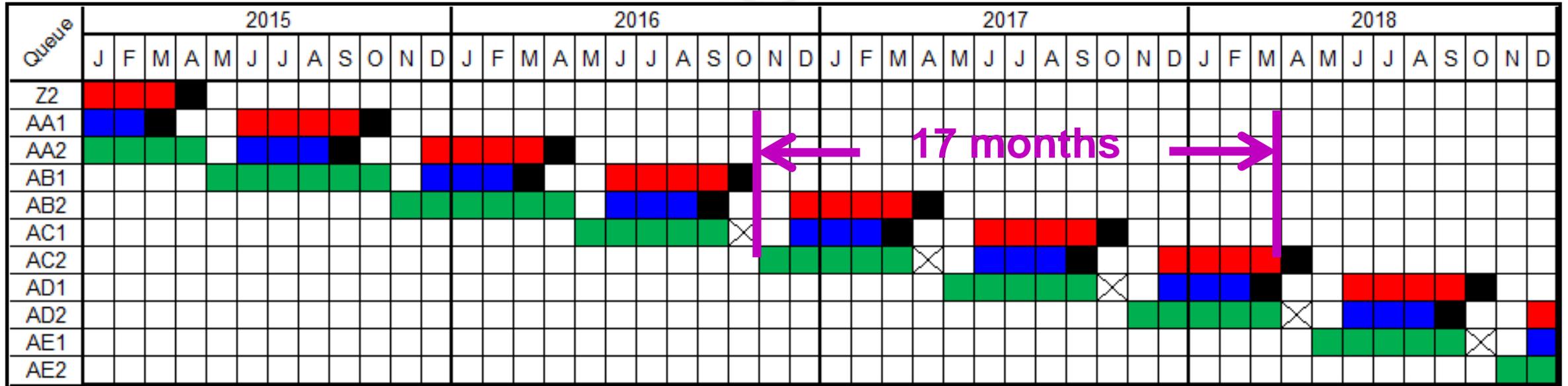
| Opt | SQ | A | B | C | D | E |
|-----|----|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | | | |
| 3 | X | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |



← 19 months →

- PJM Receives Queue Requests
- Feasibility Study Period
- X Deficiency Clear
- Scoping Meeting & Model Build
- 30 Day Review and Agreement Return by Customer
- System Impact Study Period

| Opt | SQ | A | B | C | D | E |
|-----|----|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | X | | |
| 3 | X | | | | | X |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |



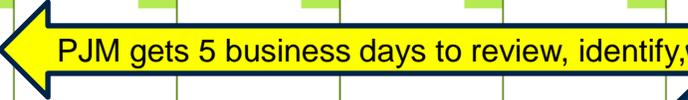
- PJM Receives Queue Requests
- Feasibility Study Period
- X Deficiency Clear
- Scoping Meeting & Model Build
- 30 Day Review and Agreement Return by Customer
- System Impact Study Period

| Opt | SQ | A | B | C | D | E |
|-----|----|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | X | | |
| 3 | X | | X | | | X |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |

Design Component 3 Option A

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--------|---------|-----------|--|-----------------------------|----------|
| 27 | 28 | 29 | 30 | 31 | April 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | | | | Last business day before queue closes. | Last day of queue receipts. | |

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|--------|---------|-----------|----------|--------|----------|
| May 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | June 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |


 PJM gets 5 business days to review, identify,
 
 valid

Design Component 3 Option C

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|------------------|---------|-----------|--|-----------------------------|----------|
| 27 | 28 | 29 | 30 | 31 | April 1 2 | |
| 3 | Opt SQ A B C D E | 5 | 6 | 7 | 8 | 9 |
| 1 | X X X | | | | | |
| 2 | X X X X | | | | | |
| 3 | X X X X | X | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 10 | | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | | | | Last business day before queue closes. | Last day of queue receipts. | |

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | |
|--|--------|---------|-----------|----------|--------|----------|--|
| May | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| PJM gets 7 business days to review, identify, notify | | | | | | | |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | |
| 3 business days to clear all deficiencies | | | | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | |
| PJM gets 5 days to verify validity | | | | | | | |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 29 | 30 | 31 | June | | | | |
| | 6 | 7 | 8 | 9 | 10 | | |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 | |

