

# SNOWFLAKE WHITE MOUNTAIN POWER

- ① **Truck Dump** – Semi-trucks dump full loads of wood chips into a fuel hopper for movement to the fuel yard.
- ② **Chip Piles** – The elevated auger can drop wood fuel into two separate piles based upon wood type, moisture content or other conditions for appropriate blending and mixing.
- ③ **Chip Reclaimers** – Bulldozers push the wood fuel into piles under the two reclaimers where the chips are then dragged to conveyor belts to begin their journey to the boiler.
- ④ **Grinder Tower** – Any chips that do not meet boiler specifications are sent through a final grinder. Additionally, any foreign material is rejected and one of three large magnets removes any metal.
- ⑤ **Screw Presses** – Recycled paper fibers, from the Catalyst paper mill, are processed and pressed to squeeze out the water and lower the moisture content to just under 50%.
- ⑥ **Paper Fiber Hopper** – The compressed paper fibers are trucked to this location where they are stored in a hopper and added to the fuel stream in appropriate amounts to meet the boiler's need.
- ⑦ **Mixing Tower** – The two fuels meet and are tumbled together to create the right blend for the boiler.
- ⑧ **Main Conveyor** – The final conveyor lifts the blended fuel to a height of 92 feet where it is stored in a fuel bin before delivery into the boiler. The fuel is carefully measured and controlled to maintain proper bed temperature and maximize steam generation.
- ⑨ **Boiler** – The fuel is consumed inside the nine-story boiler as it's blown onto a bubbling bed of hot sand reaching temperatures of nearly 1,800°. The boiler is lined with over 23,000 feet of three-inch diameter tubes carrying water and eventually steam which will exit the boiler at 900° and 850 pounds per square-inch.
- ⑩ **Turbine/Generator Building** – The steam created by the boiler is forced against the blades of the turbine, reaching a velocity of 3,600 rpm, which in turn spins the generator creating 24 MW of "green" electrical power.
- ⑪ **Baghouse** – Exhaust air from the boiler is forced through an extensive, state-of-the-art emission control system which successfully captures and removes various known emissions. This process is a significant environmental improvement for the region's air quality compared to other options of prescribed burning or landfilling the plant's fuel stream.
- ⑫ **Ash Building** – The remaining ash falls out the bottom of the boiler, is sprayed with water to control fugitive emissions and then hauled to a permitted landfill or may be used as a soil amendment.
- ⑬ **Cooling Towers** – Superheated steam from the turbine condenses back to water and is cooled in these towers for reintroduction into the boiler. This water heating-cooling cycle is continuous while the plant is operating.
- ⑭ **Substation** – Once generated, the "green" electrical energy from Snowflake White Mountain Power is placed on the grid through a substation for delivery to the residents of APS and SRP. This local generation greatly enhances the reliability of the electrical supply and grid in this region.

