



For business and for pleasure, the Holden HD special sedan.

PRINTED BY G. W. GREEN & SONS PTY. LTD., MELBOURNE

Issued by the
Public Relations Department,
General Motors-Holden's Pty. Limited,
Fishermen's Bend.
September, 1965.

DANDENONG



General Motors-Holden's Pty. Limited

BRISBANE SYDNEY MELBOURNE ADELAIDE PERTH



The GMH plants at Dandenong, Victoria. The total roofed building area is 1,736,394 sq. ft. In the top left is the newly opened Holden spare plant.

Dandenong—fourth largest of the nine GMH manufacturing plants in Australia —is on a 347 acre site, 23 miles from Melbourne on the Princes Highway.

Construction began in 1954 and its completion in 1956 enabled GMH to assemble motor bodies for the first time in Victoria.

Previously, the body assembly operations had been carried out at Woodville, South Australia, and the vehicle assembly stages at Fishermen's Bend, where the first Holden was unveiled in November 1948.

Dandenong plant, employing over 4000, is divided into five divisions:

- Body assembly and vehicle assembly of Holdens, Vauxhalls, Chevrolets, Pontiacs and Bedfords.
- Engineering, manufacturing, sales and servicing of the Frigidaire range of household appliances.
- Head office and main warehouse of NASCO—National Automotive Service Company—the spare parts and accessories division of GMH.
- Head office of IDEC—the Industrial and Domestic Equipment Company, which markets Holden industrial engines, Delco generators, Hyatt and New Departure bearings, Euclid earth moving equipment, and GM diesels for locomotives, launches, tractors, and oil drilling rigs etc.
- Holden spare plant for the manufacturing of such out-of-production spares as short motors, steering knuckles, front hubs, wheel brakes, clutch cylinder assemblies, rear axles, brake drums etc. This 183,760 sq. ft. out-of-production spares plant was transferred to Dandenong from Fishermen's Bend and began production in August, 1964.

In 1964, Dandenong assembled 61,027 motor vehicles. By 1966, under the current GMH £42 million expansion programme, this big plant will have the capacity to assemble 68,056 vehicles each year.

This future grand total will comprise 60,160 Holdens, and 7,896 Vauxhalls, Bedfords, Chevrolets and Pontiacs.

Vehicles assembled at Dandenong are for distribution throughout Victoria, the Riverina and Tasmania, and to many of Holden's 61 oversea territories. By road and rail, Dandenong is supplied by other GMH plants in South Australia and from Fishermen's Bend.

Holden body panels, fenders, engine hoods, bumper bars and a large variety of intricate pressed metal components come from the giant (1,866,825 sq. ft. roofed floor area) plant at Woodville, South Australia, and body hardware items such as door locks, stainless steel mouldings, mufflers, oil filters, air cleaner assemblies, seat frames, springs—from tiny washers to exhaust pipe assemblies—come from the 312 acre plant at Elizabeth, 16 miles north of Adelaide.

And from the biggest of all GMH plants, Fishermen's Bend, Melbourne, come the Holden engines and mechanical components.

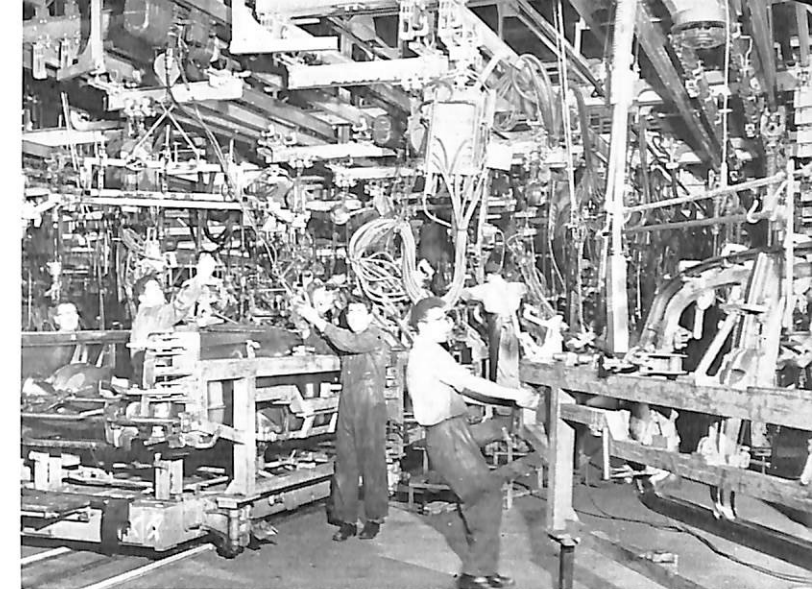
It is at Fishermen's Bend the new Holdens are created. In the new GMH Technical Centre, the only one of its type in Australia, stylists develop the form, colour and character of every visible part, interior or exterior, of tomorrow's Holden. Styling Department is charged with marrying the new design concepts, the new forms of beauty in motion, with the practical cost conscious demands of the engineers, the trend of the future and . . . with what the customer wants.

In the Technical Centre, the creations of Styling pass to the Production design drawing office where the shape and appearance of the new model, the body design and mechanical design engineers' instructions are transformed into drawings for pattern making and tooling for the hundreds of parts and assemblies. The Holden is the only car entirely designed in Australia and is not a copy of any other vehicle.

