



City of Annapolis

North Basin

Wayward Dr

Annapolis Renewable Energy Park

City Council Work Session

July 16, 2015

Old Annapolis
City Reservoir

450

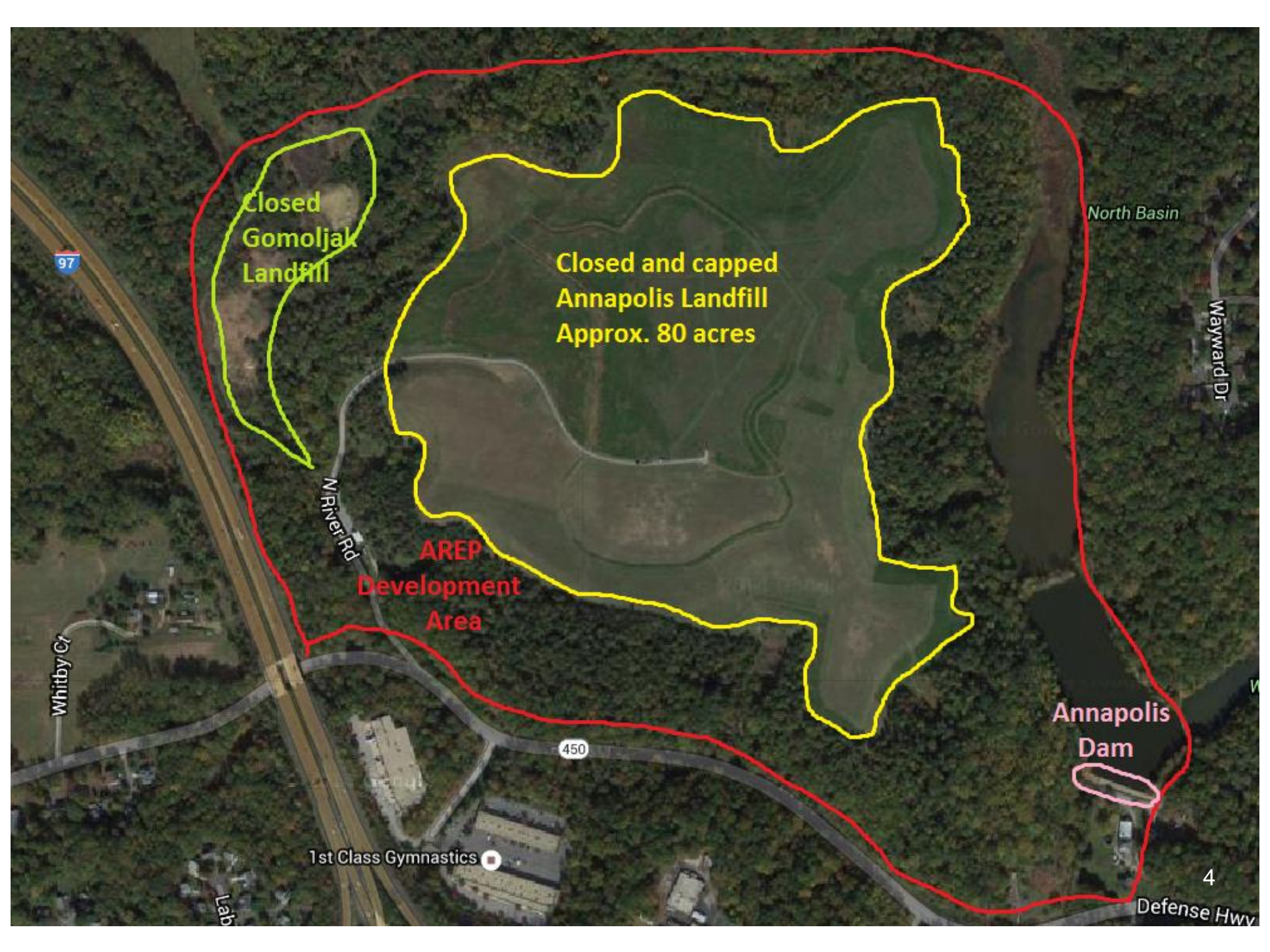
AREP Agenda

- Project Overview
- Solicitation Process
- Presentation by BQ Energy
- Lease Provisions
- Project Risks and Timeline



