

ATTACHMENT B

LIMERICK GENERATING STATION SITE CHARACTERISTICS

1. General

The Limerick Generating Station (LGS) (40° 13' 12" N/75° 35' 24" W) is a nuclear power plant operated by Constellation. Unit 1, which began operating in 1986, and Unit 2, which began operating in 1990, are boiling water reactor electrical generating units, each rated at approximately 1200 Mw(e).

The site is divided into three segments. The principal portion, where the major operating equipment and structures are located, is on the east bank of the Schuylkill River. This portion is separated from the second segment, where the cooling water intake is located, by the main line of the Reading Railroad. The third portion lies on the west bank of the river adjacent to the Conrail tracks.

The minimum exclusion distance specified for the LGS plant is 2,500 feet from the center of each reactor. There are no private residences within the exclusion area; however, some farming may be permitted under the control of the Constellation, which owns all the land within the exclusion area.

2. Physical Characteristics

LGS is located in southeastern Pennsylvania on the east bank of the Schuylkill River about 1.7 miles southeast of Pottstown Borough. The river passes through the site separating the western portion, which is in East Coventry Township, Chester County, from the eastern portion, which is in Limerick and Lower Pottsgrove Townships, Montgomery County. The site of 595 acres is used for the plant.

The 10-mile EPZ contains portions of Berks, Chester, and Montgomery Counties. Portions of Delaware, Maryland, and New Jersey are also within the 50-mile EPZ.

Soils in this area are of the Reaville-Penn-Klinesville Association and are characteristic of rolling uplands. They are underlain by sedimentary rocks of the Brunswick Formation consisting mostly of red shale with some fine-grained sandstone interbedding.

Normal pool elevation of the Schuylkill River in this area is 200 feet above MSL. The topography of the area is hilly with elevations within five miles of the site ranging from 110 feet above MSL at the Schuylkill River to 300 feet above MSL. The plant grade is approximately 217 feet above MSL.

The climate in this area is dominated by prevailing westerly winds. These winds produce a humid continental type of weather characterized by warm summers and moderately cold winters. Montgomery County is the warmest part of Pennsylvania with an average annual temperature of 57 degrees F. Average annual precipitation is approximately 42 inches.

3. Land Use Characteristics

The area in the immediate vicinity of the plant is mostly agricultural and other open spaces. The Borough of Pottstown in Montgomery County, located 1.7 miles from the plant, is the nearest community and has a population of approximately 22,000. The nearest major population center of more than 25,000 people is the City of Philadelphia, population 1.5 million, which lies 25 miles to the southeast. The closest major airport is in Philadelphia, approximately 30 miles southeast of the plant.

Two small airfields are also located nearby. A small private airfield is about one mile to the northeast, but its runway is oriented so that its extension does not pass over the plant. The Pottstown Municipal Airport lies 4.3 miles northwest of the plant. LGS does not lie in the approach pattern for this airport either.

There are no major thoroughfares in the immediate vicinity of the plant. The Reading Railroad main line tracks run along the north bank of the Schuylkill River and traverse the site about 500 feet from the plant.

4. Emergency Facilities Locations

- A. Emergency Operations Facility (EOF) – the EOF is located 20 miles southeast of the site near Coatesville, PA.
- B. Alternate EOF – none.
- C. Joint Information Center (JIC) – same as EOF.

5. Bases of Operations for Federal Support

- A. Airport – Willow Grove Naval Air Station, Montgomery County or Reading Regional Airport, Berks County
- B. FRMAC – Willow Grove Naval Air Station, Montgomery County
- C. JFO – Valley Forge Convention Center, Upper Marion Township or Fort Washington Industrial Park, Fort Washington

6. Neighboring states within the 10-mile and 50-mile EPZs are as follows:

10-Mile EPZ

None

50-Mile EPZ

Maryland
New Jersey
Delaware

TABS

- 1. LGS EPZ Information
- 2. LGS Plume Exposure Pathway Description
- 3. LGS Evacuation Time Estimate
- 4. LGS Plume Map, Data, and Illustrations

TAB 1

ATTACHMENT B
LGS EPZ INFORMATION

Facility: LGS operated by Constellation
Location: Limerick Township, Montgomery County
Site Area: 595 acres
Energy Production: Unit 1 – @1200 Megawatts BWR/GE
Capacity: Unit 2 – @1200 Megawatts BWR/GE
Operating Status: Unit 1 has been in commercial operation since February 1986
Unit 2 commenced commercial operation in January 1990