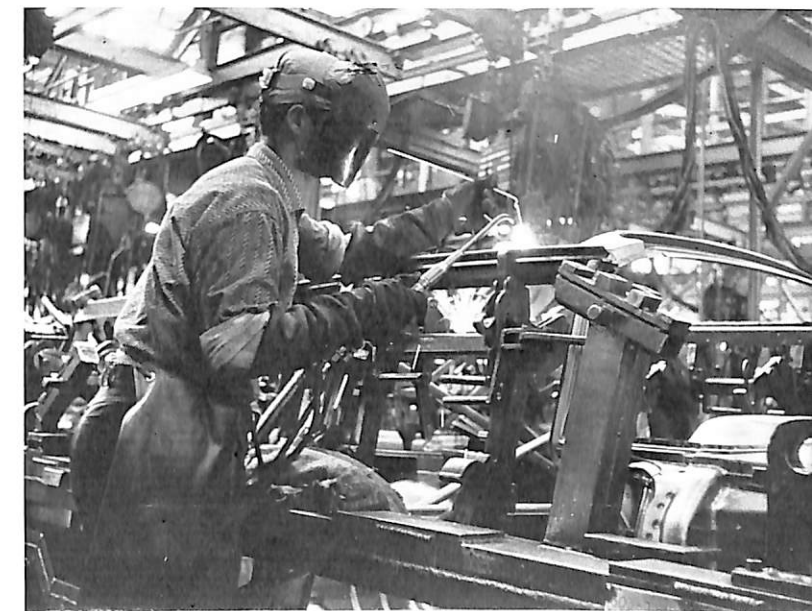
The electrical harnesses for Holden are supplied to Dandenong from DISCO, another GMH plant at Port Melbourne, Victoria.

Briefly, the major operations at the Dandenong vehicle plant are **Body Welding, Metal Finishing, Painting, Trimming and Upholstering, Body Wiring, Vehicle Assembly, and Final Touch Up.**

Body assembly operations begin in the Body Welding Department, where various metal pressings are welded together to form sub-assemblies. Body sub-assemblies include floor

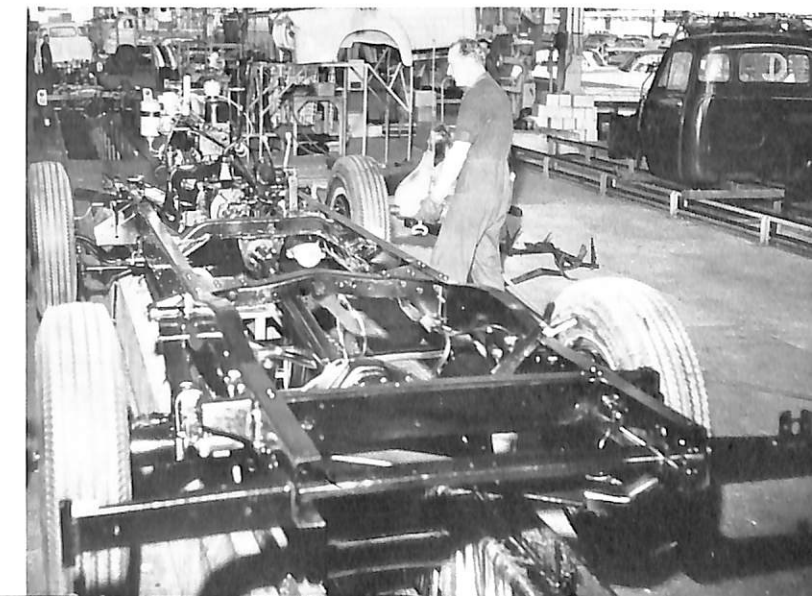


Commencement of the Holden body assembly line, showing the side panel assembly gate being loaded on to a body truck in preparation for frame welding.



Welding the roofing frame on the Holden body assembly line before assembly of the turret top.

Assembling road wheels on the Bedford truck chassis assembly line.



panels, doors, sides, "Y" frames, and front ends. These sub-assemblies are next welded or bolted together to form the vehicle body.

METAL FINISH

Each body then passes through the Metal Finishing Department, where the metal is prepared for painting. All visible welds are filled with solder (termed "solder loading") and then ground, filed and sanded to provide a smooth surface for painting.

When the completed body shell enters the Paint Department it is washed with a solvent to remove grease and dirt; it then passes through a phosphate machine, which prepares the surface to receive the paint. The lower half of the body is then dipped into a tank of black paint, which acts as a rust preventive.

SPRAY PAINTING

Next the undercoat is applied by an automatic spraying machine. After drying, another coat is applied by hand spraying. This undercoat, when dry, is prepared for painting by a process called "Wet Rubbing." Thereafter the body travels through a series of spray booths and ovens for the application of final colours.

Smaller parts of the body, which have not been installed up to this stage, pass through separate paint lines.

All GMH vehicles are sprayed with "Magic-Mirror"—the exclusive gem-hard finish that retains its showroom lustre for years.

After being thoroughly dried, the paint is buffed to produce a high gloss.

TRIM

In the Trim Department, numerous items such as door handles, tail lights, rubber weather seals, windows etc. are added to each body. Then, in the Body Wiring Department, electrical wiring is installed, and connected to the appropriate components.

