

Generation Interconnection Feasibility Study Report Queue Position AB1-056

The Interconnection Customer (IC) has proposed a 247.8 MW MFO (64.4 MWC) off-shore wind generating facility to be located in the Atlantic Ocean approximately 14 miles off the coast of Ocean City, Maryland. The generating facility will consist of 62 off-shore 4 MW wind turbines. PJM studied AB1-056 as a 247.8 MW injection into the Delmarva Power and Light Company's (DPL) system and evaluated it for compliance with reliability criteria for summer peak conditions in 2019. The planned in-service date, as stated during the kick-off call, is March 1, 2020.

Point of Interconnection

The IC requested a primary and secondary Point of Interconnection. The primary option is a direct connection into the Indian River 230 kV Substation (see Attachment 1). The secondary POI option is a direct connection into the Ocean Bay 138 kV Substation.

AB1-056 will require a Point of Interconnection (POI) off the 230 kV substation bus at Indian River Substation in Millsboro, DE. AB1-056 will connect into Delmarva Power's Indian River 230 kV North Substation at a 230 kV terminal off of an existing 230 kV breaker and a half leg within the substation.

Direct Connection Requirements

Transmission Owner Scope of Direct Connection Work

Substation Engineering Estimate:

Scope: Build a new 230 kV line terminal at the Indian River 230 kV North Substation. The new terminal will be designed and constructed off an existing breaker and a half leg with Indian River AT22. The project will encompass the design and construction required to add the new 230 kV terminal. DPL has included the scope of work up to the 230 kV take-off structure located just inside the fence line of DPL's Indian River 230 kV North Substation.

Estimate: \$1,356,861

Construction Time: 24 months

Major Equipment Included in Estimate:

- | | |
|---|--------|
| • Power Circuit Breaker, 230 kV, 3000A, 40kA, 3 cycle | Qty. 1 |
| • Disconnect Switch, 230 kV, 3000A, Manual Wormgear, Arcing Horns | Qty. 4 |
| • CT/VT Combination Units, 230 kV | Qty. 3 |
| • Disconnect Switch Stand, High, 230 kV, Steel | Qty. 2 |
| • CT/VT Stand, Single-Phase, Low, 230 kV, Steel | Qty. 3 |
| • Relay Panel, Transmission Line, FL/BU (20") | Qty. 2 |
| • Control Panel, 230 kV Circuit Breaker (20") | Qty. 1 |
| • Take-off structure, 230 kV | Qty. 1 |

- Bus Support Structure, 3 phase, 230 kV, Steel

Qty. 1

Estimate Assumptions:

- Substation expansion is not required
- Additional reinforcements of the substation ground grid not required
- Site work including additional site stoning and storm water management is not required
- Lightning protection reinforcements are not required

Interconnection Customer Scope of Direct Connection Work

The Interconnection Customer (IC) is responsible for all design and construction related to activities on their side of the Point of Interconnection. Site preparation, including grading and an access road, as necessary, is assumed to be by the IC. Route selection, line design, and right-of-way acquisition of the direct connect facilities is not included in this report, and is the responsibility of the IC.

Protective relaying and metering design and installation must comply with PHI's applicable standards. The IC is also required to provide revenue metering and real-time telemetering data to PJM in conformance with the requirements contained in PJM Manuals M-01 and M-14 and the PJM Tariff.

DPL requires that an IC circuit breaker is located within 500 feet of the DPL substation to facilitate the relay protection scheme between DPL and the IC at the Point of Interconnection.

Metering

Three phase 230 kV revenue metering points will need to be established. DPL will purchase and install all metering instrument transformers as well as construct a metering structure. The secondary wiring connections at the instrument transformers will be completed by DPL's metering technicians. The metering control cable and meter cabinets will be supplied and installed by DPL. DPL will install conduit for the control cable between the instrument transformers and the metering enclosure. The location of the metering enclosure will be determined in the construction phase. DPL will provide both the Primary and the Backup meters. DPL's meter technicians will program and install the Primary & Backup solid state multi-function meters for each new metering position. Each meter will be equipped with load profile, telemetry, and DNP outputs. The IC will be provided with one meter DNP output for each meter. DPL will own the metering equipment for the interconnection point, unless the IC asserts its right to install, own, and operate the metering system.