AFFECTED JURISDICTIONS (2020 Census)

Risk County	Risk Municipality (43)	Risk Population*	Monitoring and Decon Requirement 20%	Mass Care Requirement 10%
Berks County	Amity Township	12,045	2,410	1,205
	Boyerstown Borough	4,264	852	426
	Colebrookdale Township	5,112	1,022	511
	Douglass Township	3,670	734	367
	Earl Township	845	170	85
	Union Township	1,629	326	163
	Washington Township	700	140	70
Subtotal		28,265	5,654	2,827
Chester County	Charlestown Township	4,391	878	439
	East Coventry Township	7,068	1,414	707
	East Nantmeal Township	1,514	302	151
	East Pikeland Township	8,260	1,652	826
	East Vincent Township	7,398	1,480	740
	North Coventry Township	8,441	1,688	844
	Phoenixville Borough	18,602	3,720	1,860
	Schuylkill Township	8,780	1,756	878
	South Coventry Township	2,787	558	279
	Spring City Borough	3,494	698	349
	Upper Uwchlan Township	9,150	1,830	915
	Uwchlan Township	1,356	272	136
	Warwick Township	2,270	454	227
	West Pikeland Township	3,859	772	386
	West Vincent Township	6,659	1,332	666
Subtotal		94,029	18,806	9,403

Risk County	Risk Municipality (43)	Risk Population*	Monitoring and Decon Requirement 20%	Mass Care Requirement 10%
Montgomery County	Collegeville Borough	5,043	1009	505
	Douglass Township	10,585	2,117	1,059
	Green Lane Borough	490	98	49
	Limerick Township	20,515	4103	2,052
	Lower Frederick Township	4,812	962	481
	Lower Pottsgrove Township	12,255	2,451	1226
	Lower Providence Township	25,625	5,125	2,563
	Lower Salford Township	2,362	472	236
	Marlborough Township	694	139	70
	New Hanover Township	12,973	2,595	1,298
	Perkiomen Township	8,959	1,792	896
	Pottstown Borough	23,433	4,687	2,344
	Royersford Borough	4,935	987	494
	Schwenksville Borough	1,314	263	132
	Skippack Township	14,389	2,878	1,439
	Trappe Borough	4,002	800	400
	Upper Frederick Township	3,726	745	373
	Upper Providence Township	24,092	4,818	2,409
	Upper Salford Township	3,172	634	317
	West Pottsgrove Township	3,798	760	380
Subtotal		187,174	37,435	18,723
Grand Total		309,468	61,895	30,953

*Population within the plume exposure pathway

Alert System Status: Constellation has installed 165 sirens required for coverage of the plume exposure pathway EPZ. The system is operational.

MAJOR POPULATION CENTERS

Major Cities	2020 Population	Distance from Plant
Reading, PA	94,844	20 miles
Philadelphia, PA	1,576,000	25 miles
Allentown, PA	125,944	28 miles
Chester, PA	32,535	29 miles
Bethlehem, PA	75,624	30 miles
Wilmington, DE	70,750	35 miles
Easton, PA	28,057	40 miles
Lancaster, PA	57,503	42 miles
Trenton, NJ	90,457	45 miles
Lebanon, PA	26,581	47 miles

SCHOOL DISTRICTS

School Districts with Schools Located in the EPZ

Berks (2)

Boyertown Area
Daniel Boone Area

Chester County (4)

Downingtown Area
Great Valley
Owen J. Roberts
Phoenixville Area

Montgomery County (7*)

Methacton
Perkiomen Valley
Pottsgrove
Pottstown Area
Souderton Area
Spring-Ford Area
Upper Perkiomen¹

*Western Center for Technical Studies

School Districts Outside the EPZ with Students Residing in the EPZ

Berks (2)

Boyertown Area
Daniel Boone Area

Chester County (2)

Downingtown Area
Great Valley

2020 Census

Updated April 2023

Montgomery County (3)

Methacton
Souderton Area
Upper Perkiomen

Host Schools that Receive Relocated Student Populations

Berks County (3)