VEHICLE ASSEMBLY

Front suspension, rear axle and engine are aligned on a special fixture loop conveyor, the body is placed over these components and assembled to them. The vehicle is then placed by automatic hoist on the main conveyor line where wheels, steering, radiator, grille, fenders and hood are added and the vehicle progresses to the test rollers.

TEST ROLLERS

Here, the rear wheels of each vehicle are run on a set of test rollers to check the gears,

lights, horn and instruments, then the wheels are aligned and checked for correct toe-in, camber and castor, and the headlights are adjusted and focused.

Any faults found during the roller test are rectified, then the vehicle passes through a high pressure water spray booth while inspectors examine the interior for possible leaks. Each vehicle then undergoes a second water test to ensure that any leaks found in the first test have been rectified.

SOFT TRIM

The car goes through the Soft Trim, or Upholstery Department—where seats and other upholstery are installed—then to the Touch-up Department. Here any blemishes in the Paint finish are rectified and the paint is again buff polished to a high gloss. After final inspection, the completed vehicle is parked in the vehicle distribution area of the plant until purchased by an authorised GMH dealer.

QUALITY CONTROL

Throughout the entire assembly the Quality Control Department maintains close watch on the quality of the vehicle. Mechanical check and rigid physical inspections are carried out to ensure quality production.

ADMINISTRATION

The modern, air conditioned Administration building incorporates a fully equipped and staffed medical centre, outstanding cafeteria facilities with accommodation for nearly 1500 and other amenities. Other attractive features are the flower bordered driveways into the plant, the car delivery buildings and two car parks for employees.

A special innovation is the £54,000 sports field for employees. It includes a full size oval, three tennis courts, one grass basketball court, an 18 hole miniature putting course, a 6 hole pitch and putting course, a 7 rink bowling green, children's playground equipment and a pavilion and club house.

SAFETY

GMH is a safe place to work. It provides clean, airy buildings and many types of modern equipment to reduce arduous work and eliminate heavy lifting.

Records are kept on the trends and accident incidences so that investigation and studies can be made for continuous operation of the Company's progressive accident prevention programme. During 1963, only two of every 1000 GMH employees suffered a disabling injury.



Holden road wheels being installed from wheel conveyor chute on the final assembly line.



Mechanical conveyors, transferring Frigidaire washing machine water containers, to the porcelain enamelling section at Frigidaire's Dandenong Plant. These units are then coated with the life time corrosion proof finish.

For speedy compilation of orders, small "freight trains" move from bins to the delivery areas.



Since the establishment at Dandenong in 1957 of Frigidaire's new plant, many new Frigidaire models and a wide range of household appliances have been introduced to the Australian public.

Frigidaire products are by no means new to Australia. In the early 20's household and commercial units were marketed by Delco Light distributors. By 1929, commercial condensing unit sales exceeded 52½ per cent. of the market; and 4 years later, partial manufacture and assembly of Frigidaire products began in Australia.

GMH started manufacturing Frigidaire household refrigerators in 1940, using English condensing units.

The Company's Frigidaire war-time projects included the manufacture of refrigerators up to 1,000 cubic ft. capacity, collapsible cool rooms, refrigerated vehicles and ship installations.

The production of household types resumed in 1945, and 2 years later GMH formed the Frigidaire Household Appliances Division.

The Dandenong Frigidaire plant was established at a cost exceeding £4,600,000. This 368,550 sq. ft. plant is devoted to the manufacture, merchandising and servicing of Frigidaire refrigerators, electric cooking ranges, built-in wall ovens, cooking tops, washing machines and other household and commercial appliances. The air-conditioned block includes a theatre and a fully equipped Home Economics centre.



GMH vehicles are kept on the move all over Australia by NASCO — short for National Automotive Service Company — the lifeline that supplies spare parts and accessories.

NASCO, at its modern Dandenong warehouse, carries in stock over 45,000 different types of parts and accessories. This division of GMH is also responsible for ensuring that adequate stocks are held by its 65 major distributors with 178 branches, 587 authorised dealers, 635 special outlets and over 15,000 independent service stations.

Last year, NASCO supplied over 35 million pieces, parts and accessories.

Over 87 per cent. of the parts stocked by NASCO are made in Australia.