Required Relaying and Communications

(List of impacted substations and estimates for relaying setting changes, replacements)

New protection relays are required for the new terminal. An SEL-487 will be required for primary protection and an SEL-387 will be required for back-up protection. Two 20" relay panels will be required for front line and back-up protection.

An SEL-451 relay on a 20" breaker control panel will be required for the control and operation of the new 230 kV circuit breaker.

The project will require re-wiring of existing relay schemes to accommodate the new 230 kV terminal position.

The cost of the required relay and communications is included in the Substation Interconnection estimate.

Special Operating Requirements

1. The Company (ACE, DPL, and Pepco) will require the capability to remotely disconnect the generator from the grid by communication from its System Operations facility. Such disconnection may be facilitated by a generator breaker, a line recloser, or other method depending upon the specific circumstances and the evaluation by the Company.
2. It is the Interconnection Customer's responsibility to send the data that PJM and the Company require directly to PJM. The Interconnection Customer will grant permission for PJM to send to the Company the following telemetry that the Interconnection Customer sends to PJM: real time MW, MVAR, volts, amperes, generator/status, and interval MWH and MVARH.
3. The Interconnection Customer will be required to make provisions for a voice quality phone line within approximately 3 feet of each Company metering position to facilitate remote interrogation and data collection.
4. The Company reserves the right to charge the Interconnection Customer operation and maintenance expenses to maintain the Interconnection Customer attachment facilities, including metering and telecommunications facilities, owned by the Company.

Network Impacts

Potential transmission network impacts are as follows:

Primary Point of Interconnection

Queue Project AB1-056 was evaluated as a 247.8 MW (Capacity 64.4 MW) injection at the DPL Indian River 230 kV substation.

Generator Deliverability

*(Single or N-1 contingencies for the **Capacity** portion only of the interconnection)*

None

Multiple Facility Contingency

*(Double Circuit Tower Line Contingencies only with **full energy** output. Stuck Breaker and Bus Fault contingencies will be applied during the Impact Study)*

1. (PECO - AE) The DELCOTAP-MCKLTON 230 kV line (from bus 213559 to bus 228401 ckt 1) loads from 97.89% to 99.16% (**DC power flow**) of its emergency rating (796 MVA) for the bus fault outage of 'CHI230B1/* \$ DELCO \$ CHI230B1 \$ B'. This project contributes approximately 22.63 MW to the thermal violation.

CONTINGENCY 'CHI230B1/* \$ DELCO \$ CHI230B1 \$ B'
DISCONNECT BUS 213489/* CHICHST1 230.00 \$ DELCO \$ CHI230B1 \$ B
END/* \$ DELCO \$ CHI230B1 \$ B

Please refer to Appendix 1 for a table containing the generators having contribution to this flowgate.

2. (PECO - AE) The DELCOTAP-MCKLTON 230 kV line (from bus 213559 to bus 228401 ckt 1) loads from 97.89% to 99.16% (**DC power flow**) of its emergency rating (796 MVA) for the line fault with failed breaker contingency outage of 'CHICH045/* \$ DELCO \$ CHICH045 \$ STBK'. This project contributes approximately 22.63 MW to the thermal violation.

CONTINGENCY 'CHICH045/* \$ DELCO \$ CHICH045 \$ STBK'
DISCONNECT BUS 213489/* CHICHST1 230.00 \$ DELCO \$ CHICH045 \$ STBK
DISCONNECT BUS 213627/* FOULK8 230.00 \$ DELCO \$ CHICH045 \$ STBK
END/* \$ DELCO \$ CHICH045 \$ STBK

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. “Network Impacts”, identified for earlier generation or transmission interconnection projects in the PJM Queue)

None

Short Circuit

No issues identified.

Stability Analysis

To be completed during later phases of the study process if required.

Light Load Analysis

To be completed during later phases of the study process if required.

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. “Network Impacts,” initially caused by the addition of this project’s generation)

Note: For “Multiple Facility Contingency” overloads 1 and 2 above, the AB1-056 project does not cause the (PECO - AE) DELCOTAP-MCKLTON 230 kV line overload.. This circuit does however become overloaded by later queue project AB1-057. Costs to mitigate this overload have not yet been calculated but should it be determined that the cost is less than \$5M, AB1-056 will have cost allocation based on PJM’s cost allocation rules. If the cost is greater than \$5M, AB1-057 will be responsible for the costs of the upgrade.