Daniel Boone High School
Twin Valley High School/Middle School

Chester County (5)

Twin Valley Elementary Center
Tredyffrin-Easttown Middle School
Conestoga High School
Downingtown High School East
Great Valley High School

Montgomery County (8)

Norristown Area High School
North Penn High School (Lansdale)
Indian Valley Middle School (Harlesville)
Montgomery County Community College
Upper Perkiomen HS (Red Hill) (if after normal dismissal time)¹
St. Philip Neri School (Lafayette Hill)
Mother of Devine Providence School (King of Prussia)
Corpus Christi School (Lansdale)

Lehigh County (5)

Southern Lehigh High School Complex (Center Valley)
Emmaus High School Complex
St. Thomas More School (Allentown)
St. Ann's School (Emmaus)
DeSales University (Center Valley)

¹ All Upper Perkiomen School District students are retained at the High School after normal dismissal time.
2020 Census

RECEPTION CENTERS

Municipality	Total Population*	Reception Center
Berks County		
Amity Township – East (32%)	3,854	Oley Valley High School
Boyertown Borough	4,264	Oley Valley High School
Colebrookdale Township – West (95%)	4,856	Oley Valley High School
Douglas Township	3,670	Oley Valley High School
Earl Township	845	Oley Valley High School
Total Population	17,489	
Total Public Mon/Decon (20%)	3,498	
Total Mass Care (10%)	1,749	
Amity Township (68%)	8,191	Exeter Township Building
Pottstown Borough – West (8%)	1,875	Exeter Township Building
Pottstown Borough – East (28%)	6,561	Exeter Township Building
West Pottsgrove Township	3,798	Exeter Township Building
Total Population	20,425	
Total Public Mon/Decon (20%)	4,085	
Total Mass Care (10%)	2,043	
Pottstown Borough – South (20%)	4,687	Robeson Township Bldg
Union Township	1,629	Robeson Township Bldg
North Coventry Township (56%)	4,727	Robeson Township Bldg
Total Population	11,043	
Total Public Mon/Decon (20%)	2,209	
Total Mass Care (10%)	1,105	
Grand Total Population	48,957	
Grand Total Pubic Mon/Decon (20%)	9,791	
Grand Total Mass Care (10%)	4,896	
Bucks County		
Green Lane Borough	490	County Line Plaza
Lower Frederick Township	4,812	County Line Plaza
Lower Salford Township	2,362	County Line Plaza
Marlborough Township	694	County Line Plaza
Upper Frederick Township	3,726	County Line Plaza
Upper Salford Township	3,172	County Line Plaza
Total Population	15,256	
Total Public Mon/Decon (20%)	3,051	
Total Mass Care (10%)	1,526	
Lower Providence Township	25,625	Neshaminy Mall
Upper Providence Township	24,092	Neshaminy Mall

Municipality	Total Population*	Reception Center
Total Population	49,717	
Total Public Mon/Decon (20%)	9,943	
Total Mass Care (10%)	4,972	
Perkiomen Township	8,959	Montgomery Mall
Schwenksville Borough	1,314	Montgomery Mall
Skippack Township	14,389	Montgomery Mall
Trappe Borough – North (36%)	1,441	Montgomery Mall
Total Population	26,103	
Total Public Mon/Decon (20%)	5,221	
Total Mass Care (10%)	2,611	
Grand Total Population	91,076	
Grand Total Pubic Mon/Decon (20%)	18,215	
Grand Total Mass Care (10%)	9,108	
Chester County		
Charlestown Township	4,391	Stetson Middle School
Phoenixville Borough	18,602	Stetson Middle School
Schuylkill Township	8,780	Stetson Middle School
Total Population	31,773	
Total Public Mon/Decon (20%)	6,355	
Total Mass Care (10%)	3,178	
East Coventry Township	7,068	Morgantown Crossings
East Nantmeal Township West (49%)	742	Morgantown Crossings
North Coventry Township South (44%)	3,714	Morgantown Crossings
South Coventry Township	2,787	Morgantown Crossings
Warwick Township	2,270	Morgantown Crossings
Total Population	16,581	
Total Public Mon/Decon (20%)	3,316	
Total Mass Care (10%)	1,658	
East Nantmeal Township – East (51%)	772	Downingtown High School
Upper Uwchlan Township	9,150	Downingtown High School
West Vincent Township	6,659	Downingtown High School
Total Population	16,581	
Total Public Mon/Decon (20%)	3,316	
Total Mass Care (10%)	1,658	
East Pikeland Township	8,260	West Whiteland Township Bldg
East Vincent Township	7,398	West Whiteland Township Bldg
Spring City Borough	3,494	West Whiteland Township Bldg
Uwchlan Township	1,356	West Whiteland Township Bldg
West Pikeland Township	3,859	West Whiteland Township Bldg