Background

- EPA's "Re-Powering America's Land Initiative" is intended to stimulate landfill to energy producer conversions
- Coordinated AREP planning with Anne Arundel County and Maryland State agencies
- Basic Concept for project:
 - Long-term lease for closed Annapolis Landfill
 - Privately funded and developed renewable energy facility
 - Fixed lease payments plus percentage of energy revenue



Closed
Gomoljak
Landfill

Closed and capped
Annapolis Landfill
Approx. 80 acres

AREP
Development
Area

North Basin

Wayward Dr

Annapolis
Dam

450

1st Class Gymnastics

Lab

Defense Hwy

4

97

Whitby Ct

M/River Rd



Solicitation - Key Activities

- Nov 20, 2014 – AREP presentation to Council
- Dec 12, 2014 – Advertisement issued nationally, via trade journals, websites, regional and local ads
- Mar 3, 2015 – Statements of Qualifications received from five firms
- Mar 23 & 24, 2015 – Technical presentations
- Apr 29, 2015 – Mayor approved splitting project between Phase 1 solar and Phase 2 non-solar
- Jun 10, 2015 – Best and Final Offers received
- Jun 12, 2015 – Selection of BQ Energy
- Jun 17, 2015 – Solar lease negotiations concluded



Proposal Evaluation & Selection

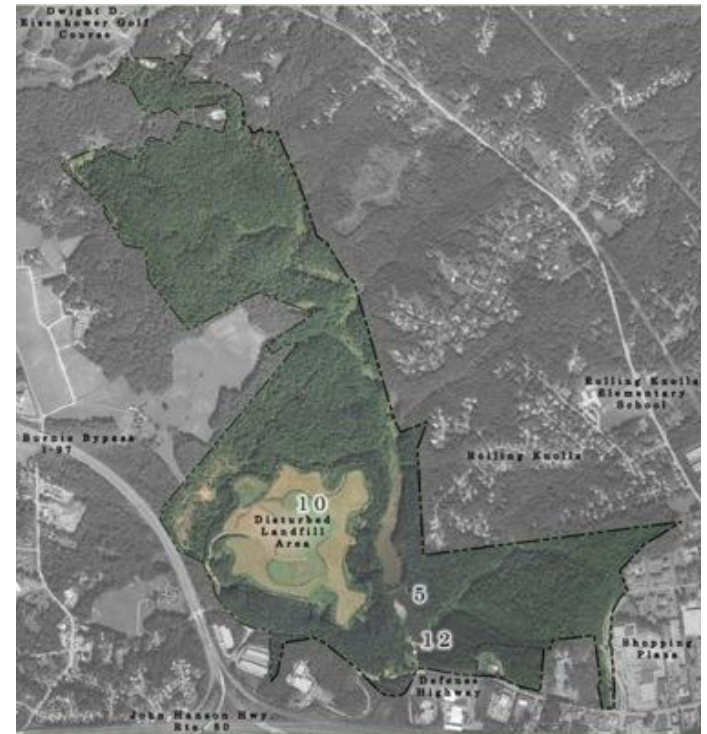
- Evaluation Teams
 - Technical (experience, personnel, project plan)
 - Business (financial capability and plan, corporate guarantee)
 - Pricing (revenue and/or cost avoidance for the City)
- Selection Process
 - SMEs as proposal evaluators using defined criteria
 - Evaluators documented their findings for team leaders
 - Team leaders prepared evaluation report for Source Selection Official
 - Source Selection Official selection of developer
 - City Council for ratification of lease



Why BQ Energy was selected

- Significant financial advantages
 - Approximately \$2 million higher payments over 20-year term of lease
- Acceptable ratings in all evaluation factors:
 - Technical
 - Financial capability
 - Experience and past performance
 - Economic development plan

Annapolis Solar Park City Council Work Session



BQ ENERGY, LLC



July 16, 2015

Highlights

- Annapolis Solar Park is slated to be the largest landfill solar project in the country, 16.8 megawatts (DC).
- BQ Energy, Building Energy, and ABM will develop, build, own, and operate the finance and be responsible for all site construction and maintenance.
- Highly qualified team with significant experience building solar projects on closed landfills.
- Annual lease payments and electricity savings will be valuable to the City for a many years.
- Complete the solar energy park by the end of next year before 30% federal tax credit reduces after 2016.