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project.

None

Potential Congestion due to Local Energy Deliverability

(PJM also studied the delivery of the energy portion of the surrounding generation. Any potential problems identified below are likely to result in operational restrictions to the project under study. The Interconnection Customer can proceed with Network Upgrades to eliminate the operational restriction at their discretion by submitting a Transmission Interconnection Request. Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full deliverability for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which analyzes all overload conditions associated with the identified overloaded element(s). As a result of the aggregate energy resources in the area, the following violations were identified:

1. (PECO - PECO) The LINWOOD-CHICHST1 230 kV line (from bus 213750 to bus 213489 ckt 1) loads from 101.36% to 102.59% (DC power flow) of its emergency rating (1593 MVA) for the single line contingency outage of '220-39'. This project contributes approximately 44.46 MW to the thermal violation.

CONTINGENCY '220-39'/* \$ DELCO \$ 220-39 \$ L
TRIP BRANCH FROM BUS 213490 TO BUS 213750 CKT 1/*
END

2. (PECO - PECO) The LINWOOD-CHICHST2 230 kV line (from bus 213750 to bus 213490 ckt 1) loads from 101.22% to 102.45% (DC power flow) of its emergency rating (1593 MVA) for the single line contingency outage of '220-43'/* \$ DELCO \$ 220-43 \$ L'. This project contributes approximately 44.39 MW to the thermal violation.

CONTINGENCY '220-43'/* \$ DELCO \$ 220-43 \$ L'
TRIP BRANCH FROM BUS 213489 TO BUS 213750 CKT 1/*
END/*\$ DELCO \$ 220-43 \$ L

Secondary Point of Interconnection

Queue Project AB1-056 was evaluated as a 247.8 MW (Capacity 64.4 MW) injection at the DPL Ocean Bay 138kV substation.

Generator Deliverability

*(Single or N-1 contingencies for the **Capacity** portion only of the interconnection)*

None

Multiple Facility Contingency

(Double Circuit Tower Line Contingencies only with full energy output. Stuck Breaker and Bus Fault contingencies will be applied during the Impact Study)

1. (PECO - AE) The DELCOTAP-MCKLTON 230 kV line (from bus 213559 to bus 228401 ckt 1) loads from 97.95% to 99.21% (DC power flow) of its emergency rating (796 MVA) for the bus fault outage of 'CHI230B1/* \$ DELCO \$ CHI230B1 \$ B'. This project contributes approximately 22.68 MW to the thermal violation.

CONTINGENCY 'CHI230B1/* \$ DELCO \$ CHI230B1 \$ B'
DISCONNECT BUS 213489/* CHICHST1 230.00 \$ DELCO \$ CHI230B1 \$ B
END/*\$ DELCO \$ CHI230B1 \$ B

Please refer to Appendix 1 for a table containing the generators having contribution to this flowgate.

2. (PECO - AE) The DELCOTAP-MCKLTON 230 kV line (from bus 213559 to bus 228401 ckt 1) loads from 97.93% to 99.2% (DC power flow) of its emergency rating (796 MVA) for the line fault with failed breaker contingency outage of 'CHICH045/* \$ DELCO \$ CHICH045 \$ STBK'. This project contributes approximately 22.68 MW to the thermal violation.

CONTINGENCY 'CHICH045/* \$ DELCO \$ CHICH045 \$ STBK'
DISCONNECT BUS 213489/* CHICHST1 230.00 \$ DELCO \$ CHICH045 \$ STBK
DISCONNECT BUS 213627/* FOULK8 230.00 \$ DELCO \$ CHICH045 \$ STBK
END/*\$ DELCO \$ CHICH045 \$ STBK

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None

Potential Congestion due to Local Energy Deliverability

(PJM also studied the delivery of the energy portion of the surrounding generation. Any potential problems identified below are likely to result in operational restrictions to the project under study. The Interconnection Customer can proceed with Network Upgrades to eliminate the operational restriction at their discretion by submitting a Transmission Interconnection Request. Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full deliverability for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which analyzes all overload conditions associated with the identified overloaded element(s). As a result of the aggregate energy resources in the area, the following violations were identified:

1. (PECO - PECO) The LINWOOD-CHICHST1 230 kV line (from bus 213750 to bus 213489 ckt 1) loads from 101.39% to 102.63% (DC power flow) of its emergency rating (1593 MVA) for the single line contingency outage of '220-39'. This project contributes approximately 43.75 MW to the thermal violation.