Municipality	Total Population*	Reception Center
Total Population	24,367	
Total Public Mon/Decon (20%)	4,873	
Total Mass Care (10%)	2,437	
Lower Pottsgrove Township	12,255	Southern Lehigh High School
New Hanover Township	12,973	Southern Lehigh High School
Pottstown Borough – North (12%)	2,812	Southern Lehigh High School
Total Population	28,040	
Total Public Mon/Decon (20%)	5,608	
Total Mass Care (10%)	2,804	
Douglass Township – Montgomery County	10,585	Emmaus High School
Pottstown Borough – Central (32%)	7,499	Emmaus High School
Upper Pottsgrove Township	5,870	Emmaus High School
Colebrookdale Township – East (5%)	256	Emmaus High School
Washington Township	700	Emmaus High School
Total Population	24,910	
Total Public Mon/Decon (20%)	4,982	
Total Mass Care (10%)	2,491	
Grand Total Population	142,252	
Grand Total Public Mon/Decon (20%)	28,450	
Grand Total Mass Care (10%)	14,225	
Montgomery County		
Collegeville Borough	5,043	Metroplex
Limerick Township	20,515	Metroplex
Royersford Borough	4,935	Metroplex
Trappe Borough – South (64%)	2,561	Metroplex
Total Population	33,054	
Total Public Mon/Decon (20%)	6,611	
Total Mass Care (10%)	3,306	
Grand Total Population	33,054	
Grand Total Public Mon/Decon (20%)	6,611	
Grand Total Mass Care (10%)	3,306	

Totals Represent Pennsylvania Populations as of the 2020 Census

MASS CARE CENTERS

COUNTY	REQUIREMENT (10% of population)	CAPACITY
BERKS (10)		
Antietam Jr/Sr High School		1,040
Gov. Mifflin Senior High School Complex		604
Hamburg Jr/Sr High School Complex		623
Kutztown Area Senior High School Complex		530
Muhlenberg Senior High School Complex		700
Schuylkill Valley High School Complex		303
Wilson Senior High School Complex		647
Fleetwood High School Complex		1,200
Wyomissing High School Complex		425
Exeter High School		633
Total	4,896	6,705
BUCKS (19)		
Bensalem High School		691
Bristol Borough High School		230
Bucks County Community College		500
Central Bucks East High School		300
Central Bucks South High School		307
Central Bucks West High School		307
Council Rock North High School		563
Council Rock South		696
Delaware Valley College		500
Morrisville Senior High School		360
Neshaminy High School		873
New Hope-Solebury Complex		482
Palisades Sr. High School		384
Pennridge High School		425
Pennsbury High School – East		603
Pennsbury High School – West		355
Quakertown High School		461
Truman High School		545
William Tennet High School		850
Total	9,108	9,432
CHESTER (10)		
Avon Grove High School		1,500
Scott Middle School		1,000
Charles Patton Middle School		1,000
Fred Engle Middle School		1,500
Gordon Educational Center		750
Kennett High/Middle School		2,000

COUNTY	REQUIREMENT (10% of population)	CAPACITY
North Brandywine Middle School		1,900
Octorara High School (Peach Bottom)		2,300
Octorara MS (Peach Bottom)		1,500
Unionville High School		1,000
Total	14,225	14,450
LEHIGH (15)		
DeSales University		1,050
Emmaus High School		2,000
Eyers Middle School		1,000
Northern Lehigh Junior High School		1,000
Northern Lehigh Senior High School		250
Northwestern Lehigh High School		500
Southern Lehigh High School		394
Orefield Middle School		1600
Salisbury Middle School		500
Salisbury High School		230
South Mountain Middle School		600
Springhouse Junior High School		500
Troxell Building		400
Whitehall High School		250
Whitehall-Coplay Middle School		250
Total	9,958	10,524
MONTGOMERY (13)		
Abington Junior High School		842
Abington High School		800
Cedarbrook Middle School		300
Cheltenham High School		525
Springfield Township Middle School (tunnel to HS)		300
Hatboro-Horsham Senior High School		1,275
Keith Valley Middle School		200
Lower Moreland High School		800
Sandy Run Middle School		
Springfield Township High School (tunnel to MS)		1,359
Upper Dublin Senior High School		2,412
Upper Moreland High School		225
Upper Moreland Middle School		110
Total	6,031	9,148
Grand Total	44,218	50,259

