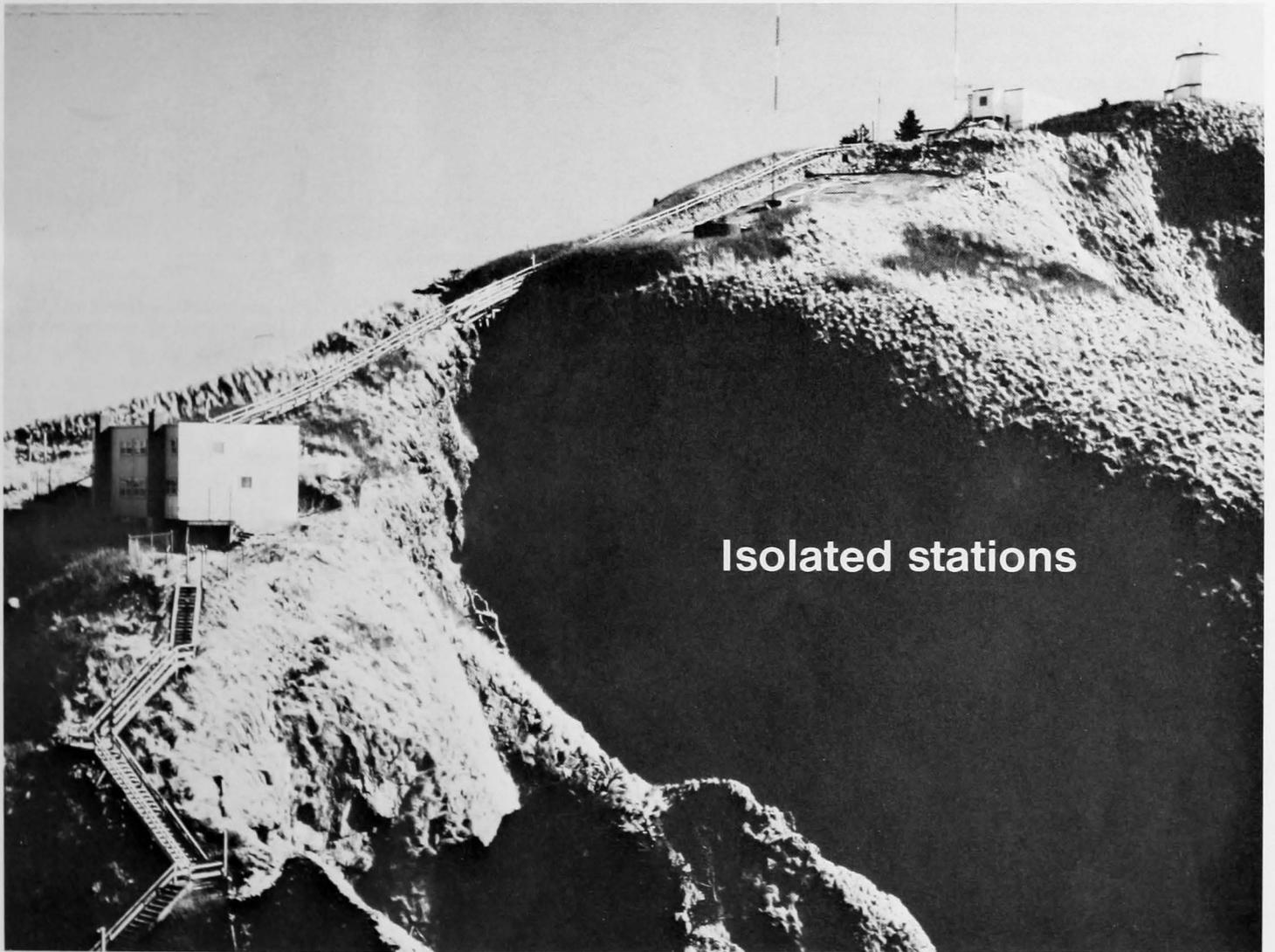


January/February 1982

# ZEPHYR

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Isolated stations



Environment  
Canada

Environnement  
Canada

Canada

## Regional WMO approves telecommunications networks

ADMA Jim Bruce led the Canadian delegation to the World Meteorological Organization Regional Association IV meeting held in Havana, Cuba November 23 - December 2 last. He served as Chairman of one of two main committees established at the session.

He reported that plans were approved for upgrading two southern telecommunications networks, important to Canada to ensure good quality input data for our hemisphere and global forecast models. He added that inter-session working groups will be established for the tropical cyclone program, hydrology, agricultural meteorology and solar radiation measurements.

Mr. Bruce said that Canada will approve Dr. Len Barrie of AES as regional rapporteur on long range transport of airborne pollutants. He noted that "fairly acidic rain" now occurs in Bermuda. "It is important for the region," he continued, "that we determine the chemical composition of precipitation, especially on the islands east and south east of the continent."

Concern was also expressed at the meeting about the integrated World Weather Watch system. Delegates felt strongly that further planning of the system should take into account the idea that responsibilities and expenditures should be shared in a balanced manner between developed and developing countries.

Fifty delegates from 13 countries attended the meeting open to all WMO members in North and Central America. Notable absentees (due to political or economic factors) were the United States, Costa Rica, Dominican Republic, El Salvador, Guatemala, Haiti and Panama.