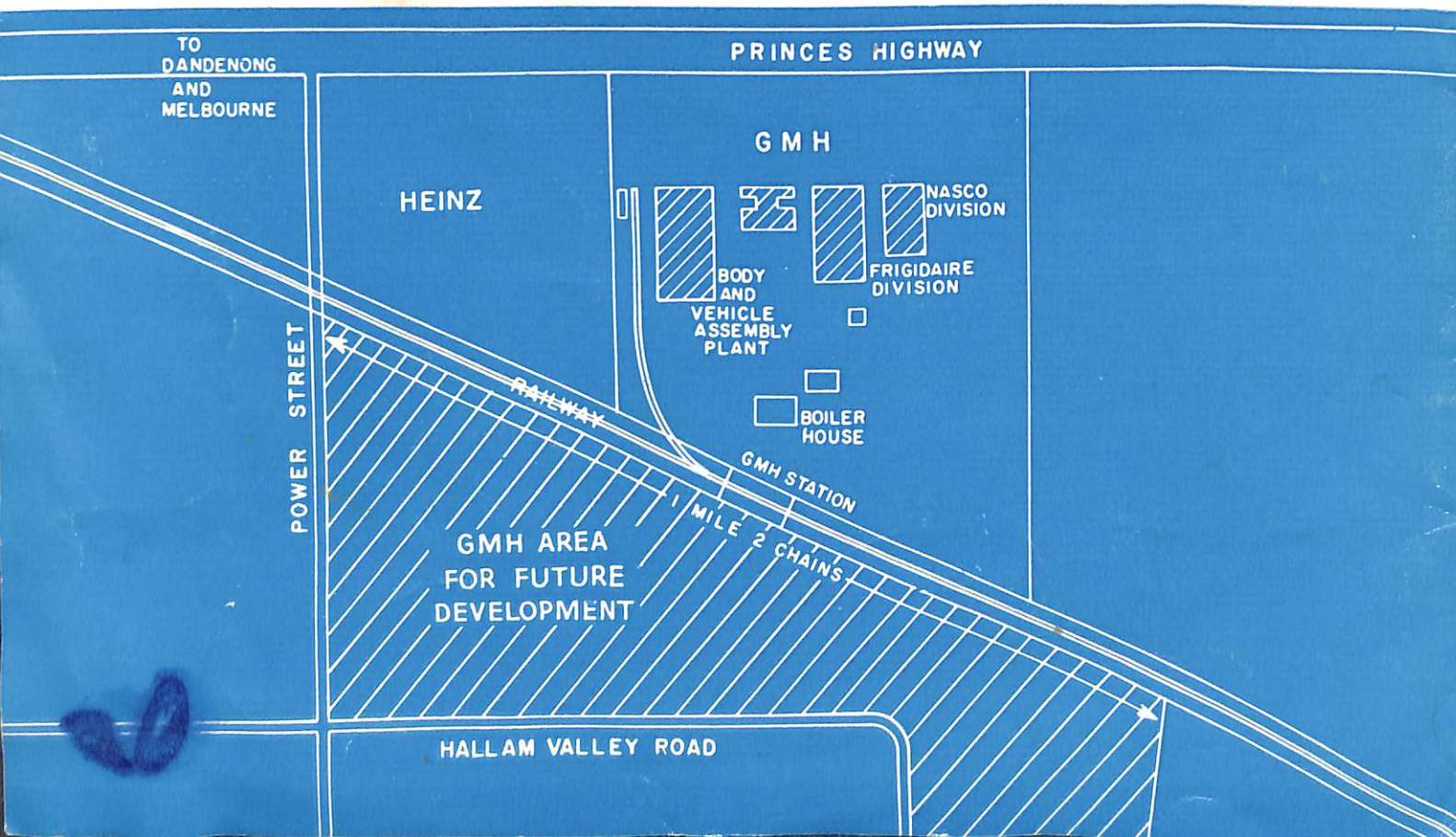
HOLDEN MILESTONES

- 1948 The FIRST Holden, the 48/215 model, produced on November 29, at Fishermen's Bend.
 - 1949 In January, Holden production is 10 a day. At peak production in June, 1964, Holden total production reaches 775 each day. Sales for 1949 totalled 7,725.
 - 1950 GMH acquire Disco Manufacturing Corporation Pty. Ltd., Port Melbourne. Disco manufactures Holden's electrical harness, electrical components and AC Spark Plugs. Holden sales for year—20,113.
 - 1952 In November, GMH announce £11 million expansion programme. Sales climb to 31,945.
 - 1953 SECOND Holden, the FJ, announced October 29. Panel van added to range. Production reaches 200 a day. Sales for the year total 44,175.
 - 1954 First Holden exports leave for New Zealand. GMH acquires 153 acres at Dandenong. Sales for year—54,796.
 - 1955 Work begins on Dandenong plant as part of new £21½ million expansion programme. Holden sales climb to 63,800.
 - 1956 THIRD Holden, the FE, announced July 19. Dandenong body and vehicle assembly plant opened. Holden sales for year—68,893.
 - 1957 Frigidaire and Nasco plants opened at Dandenong. Two station sedan models added to Holden range. Sales for year—94,557.
 - 1958 FOURTH Holden, the FC, makes debut on May 6. In October, 500,000th Holden produced and 10,000th exported. Sales of Holden top 100,000 yearly for first time with 110,626. Lang Lang Proving Ground, 2,167 acres, begins operations. Company announces new £9 million expansion programme. In May, foundations poured at new Elizabeth plant, South Australia.
 - 1959 New Elizabeth Body Hardware Plant (roofed floor area—394,075 sq. ft.), begins production. Holden sales increase further to 115,503 for year.
 - 1960 FIFTH Holden, the FB, introduced January 12. Engine bore increased. Left hand drive Holden produced for export markets. Speed loop in operation at Lang Lang Proving Ground.
 - 1961 SIXTH Holden, the EK, introduced with automatic transmission. "Credit squeeze" reduces Holden sales for the first time since inception. Sales for year—112,377.
 - 1962 Year of the Millionth Holden. Millionth was produced at Dandenong, Victoria on October 25, and second millionth expected in 1968. SEVENTH Holden, the EJ, announced July 30, with completely new styling. Luxurious Premier sedan added to series. Elizabeth Body Assembly plant (roofed areas 251,875 sq. ft.) commenced operations.
 - 1963 In August, Australia's EIGHTH Holden, the EH, introduced with new, bigger engines and new styling. New £15¼ million expansion programme announced. Elizabeth's new Paint Shop (roofed floor area 156,750 sq. ft.) and new Trim Assembly plant (roofed floor area 202,125 sq. ft.) commence operations. Holdens retain sales leadership with 42.6% of all passenger vehicle registrations and 50.2% of all light commercial vehicles.
 - 1964 Vauxhall Viva added to GMH Vauxhall range. New assembly plant for Holdens in Philippines. Opening on June 10, of new £3 million GMH Technical Centre at Fishermen's Bend. At Elizabeth, Trim Fabrication plant (roofed building area 130,000 sq. ft.) begins operations.
- New £24 million expansion programmes announced to lift Holden manufacture to 200,000 vehicles a year, or 850 daily, and provide production capacity for 25,000 other GMH vehicles such as Vauxhall, Chevrolet, Pontiac and Bedford by 1966. In Queensland, GMH begin construction of new vehicle assembly plant at Acacia Ridge, nine miles south of Brisbane.
- Holden sales set new yearly record of 170,212—retaining market leadership with 39.3% of all passenger vehicle registrations and 48.2% of commercial. New record export year with 13,693 to 61 Export Territories.
- 1965 In February, new £6 million fully mechanised grey iron foundry begins production at Fishermen's Bend. The NINTH Holden, the HD, introduced with new curved panel styling, Powerglide automatic transmission, and a twin carburettor X2 engine—the most powerful ever used by Holden.



