

repair and modification of military and civil operators's aircraft. Extensive ground handling and testing equipment supported by an up-to-date technical publications library insures a turn-around with minimum of ground time. NWI's Mobile Repair Parties are equipped to service operator's fleets of aircraft off-site at any location with full technical support. The company is equipped to service the latest in radar, avionics and aircraft electronic equipment.

The manufacturing facility is capable of manufacturing aircraft components ranging from the floor assemblies and bulkheads of the wide body Lockheed L-1011 Tristar, the complete empennage of the Scottish Aviation Jetstream, and the center wings and aft fuselage of the Boeing 707 to composite fiberglass epoxy conditioned air ducts for the Lockheed L-1011, electronic component racks and miniaturized circuitry for Hughes Aircraft company and sophisticated mechanical cable assemblies incorporated in the Spar Aerospace remote manipulator arm of the Columbia Space Shuttle.

Average Work Force: Engineering – 15
P Eng (2)
Quality Control – 25
Production – 250
Admin & Other – 210

Gross Sales: \$18M

Plant Size: Edmonton Municipal Airport – 250,000 sq ft
Edmonton International Airport – 50,000 sq ft

Equipment: Test and Inspection Equipment – avionics electronics; electrical hydraulics and mechanical test equipment; NDT radiographic; and ultrasonic and X-ray equipment.

Production Equipment – three axis, three spindle NC milling machines (25ft x 8ft); autoclave (6ft dia x 18ft); precision jig boring machine (98 in x 48 in table); drop hammer table (63' x 36"); rubber pad hydraulic forming press table (76 in x 76 in); hydraulic stretch wrap forming machine (20 tons); precision tube bender up to 3 1/2" OD capacity; cable swaging, splicing and proof loading; and heat treatment, cadmium plating, and anodizing.

A complete 60 page listing of equipment is available from Northwest Industries Ltd on request.

Experience: Northwest Industries Ltd customers include, Government of Canada Department of National Defense, United States Air Force, Spar Aerospace, Lockheed California Co, Hughes Aircraft Co and other major aircraft manufacturers and operators. The company holds Canadian Department of National Defense Approval No. 686-1/44, Canadian Ministry of Transport Approval No. 3/57 and US Federal Manufacturers Code No. 35598.

Keywords: 1 = Aircraft; 3 = Avionics; 7 = Electronics; 12 = Machining; 19 = Testing/Test Equipment; 20 = Miscellaneous; Structural Modification = 1; Repair & Overhaul = 1, 3, 7; Non Destructive Testing = 19; X-Ray = 19; Installations & Servicing = 3, 7; Instrument Repair = 1; Instrument Servicing = 1; Structural Components Manufacture = 1; Flight Surface Manufacture = 1; Tooling = 12; Die Fabrication = 12; Sheet Metal Fabrication = 12; Fiberglass Composite Component Manufacture = 1; Wiring Harness Fabrication = 1; Control Cables Fabrication = 1; Component Fabrication = 1, 7; Tubing Assembly Fabrication = 1; Technical Publications Production = 1, 3, 7; Technical Writing = 20; Hydraulics = 19; Technical Illustration = 20.

Revised: Dec 83

ONTARIO HYDRO (Research Division)

Code: OHR

Address: 800 Kipling Avenue
Toronto, Ontario, Canada M8Z 5S4

Contact: Dr A McMillan, Research Proposal Officer –
(416) 231-4111, X6055

History: Ontario Hydro was established by Provincial Legislation in 1906 and has the authority to generate, buy and distribute electricity throughout Ontario. The Research Division, which occupies the Dobson Research Laboratory, was founded in the 1920s and is one of the oldest and largest utility research laboratories on this Continent. Ontario Hydro is a financially self-sustaining Crown Corporation that derives no revenue from taxes.

Capability: The Research Division of Ontario Hydro is a fully integrated facility with a broad range of capabilities in research, development and testing. Extensive experience with solving utility-related problems has produced a staff with expertise in such areas as materials science, high voltage science and engineering, concrete technology, organic and inorganic chemistry, biology and geotechnical engineering to name a few. The keyword list gives a more detailed account of the Division's areas of expertise. Many of the techniques and skills developed at the Research Division, while developed in support of the utility, are applicable in other areas.

Average Work Force: Research Division:
Engineers, Physicists, Chemists
& Biologists – 266
Technicians & Technologists – 281
Support Staff – 85

Gross Sales: 1982 – \$3.2B (Estimated)
\$42.0M (Research Division's Operating Budget)

Plant Size: 30,000 sq meters
(Kipling Complex, plus other test sites)
43,000 sq meters
(Kipling Complex, projected by 1987)

Equipment: The following is a list of the major physical facilities. The Research Division also has various sophisticated test and measurement instruments in general use in its laboratories

Electrical/Electronic – High Voltage Laboratory, High Current laboratory, Industrial Processes Laboratory (high frequency power, impulse power, high temperature plasma), Electronics Development Laboratory, Mobile Cable Fault Location Laboratory, Mobile High Potential Test Facility, SF₆ Substation (full scale), and Battery Laboratory.

Mechanical/Metallurgical/Structural – Pump Test Complex (full-scale primary Heat Transport Pump Test Set up to 12,500 hp), Seismic Qualifying laboratory, Anechoic Chamber, Conductor Stress-Strain Laboratory, Heavy Mechanical Test laboratory, Non-destructive Evaluation Laboratory, Welding Laboratory, and Conductor Dynamics Full Scale Test Facility.

Chemical – Analytical Chemistry Laboratory, Radioactive Materials Laboratory, Scanning Electron Microscopes, Surface Analysis Facility, Oil Laboratory, and Combustion Test Facility.

Environmental – Mobile Environmental Monitoring Facility; Environmental Chamber; LIDAR, other Laser Systems; and Micrometeorological Instrumentation.

Civil – Soil and Concrete Analysis Laboratory.

Experience: In the past, the Research Division has won many research and development contracts from the Canadian Electrical Association, the Electric Power Research Institute, the Canadian Federal Government, and other public and private organizations, both domestic and foreign.