Design Component 3 Option D

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--------|------------------|---------|-----------|--|-----------------------------|----------|
| 27 | 28 | 29 | 30 | 31 | April 1 2 | |
| 3 | Opt SQ A B C D E | 5 | 6 | 7 | 8 | 9 |
| 10 | 1 X X X | 12 | 13 | 14 | 15 | 16 |
| | 2 X X X X | | | | | |
| | 3 X X X X X X | | | | | |
| | 4 | | | | | |
| | 5 | | | | | |
| | 6 | | | | | |
| | 7 | | | | | |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | | | | Last business day before queue closes. | Last day of queue receipts. | |

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|--|--------|---------|-----------|----------|--------|----------|
| May | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| PJM gets 5 business days to review, identify, notify | | | | | | |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 4 business days to clear all deficiencies | | | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| PJM gets 5 days to verify valid | | | | | | |
| | | | | valid | 1 | 2 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 29 | 30 | 31 | June | | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 17 | 18 | 19 | 20 | | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |

Review Fee Structure Spreadsheet

| Opt | SQ | A | B | C | D | E |
|-----|----|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | X | | |
| 3 | X | X | X | X | X | X |
| 4 | X | X | X | X | | |
| 5 | X | X | X | X | | |
| 6 | | | | | | |
| 7 | | | | | | |

Feasibility Start and End Date

Design Component 7 Status Quo

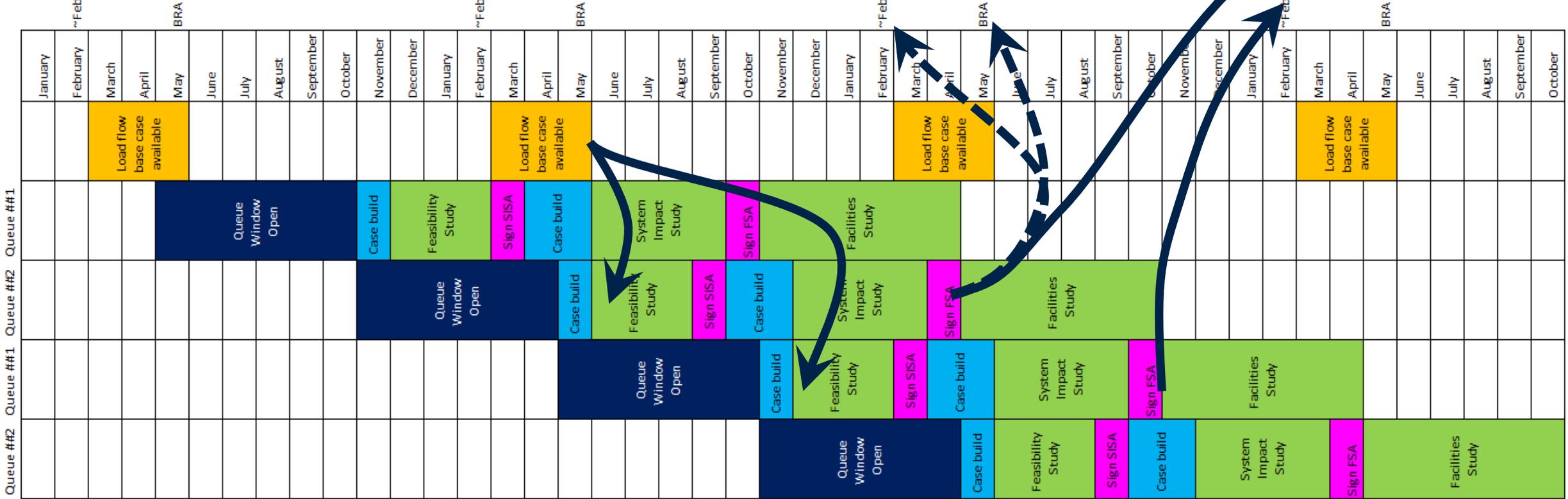
~Feb. 21 : Planned Resource Intent to Offer

| Opt | SQ | A | B | C | D | E |
|-----|----|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | X | | |
| 3 | X | X | X | X | X | X |
| 4 | X | X | X | X | | |
| 5 | X | X | X | X | | |
| 6 | | | | | | |
| 7 | X | | | | | |