Mr. S. Aguilar Anguiano of Mexico was elected regional president for a three year term and Mr. C.E. Berridge of Dominica was elected vice president. The Canadian delegation also included Don Smith (ACDG), Fred Page (AES International Affairs) and Joe Slater of Inland Waters Directorate, Environmental Conservation Service.

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Cover Appeal: A feature of AES is that many of its staff spend some time in isolated postings. Their revealing experiences form the theme of this issue (photo of Cape St. James Weather Station B.C. by John Lozanski).

Zephyr is a periodical publication for employees of the Atmospheric Environment Service, Environment Canada. It is produced for the Atmospheric Environment Service by the Information Directorate of Environment Canada.



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## AES uses Telidon on national TV

Demonstrations of meteorological uses of Telidon have been stepped up in recent weeks, ready for the day when instant weather information can be punched up on a screen by anyone with a terminal linked to the two-way Canadian videotex system.

First there was use of Telidon charts and graphics on national television. Starting in December CTV network began illustrating weather forecasts on its morning current affairs show, Canada AM, with attractive regional maps and weather tables prepared by Telidon specialists at the Ontario Weather Office in Toronto.

CTV's use of Telidon was the first stage in an AES campaign to interest TV networks in broadcasting high-quality TV weather programs which could include aviation meteorological data and weather news for farmers, sailors, skiers and other special publics. The networks, however, are awaiting a new technological advance expected by mid 1982 that would allow

Telidon signals to be converted directly for telecast. For Canada AM the material is sent by telephone to the CTV studios in Agincourt, 20 km east of Toronto, where signals are picked up from a monitor screen.

On a somewhat smaller scale, meteorological uses of Telidon were demonstrated in January at the Toronto International Boat Show. A screen was set up in the AES exhibit area, organized by the Ontario region office, allowing some 200,000 visitors to see daily weather forecasts on colorful Telidon maps. They could also consult a Telidon "weather dictionary" and see some marine weather applications of the graphics. The Telidon display was a first for the Boat Show.

Later this year an AES project team plans to test the form and content of a proposed new weather program at the studios of TV Ontario, the province's educational network.

## Smith, McCulloch swap jobs in new AES management plan



*Don Smith*



*Jim McCulloch*

ADMA Jim Bruce has announced that on April 1, 1982, Don Smith, director general of Central Services, and Jim McCulloch, director general of Field Ser-

vices will exchange positions. He noted that one of the major advantages of the new Executive Category is that it provides the opportunity to move senior

managers through executive positions to broaden their direct experience with various elements of the Service and thus increase flexibility of management.

Mr. Smith has been responsible since 1980 for the Central Services Directorate whose four branches provide three major support services plus Ice services. The support services are technical and professional training, computers, the national communications system, the development and systems support for the national data networks. Prior to assuming his present position, he was director of the Meteorological Services Research Branch, and regional director of Ontario Region. Previous assignments since he joined the AES in 1949 have been with the Research Directorate, the Canadian Meteorological Centre, and as forecaster at a variety of locations from British Columbia to Nova Scotia.

Field Services includes the six Regions, the Canadian Meteorological Centre, and the Field Meteorological Systems Branch, as well as the office of the director general, the Arctic coordinator and the director of Special Projects at Downsview. Before assuming his present position in 1978, Mr. McCulloch was regional director for the Atlantic Provinces, and served in the Applications Branch (now of the Canadian Climate Centre), in the Research Directorate, in the Training Branch and at Goose Bay. He joined AES in 1952.

Commented Mr. Bruce, "Both Smith and McCulloch will have many new challenges to face in their new positions." He said the former will be taking over Field Services Directorate and our regional operations at a time when a major reexamination of the forecast system in the light of computer, and communications developments is taking shape. He added that Mr. McCulloch will assume responsibility for Central Services at a critical time when new major computer and communications systems are moving from planning to implementation with equally important developments in the ice forecasting program to meet off-shore energy needs and instrumentation programs. "These two excellent managers have the full confidence of the staff of AES and the department," ADMA concluded.



*Ron Fordyce, AES port meteorological officer at St. Catharine's, Ont., demonstrates meteorological uses of Telidon at the Toronto International Boat Show.*

## Emergency workshop studies contingency plans



Doug Russell (left) and Oscar Koren were the two AES Training Branch officials responsible for organizing the first AES workshop on environmental emergencies. (Photo: Bill Kiely)

About 50 people representing half a dozen organizations across Canada attended the first AES workshop on Environmental Emergencies, held at the Downsview Auditorium December 1-2 last.

Although every kind of emergency situation was covered in the seminars – from meteorological hazards to nuclear war, two themes dominated: the need for effective, comprehensive contingency plans to ensure timely response to environmental emergencies and the need to clarify procedures for providing information to the public during emergencies.

