NETL Life Cycle Inventory Data
Process Documentation File

Process Name: Coal Crusher Facility, Construction

Reference Flow: 1 pcs of Coal Crusher Facility, Construction

Brief Description: Total amount of materials used in the construction of a crushing facility and the coal crusher.

Section I: Meta Data

Geographical Coverage: Global **Region:**

Year Data Best Represents: 2001

Process Type: Basic Process (BP)

Process Scope: Gate-to-Gate Process (GG)

Allocation Applied: Yes

Completeness: Some Relevant Flows Not Captured

Flows Aggregated in Data Set:

☑ Process ☐ Energy Use ☐ Energy P&D ☐ Material P&D

Relevant Output Flows Included in Data Set:

Releases to Air:	☐ Greenhouse Gases	☐ Criteria Air	☐ Other
Releases to Water:	☐ Inorganic	☐ Organic Emissions	☐ Other
Water Usage:	☐ Water Consumption	☐ Water Demand (throughput)	
Releases to Soil:	☐ Inorganic Releases	☐ Organic Releases	☐ Other

Adjustable Process Parameters:

Concrete	*[kg/pcs] Kilogram of concrete per pieces of coal crusher facility (one coal crusher facility)*
Rebar	*[kg/pcs] Kilogram of rebar per pieces of coal crusher facility (one coal crusher facility)*

Steel_Plate	*[kg/pcs] Kilogram of steel plate per pieces of coal crusher facility (one coal crusher facility)*
CC_Construction	*[pcs/pcs] Pieces of coal crusher facility per pieces of coal crusher facility (reference flow of one coal crusher facility)*

Tracked Input Flows:

Concrete, ready mixed 5-0	*[Technosphere]*
Rebar	*[Technosphere]*
Steel Plate	*[Technosphere]*

Tracked Output Flows:

Coal Crusher Facility, Construction [Insert]	*Reference flow*

Section II: Process Description

Associated Documentation

This unit process is composed of this document and the data sheet (DS) *Stage1_C_Coal_Crusher_Facility_Construction_2015.01.xlsx*, which provides additional details regarding relevant calculations, data quality, and references.

Goal and Scope

This unit process provides a summary of relevant input and output flows associated with the construction of a crushing facility that includes a coal crusher. Inputs include concrete, rebar, and steel plate. Outputs include one coal crusher facility. The reference flow of this unit process is: 1 pcs of Coal Crusher Facility, Construction

Boundary and Description

Coal crushing is the first step in coal preparation. Coal preparation is performed on some coals after mining in order to meet desired coal specifications. This unit process includes the major materials and the masses of those materials required to construct

one coal crusher facility, which includes the crusher and crusher plant (enclosure). The data for the crusher comes from manufacturer specifications for a crusher made of steel plate (Pennsylvania Crusher, 2001, 2004). The data for the crusher plant comes from manufacturer specifications for a crusher plant made of concrete and rebar. (Leed Engineering & Construction, 2006).