CONTINGENCY '220-39'/* \$ DELCO \$ 220-39 \$ L
TRIP BRANCH FROM BUS 213490 TO BUS 213750 CKT 1/*
END

2. (PECO - PECO) The LINWOOD-CHICHST2 230 kV line (from bus 213750 to bus 213490 ckt 1) loads from 101.25% to 102.48% (**DC power flow**) of its emergency rating (1593 MVA) for the single line contingency outage of '220-43/* \$ DELCO \$ 220-43 \$ L'. This project contributes approximately 43.68 MW to the thermal violation.

CONTINGENCY '220-43/* \$ DELCO \$ 220-43 \$ L'
TRIP BRANCH FROM BUS 213489 TO BUS 213750 CKT 1/*
END/*\$ DELCO \$ 220-43 \$ L

3. (DP&L - DP&L) The WORCR_69-OCEANPIN 69 kV line (from bus 232267 to bus 232832 ckt 1) loads from 95.6% to 106.99% (DC power flow) of its normal rating (54 MVA) for non-contingency condition. This project contributes approximately 13.65 MW to the thermal violation.

Additional Interconnection Customer Responsibilities:

1. An Interconnection Customer entering the New Services Queue on or after October 1, 2012 with a proposed new Customer Facility that has a Maximum Facility Output equal to or greater than 100 MW shall install and maintain, at its expense, phasor measurement units (PMUs). See Section 8.5.3 of Appendix 2 to the Interconnection Service Agreement as well as section 4.3 of PJM Manual 14D for additional information.
2. The Interconnection Customer seeking to interconnect a wind generation facility shall maintain meteorological data facilities as well as provide that meteorological data which is required per item 5.iv. of Schedule H to the Interconnection Service Agreement.

Facilities Study Estimate

(If a Facilities Study is required, provide the estimated duration and cost estimate to perform Facilities Study)

The estimated time for PJM to issue a Facilities Study Report is 8 months. The deposit required for the AB1-056 project will be \$100,000.

Appendices

The following appendices contain additional information about each flowgate presented in the body of the report. For each appendix, a description of the flowgate and its contingency was included for convenience. However, the intent of the appendix section is to provide more information on which projects/generators have contributions to the flowgate in question. Although this information is not used "as is" for cost allocation purposes, it can be used to gage other generators impact.

It should be noted the generator contributions presented in the appendices sections are full contributions, whereas in the body of the report, those contributions take into consideration the commercial probability of each project.

Primary POI

(PECO - AE) The DELCOTAP-MCKLTON 230 kV line (from bus 213559 to bus 228401 ckt 1) loads from 97.89% to 99.16% (DC power flow) of its emergency rating (796 MVA) for the bus fault outage of 'CHI230B1/* \$ DELCO \$ CHI230B1 \$ B'. This project contributes approximately 22.63 MW to the thermal violation.

CONTINGENCY 'CHI230B1/* \$ DELCO \$ CHI230B1 \$ B'

DISCONNECT BUS 213489/* CHICHST1 230.00 \$ DELCO \$ CHI230B1 \$ B

END/* \$ DELCO \$ CHI230B1 \$ B

| <i>Bus Number</i> | <i>Bus Name</i> | <i>Full Contribution</i> |
|-------------------|-----------------|--------------------------|
| 231131 | BLOOM ENRGY | 0.25 |
| 231919 | CHRIST1 | 0.37 |
| 231920 | CHRIST2 | 0.36 |
| 213400 | COVANTA DELA | 4.54 |
| 231917 | EM10 | 0.25 |
| 231916 | EM3 | 1.51 |
| 231901 | EM4 | 3.08 |
| 231900 | EM5 | 11.41 |
| 231908 | HR1 | 2.21 |
| 231909 | HR2 | 2.19 |
| 231910 | HR3 | 2.21 |
| 231505 | HR4 | 4.69 |
| 232923 | MR1 | 1.46 |
| 232924 | MR2 | 1.46 |