Opening speaker was Jim McCulloch, director general, Field Services Directorate. Other speakers (with their topics in parenthesis) included Stuart White, director general, Plans, Emergency Planning Canada (The Nature of Emergencies); Bob Beach, manager, National Environmental Emergency Centre (Responsibilities, of the Environmental Emergency Branch of EPS); Brian O'Donnell, Program Development & Evaluation Branch (The Role of AES in Emergency Situations); Walter Lawrynuik, supt. General Weather Services, Ontario Region (Capabilities of AES Region and Headquarters to respond to Environmental Emergencies); Al Kellie, head, Automation, Canadian Meteorological Centre (CMC and Environmental Emergencies); Dr. Alistair Christie, deputy director, Air Quality and Inter-

Environmental Research (ARQD's Role in Environmental Emergencies); Dr. S. Venkatesh, Forecast Research Division, (A Numerical Model for Predicting Movement of Oil Slicks); Dr. Ernest Létouneau, director, Radiation Protection Bureau, Health & Welfare Canada (Nuclear Emergencies in Canada); Mike Newark, shift supervisor, Ontario Weather Centre (Meteorological Hazards); Dr. John Reid, Air Quality and Inter-Environmental Research Branch (Mini-computer Programs for Environmental Emergencies Use: also Heavy Gas Dispersion); Ken Reeves, Emergency Planning coordinator, Government of Ontario (Provincial Role in

Emergency Planning); Av Mann, chief, Scientific Services, AES Western Region (Environmental Emergencies in Arctic Canada); John Cameron, director of communications, DOE Information Directorate (Authority and Responsibility Concerning Information).

Participants at the workshop included representatives from AES Headquarters, AES Regions, the Environmental Protection Service, Emergency Planning, Canada, Ontario Hydro and the Ontario Solicitor General's office. Coordinator of the Workshop, sponsored by AES Training Branch, was Oscar Koren, and his assistant was Doug Russell.

Regional follow-up workshops are planned for the first half of 1982. Copies of the December proceedings are available in English and French from AES Training Branch, (416) 667-4877.

## John McBride gets award for 50 blood donations

John McBride, Arctic coordinator, AES (Downsview) has made a habit of giving blood two or three times a year ever since he was an 18-year-old student at McGill University in Montreal. He has always regarded these donations as a civic responsibility and a privilege somewhat akin to voting.

Imagine his surprise therefore when, on attending the January 19 AES Downsview Blood Donor Clinic, he received a certificate from the Red Cross signed by none other than Governor General, Edward Schreyer, who happens to be the organization's honorary president.

The occasion was Mr. McBride's 50th blood donation, and for this he was cited as being a "distinguished citizen and humanitarian."

John Keefe, AES safety officer who coordinates the Downsview clinics, says he believes Mr. McBride's award is a first for the Service and is "truly outstanding."

He adds that blood donor clinics have been held in the Downsview building ever since it opened in 1971. Dates are set and detailed plans made for both winter and summer clinics about eight months in advance. The work involves printing and distributing flyers to all AES staff as well as informing such neighboring institutions as the University of Toronto Press and the Institute of Aerospace Studies. (These also send contingents to the clinics).

People from Material Management must be recruited to load and unload Red Cross beds and movers hired to shift the main lobby furniture. In addition tea and coffee is donated by the CNIB and juice and biscuits supplied by outside companies.

If all goes well, some 150 employees attend the clinic and about 135 blood units are accepted.

Adds Mr. Keefe, "The blood donor clinics are one of the ways AES contributes to our local community and to society in general. The January clinic was one of the more successful ones."



John McBride, AES Arctic coordinator, receives award honoring his 50 blood donations from Mrs. Marg Watson, convener of Red Cross volunteers for the AES Downsview blood donors' clinic.

## OIC's son thanks DND for saving his life

On May 12, 1980 near-tragedy struck the lives of Barry Allison, Officer-in-Charge of Sable Island Upper Air Station and his wife Heather. Their eight-year-old son Todd had just been run over by a tractor and lay badly injured awaiting air evacuation to a hospital on the mainland. (Apart from gulls, ponies and five or six AES staff or contract people, the windswept island off the coast of Nova Scotia is uninhabited and minus medical resources).

Soon after the accident, radio contact had been made with AES Regional Office in Bedford, N.S. and arrangements made for Search and Rescue to pick the boy up, but bad weather forced the rescuers to turn back. Seven long hours later Armed Forces Base, Shearwater sent out two Sea King helicopters, one of which was again prevented from reaching Sable Island due to thick fog. The other, after circling around in the gloom, managed to lower the base surgeon and a medic by cable and reach the injured child.

By now little Todd, in great pain and deprived of medication, had been strapped to a cabinet door to rest his injured back and broken collar bone. AES staff had managed to keep the boy aroused and stop him going into shock by talking to him, and in the case of Rick Wadman (of Torbay, Nfld.) by playing to him on his guitar.

Meanwhile the last chopper had managed to penetrate the fog and make a landing. Todd was evacuated first to Shearwater



Young Todd looks on as his father Barry Allison OIC, Sable Island (N.S.) shakes hands with Shearwater Base Commander Col. Ian Patrick. Also seen are Gordon LeBlanc, AES superintendent of Station Operations, Atlantic Region (left) and Capt. Penny King (DND).

then to the Halifax IWK Children's Hospital.

A year later, completely recovered from his injuries, Todd was able to say an official thank you to his rescuers at Shearwater Base. At a special ceremony, he presented inscribed plaques to officers of 423 and 443 Squadrons and especially to Major Costello the base surgeon, who made the daring cable descent. Todd was

in turn made an honorary member of 443 Squadron. Also taking part in the ceremony were base commander Col. Ian E. Patrick, Gordon LeBlanc, regional superintendent, Station Operations, AES Atlantic Region and Todd's parents.