ABOVE:— Night photo of facades of Dandenong Plants of GMH.

BELOW:— Location plan of GMH Dandenong.



GMH

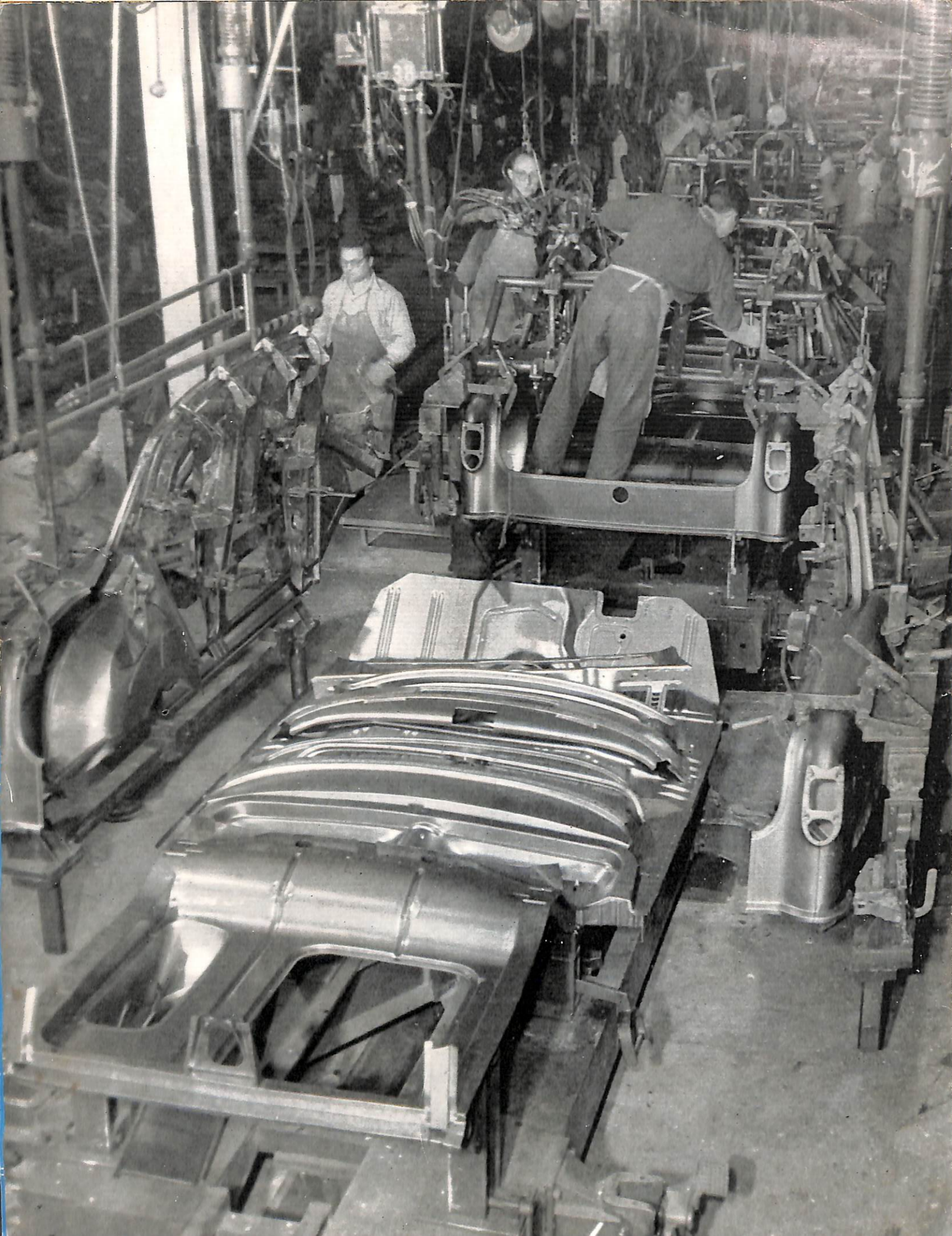
GENERAL
MOTORS-
HOLDEN'S

DANDENONG



GENERAL MOTORS-HOLDEN'S LIMITED

BRISBANE SYDNEY MELBOURNE ADELAIDE PERTH



Body and Vehicle Assembly

COMPLETED late in 1956, at a cost of nearly £4½ million, the 12½ acre Body and Vehicle Assembly Plant at GMH Dandenong is the most modern of its type in Australia.

It has the present capacity to assemble annually 48,729 cars and commercial vehicles for distribution throughout Victoria, the Riverina and Tasmania, and to assemble the bodies for 48,358 of those vehicles.

Further increases in capacity will be provided under the Company's new £15 million expansion programme. This provides for £500,000 to be expended to extend production facilities in the Dandenong Body and Vehicle Assembly Plant.

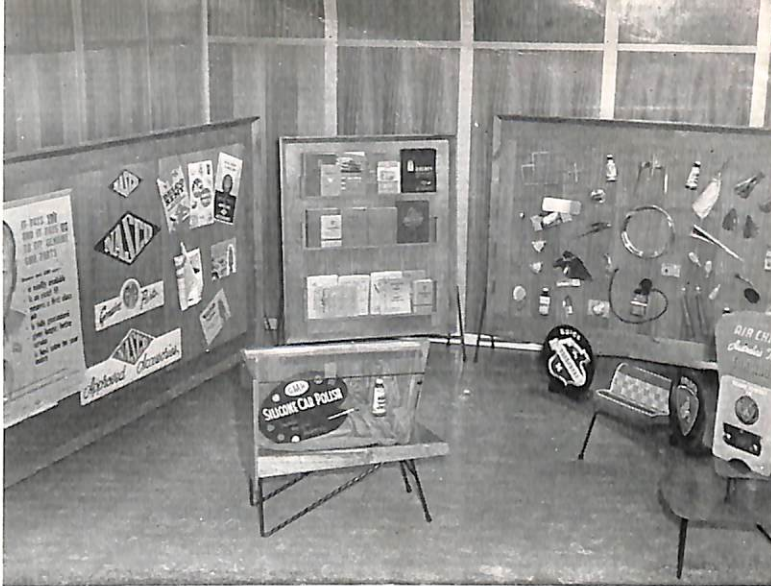
Erection of this new plant was begun in 1954, and its completion enabled GMH to undertake, for the first time, the assembly of bodies in Victoria, utilising pressed metal panels, parts and components produced at the Company's 66 acre Metal Stamping Division at Woodville, South Australia.

Main departments in the Dandenong plant are: Body Welding, Metal Finishing, Paint Shop, Trim and Upholstery, Body Wiring, Vehicle Assembly and Inspection.



Nasco