| | | |
|--------|-------------------|-------|
| 213888 | <i>PHLISCT1</i> | 5.41 |
| 213889 | <i>PHLISCT2</i> | 5.41 |
| 213890 | <i>PHLISCT3</i> | 5.41 |
| 213893 | <i>PHLISST1</i> | 7.49 |
| 297076 | <i>V2-028 C</i> | 0.21 |
| 297077 | <i>V2-028 E</i> | 0.35 |
| 904212 | <i>V4-022 E</i> | 0.29 |
| 901004 | <i>W1-003 E</i> | 0.42 |
| 901014 | <i>W1-004 E</i> | 0.42 |
| 901024 | <i>W1-005 E</i> | 0.42 |
| 901034 | <i>W1-006 E</i> | 0.42 |
| 903991 | <i>W3-080 C</i> | -0.46 |
| 904792 | <i>W3-160 E</i> | 0.57 |
| 905231 | <i>W4-029 C</i> | -0.05 |
| 231918 | <i>WEST 1</i> | 0.27 |
| 907052 | <i>X1-032 E</i> | 0.37 |
| 907324 | <i>X1-096 E</i> | 8.65 |
| 909032 | <i>X2-013 E</i> | 0.22 |
| 909411 | <i>X2-083</i> | 0.04 |
| 910572 | <i>X3-008 E</i> | 1.18 |
| 910591 | <i>X3-015 C</i> | 0.7 |
| 910592 | <i>X3-015 E</i> | 1.14 |
| 910822 | <i>X3-066 E</i> | 0.37 |
| 912161 | <i>X4-027 CT1</i> | 0.36 |
| 912162 | <i>X4-027 CT2</i> | 0.36 |
| 912163 | <i>X4-027 CT3</i> | 0.36 |
| 913362 | <i>Y1-079 E</i> | 0.61 |
| 913412 | <i>Y1-080 E</i> | 0.2 |
| 915751 | <i>Y3-033</i> | 1.69 |
| 915752 | <i>Y3-033</i> | 11.28 |
| 915522 | <i>Y3-054 E</i> | 1.09 |
| 915542 | <i>Y3-058 E</i> | 0.87 |
| 916231 | <i>Z1-076 C</i> | 0.49 |
| 916232 | <i>Z1-076 E</i> | 0.8 |
| 916241 | <i>Z1-077 C</i> | 0.35 |
| 916242 | <i>Z1-077 E</i> | 0.57 |
| 916281 | <i>Z1-081 C</i> | 0.23 |
| 916282 | <i>Z1-081 E</i> | 0.37 |
| 916292 | <i>Z1-082 E</i> | 0.08 |
| 916471 | <i>Z1-103</i> | 0.39 |
| 917081 | <i>Z2-012 C</i> | 0.7 |
| 917082 | <i>Z2-012 E</i> | 1.15 |
| 917431 | <i>Z2-076 C</i> | 0.37 |
| 917432 | <i>Z2-076 E</i> | 0.18 |
| 917441 | <i>Z2-077 C</i> | 0.37 |