At last report Todd was still on Sable Island, taking a correspondence course under the supervision of his mother in lieu of school attendance.

## Michael Connelly wins Suggestion Award

As a result of making a suggestion about converting data from a MARS I automatic weather station to metric standards, Michael Connelly, now with the Aerospace Meteorology Division, has been awarded \$620 under the Public Service of Canada's Suggestion Award Program and has received a congratulatory letter signed by deputy minister Blair Seaborn.

Mr. Connelly made his suggestion in 1978 while with the then Instruments Branch and upon learning that AES did not have sufficient time to implement the project, carried out the conversion in his spare time. The value of the work was estimated to be around \$7,000.



Michael Connelly (right) receives a Suggestion Award Certificate from Dr. Ian Rutherford.

At a ceremony held at AES Downsview in January, Dr. Ian Rutherford, director Meteorological Services Research Branch presented Mr. Connelly with a Suggestion Award Certificate.

## Frank Williams retires

Friends and associates gathered at AES Pacific Region office in January to say farewell to Frank Williams, recently retired after serving 31 years as meteorologist. His career included postings to Frobisher, Goose Bay, Halifax, Toronto, Winnipeg and Vancouver. He also served five years as a meteorological officer with the navy. An accomplished sailor and fisherman, Mr. Williams received a gimbal-mounted ship's mercury barometer as a retirement gift.

## Paul Johns retires after 40 years service

Paul I. Johns was recently honored by friends and colleagues upon his retirement after over 40 years service with AES and its predecessors. In addition to his wife, Fern and his son, Paul, a number of former associates attended a wine and cheese buffet at AES Downsview Building, including Reg Noble, George Pincock, Lloyd and Erma Richards, Ted and Joyce Munn, Alec MacVicar, Bob Graham and Graham Potter. Congratulatory messages from Ottawa and the Regions were read and Jim McCulloch, director general of Field Services Directorate made a presentation.

Mr. Johns graduated from McMaster University with honours in Mathematics and Physics, then obtained his teaching certificate at the Ontario College of Education. His first teaching assignment was in Schreiber in Northern Ontario, but part

way through the year, the need for meteorologists to support the war effort led to his application to the Meteorological Service. After a successful interview he took the "intensive course" in 1941 and was posted to Dorval.

Except for taking the M.A. Course in 1944-45, and the obligatory two years at Gander (1950-52), Mr. Johns remained at Dorval until winning the position of assistant to the chief of Continental Aviation. He remained at AES headquarters, helping to coordinate national field systems for the rest of his career. At his retirement, he was director of the Field Meteorological Systems Branch, having served earlier as chief of Forecasting, Computers and Communications, and as head of Forecasting Systems.

One highlight of Mr. John's career was a secondment of several months to the

Pay Research Bureau of the Public Service Staff Relations Board in 1960. This work, strongly supported at the senior management level by Patrick McTaggart-Cowan, led to new career potentials for meteorologists largely eliminating the pay gulf that existed between the professional public service and careers in the non-government sector.

## Bill Rhodes retires after 35 years

Bill Rhodes who served for 35 years as an AES (or weather service) technician at many sites in Alberta, the Northwest Territories, Yukon and British Columbia, recently retired as an EG-6 Presentation Technician in Vancouver. He received a certificate from Jack Mathieson, director AES Pacific Region.

## Nurse Hetherington says farewell to AES friends



Retiring nurse May Hetherington receives from Joe Boll, a director, Administration Branch, a token of appreciation from all AES staff. (Photo: Elsie Trill)

When AES moved into its large Downsview building 10 years ago, May Hetherington occupied a busy consultation office off the main lobby in her role as public health nurse. (Health and Welfare Canada).

Her location was so central, she became known to a large number of AES staff and by the time she retired last December, was almost an institution.

At a farewell ceremony Mrs. Hetherington told friends and colleagues that her AES years were "the happiest of my life."

Before coming to AES she had done industrial, psychiatric and general hospital nursing both in the Toronto area and in Brockville, Ont. where she graduated in psychiatric nursing.

Born in England, Mrs. Hetherington came to Canada and met her husband

here in the fifties. She claims that having two sons helped her decide to give up the time-consuming job of being a hospital nurse. Instead she took a refresher course at the University of Toronto and entered the somewhat less demanding field of occupational nursing.

Joseph Boll, acting director, Administration Branch made a presentation to Mrs. Hetherington during the farewell gathering.

During her retirement she and her husband intend to travel in the United States. Goderich, Ontario will be their home in the summer.

## Retirement of Ernie Greckol

Moving up over a 35 year career from statistical clerk to head of Computer Production Services (AES, Downsview), Ernie Greckol retired last December after a farewell ceremony attended by some 70 friends and colleagues.

Mr. Greckol obtained his first experience of data processing with the Climatology Section in 1951 when he worked on an IBM card counting sorter installed in the pantry of an old Toronto house.

When Climatology acquired an in-

house computer in the mid-sixties, Mr. Greckol became head of operations. He assumed his last position in 1980 after Climatology and Research computer facilities had been consolidated under Central Services Directorate.