EMERGENCY WORKER MONITORING/DECONTAMINATION STATIONS

BERKS

Daniel Boone Jr./Sr. High School
Oley Valley High School

CHESTER

Lionville Middle School
Valley Forge Middle School
Twin Valley Fire Company

MONTGOMERY

Indian Valley Middle School
Upper Perkiomen High School
Methacton High School

DECONTAMINATION CENTERS FOR THE GENERAL PUBLIC

BERKS (collocated with mass care facilities – in order of activations per grouping)

Kutztown Senior High School
Schuylkill Valley High School
Hamburg Jr/Sr High School
Governor Mifflin Senior High School
Antietam Jr/Sr High School
Muhlenberg Senior High School
Wilson Senior High School

BUCKS

County Line Plaza
Neshaminy Mall

CHESTER

Downingtown Senior High School
Stetson Middle School
West Whiteland Township Building

LEHIGH

Emmaus High School
Southern Lehigh High School

MONTGOMERY

Metroplex
Montgomery Mall

TAB 2

ATTACHMENT B

LGS PLUME EXPOSURE PATHWAY EPZ DESCRIPTION

1. BERKS COUNTY

Begin at the junction of PA Route 345 and the Berks/Chester County line. Follow Route 345 north to its intersection with Legislative Route (LR) 06097. Follow LR 06097 north to Township Route 663 (at the Schuylkill River). Proceed on T663 to LR 06179. Follow LR 06179 north to LR 06059. Proceed north on LR 06059 to its intersection with Township Route 443. Take R443 East to its intersection with Township Route 464. Proceed north on T464 to its intersection with A-2059. Follow A-2059 East to its intersection with LR 06187 and LR 06109 (Amityville). Then follow LR 06109 North to LR 06053. Proceed northeast on LR 06053 to its junction with the Colebrookdale/Earl Township corporate boundary. Follow the Colebrookdale/Earl Township boundary north to the Pike/Colebrookdale corporate boundary, to the Washington/Colebrookdale boundary. Proceed along the Washington/Colebrookdale corporate boundary to its junction with Pennsylvania Route 100. Follow Route 100 north to its intersection with LR 06033. Proceed southeast along LR 06033 to its junction with the Berks/Montgomery County line.

2. MONTGOMERY COUNTY

Begin at the intersection of the Berks/Montgomery County line and LR 06033 (Berks County) and LR 46008 (Montgomery County). Proceed north along the Berks/ Montgomery County line to its junction with the Upper Hanover Township/Douglass Township corporate boundary (T391-392). Follow the Upper Hanover/Douglass Township corporate boundary to its junction with the Upper Hanover/New Hanover Township corporate boundary. Follow the Upper Hanover/New Hanover boundary to its intersection with the Upper Hanover/Marlborough Township corporate boundary. Go north along the Upper Hanover/Marlborough Township boundary to its intersection with the Marlborough/Upper Frederick Township corporate boundary (Green Lane Reservoir). Follow the Marlborough/Upper Frederick Township boundary to the Marlborough Township/Green Lane Borough corporate boundary. Proceed along the Marlborough Township/Green Lane boundary to its intersection with Route 63 and LR 46032. Follow Route 63 south to the Marlborough/Upper Salford boundary to its junction with the Salford/Upper Salford corporate boundary. Proceed southeast along the Salford/Upper Salford boundary to its juncture with the Franconia/Upper Salford Township corporate boundary, and continue along this boundary to its junction with the Upper Salford/Lower Salford Township corporate boundary. Go southwest along the Upper Salford/Lower Salford boundary to its intersection with LR 46023. Follow LR 46023 south to its intersection with LR 46025. Proceed east on LR 46025 to its junction with Township Route 368. Follow T368 south to its intersection with Route 113. Continue south on Route 113 to its intersection with the Lower Salford/Skipack Township corporate boundary. Follow the Lower Salford/Skipack Township corporate boundary to the Skipack/Worcester Township corporate boundary. Proceed southwest along the Skipack/Worcester Township corporate boundary. Proceed southwest along the Skipack/Worcester boundary to its junction with the Worcester/Lower Providence corporate boundary. Follow the Worcester/Lower Providence

