

PRODUCT APPLICATION NOTE SN0203

- Industry:** Pulp, Paper and Wood Mills, Primary Metal Mining, Primary Metal Industries, Electric, Gas and Sanitary Services
- Type of Application:** Monitoring the distribution of wood chips
- Optech Equipment Used:** Sentinel 3100, Watchman 3100
- Application Description:** The customer required a system to automate the distribution of wood chips in its storage bins.

When wood chips are delivered to the mill they are dumped onto a large conveyor, travel up the conveyor, and are dropped onto a shuttle conveyor. The shuttle is used to distribute the wood chips into vertical bins. In order to distribute the wood chips evenly, the location of the shuttle conveyor over the bins, and the level of the bin at that location, must be known. Three sensors were therefore installed. One Watchman 3100 measured the location of the shuttle conveyor, and two Sentinel 3100s were used to measure the bin level. The data from all three sensors was sent to a programmable logic controller (PLC), where it was displayed to show the level of wood chips across all bins. The data was displayed in bar graph format, enabling operators to optimize the distribution of wood chips.

KEY ADVANTAGES OF LASER TECHNOLOGY IN LEVEL MEASUREMENT

- Measurements unaffected by temperature variations
- Measurements can be made through very narrow bins
- Measurements can be made to virtually any type of material
- Measurements unaffected by background noise
- Measurements unaffected by angle of repose
- Non-contact measurements
- Short setup time with no calibration required