Project Summary

BQ, Building Energy, and ABM Industries are partnering with the City of Annapolis as part of the Annapolis Renewable Energy Park.

We are creating a multi-participant solar energy park that will consist of six individual 2MW solar projects, on 80 acres of the capped Annapolis Landfill.

The City of Annapolis will be the “anchor tenant” and will have at least one 2MW project, using net metering to offset electricity use at one or more locations (such as the new Water Treatment Plant).

Our team is uniquely qualified for this project

- BQ – leader in solar energy on landfills
- BE – leader in solar worldwide
- RenewEnergy (ABM + BE) EPC and O&M for solar

Project Roles

- Development – BQ Energy
- Lessee – Annapolis Solar Park, LLC
- Project Ownership and Lease Guarantor – Building Energy
- Engineering, Procurement, Construction – RenewEnergy Solutions – a joint venture between ABM and Building Energy
- Operations – RenewEnergy Solutions

Project Team

BQ Energy

- Leader in renewable energy on landfills and brownfields
- Recently completed solar landfills in Massachusetts and New York
- Founded in 2002
- Primarily work with municipalities, schools & colleges, industrial landowners

Building Energy

- Renewable energy independent power producer
- Based in Italy, active in Europe, Africa, and US
- Completed over 150 MW of solar PV including in Maryland and New York
- Development and construction portfolio of 1,000 MW

ABM Industries

- Leading provider of facility solutions
- Revenues of \$4.8 billion
- 110,000 employees, 350+ offices
- Over 1,000 facilities served in Maryland with over 2,000 employees, more than 35 employees in Annapolis

Layout



Responsibilities

BQ Energy, Building Energy, and ABM

- Sign a long-term lease with the City
- Secure all approvals from County and MDE
- Secure interconnection rights from BGE
- Sell all power and SRECs
- Finance all project costs
- Operate safely, with no negative impacts to the landfill
- Operate the projects for at least 20 years, with extension options.
- Ensure stakeholder participation.

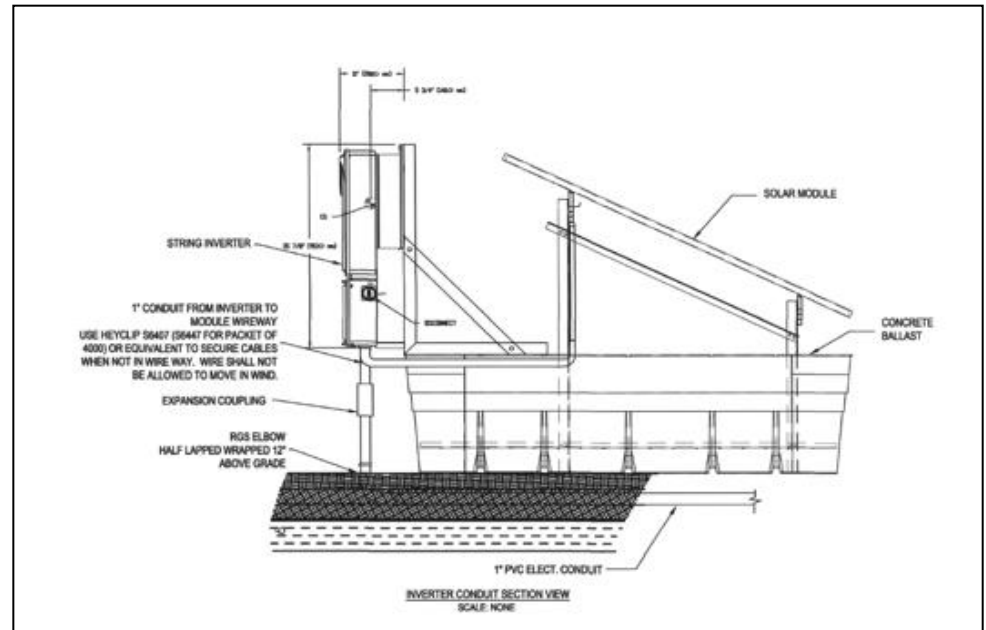
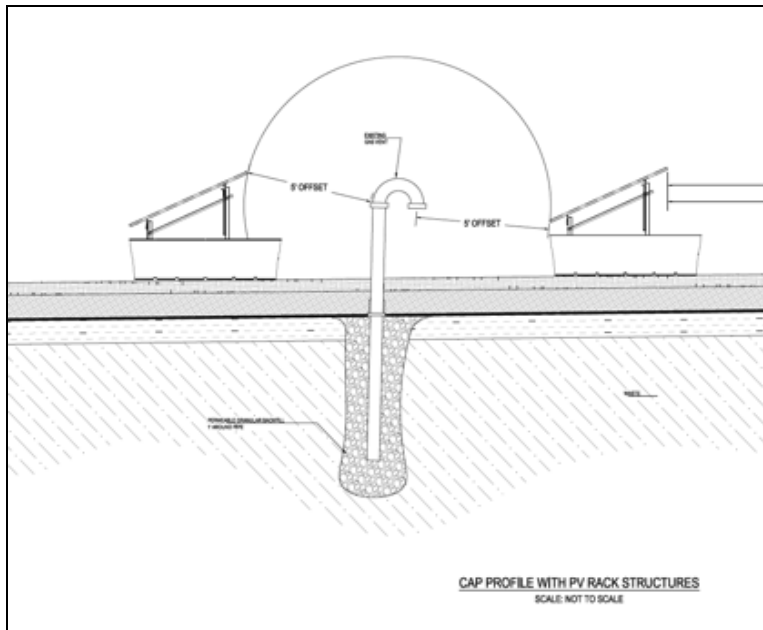
The City of Annapolis

