

**Staff Questions - Set #1; Case No. 16-0783-EL-REN**

**Question 1** – The application indicates that the facility underwent a retrofit process, with modifications completed in October 2012. Please provide any documentation to support this completion date.

**Response 1** – Siemens Energy performed a major overhaul of the HP turbine, gear box and controls upgrade to increase the unit from 75 to 90 MW. The project included a new HP rotor, diaphragms and associated hardware were supplied to increase the MW output of the overall unit. A new set of reduction gears were also included in the upgrade. A complete controls system upgrade was also performed during the outage. The major turbine overhaul was completed between April 29, 2012 and May 31, 2012. A second outage was completed on October 7, 2012 to finalize controls upgrades and load generator curves for the new higher load. The 2012 generation summary is provided below as documentation of the major outage completed in May 2012 and short outage in October 2012.

2012	Gross MWh	Net MWh
	Actual	Actual
Jan	46,503	44,911
Feb	44,060	42,468
Mar	42,453	40,861
Apr	35,475	33,883
May	-	-
Jun	28,067	26,475
Jul	42,685	41,093
Aug	45,014	43,422
Sep	39,515	37,923
Oct	30,153	28,561
Nov	43,404	41,812
Dec	47,597	46,005
Total	444,926	427,414

**Question 2** – Is, or was, the North Lake Unit 17 included in an energy efficiency program of an electric distribution utility on or after January 1, 2012?

**Response 2** - No, the North Lake facility has not been included in an energy efficiency program of an electric distribution utility.

**Question 3** – Does North Lake Unit 17 operate exclusively on waste exhaust heat from the adjacent coke ovens without utilizing any other fuels?

**Response 3** – The North Lake Unit 17 is fueled by utilizing waste heat created during the steel making process (not from the coke ovens). The iron manufacturing process creates a waste gas that must be extracted to produce a quality product. Further, the exhaust gas, by EPA regulation, cannot be emitted to the atmosphere as it is and therefore must be re-combusted before being released. Without this combustion, the steel producer would not be able to make steel per environmental regulations. In other words, this combustion is a required part of the steel making process. This re-combustion process

creates significant waste heat that can either be captured or lost to the atmosphere forever. The North Lake project moves the waste heat from the atmospheric flare stack into a boiler so the waste can be extracted into useful power that otherwise would have been lost. In other words, North Lake is primarily fueled via steam produced in boilers due the combustion of waste heat from the steel making process. At times there is a very small amount of natural gas used for sustaining fuel.

**Question 4 –** The application refers to boilers which are used to convert the waste heat to steam. Are these boilers part of the North Lake Unit 17, or are they part of the adjacent ArcelorMittal facility?

**Response 4 –** The boilers used to produce the steam utilized by the North Lake Unit 17 are owned by ArcelorMittal and reside in their number 5 boiler house.

**Question 5 –** Please provide Unit 17's monthly gross and net generation (gross minus aux load to operate Unit 17) for MWs for 2014 and 2015.

**Response 5 –** Monthly gross and net generation data for 2014-2015 is summarized in the tables below:

<b>2014</b>	Gross MWh	Net MWh
	Actual	Actual
Jan	26,415	24,955
Feb	36,708	35,248
Mar	39,421	37,961
Apr	50,196	48,736
May	38,657	37,197
Jun	8,310	6,850
Jul	17,525	16,065
Aug	44,479	43,019
Sep	39,500	38,040
Oct	39,532	38,072
Nov	42,080	40,620
Dec	48,876	47,416
Total	431,699	414,179

<b>2015</b>	Gross MWh	Net MWh
	Actual	Actual
Jan	43,351	41,891
Feb	38,133	36,673
Mar	35,955	34,495
Apr	-	-
May	49,007	47,547
Jun	52,455	50,995
Jul	53,190	51,730
Aug	60,772	59,312
Sep	58,218	56,758
Oct	56,183	54,723
Nov	57,064	55,604
Dec	61,312	59,852
Total	565,640	549,580

**Question 6 –** Have there been any extended outages (>1 year) at the facility since the time it went into service in May 1996?

**Response 6 –** No, there have not been any extended outages (>1 year) at the facility since it went into operation in May of 1996.

**This foregoing document was electronically filed with the Public Utilities**

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Summary: Response Response to Staff Questions received via email on June 3, 2016  
electronically filed by Mr. Luke Ford on behalf of North Lake Energy, LLC