At the retirement ceremony, presentations were made to Mr. Greckol by Morley Thomas, director general, Canadian Climate Centre and Kirk Dawson, director, Computing and Communications Branch.

## Up North with the "Frozen Chosen"

by Dennis Stossel

*Dennis Stossel Arctic superintendent for AES Central Region, raises many questions about the problems of adjusting to prolonged northern isolation and of becoming part of the sometimes stifling "microculture" of an Arctic station. Despite 20 years personal experience working in the north and at least four visits a year in his present position, he does not pretend to know all the answers. Instead he suggests an in-depth sociological survey on the problems of AES personnel in the north be carried out by Health and Welfare Canada or by an independent university team.*

A woman getting up at 4 a.m. in dazzling sunshine, donning heavy pants and a parka, walking from her "integrated" living quarters to her work at a computerized upper air station, seeing as she goes a frozen landscape, dotted with Arctic poppies, or occasionally visited by snowy owls and musk-oxen.

The scene symbolizes the new technology and changing life styles of the Arctic, with even a hint that the tundra setting itself may soon vanish under headlong rush of "civilization".

AES priorities stress a wide range of weather services to the public including efficient operation of its aerological and other Arctic observing stations (not forgetting improved monitoring of precipitation and pollutants). Equally important, however, among Environment Canada's concerns are the tremendous human resource problems of the North.

Some of the new scientific programs require enclaves of men and women to work together in conditions of prolonged social isolation in a frozen, monochromatic and alien environment.

Contrary to the popular image of lonely living conditions and "heroic" tasks, our Arctic employees today have to cope with the very opposite of loneliness, while tasks can be dull and routine.

Workloads and scientific programs vary considerably from posting to posting... a meteorologically-oriented task at say Resolute Bay versus extensive station-

support duties at Eureka. The latter could include such tasks as housekeeping, janitorial and washroom detail, loading of aircraft, or safety patrol of the camp area.

Supervisors too have varying responsibilities. At some stations they are required to oversee the work of a single person, at others more than a dozen. At some postings they are all AES personnel, at others they come from two or more federal departments, say Environment Canada and Transport Canada or Energy, Mines and Resources. Some supervisors also hire personnel under contract, for example cooks, handypersons or heavy equipment handlers.

### Isolation and technology

During the past decade or so communications technology has come to the North in a big way, so have material comforts. Nowadays it is nothing to find telephones and telecopiers hooked up to satellites, automatic weather stations, ADRES mini-computers, indoor plumbing, fresh water piped in from deep water lakes, saltwater desalination units, VTR systems, saunas, frequent air service to populated centres, with mail and groceries delivered regularly.

Despite these improvements, social isolation remains a major psychological problem in the North. Each person must adapt to a tight, closed-in world of interpersonal relations. A typical Arctic posting with a private company might last 4-5 months followed by 2-3 weeks leave, then

possible transfer to a slightly less remote location. Adopting this pattern, some trades personnel have spent many years in the North while maintaining a home in the South. On the DEWLINE for instance some of the original 1955 personnel are still working there.

AES "longevity" in the Arctic has not been nearly as successful. A 5-6 month stay followed by 3-4 weeks vacation (or converted overtime) is encouraged. It is rare, however, for aerological observers to serve a full 1 or 2 year term and this can cause staffing problems, especially for supervisory personnel.

Employment of indigenous people has assumed a much higher profile in the past few years especially in commercial ventures for various reasons. The AES experience with native people has been somewhat less successful.

Despite these comings and goings of Arctic workers, there is a fundamental need for them to adapt locally. But it is a highly complex problem involving interactions on the physical, physiological, psychological and sociological levels. Factors such as the long winter nights (the sun sets at Alert on October 14 and is not seen again until March 1) or the never darkening summers giving rise to "Arctic hysteria", play a major role.

Going into darkness in October and coming out of it in March creates the greatest stress. Addiction to television or video-tapes and less time given to personal



*The picture shows meteorological instruments in front of the AES weather station at Clyde, N.W.T.*

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hobbies is a recent phenomenon possibly linked to this stress. The harsh climate tends to breed a stoic, uncommunicative individual trying perhaps to disguise any signs of weakness or dependency. This attitude has diminished of course with the introduction of telephones or other means of communication, and more frequent outside inspections. Improved transportation across the North has made alcohol more available and drinking to excess is a problem at many Arctic communities. A number of Inuit settlements have voted themselves dry. Alcoholism could become a problem at government enclaves too.

## Changes in social behavior

Without going into detail, it can be affirmed that social relations at some isolated outposts have been in a state of flux since AES introduced women to stations like Eureka, Resolute, Mould Bay and Hall Beach, all during the past five or six years. (More recently the Canadian Armed Forces introduced women to their Alert base). Changes are noticeable at company enclaves with women fully participating in "non-standard roles" on drilling rigs (both land and offshore), at mining sites, and in construction camps. In other words they are no longer performing just stereotyped jobs like teacher, nurse, social worker and clerk. This past year at Mould Bay the senior aerological observer, the electronic technician, the seismologist and other technicians were all female.

How is the new generation of "Arctic heroes" coping? Are social relations a major problem? Can we still talk about moral correctness? Are there certain character traits that suit a man or woman to Arctic isolation? Do conditions vary as

between say Resolute and Coral Harbour or Alert and Mould Bay?