- Execute a Land Lease for the project site
- Provide full access to the landfill
- Provide access to site records (electrical and environmental)
- Execute a Power Purchase Agreement for at least one 2 MW solar park
- Assist in facilitating the schedule –
MUST OPERATE BY DEC 31, 2016.

Landfill Considerations

Our top priority – maintain the integrity of the landfill cap

- Ballasted system rests on the surface of the landfill
- No penetration of geomembrane
- Avoidance of methane vents



Construction Sequence

Basic Overview

- Construction of the array begins with assembling the racks inside the pour in place tubs. If preformed blocks are used, they are brought out into the field first and the racks are attached as they are assembled.
- Panels are then quickly fastened to the racks. Inverters are installed to the ballast blocks and everything is wired together.



Permit Approval Process

- Anne Arundel County must review the project site plan and issue a zoning certificate of use – this will be a comprehensive evaluation process and include opportunities for public input.
- The Solid Waste Division at the Maryland Department of Environment must review and approve the project since it will be built on a closed landfill.

BGE Interconnection

BQ Energy submits electric service application for the entire park, and individual interconnection applications for each 2MW customer project.

Most likely, BGE will need to upgrade the power line to the landfill site.

The interconnection review process will take several months. It is critical that the interconnection be started as soon as possible to allow enough time for planning, approvals, and construction.

Economic Development

Exploring subcontracts with businesses in Annapolis, small businesses, minority-owned businesses, women-owned businesses, and veteran owned businesses

- Preference will be given to well-qualified contractors who fit these criteria

Goals for local employment in construction and operations

- Expect approximately 39 full-time equivalent jobs for construction
- Estimate up to three permanent full-time equivalents for operations