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|--------|--------------|-------|
| 917442 | Z2-077 E | 0.18 |
| 917581 | Z2-097 C | 0.36 |
| 917582 | Z2-097 E | 0.15 |
| 918111 | AA1-025 | 0.34 |
| 918121 | AA1-026 | 0.34 |
| 918161 | AA1-027 | 0.34 |
| 918171 | AA1-028 | 0.34 |
| 918441 | AA1-059 C | 0.4 |
| 918442 | AA1-059 E | 0.16 |
| 918461 | AA1-061 C | 1.27 |
| 918462 | AA1-061 E | 0.63 |
| 918831 | AA1-102 | 3.49 |
| 918852 | AA1-104 E | 2.46 |
| 918911 | AA1-110 C | 0.4 |
| 918912 | AA1-110 E | 0.2 |
| 919161 | AA1-140 C | 0.7 |
| 919162 | AA1-140 E | 1.14 |
| 919171 | AA1-141 C | 0.53 |
| 919172 | AA1-141 E | 0.86 |
| 919831 | AA2-069 | 38.76 |
| 920312 | AA2-129 E | 1.85 |
| 920321 | AA2-130 | 0.19 |
| 920461 | AA2-144 C | 0.65 |
| 920462 | AA2-144 E | 0.3 |
| 920491 | AA2-147 C | 0.26 |
| 920492 | AA2-147 E | 0.12 |
| 920521 | AA2-150 C | 0.66 |
| 920522 | AA2-150 E | 0.31 |
| 919871 | AB1-000 1 | 2.82 |
| 919881 | AB1-000 2 | 2.82 |
| 919891 | AB1-000 3 | 2.82 |
| 930201 | AB1-056 C OP | 5.88 |
| 930202 | AB1-056 E OP | 16.75 |
| 930211 | AB1-057 C | 5.97 |
| 930212 | AB1-057 E | 17.02 |
| 930332 | AB1-074 E | 1.21 |
| 930691 | AB1-113 C | 0.36 |
| 930692 | AB1-113 E | 0.59 |
| 930881 | AB1-137 C | 1.28 |
| 930882 | AB1-137 E | 0.55 |
| 930921 | AB1-141 C | 1.35 |
| 930922 | AB1-141 E | 0.63 |
| 930931 | AB1-142 C | 1.35 |
| 930932 | AB1-142 E | 0.63 |
| 931101 | AB1-161 C | 0.05 |

| | | |
|--------|-----------|------|
| 931102 | AB1-161 E | 0.08 |
| 931111 | AB1-162 C | 0.63 |
| 931112 | AB1-162 E | 1.03 |
| 931262 | AB1-176 E | 0.9 |
| 931961 | AB1-184 C | 0.07 |
| 931962 | AB1-184 E | 0.12 |

Secondary POI

Appendix 1

(PECO - AE) The DELCOTAP-MCKLTON 230 kV line (from bus 213559 to bus 228401 ckt 1) loads from 97.95% to 99.21% (DC power flow) of its emergency rating (796 MVA) for the bus fault outage of 'CHI230B1/* \$ DELCO \$ CHI230B1 \$ B'. This project contributes approximately 22.68 MW to the thermal violation.

CONTINGENCY 'CHI230B1/* \$ DELCO \$ CHI230B1 \$ B'

DISCONNECT BUS 213489 /* CHICHST1 230.00 \$ DELCO \$
 CHI230B1 \$ B
 END/* \$ DELCO \$ CHI230B1 \$ B

| <i>Bus Number</i> | <i>Bus Name</i> | <i>Full Contribution</i> |
|-------------------|-----------------|--------------------------|
| 231131 | BLOOM ENRGY | 0.25 |
| 231919 | CHRIST1 | 0.37 |
| 231920 | CHRIST2 | 0.36 |
| 213400 | COVANTA DELA | 4.54 |
| 231917 | EM10 | 0.25 |
| 231916 | EM3 | 1.51 |
| 231901 | EM4 | 3.08 |
| 231900 | EM5 | 11.41 |
| 231908 | HR1 | 2.21 |
| 231909 | HR2 | 2.19 |
| 231910 | HR3 | 2.21 |
| 231505 | HR4 | 4.69 |
| 232923 | MR1 | 1.46 |
| 232924 | MR2 | 1.46 |
| 213888 | PHLISCT1 | 5.41 |
| 213889 | PHLISCT2 | 5.41 |
| 213890 | PHLISCT3 | 5.41 |
| 213893 | PHLISST1 | 7.49 |
| 297076 | V2-028 C | 0.21 |
| 297077 | V2-028 E | 0.35 |
| 904212 | V4-022 E | 0.29 |
| 901004 | W1-003 E | 0.42 |
| 901014 | W1-004 E | 0.42 |