During my 20 years experience north of the Arctic Circle I did not find any stereotype of an Arctic person. Most stations still thrive on a structure of informal relations, with people's feelings towards one another adjusting automatically. Weather conditions do play an enormous part - a 3-day storm in total darkness is bound to affect people quite differently than several weeks of continuous sunshine. They are also influenced by the tone of messages received from Regional Headquarters or by the comings and goings of their cohorts. Management decisions are often based on impoverished information and irrational behavior tends to increase as winter sets in. For example there is an increase in the level of cynicism, with individuals stating what should or should not happen to "their" station, widening the communications gap still further.

Now that there is mail at Arctic weather stations every three weeks and the sites are accessed by satellite-telephone, alienation should be less of a problem. However, there are some patterns of internal conflict that are not noticed by Regional Management until they endanger station safety or welfare.

## O I C at the centre

The person at the centre is the AES Officer-in-Charge. He or she is our catalyst, the individual who sets the tempo, takes into consideration feelings and attitudes, helps determine the level of morale and staff motivation, in other words forms a cohesive work unit. The morale problem is very relevant to each member's well being, in turn affecting his/her work performance and such key factors as

safety and relations with other station personnel.

In other words the quality of leadership in isolation is all-important... and it must be a personal style of leadership. The OIC must be both part of informal inter-staff relationships and must help motivate and direct general behaviour. As part of management he/she must promote an AES esprit de corps.

When it is realized that the cost of operating and maintaining Eureka alone is nearly \$3,000 a day, one need hardly doubt that guidelines seeking efficient and economical management take priority. The OIC wears a number of hats... airport manager, customs and immigration officer, postmaster, public relations person and guide for many visitors both private and government.

At the station, leadership is a two-way affair with the "team" helping the OIC and vice versa. Admittedly we have not yet found the ideal leader, but there are many people with the potential. The critical factor is the supervisor's ability to communicate with other members on site. He must be aware of the station's "micro-culture" and social systems that change with the seasons.

Is management providing enough training for AES supervisors to meet the challenge of successful leadership in the North? When we recruit, do we really make trainees understand the complexities of adapting to isolation? In practical terms we need to know whether the problem of alienation warrants investigation by Dept. of National Health and Welfare teams. Lastly, we should meet the challenge of successful adaptation to living and working in remote areas by designating the problem an AES priority in the five-year plan. □



Two female upper air technicians are seen conversing in front of their accommodation at Eureka (N.W.T.). They are Cheryl Leyton (left) and Heather McInnis. (Photo: John McBride)



An iceberg floats off Middle Bay, St. Lawrence North Shore. (Photo: Guy Bélanger)

# NAZI automatic station intrigues AES

Its main interest is historical, rather than technical, so AES did not play a major role in helping to locate a Nazi automatic weather station found last summer in northern Labrador. Principally involved were the Department of National Defence, the Canadian Coast Guard and a retired German engineer who had carefully studied U-boat diaries and spoken to crews taking part in grim wartime operations.

Despite its arm's length view of a unique second world war phenomenon, AES interest in this early remote transmitter has been intense, among both present and past personnel.

The story is that German U-boat 537, prowling the vital Atlantic supply lanes during a crucial phase of the War, penetrated the rocky inlet of Martin Bay, only 50 kilometres from Labrador's northern tip and on October 22, 1943 achieved the almost impossible task of loading nearly half a ton of radio and battery equipment on to dinghies, floating them ashore and dragging them half a kilometre inland up a 50 metre hill. For nearly three months the unmanned station radioed vital weather information, powered by its heavy cadmium batteries. There were other Nazi weather stations in Greenland, but the Labrador one was believed to be the first fully operational robot station to function in North America.

Since the German station was a remote one and soon stopped working due to run-down batteries, no attempt was made by the Allies to intercept or capture it. In fact records of the transmitter all but vanished.

It was mainly through the intervention of Franz Selinger, a retired West German engineer that the long forgotten station was rediscovered. At first he corresponded with Dr. Alec Douglas, DND director of history and indirectly with Morley Thomas, director general of the Canadian Climate Centre (AES), but he was unable to obtain any firm information about the Labrador station. Then, searching German Federal archives in Freiburg, he came across a photo of the actual site and other proof positive of the station's existence. He wrote back to Dr. Douglas, asking if he could sail on a Canadian ship to northern Labrador and see for himself.



*German automatic weather station WFL 26 as installed in Labrador, October 23, 1943. (Photo: courtesy Franz Selinger).*

The DND history director called Jim Clarke, the Canadian Coast Guard's director of Fleet Systems (well known to many AES personnel because he was a former director general of the Transport Canada Training Institute in Cornwall, Ont.) and convinced him of the validity of the story. A short time later Douglas, Selinger and Clarke were all aboard the ice breaker *Louis St. Laurent*, leaving Dartmouth, N.S. for Martin Bay. When the ship reached the site on July 21, 1981, the explorers flew in by helicopter.

They soon discovered the Nazi station, but unfortunately it had been damaged and partly dismantled during a previous landing there. The remaining equipment, including several heavy battery cannisters was loaded first aboard the helicopter, then on the ice breaker for its long journey south. It ended up at the Museum of Science and Technology in Ottawa, where it will eventually form part of a working display.