Exploring internship opportunities at Anne Arundel Community College

Schedule

City Council Approval – July 2015

Detailed Design Work – Fall 2015

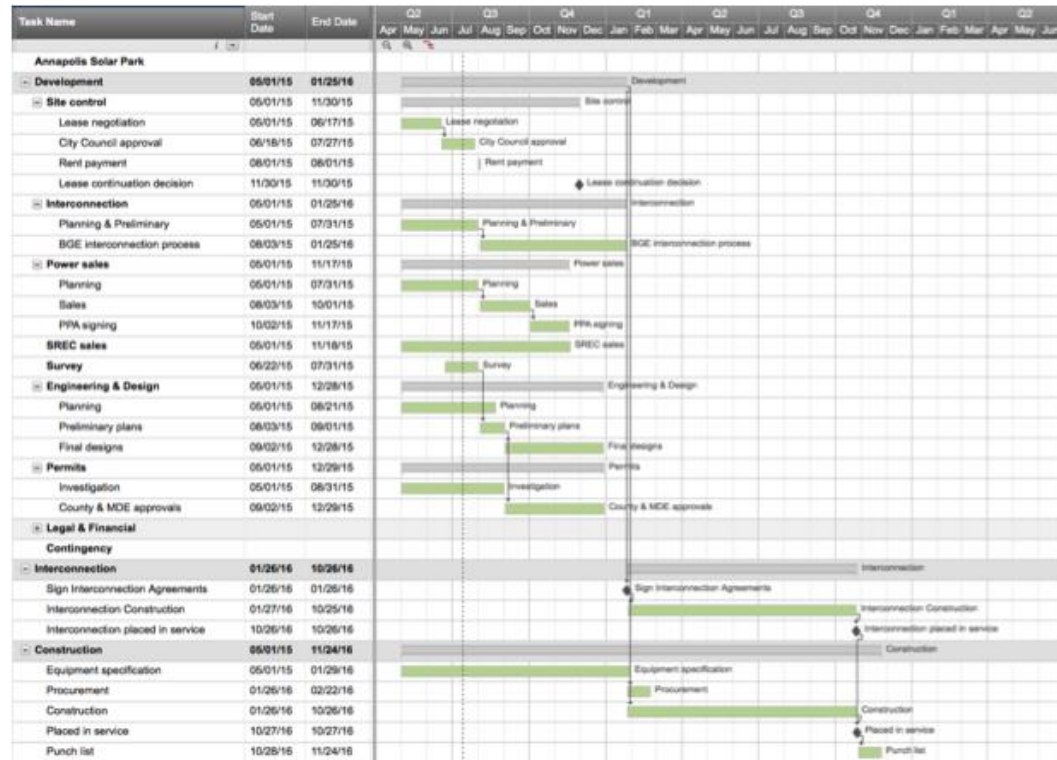
PPA Contracts – November 2015

Permitting – December 2015

Interconnection – January 2016

Begin Construction – February 2016

Placed in Service – October 2016





Lease Provisions

- Term: 20 year, ending on December 31, 2036
- Base Rent: \$10,000/year, with 2% annual escalation
- Additional Rent: \$15,000 per MW of capacity, with 2% annual escalation (excludes capacity for City)
- Leased Area: Defines area for solar facility, plus access rights and easement for transmission facilities
- Design & Construction: Responsibility of lessee, with review and approval by City
- Operations, Maintenance & Repair: Lessee maintains solar facility and vegetation, City maintains landfill gas system
- Lease Security: Corporate guarantee by Building Energy up to \$100,000 until construction begins, then up to \$50,000 per MW installed after construction



Lease Provisions (cont.)

- Indemnification: Lessee is required to indemnify City for any injuries and damages, generally; any alleged violation of intellectual property rights; or any alleged failure to comply with environmental legal requirements
- Termination: For default/breach, lessee is provided cure period, after which City may terminate, take possession, or call upon Lease Security. Upon termination, lessee must remove solar facility within 60 days.
- Lessee Right to Terminate: By November 30, 2015, lessee may terminate if (a) City and Lessee do not enter in PPA and (b) planning elements are not sufficiently advanced with good faith effort by lessee.



Project Risks

- Time – Investment tax credit decreases from 30% to 10% after December 31, 2016
- Protection of landfill cap and gas collection system
- Interconnection with BGE's system
- Permitting by the County and MDE
- Design and construction execution by BQ Energy
- Surprises at landfill property
- Sales of energy capacity via PPAs
- NIMBY



Timeline

- Key project milestones:
 - Council approval of lease: July 27, 2015
 - Execution of lease: July 31, 2015
 - Execution of City PPA: October 15, 2015
 - BGE Agreement: January 31, 2016
 - AA County Permit: December 31, 2015
 - MDE Permit: December 31, 2015
 - Construction start: February 29, 2016
 - Construction complete: October 31, 2016
 - Full operations: November 30, 2016