Supplying Multiple Product Markets with Varying Grades of Wood Waste

Material: Wood Waste

Issue: *Wood waste processors may find it prudent, if not wise, to receive wood from myriad different generators to optimize the economic performance of their investment in equipment and in their facility. Consequently, they will receive varied types and qualities of wood waste. As a result, it is not generally possible for the processor to high grade all the material for the same end-use market, but instead necessary to generate different forms of product to meet different markets. Residuals (like overs and unders) from a processing line that makes higher-value products, be used for lower-value products. Then, this keeps the final discarded residue quantity to a minimum and maximizes the volume of product moved to different end-users, thus improving revenues and profits for the facility. When marketing different grades of material, processors delicately balance processing and stockpiling requirements. They adjust the correct amount of material for each market without spending more labor or equipment time to refine the material to a higher-value than is demanded by the current market.*

Best Practice: As part of the facility-permitting process, the wood-waste processor needs to negotiate the largest practicable area for incoming wood waste tipping. The state regulations for inside storage areas versus outside space for the tipping area will, in part, determine how much inside tipping space must be obtained. If the wood-waste processor has adequate storage covered within the appropriate permit, the wood-waste processor should carefully inspect and grade the incoming loads of material during delivery. This inspection helps to keep loads of clean, higher-grade wood away from mixed construction-and-demolition waste loads, which have excessive non-wood contamination. If each type of waste stream has been properly source separated, hauled in a segregated fashion, and properly received at the processing plant, then each stream can be processed separately to meet the different products grades required by multiple markets.

Implementation: The system designer must be realistic in estimating the deliveries of types and volumes of input material at the processing facility and the equipment necessary to conduct the processing for end-use markets. The facility uses mostly, or all, the same equipment for different in-feed material processed; however, different material processing equipment produces the varying product grades. The process operator and the site manager must be able to work with their waste suppliers to control the on-site handling and processing costs associated with the differential revenue gains in incremental, value-added product specifications. Most importantly, system designers must have a clear understanding of how differential tipping fees affect both waste-stream deliveries and contamination levels because these variables determine the processing requirements and finished product quality.

Once inspected at the tipping floor, inspectors should give storage preference to the load types also being processed separately. Sometimes site constraints restrict separating the loads, but the load is intended for marketing different grades of wood to different customers. Then, the system designer must adequately size the processing and sorting area to provide for several different wood-sort stations. Then, they use them to accomplish downstream sorting by a positive pick. Alternatively, processing distinct types of wood waste streams from highly segregated loads could occur at different processing times and then be stockpiled in a marketable form separated from the other types of processed materials.

Benefits: The broader the diversity of the end-user markets, the more flexible the processor can be in receiving and processing different wood waste that a facility inevitably encounters. It is particularly important that processors must know the minimum specifications and quantity guarantees, for the processed wood waste to be provided to the end users. A processor might prefer providing material on an as-generated basis with no storage at the processing facility, but this provision might carry the least favorable financial return because the end-user cannot rely on the timing of its delivery. Therefore, supplying multiple markets can provide greater flexibility, to take advantage of different market needs and prices and to take advantage of spot market opportunities. Long-term relationships with suppliers and end-users may require maintaining diverse markets, even at the expense of short term gains.

The value of product sold within the wood industry relates to the availability and price of virgin wood. Thus, receiving and processing from many sources provides the potential opportunity and flexibility to serve a multi-client market base. However, it is critical for the processor to fully understand all the site management and economic implications of the decision to segregate and separately process and market individual material streams. While diversity is good, diversity within a multitude of programs can lead to a very complicated management scheme that may breed inherent inefficiencies and lower marginal benefits than anticipated.

There are benefits to producing multiple grades of processed wood waste that include the following:

- Process flexibility to respond to changing (evolving) feedstock specs for existing customers or to process for brand new customer specs
- Process tiers- moving overs or unders into a different market

The anticipated benefits for the marketing strategy of the processor include:

- Diversified customer portfolio -- so as not to be dependent on any one customer and to obtain sufficient market information from multiple sources
- Buffer markets -- necessary when higher value markets collapse temporarily or permanently
- Markets -- customer offers key ancillary benefits to the processor (i.e., equipment financing, back-hauler or other shipping advantages, willingness to take multiple product streams, joint venture partner, etc.)

The potential benefits for the sourcing strategy of the processor include the following:

- Ability to take all kinds of wood from any one customer
- Ability to pressure key competitors

Application Site: This Best Practice applies to wood-waste processing facilities.

Contact: For more information about this Best Practice, contact CWC, (206) 443-7746, e-mail info@cwc.org.

References:

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3. Brickner, Robert H. Gershman, Brickner & Bratton, Inc. Falls Church, VA.

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