boundary southeast to its junction with the Lower Providence/West Norriton corporate boundary. Proceed southeast along the Lower Providence/West Norriton boundary to the Lower Providence/Upper Merion corporate boundary (at the Schuylkill River). Follow the Lower Providence/Upper Merion boundary along the Schuylkill River to the Montgomery/Chester County line.

3. CHESTER COUNTY

Begin at the intersection of the Schuylkill Township (Chester County), Lower Providence Township (Montgomery County), and Upper Merion Township (Montgomery County) boundaries (in Schuylkill River). Proceed in a southerly direction along the Chester/Montgomery County boundary to its intersection with the Valley Forge National Park boundary. Proceed generally west then south along the Valley Forge National Park boundary to the Schuylkill Township/Tredyffrin Township boundaries. Follow the Tredyffrin Township boundary in a westerly direction to its intersection with the Pennsylvania Turnpike (Interstate 76). Follow the Turnpike west to its intersection with Township Route 400 (East Nantmeal Township). Proceed north along T400 to its intersection with PA Route 401 (LR 15139). Follow PA Route 401 west to its intersection with PA Route 345 (LR 15144). Follow PA Route 345 (LR 15144, T534, T533, LR 15133) North to its junction with the Berks County/Chester County line.

TAB 3

ATTACHMENT B
LGS EVACUATION TIME ESTIMATE

			Evacuation Times for Full EPZ (hours, minutes)	
			90%	100%
	Population	Vehicles		
(a) Traditional Vehicle Demand for Residential Population				
Winter Day				
Fair Weather	321,848	106,812	4 hrs 58 min	8 hrs 25 min
Adverse Weather	321,848	106,812	6 hrs 43 min	10 hrs 9 min
Winter Night				
Fair Weather	256,586	86,325	4 hrs 12 min	6 hrs 44 min
Adverse Weather	256,586	86,325	5 hrs 42 min	8 hrs 6 min
Summer Weekend				
Fair Weather	258,455	87,531	4 hrs 18 min	6 hrs 48 min
Adverse Weather	258,455	87,531	5 hrs 13 min	7 hrs 38 min
(b) High Vehicle Demand for Residential Population				
Winter Day				
Fair Weather	318,444	143,599	6 hrs 13 min	10 hrs 18 min
Adverse Weather	318,444	143,599	8 hrs 26 min	12 hrs 40 min
Winter Night				
Fair Weather	252,372	150,142	6 hrs 33 min	10 hrs 21 min
Adverse Weather	252,372	150,142	9 hrs 1 min	12 hrs 31 min
Summer Weekend				
Fair Weather	254,051	151,348	6 hrs 38 min	10 hrs 23 min
Adverse Weather	254,051	151,348	8 hrs 5 min	11 hrs 22 min

NOTE: As per the KLD Report regarding ETEs, population has not grown enough to trigger a full ETE update for LGS. The information above will remain the same until an update is required based on population changes.

TAB 4

ATTACHMENT B
LGS MAPS, DATA, AND ILLUSTRATIONS

The following Maps, Data, and Illustrations are located on the Plans Drive in the LGS Folder.

- I. LGS Imagery
- II. Map – Limerick EPZ and Ingestion Zone
- III. Map – Limerick Critical Care Facilities
- IV. Critical Care Facilities Table
- V. Map – Limerick School Districts and Host Schools
- VI. Limerick School Districts Table
- VII. Map – Limerick Reception Centers, Mon/Decon Centers and Mass Care Facilities
- VIII. Limerick Reception Centers, Mon/Decon Centers and Mass Care Table
- IX. Map – Limerick Siren Locations
- X. Limerick Siren Locations Table
Limerick Siren Locations Table (2)
- XI. Map – Limerick Evacuation Plan Map
- XII. Map – Limerick Population Circles