N A N G W A R R Y S A W M I L L

Nangwarry Sawmill was opened in 1940 and was designed to produce boards and cases, the original log intake being 5-6 million super feet per annum. Over the years, the capacity of the Mill has steadily risen and at present has an intake of 90,000 M3. In the near future, intake is expected to rise still further with the advent of 2 shifts on our Bandline. The expected intake is 112,000 M3 per annum.

The products themselves have changed with today's emphasis on Scantlings, linings and furniture timbers, whilst case components have become only a salvage operation from dockings and reject boards. The wood residue from all operations provides the fuel for the Power Station which was opened in 1961 and which not only provides the requirements of Nangwarry Sawmill but also makes a considerable contribution to the main network of E.T.S.A. in the South East. New revenue has been gained from sales of chip and shavings to particle board manufacturers, and sales of bark for landscaping and gardening purposes.

LOGGING

The trees to be thinned are marked by Forest Management. All logging and haulage operations are carried out by contract. The trees are felled with the use of a chainsaw and are trimmed from the butt to a top diameter of 75mm. The stems are then crosscut to lengths from 4.9 to 7.8m. Logs are first unloaded on to the four "dump" skids, for tallying purposes only. They are then transferred by Log Handling Vehicle either to the production skid servicing the Mill, or to holding skids.

NO. 1 LINE

Subsequently they pass through an Isles Forge ring debarker to the Head Saw Line Deck, ready for processing by the Head Saw.

NO. 1 LINE contd.

The log Band Saw cuts four wings from the larger logs to dimensions as set by the Head Sawyer who also grades the logs for quality products: the squared flitch is then transferred to the Vertical Resaw where it is cut for board production and linings. The smaller logs are cut down the centre and transferred to the Horizontal Resaw, as, are also the wings from the Head Saw, and are cut to best advantage for quality for scantling fascia etc., and for recovery for board etc. The sawn wing then moves to a drop sorter, where the un-usable material is passed to waste. The usable slab is then transferred to the Edger for side trimming to width and is passed out as scantling board etc.

The waste disposal system converts wings etc. into chip for sale, or for use as fuel in the Nangwarry Power Station. Sawdust also passes through the chipper system.

All clear sawn timber is collected on a transfer chain and then passed over a trim saw table where all ends are trimmed before passing via Jack ladder and conveyor belts to the Green Chain. Here all odd sizes are removed manually and hand stacked onto Kiln Trucks. The main cut of the day continues on down the Green Chain to the Automatic Stacker, where it is automatically stacked onto Kiln Trucks.

Log intake 80,000 M3 per annum.
Average log length 6.1
Average log diameter 35cm.
Off loading. Direct to Dump skids ex trucks.
Crew 18
Products:- Scantling, linings, flooring and board.

NO. 2 LINE

No. 2 line logs are predominantly 4.9m. Originally the line was set up to produce case material, but has since been adapted to produce furniture stock. This line is being phased out, and should cease production in May, 1976. Operatives from this line will work shift on the Bandline, leaving the No. 2 Line to be operated in the event of major breakdowns on the Bandline.

KILNS

Kiln Dimensions:- 12.6m x 2.4m x 3.m
Kiln Charge:- Average 12 M3 of sawn green timber.
Drying time, for 45mm average 45 hours. For 35mm 40 hours and 19mm - 20 hours. For H.I. studs 18 hours at a high drying temperature of 120c with a depression of 30°.

The kilns are basement longitudinal shaft type, with 18 two inch coils in 14 kilns and 3 banks of finned coils in the other three.

Heating: is by steam reduced to 50 P.S.I.

Weighting: All H.I. studs are weighted with 980 Kg/M3 concrete blocks, some weighting is also done with Scantling and 19mm stocks.
Moisture Content, Scantling and Flooring is dried to 12-14% H.I. studs to 10%.
Reconditioning:- All material is reconditioned for at least 4 hours at 100c.

MOULDING MILL

Dry sawn material enters this section after kiln drying on kiln trucks, is destacked and graded before moulding, following which it is docked for length and grade, bundled and formed into packs for dispatch. At present we have 4 moulders mainly producing scantling. In view of increasing demand it is intended to install a high speed Wadkin moulder in the next few months, and so increase finished production.

HOUSE FRAMES

Due to an expanding market in prefab house frames, the Woods and Forests Department commenced fabrication of frames in February, 1974. Original production was 2-3 houses per week, but with increased mechanisation and demand, output has risen to about 9 houses per week.

GENERAL INFORMATION

NANGWARRY SAWMILL

NUMBER OF EMPLOYEES	180
BARK PRODUCTION	50 M3 per day
CHIP PRODUCTION	130 Tonnes per day
SHAVINGS PRODUCTION	20 Tonnes per day
GREEN RECOVERY	35%
RECOVERY - LOG TO FINISHED	31%

DETAILS OF BANDSAWS

GREEN BAND LINE, NANGWARRY SAWMILL

8 ft PRESCOTT BANDMILL

LENGTH	47 feet
WIDTH	14¼ inches
GAUGE	14 B.W.G.
TEETH -	
PITCH	2 inches
DEPTH	7/8 inches
SWAGE	6 gauge Maximum 8 gauge Minimum
SILVER TEETH -	
PITCH	3 inches
DEPTH	3/8 inches

DURATION OF EACH RUN ON BANDMILL 8 HOURS.