THE National Automotive Service Company—formed in 1936 as the Parts and Accessories Division of GMH—occupies a modern 255,750 sq. ft. office and warehouse building at Dandenong.



Completed in January, 1957, at a cost exceeding £1,542,000, the plant's outstanding facilities enable the Division to maintain to its stockists, in all parts of Australia, the speediest delivery of orders for replacement parts for the large number of GM vehicles in service.

Many of these 40,000 different parts are stocked in big numbers. This enables NASCO to meet demands for essential replacement parts for all Holden models, also for the various models of Vauxhall, Bedford, Chevrolet, Pontiac, GMC, and other GM vehicles. Sales each year by NASCO exceed 23 million parts. Many are requirements for the 735,000 Holdens in use in Australia and in 35 export territories.

More than 83 per cent. of all NASCO parts and accessories are now Australian made—by some 400 Australian manufacturers, additional to General Motors-Holden's.

Frigidaire

ESTABLISHED at Dandenong since January, 1957, the Frigidaire Division of GMH occupies a 368,550 sq. ft. floor area modern plant devoted to the manufacture, merchandising and servicing of Frigidaire "Sheer Look" and "Lace Look" Refrigerators, Electric Ranges, built-in Wall Ovens, Cooking Tops and other household and commercial appliances. The air conditioned office block includes a Theatrette and fully equipped Home Economics Centre.