Although DND and Dr. Douglas must get most of the credit for breaking this remarkable story, AES interest in the

topic has been considerable. Patrick McTaggart-Cowan, now retired, who was director of the Meteorological Service of Canada 1959-1964, says he knew about the Labrador weather station way back in 1943. This was because at that time he was serving as chief Meteorological Officer, Western Atlantic Region, RAF Ferry Command. In fact he was able to pick up signals from the German station during its entire period of operation. "We had some incredibly good radio officers in Newfoundland at that time," he added.

Despite knowledge of the Nazi station, Dr. McTaggart-Cowan said it was decided to do nothing. "There were more important priorities. It was a momentous year in the Battle of the Atlantic. It was not worth going out of our way to destroy one small German transmitter. We knew its broadcasts would not last that long."

The former weather service director added that unfortunately records of the station were destroyed after the war and that he had neglected to tell his weather service colleagues about "a fairly minor wartime episode."

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"I was the only Canadian with Ferry Command, so it was unlikely anyone else in Canada got to know about it," he said.

Dr. McTaggart-Cowan's overall comment on the Nazi station was that its technology was "pretty elementary" and understood in several countries since the thirties. "If we want to remember war operations in the North Atlantic, why not recall the building of Goose Bay airport? It was a feat something all Canadians should be proud of."

Jay Dickson, former head of automatic instrumentation for AES, now retired, agrees that the United States, Soviet Union and several other countries had the technology to build automatic weather stations in the thirties - and even earlier.

Mr. Dickson says Canada's efforts in this area lagged behind by as much as five to ten years. For example the early ARDS development models made their appearance in the mid to late fifties and were similar in

type to the 1943 German model.

He recalls that Canada first achieved some international prominence in the automatic station field when a MARS I model was installed, not in the remote Arctic, but at Expo 67 in Montreal. Weather measurements were fed several times daily to the meteorological office at Dorval).

In Mr. Dickson's opinion the German Labrador station stood out, not because of its design, but because of its longevity. "Those batteries were remarkable," he comments. "It was only after MARS II in the late sixties that Canada had anything comparable. Its solar panels allowed long term transmissions, so automatic stations could be left unmanned in the remote Arctic."

AES may eventually get involved in the Labrador saga in an unexpected way. The Museum of Science and Technology which received the Nazi weather station from

DND as a donation, intends to mount a fully working exhibit to illustrate meteorological technology in that era.

In order to demonstrate progress in the field, it is rumored the museum may ask AES to donate one of its own automatic stations as an accompanying exhibit.

Commenting on the episode, Morley Thomas adds, "The discovery indicates the high value based on basic meteorological information in wartime. Such data can also be very important in peacetime, as illustrated by the approval and funding we received for the expansion of our observing networks in the years after the war and currently for the development of our satellite program."

Whatever the final destiny of the captured weather station, it will always be an outstanding illustration of how far a country involved in total war can mount a daring and lonely mission deep into enemy territory for the sole purpose of obtaining accurate weather information. □

## BOOK REVIEW

### *Introduction to Creative Supervision*

by Raymond J. Burby

Addison-Wesley Publishing Company  
1980

164 pages - Programmed Test in Paperback

Reviewed by Barrie Armstrong

The author is manager of Market Development Projects for Douglas Aircraft Company in Long Beach, California. His fields of specialization are training, technical publications and human factors.

Mr. Burby says the purpose of the book is to introduce concepts which deal with creative behavior or as he writes in the preface, "Our aim is to expand your ideation capabilities and to help you magnify your creative talents."

The book is divided into four parts. Awareness; Creative Approaches to Supervision; Problems and Solution Finding and Expanding the Challenge.

The Awareness section looks at making the supervisor more aware of the consequences of his actions. It also touches on how various needs of employees and supervisors are fulfilled and the consequences of not allowing their fulfillment. The Creative Approaches to Supervision part, attempts to show how we develop set patterns of thinking and acting. It gives

some rather simplistic examples of "force of habit" and suggests how the supervisor can avoid rigid thinking. This will doubtless enable him/her to make better decisions. Part 3 - Problems and Solution Finding, has the supervisor tackling management problems and picking the best solutions to combat them. There are simple step by step examples. The final part, Expanding the Challenge, takes all the concepts touched on in the first parts and applies them to more concrete situations. It introduces the idea of a matrix and shows how it is used to solve problems after they have been accurately identified.

It is worth noting that the book's title contains the word "introduction" and as such it may suffice, but as a pedagogical work, it has two main shortcomings. First, using programmed instruction, it does not require a written response and yet it lacks sufficient reinforcement to do without it. Second, the book uses some very simplistic examples, with answers that are only debatably correct.

This manual is of doubtful value on its own, but as part of a structured course with access to an instructor, it could be very useful. It is of general interest to people who have already been exposed to the principles of supervision. □

*Barrie Armstrong is an Administrative Officer with Field Services Directorate, Downsview.*

### *Moving Up to Supervision*

by Martin M. Bradwell

CBI Publishing Company, Inc. Boston,  
1979, 163 pages, paperback

Reviewed by Bob Vockeroth

This little book, directed to the new first line supervisor, or to those considering becoming supervisors, contains much common sense guidance on such supervisory skills as communicating, training, delegating and appraising. I particularly liked the chapter on delegation. It aims to help the new or aspiring supervisor to assess his potential, and decide if he really wants to be a supervisor, by letting him see himself from the positions of both his superiors and subordinates.

