Image: Peter Holst

Nav Canada Vancouver Harbour Control Tower

Granville Square, Vancouver

The Vancouver Harbour air traffic control facility is so well hidden that visitors often end up in a nearby revolving restaurant instead of atop the 28-storey Granville Square. Easy mistake, as the 12-sided glass tower atop the highrise that houses the offices of the Vancouver Sun and Province only offers about 200 square feet of working space, perched 142 metres above the ground.

“It’s a very, very small area to work upstairs, with a counter around the edge and an open space in the centre,” explains Dave Weston, unit operations specialist and supervisor of the tower’s seven air traffic controllers, who work in pairs. The controllers monitor aviation activities and ensure the separation of aircraft. “We keep them apart or make sure they do it themselves,” says Weston. “We work in a see-and-be-seen environment; if they can’t see, we take over. In a nutshell, we keep airplanes apart and look out for safety concerns. Not just air emergencies; if we see a house on fire or something not right, we report it.”

The tower is owned and operated by Nav Canada, a privately owned, non-share corporation purchased from the federal government in 1996 for $1.5 billion. The corporation runs the civil air navigation services across Canada, and collects revenue from customer-paid service charges.

The Vancouver Harbour control tower monitors about 58,000 movements (take-offs and landings) annually, 80 to 85 per cent of which are fixed-wing aircraft, while the balance are helicopters. And although the mountains are a challenge, buildings are a bigger one for navigation: “We can’t see through them,” explains Weston.

Float-plane take-offs and landings are equally challenging, since controllers can’t see air traffic at very low levels and, as Weston explains, radar “doesn’t provide us information at sea level.” The solution lies in Wide Area Multilateration, or WAM, a radar-like surveillance technology with sensors around the harbour that listen to transponders, then triangulate the position of aircraft. Both members of each pair of air traffic controllers see the same thing on their screens, but “one does all the work and makes all the decisions,” says Weston. The other is there for backup.