CSX TRANSPORTATION
GUIDELINES FOR THE DEVELOPMENT OF
COAL UNIT TRAIN FASTLOAD ORIGINS

Coal Development

A) RESPONSIBILITIES

It is the function of CSXT's Coal Development Lead to encourage and assist coal producers in constructing unit train fastload facilities on CSXT. Fastload unit trains are the most efficient method for the producer, railroad, and industrial/utility customer to transport coal.

Coal Development representative(s) assist throughout the process; from the initial conceptual proposal until the fastload facility is loading trains. During the process, the Coal Development team assists in coordinating acceptable engineering and operation parameters, working as a liaison between CSXT coal producers and CSXT's Planning, Engineering, and Operating departments to insure safe and efficient design and construction. Coal Development's responsibility does not end with the completed construction. Coal Development also serves as a liaison to CSXT's coal producers, the customer's contact, helping to answer questions and assist coal producers in fully utilizing CSXT for their shipping needs.

B) GENERAL REQUIREMENTS PERTINENT TO THE CONSTRUCTION AND OPERATION OF UNIT TRAIN FASTLOAD FACILITIES

Plans of track layout and loading facility must have railroad approval before construction. **See CSX Transportation 'Standard Specifications for the Design and Construction of Private Sidetracks – Section I – Plans Furnished by Industry.'**

http://www.csx.com/share/customers/id/docs/CSX_Industrial_Sidetrack_Manual_063003-REF20534-REF21769.pdf

Mine Safety and Health Administration - Home (msha.gov)

Track design should be predicated on a minimum train size of 110 cars attached with up to four locomotives. Track should be designed using 55 foot length for rail cars and 75 foot length for locomotives.

Track design should permit the loading of cars in either direction.

A coal weighing system capable of providing electronic individual per car weights to CSXT is required at the loading facility. CSXT must approve and certify any weighing system. Batch weigh systems are preferred. (See section E).

Coal loading capacity is to be at a minimum rate of 4,000 tons per hour and permit loading a train of 10,000 tons within 4 hours. 5,000 tons per hour loading capability should be considered by the origin should 15,000 ton trains be the maximum train size desired. The loading bin should have a minimum capacity of 120 tons.

Automatic Equipment Identification (AEI) readers are required at all new fastload facilities.

Electronic Data Interchange of Bill of Lading information will be required, and the origin should have capability of accepting information from the ShipCSX web page.

The CSX Coal Development office and **CSX Real Estate Department** will prepare all mine track or track lease agreements to cover the track and loading facility. All other wireline, pipeline, or encroachment agreements necessary will be prepared by CSXT Coal Team.

C) AN OVERVIEW: THE UNIT TRAIN BATCH WEIGHING LOADOUT SYSTEM

The purpose of a unit train batch weighing loadout system is to efficiently load each coal car in a unit train to its maximum allowable capacity, **without it being overloaded or underloaded**. The term “unit train” typically refers to a train consisting of 75 to 150 hopper, gondola, or rotary dump coal cars being shipped from one source to one destination in a continuous uninterrupted train movement. The term “batch” refers to a quantity produced as the result of one operation; therefore, a “batch weighing loadout system” is a facility that prepares a predetermined amount of coal and loads it into the railcar.

U.S. Railroads establish limits as to the gross (sum of the vehicle weight and the material weight) allowable weight for each car. These excessively and repetitively overloaded railcars lead to premature failure on railroad beds, bridges, and structures, as well as higher car maintenance and reduce railcar life expectancy. Due to these concerns, it has been common for railroads to assess strict penalties for producers who ship overloaded cars.

A common means of producers to avoid the high penalty costs of overloaded railcars is to purposely underload railcars. The problem this creates is that the unit train capacity is not being utilized efficiently and some of the available railcar carrying capacity is wasted. This lack of efficiency in car loading can be very costly.

The **Unit Train Batch Weighing Loadout System** is the only type of train loading facility that prepares an amount of material specifically for each car of a unit train so that maximum car utilization is achieved. Each car is loaded so that it is neither overloaded nor underloaded, so that the railroad does not see excessive damage to its facilities and equipment and the producer efficiently utilizes as much of each car’s capacity as possible.

The amount of material for each railcar to be loaded in a unit train is determined before loading the car. This amount is computer calculated by subtracting a railcar empty weight from the allowable gross weight. This calculated net target weight is the amount of material that is required for a particular railcar which, when loaded into the car, *achieves a total gross loaded weight that is equal to the railroad's specified gross allowable weight.*

The **Unit Train Batch Weighing Loadout System** performs this operation through the use of a two-bin system in a common structure. The surge bin situated in a structure over the top of the weigh bin, which is situated over the top of the railroad tracks where cars are to be loaded. Through computer control, a series of high speed hydraulically actuated weigh bin feed gates will transfer material from the upper surge bin into the weigh bin until the desired net target weight for the next car to be loaded is achieved. These high speed gates perform cutoff of material flow at the appropriate time as material is rapidly being filled from the surge bin (typically 250-300 tons capacity) into the weigh bin (typically 120 ton capacity to assure that when material flow into the weigh bin is ceased, the desired net weight (or "target weight") has been achieved for the next railcar to be loaded. As that car moves into a loading position under the weight bin, this prepared batch of coal is released from the weigh bin into the railcar by opening another hydraulic gate, allowing the batch of material to be discharged from the weigh bin. The material is funneled from the weight bin into the railcar through the use of a telescopic loading chute, or spout.

The process of loading a unit train is one in which a batch is prepared specifically for each individual railcar in the complete train. If the train consists of 100 different size railcars, 100 different batches will be prepared, each made specifically for the car that it will be loaded into. The process of loading a unit train is a continuous one, in that material is fed by conveyor to the top of the upper surge bin continuously, and the train that is being loaded moves at a slow continuous rate during the entire loading process.