Figure 1: Unit Process Scope and Boundary

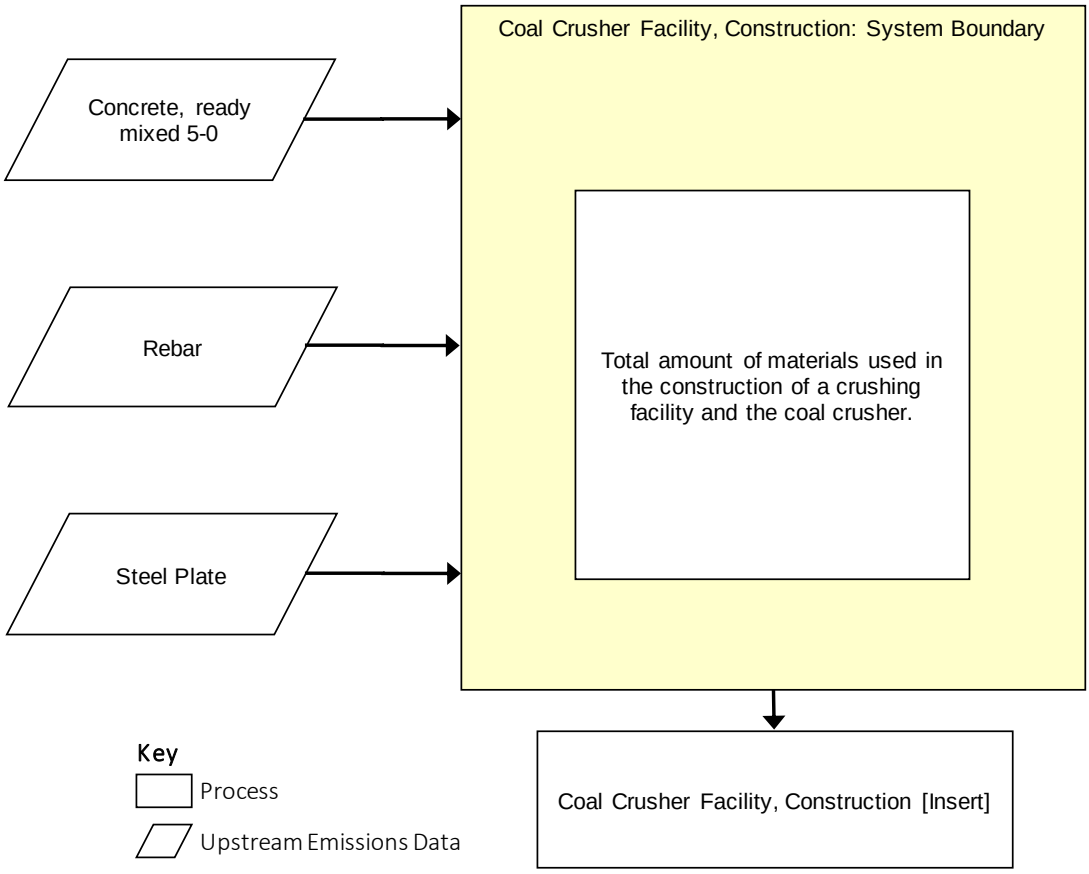

Table 1: Unit Process Input and Output Flows

Flow Name	Value	Units (Per Reference Flow)
Inputs		
Concrete, ready mixed 5-0	**2,259,000.00**	**kg**
Rebar	**250,000.00**	**kg**
Steel Plate	**130,634.60**	**kg**
Outputs		
Coal Crusher Facility, Construction [Insert]	**1.00**	**pcs**

* **Bold face** clarifies that the value shown *does not* include upstream environmental flows.

Embedded Unit Processes

None.

References

Leed Engineering & Construction 2006 — Leed Engineering & Construction. 2006. Onesteel SMR Crushing Plant Upgrade Concrete Works and Reinforced Earth Wall Construction, Iron Duke, SA. Metplant Engineering Services Pty Ltd.

Pennsylvania Crusher 2001 — Pennsylvania Crusher. 2001. Reversible Impactor. Pennsylvania Crusher.

Pennsylvania Crusher 2004 — Pennsylvania Crusher. 2004. Bradford Breaker. Pennsylvania Crusher.

Section III: Document Control Information

Date Created: September 3, 2015

Point of Contact: Timothy Skone (NETL), Timothy.Skone@NETL.DOE.GOV

Revision History:

Original/no revisions

How to Cite This Document: This document should be cited as:

NETL (2015). NETL Life Cycle Inventory Data – Unit Process: Coal Crusher Facility, Construction. U.S. Department of Energy, National Energy Technology Laboratory. Last Updated: September 2015 (version 01). www.netl.doe.gov/LCA (http://www.netl.doe.gov/LCA)

Section IV: Disclaimer

Neither the U.S. Department of Energy (DOE) National Energy Technology Laboratory (NETL) nor any person acting on behalf of these organizations:

A. Makes any warranty or representation, express or implied, with respect to the accuracy, completeness, or usefulness of the information contained in this document, or that the use of any information, apparatus, method, or process disclosed in this document may not infringe on privately owned rights; or

B. Assumes any liability with this report as to its use, or damages resulting from the use of any information, apparatus, method, or process disclosed in this document.

Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by NETL. The views and opinions of the authors expressed herein do not necessarily state or reflect those of NETL.