

*Stephens-Adamson*

It also sees the start of a new concept in engineering of cargo loading and disposal anchored to a private-enterprise basic: cost-saving.

Primarily the Canadian Century's job will be to supply coal to Ontario Hydro's Lakeview generating station near Toronto.

It's not a new job, being a coaler. In fact it's one of the oldest, most crucial transportation roles in commerce — pre-dating by far the Industrial Revolution of the late eighteenth-century.

But, that role has now been shipped over the threshold of the electronic age in the "Canadian Century."

Basically, this ultra-modern freighter carries more and unloads faster and cheaper than any other Great Lakes carrier yet designed.

How?

Simple:

"Canadian Century" is one big floating ship's hold — contrasted to the standard carrier with several divided holds.

There are no bulkheads to compartmentalize the ship's cargo capacity nor to slow its unloading.

Cargo unloading equipment, designed by Stephens-Adamson, replaces conveyor belts with a reclaiming machine, operated by one man standing on the ship's upper deck.

The electronic wand of modern engineering here enters the picture.

To unload, the deck operator throws a switch operating a gamma-ray mechanism controlling the opening of tunnel gates in the hold.

The flow of cargo (in this case coal) then feeds into a specially - designed elevator raising the coal to the upper deck. There, transfer-belt conveyors move the coal ashore.

The "Canadian Century" is

## Photos By Stuart Meeks

also unique in more traditional ways.

It has a depth of 46 feet — substantially greater than any other vessel plying the Great Lakes trade. Other skeletal statistics report it 730 feet long and 75 feet wide.

Built almost entirely of high-tensile steel, it will be the largest self-unloader on the lakes. It's calculated to carry up to 28,000 tons on each trip.

Overall, the secret of the new design's success is the high-tensile steel which drastically reduces the "Canadian Century's" displacement by ruling out bulkhead weight and trimming the gauge of the hull's steel shell.

But, unloading of such a displacement of bulk also calls for keen-eyed engineering to solve new ballast problems.

Stephens-Adamson achieved this by designing a complicated balance system, pumping water ballast to the bow while the cargo is being unloaded toward the stern.

There are other features:

Canadian Century is powered by a single diesel engine.

It has twin-steering rudders.

It has a single propeller — and its pitch is controlled entirely from the bridge.

That pitch is variable — also something new in craft of this size.

A thrust propeller also is located up front, to control docking and canal maneuvering.

Canadian Century, along with two other new lakers — SS Cape Breton Miner and SS Ontario Power — owned by Upper Lake Shipping Lim-

ited, will be supplying fuel to power Hydro's big Lakeview operation.

By 1975, Ontario Hydro will require — by current forecasts — an increase in generating capacity of close to nine million kilowatts.

Thermal electric plants already are being cast in a vital role for Ontario's expansion in the future — as they were in the past.

Lakeview is programed for production of 300,000 kilowatts from each of eight generators — a gigantic power source for a forecast matching demand.

When completed Lakeview then will be pumping 2,400,000 kilowatts into the province's hungry grid system. Some idea of the meaning of that statistic can be seen when comparison shows it is greater than the peak 1947 demand made on all Ontario hydro stations.

Last year, Cape Breton Miner and Ontario Power delivered a total of 789,000 tons of coal from Nova Scotia mines to Ontario's Lakeview and R. L. Hearn.

As with the upcoming Canadian Century, unloading equipment in the Cape Breton Miner and Ontario Power also was designed by Stephens-Adamson.

These are just some among the ships of Canadian-owned companies which have incorporated Stephens-Adamson designs.

Other corporations using such machinery include Canada Steamship Lines, Algoma Central Railway and Hall Corporation.

Meantime, business sources say it is fully expected Upper Lakes Shipping will soon order a sister-ship for Canadian Century.

Contracts for the cargo-handling equipment once more are expected to be placed with the Belleville designers.

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