~Feb. 21 : Planned Resource Intent to Offer

~Feb. 21 : Planned Resource Intent to Offer

~Feb. 21 : Planned Resource Intent to Offer

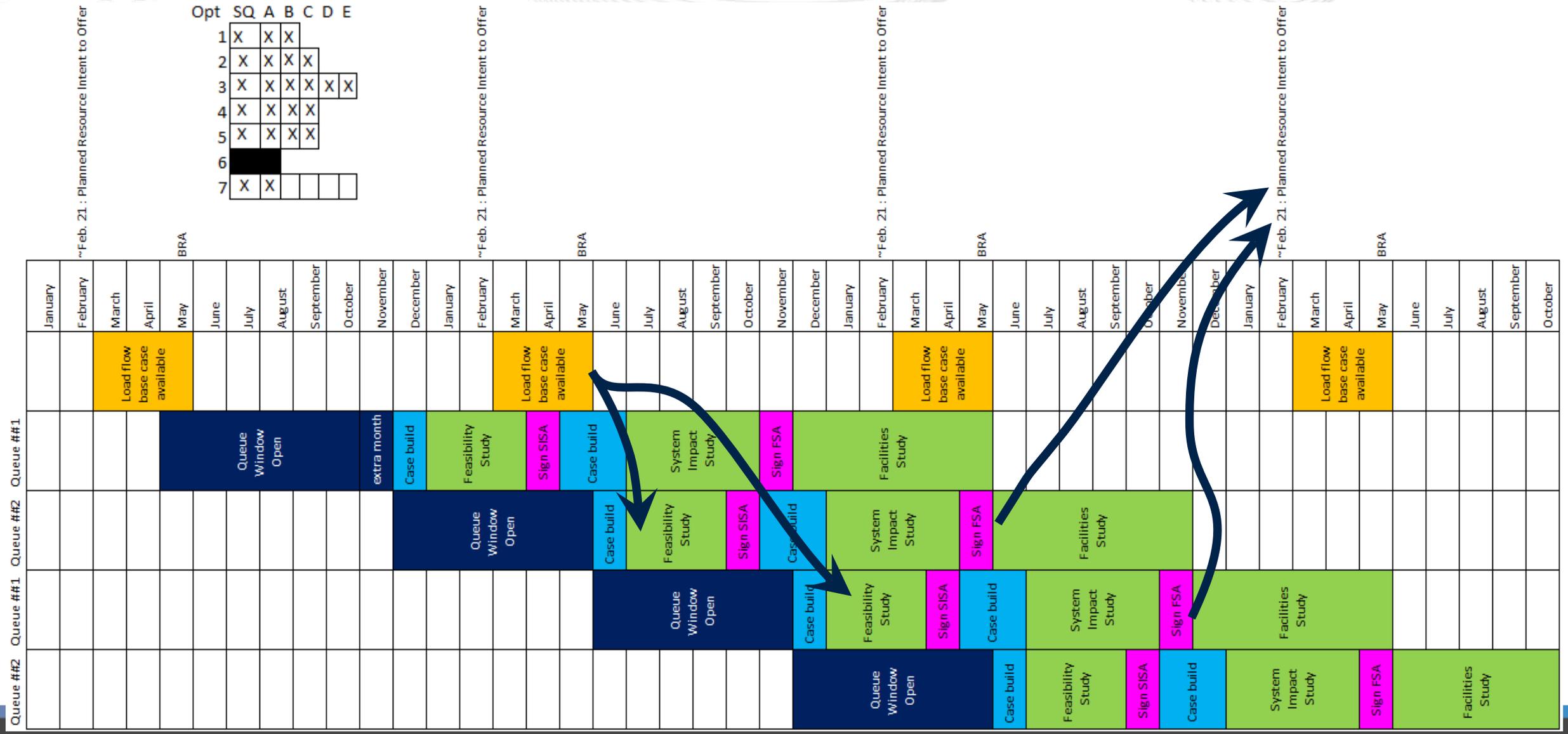




Design Component 7 Option A – 1 Month

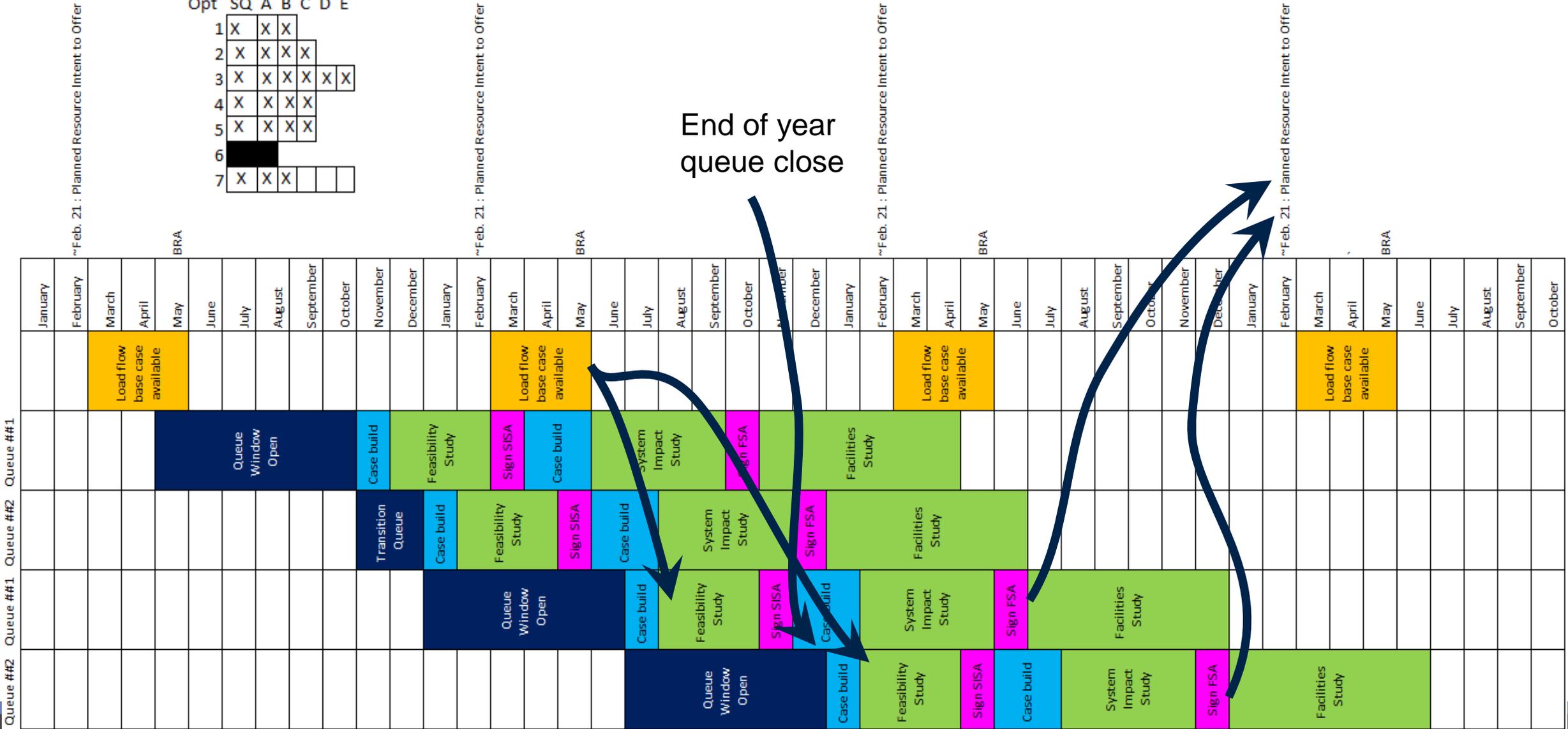
Opt SQ A B C D E

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | X | | |
| 3 | X | X | X | X | X | X |
| 4 | X | X | X | X | | |
| 5 | X | X | X | X | | |
| 6 | | | | | | |
| 7 | X | X | | | | |



Design Component 7 Option B – 2 Months

| Opt | SQ | A | B | C | D | E |
|-----|----|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | X | | |
| 3 | X | X | X | X | X | X |
| 4 | X | X | X | X | | |
| 5 | X | X | X | X | | |
| 6 | | | | | | |
| 7 | X | X | X | | | |