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| 901024 | W1-005 E | 0.42 |
| 901034 | W1-006 E | 0.42 |
| 903991 | W3-080 C | -0.46 |
| 904792 | W3-160 E | 0.57 |
| 905231 | W4-029 C | -0.05 |
| 231918 | WEST 1 | 0.27 |
| 907052 | X1-032 E | 0.37 |
| 907324 | X1-096 E | 8.65 |
| 909032 | X2-013 E | 0.22 |
| 909411 | X2-083 | 0.04 |
| 910572 | X3-008 E | 1.18 |
| 910591 | X3-015 C | 0.7 |
| 910592 | X3-015 E | 1.14 |
| 910822 | X3-066 E | 0.37 |
| 912161 | X4-027 CT1 | 0.36 |
| 912162 | X4-027 CT2 | 0.36 |
| 912163 | X4-027 CT3 | 0.36 |
| 913362 | Y1-079 E | 0.61 |
| 913412 | Y1-080 E | 0.2 |
| 915751 | Y3-033 | 1.69 |
| 915752 | Y3-033 | 11.28 |
| 915522 | Y3-054 E | 1.09 |
| 915542 | Y3-058 E | 0.87 |
| 916231 | Z1-076 C | 0.49 |
| 916232 | Z1-076 E | 0.8 |
| 916241 | Z1-077 C | 0.35 |
| 916242 | Z1-077 E | 0.57 |
| 916281 | Z1-081 C | 0.23 |
| 916282 | Z1-081 E | 0.37 |
| 916292 | Z1-082 E | 0.08 |
| 916471 | Z1-103 | 0.39 |
| 917081 | Z2-012 C | 0.7 |
| 917082 | Z2-012 E | 1.15 |
| 917431 | Z2-076 C | 0.37 |
| 917432 | Z2-076 E | 0.18 |
| 917441 | Z2-077 C | 0.37 |
| 917442 | Z2-077 E | 0.18 |
| 917581 | Z2-097 C | 0.36 |
| 917582 | Z2-097 E | 0.15 |
| 918111 | AA1-025 | 0.34 |
| 918121 | AA1-026 | 0.34 |
| 918161 | AA1-027 | 0.34 |
| 918171 | AA1-028 | 0.34 |
| 918441 | AA1-059 C | 0.4 |
| 918442 | AA1-059 E | 0.16 |

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|--------|--------------|-------|
| 918461 | AA1-061 C | 1.27 |
| 918462 | AA1-061 E | 0.63 |
| 918831 | AA1-102 | 3.49 |
| 918852 | AA1-104 E | 2.46 |
| 918911 | AA1-110 C | 0.4 |
| 918912 | AA1-110 E | 0.2 |
| 919161 | AA1-140 C | 0.7 |
| 919162 | AA1-140 E | 1.14 |
| 919171 | AA1-141 C | 0.53 |
| 919172 | AA1-141 E | 0.86 |
| 919831 | AA2-069 | 38.76 |
| 920312 | AA2-129 E | 1.85 |
| 920321 | AA2-130 | 0.19 |
| 920461 | AA2-144 C | 0.65 |
| 920462 | AA2-144 E | 0.3 |
| 920491 | AA2-147 C | 0.26 |
| 920492 | AA2-147 E | 0.12 |
| 920521 | AA2-150 C | 0.66 |
| 920522 | AA2-150 E | 0.31 |
| 919871 | AB1-000 1 | 2.82 |
| 919881 | AB1-000 2 | 2.82 |
| 919891 | AB1-000 3 | 2.82 |
| 930201 | AB1-056 COP2 | 5.89 |
| 930202 | AB1-056 EOP2 | 16.78 |
| 930211 | AB1-057 C | 5.97 |
| 930212 | AB1-057 E | 17.02 |
| 930332 | AB1-074 E | 1.21 |
| 930691 | AB1-113 C | 0.36 |
| 930692 | AB1-113 E | 0.59 |
| 930881 | AB1-137 C | 1.28 |
| 930882 | AB1-137 E | 0.55 |
| 930921 | AB1-141 C | 1.35 |
| 930922 | AB1-141 E | 0.63 |
| 930931 | AB1-142 C | 1.35 |
| 930932 | AB1-142 E | 0.63 |
| 931101 | AB1-161 C | 0.05 |
| 931102 | AB1-161 E | 0.08 |
| 931111 | AB1-162 C | 0.63 |
| 931112 | AB1-162 E | 1.03 |
| 931262 | AB1-176 E | 0.9 |
| 931961 | AB1-184 C | 0.07 |
| 931962 | AB1-184 E | 0.12 |