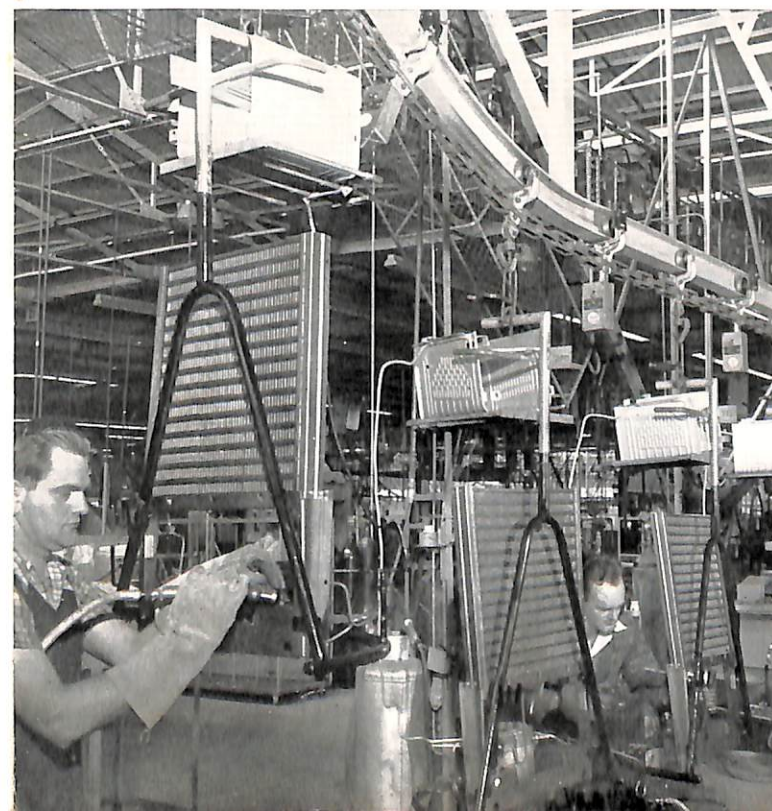
An achievement at Dandenong has been the introduction to Australia of manufacture of the "Meter Miser," long world famous as the *extremely* precision-built, economical, long life sealed power unit of all Frigidaire refrigerators.

The Frigidaire Plant features a Press Shop with the most modern type of presses and sheet metal equipment, and a fully mechanised Paint



Shop and Porcelain Enamel Shop, both of which contain some of the most modern equipment used in the Appliance Industry.

Material handling within the manufacturing operation has been greatly reduced by the extensive use of overhead conveyors which deliver component parts and assemblies to the main assembly lines.

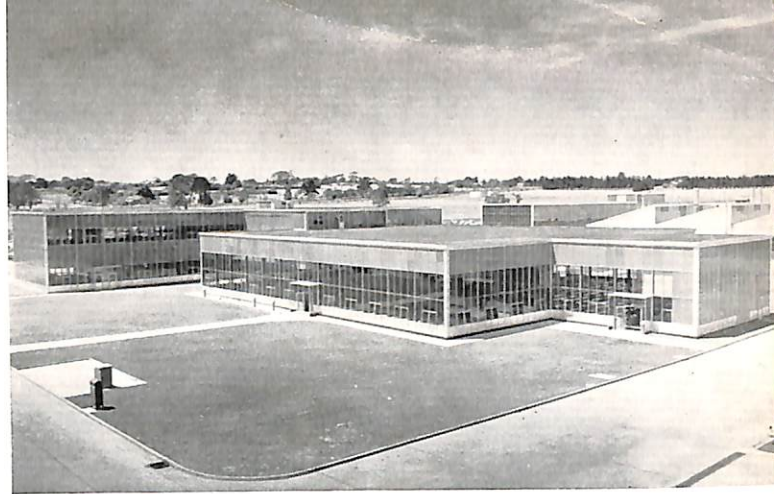


Administration

THE £917,000 Administrative Building, illustrated at right, incorporates a fully equipped and staffed Medical Department, outstanding canteen facilities with seating for 1,480 people, and other amenities.

The Foyer, illustrated below, offices, executive offices, dining rooms, and latest type kitchen, are features of the Administrative Building, and illustrate some of the modern architectural trends and original engineering which are notable in all GMH buildings at Dandenong.

Other attractive features are the flower bordered driveways into the Plant, the entrance



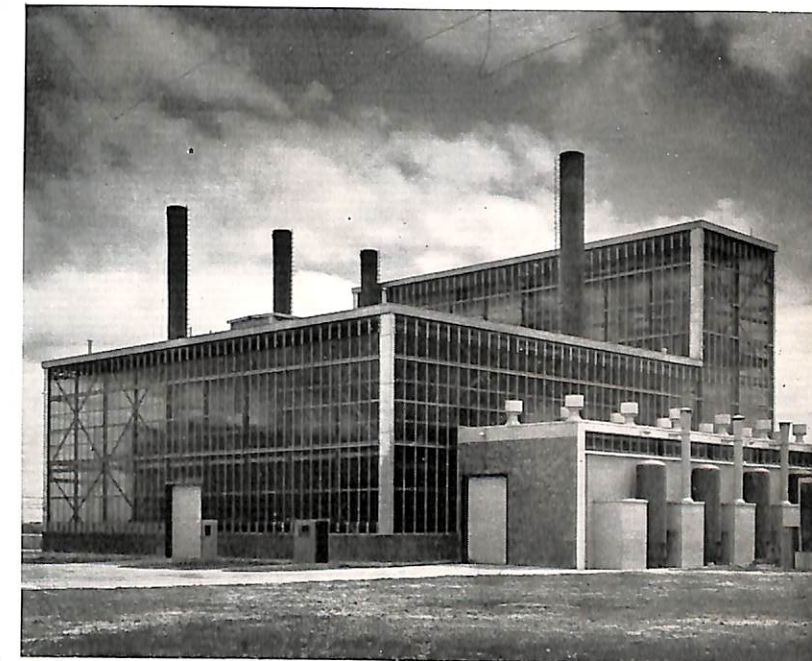
Guard Houses, the Car Delivery building, and the two big parks provided for the cars of employees. A special innovation is the £52,000 Sports Field for employees. It includes a full size oval, a 440 yard perimeter athletic track, tennis courts, basketball courts, two putting greens, a bowling green and a £12,500 pavilion and club house.