7 ft FILER AND STOVEL RESAW

LENGTH	42 feet
WIDTH	12 inches
GUAGE	15 BWG
TEETH -	
PITCH	2 inches
DEPTH	7/8 inches
SWAGE	7 gauge Maximum 9 gauge Minimum

DURATION OF EACH RUN ON THE BANDMILL 8 HOURS.

6 ft TURNER HORIZONTAL RESAW

LENGTH	36 feet
WIDTH	10 inches
GAUGE	15 BWG
TEETH -	
PITCH	2 inches
DEPTH	¾ inches
swage	7 gauge Maximum 9 gauge Minimum

DURATION OF EACH RUN ON THE BANDMILL 4 HOURS

GREEN CASE LINE.

LOG JACK LADDER incorporating Log Docking Saw.

LOG HAUL Into mill.

TWIN LOG EDGER Saws adjustable for various widths of logs, Roundabout arrangement for storage of first cut logs, prior to second cut, as required. Driving motor H.P. 75.

HORIZONTAL TWIN BANDSAW used for cutting squared flitches into three piece out boards. Driving motors H.P. 90.

EDGER Multi Saw, fixed spacing, used for trimming rough edged boards to specified size. Driving motor H.P. 25.

VERTICAL BANDSAW Used for cutting over and undersized log wings which cannot be passed through the Twin Bandsaw. Driving motor H.P. 45.

NANGWARRY POWER STATION

STAL TURBO-ALTERNATOR Condensing and Pass Out Steam.
Capacity, 3.2 M.W., at 11 M.V. 3000 R.P.M.
Operating on three shift basis, 24 hours daily, 7 days a week.
Annual generation exceeds 20.5 million K.W.H.
Annual Woods and Forests usage 3.3 million K.W.H., balance of generation sold to the Electricity Trust of South Australia. Power Station supplies Nangwarry Mill with power and light.

BOILER Riley Dodds, Water Tube, M.C.R. 50,000 lb. steam per hour at 416 P:S.I., 750°F, superheat.
Annual steam generation 331 million lbs.
Power generation 258.5 million lbs.
Pass out steam to Drying Kilns 72.5 million lbs.

FUEL Wood. Mixture of hogged solid mill waste, sawdust and moulder shavings. Usage, approximately 8 tons per hour on full load. Fuel Handling. Conveyor belts to storage bins and open ground storage. Open storage fuel reclaimed for usage during Mill closure and week ends. Conveyor belts to Boiler bunkers.

WATER TREATMENT All water used in Power Station is treated to remove hardness by iron exchange water treatment plant.

POWER STATION RUNNING STAFF

4 First Class Engine Drivers
4 Boiler Attendants
4 Assistants
Each shift consists of Engine Driver, Boiler Attendant and Assistant.

MAINTENANCE STAFF

2 Fitters.
1 Fitters Assistant.

SUPERVISOR Mill Engineer.

NO. 1 BANDLINE

LOG YARD 5 dump skids. 16 Bandline storage skids.

LOG HANDLING VEHICLE Caterpillar 950 lifting capacity 4 tons

LOG LIVE DECK Driven by 5 and 10 H.P. geared Pope motors.

DEBARKER Isles Forge 36" ring Debarker. Minimum log length 8'. Diameter ranges 6" to 36" maximum debarking rate up to 120 feet per minute. Ring motor H.P. 60.

LIVE DECK Receiving and accumulation storage space for logs within the Mill.

LOG CARRIAGE: Isles Forge - Trojan 42" riderless. Preselect setworks for size cutting, electro-pneumatic operation.

LOG NIGGER Used for turning logs on log carriage to best advantage. Pneumatically operated by Head Sawyer.

LOG STOP AND LOADER Loads individual logs onto log carriage while holding back balance of logs on live deck. Pneumatically operated by Head Sawyer.

HEAD SAW Prescott Log Band Saw. 8' 0" dia. wheels, 12" Face. Saws 14" width, 14 gauge, 47' 0" length. Driving Motor H.P. 150.

RESAW Filer and Stowell Vertical Band Resaw. 7' 0" dia. wheels, 12" face. Saws 13" width, 15" gauge, 41' 6" length. Machine is fitted with preselect setworks, electro-pneumatic operation. Machine is provided with double sided infeed works and roundabout arrangement for returning timber for further sawing. Driving motor H.P. 125.

HORIZONTAL BAND SAW Turner Slat Bed Slab resaw. 6' 0" dia. wheels, 11" face. Saws 10" width, 16 gauge, 35' 0" length. Machine is fitted with preselect setworks, electrically operated. Machine is provided with double sided infeed chains and outfeed rollers to board and cap sorter. Driving motor H.P. 100.

EDGER Sumner 42". Saws 22" dia. Machine is fitted with preselect setworks electro-pneumatic operation. Driving motor H.P. 80.

LAWSON AUTOMATIC STACKER. Length 10' to 25'. Width 3" to 14". Thickness ¾" to 2".

The Stacks are of the following dimension.

Maximum length 25', average 20'.

Width 81"

Height 84" above kiln trucks.

The hydraulic hoist is raised by means of a gear type pump, driven by a 5 H.P. motor.

Stacking chains and extending forks are driven by a 3 H.P. variable speed motor.

Accumulation chain is driven by a 3 H.P. geared motor. A sticker hoist is provided to raise stickers up to stacking height.