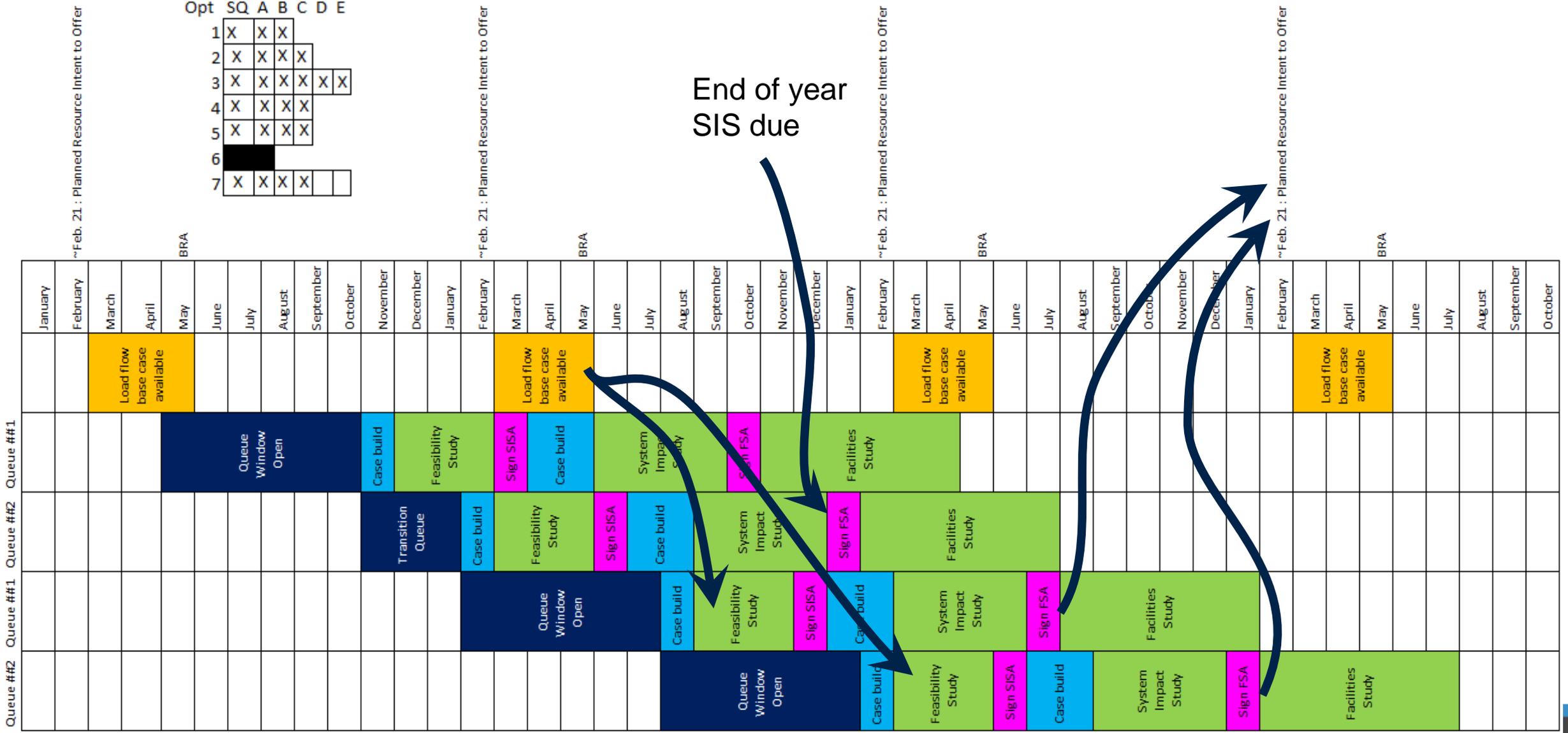




Design Component 7 Option C – 3 Months

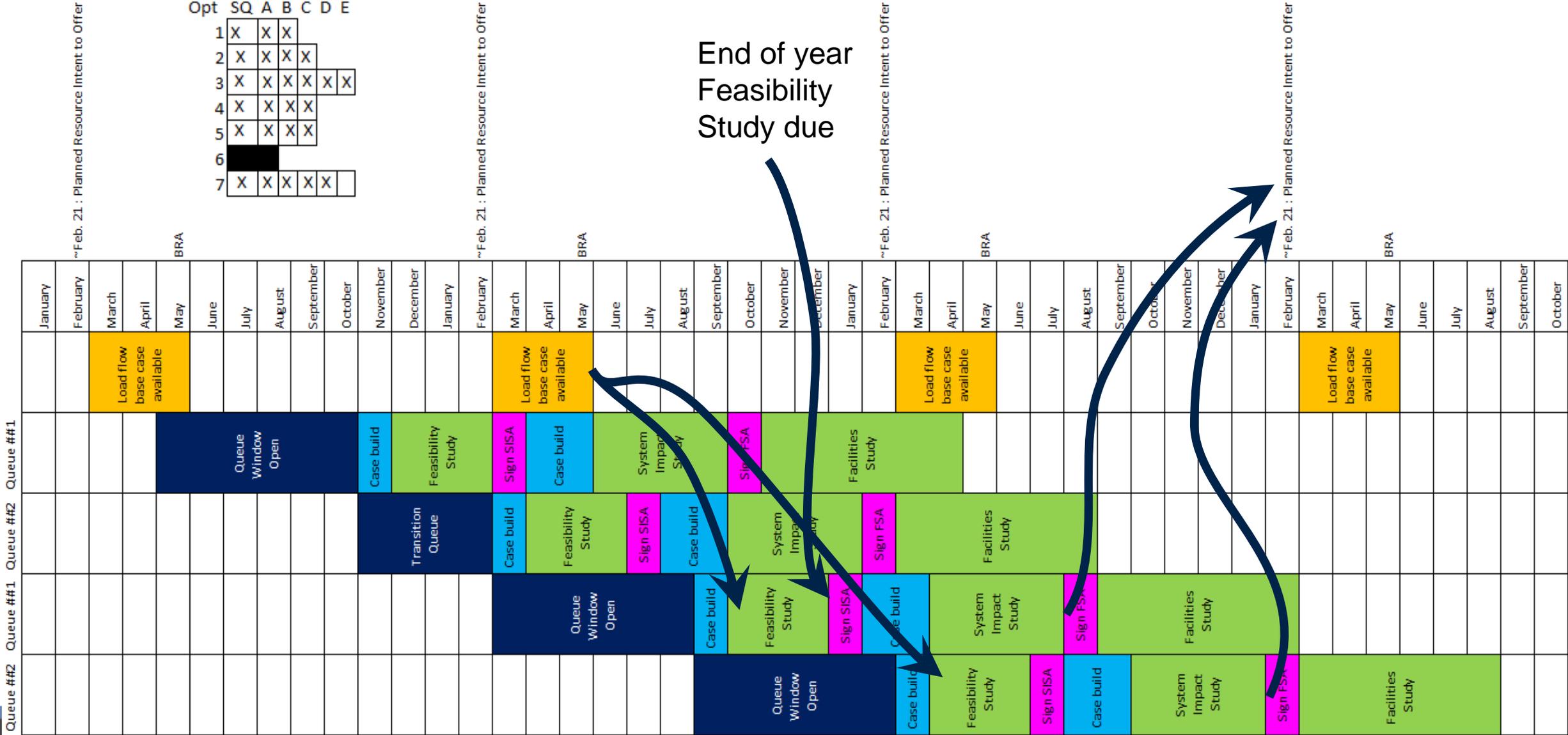
Opt SQ A B C D E

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | X | | |
| 3 | X | X | X | X | X | X |
| 4 | X | X | X | X | | |
| 5 | X | X | X | X | | |
| 6 | | | | | | |
| 7 | X | X | X | X | | |



Design Component 7 Option D – 4 Months

| Opt | SQ | A | B | C | D | E |
|-----|----|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | X | | |
| 3 | X | X | X | X | X | X |
| 4 | X | X | X | X | | |
| 5 | X | X | X | X | | |
| 6 | | | | | | |
| 7 | X | X | X | X | X | |



Design Component 7 Option E – 5 Months

~ Feb. 21 : Planned Resource Intent to Offer

| Opt | SQ | A | B | C | D | E |
|-----|----|---|---|---|---|---|
| 1 | X | X | X | | | |
| 2 | X | X | X | X | | |
| 3 | X | X | X | X | X | X |
| 4 | X | X | X | X | | |
| 5 | X | X | X | X | | |
| 6 | | | | | | |
| 7 | X | X | X | X | X | X |

~ Feb. 21 : Planned Resource Intent to Offer

~ Feb. 21 : Planned Resource Intent to Offer

~ Feb. 21 : Planned Resource Intent to Offer