GMH employment at Dandenong exceeds 3,480.

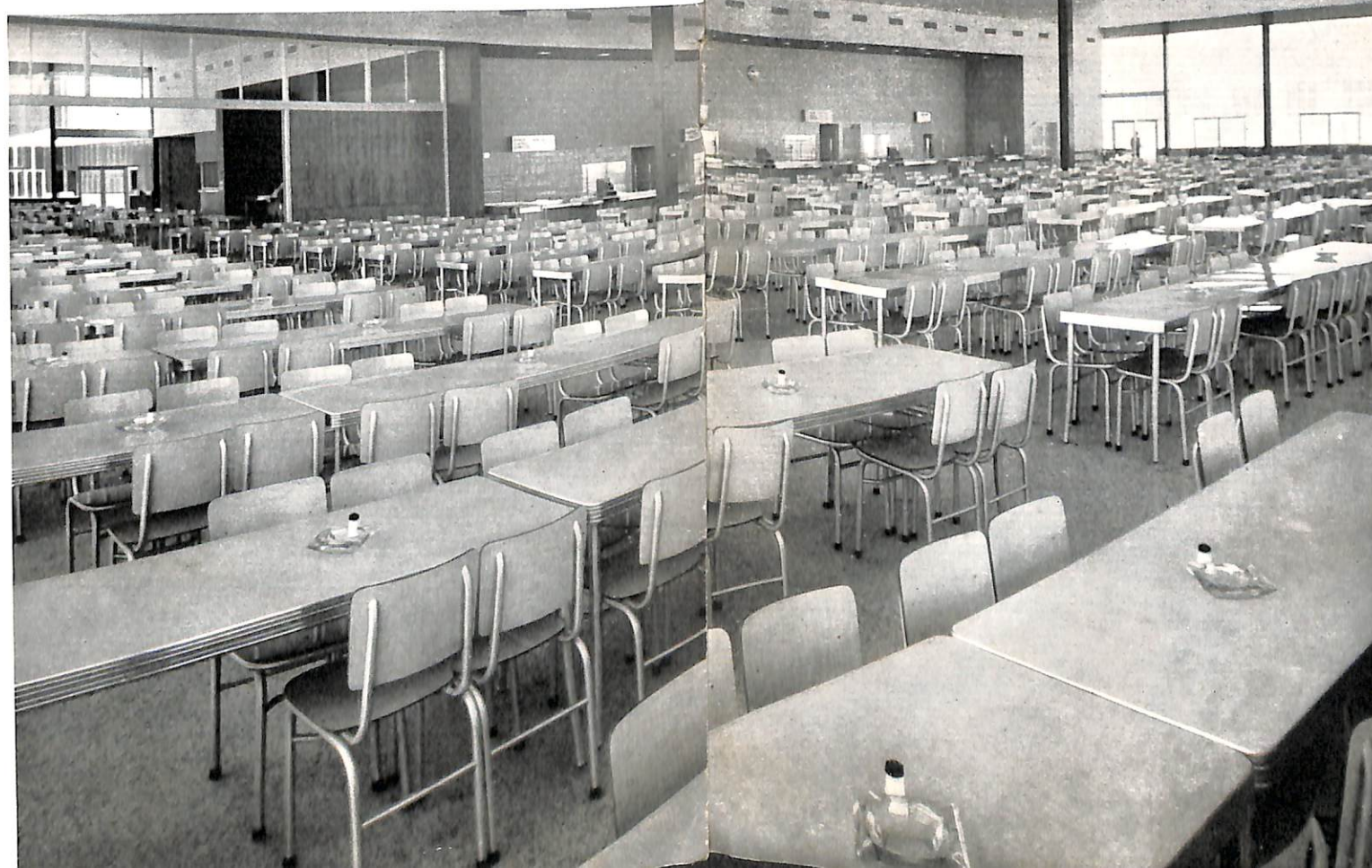
Plant Services

OUTSTANDING among the plant services at Dandenong is the 21,490 sq. ft. glass walled Boiler House, which cost £234,000 to build, and the adjoining Electric Sub-Station. Equipment in the Boiler House and Sub-Station cost £690,000. From both, all services are fed underground to the individual plants and to the Administrative Building.

The GMH rail station, on the electrified line from Melbourne, with its overhead foot bridge; the plant rail siding running the full depth of



At right: View of part of the main Canteen looking toward the smaller Staff Canteen. Service races and counters (right background) are in stainless steel.



the Body and Vehicle Assembly Plant; the fire protection tanks and services safeguarding all buildings; and the two miles of concrete roads serving the existing plants, are other notable features on the 153 acre site which fronts the Princes Highway, and has the main South Gippsland Railway as its rear frontage.

Adjoining the railway on the South, GMH owns another 191 acres as an insurance against the possible need for future expansion.