For those involved in scientific and technical work the author tends to over-emphasize the difference between supervision and working. The reader is well advised to read this or any other book on management judiciously, selecting the ideas that apply to his particular work and recognizing those that do not. The author was formerly Director of Engineering Training in the Bell System, and the book reflects his background in industry and training. But the basics of supervision, which he treats quite well, apply anywhere. □

*Bob Vockeroth is Director of Field Services Directorate's special project "PAPA".*

# Voyage along the North Shore

by Jacques Lavigne

For 24 days this summer (10 June to 3 July), my friend Dr. Guy Bélanger and I shared a thrilling voyage along the North Shore of the Gulf of St. Lawrence. We travelled some 1000 kilometres, counting detours, from the Strait of Belle Isle west all the way to Sept-Iles in a 5-metre rubber raft with a 25-horsepower main engine. Numerous surprises were in store for us. We saw icebergs 20 to 35 m. high in the middle of June, when we would usually be lying on the beach at Sept-Iles getting a tan. Temperatures were so low (even for the Strait of Belle Isle, where there is usually still pack ice until early June) that I had to sleep in two sweaters and a tuque when we camped at night. Waves in the Gulf were sometimes 3 to 5 m. high – no help at all when you have to steer through countless reefs in 20 to 30 knot southwesterlies, as we did one sunny day while heading for the Indian village of Romaine. A moderate breeze was all I expected as I set out across Harrington Island in the bright sunshine, but the winds turned out to be from the southwest at 35 to 45 knots. It takes more than all this to surprise the locals, though.

I had two main reasons for making this trip. The first was professional interest. I am the weather correspondent for French-language CBC in Matane, Quebec, and make daily radio broadcasts for the Gulf area. I had heard a lot about the unusual local weather conditions associated with the topography of the North Shore, and wanted to see them for myself. Also, from reading the Payne report to Quebec government on prospects for development of the Lower North Shore, I knew that most of the inhabitants of this area make their living mainly from the sea, and so are highly dependent on the weather.

The second reason was that my weather office and the Quebec department of communications are discussing setting up a toll-free telephone number that residents of all the villages along the North Shore could call to hear recorded marine

and inland forecasts. I wanted to go out and talk to these people, to find out whether they really need such a service. The answer, I now know, is definitely yes.

The coast we travelled is more than 800 km. long, about the same distance as from Montreal to Sept-Iles, and is divided into two very different sections. The western section runs just above the 50th parallel, almost due east for 500 km. from Sept-Iles to Cape Whittle (the Cape Horn of Quebec, as far as I am concerned). The eastern section runs from Cape Whittle northeast for about 300 km. up to approximately 51°30' north latitude on the Strait of Belle Isle.

The western stretch is easy to navigate insofar as there are few submerged rocks, the water is deep, and the shoals are well-marked. Dangers can be posed, however,

by strong winds from the east, as well as from the south and the southwest. As we were to find many times, the Gulf of St. Lawrence resembles the Atlantic in that winds of only 15 to 20 knots, if they blow continuously, can cause very high waves. There are very few islands along this stretch of coast, which makes it difficult to find shelter from storms.

The eastern stretch is quite different, with myriad islands and islets almost all along it. Numerous shoals and reefs make sailing within 8 km. of shore hazardous, even in calm seas. Farther east toward the Strait, easterly winds have less effect on wave conditions, but southerly and southwesterly winds can generate very heavy seas within just a few hours.

At many villages along the coast, putting out to sea can be difficult when the



*These alien-looking rock formations were spotted at Mingan Archipelago during the voyage along Quebec's North Shore. (Photo: Jacques Lavigne)*

# FEATURES

southwest wind is blowing. At Mutton Bay, for example, the harbour exit is practically impassable in southwesterly winds. (Shoals are quite common in the coastal waters, causing heavy breakers where the waves "feel bottom"). A portage has, therefore, been constructed out of wooden planks and cables, enabling boats to put out from the other side of the headland.

One brilliant, sunny day, when we climbed over to the southwest side of Harrington Island to take some photographs, we had to literally hang on to the mountainside to keep from being blown away by onshore winds that must have easily measured at least 40 knots. Another day, trying to enter harbour at the village of Romaine, we had to cope with waves over 4 m. high, caused by southwest winds of about 30 knots. On both days, the sky was completely clear and there was no sign of impending foul weather.

The main criticisms I heard concerned forecasts of winter storms, and once again, the wind forecasts were the primary target. The forecasts almost always underestimate the winds accompanying major systems. Someone at Harrington told me that we seem afraid to talk about strong winds; the time to do so is before they arrive, not after, so that people can prepare themselves.

As you can see, winds are of great concern on the North Shore. In most of the villages east of Natashquan, the ground is bare, and the only green you see comes from mosses and a few shrubs. Many of these villages are set in deep inlets surrounded by cliffs and exposed to very strong winds. To their credit, the people who founded these villages located them with some regard for the prevailing winds, but it is practically impossible to pick a spot sheltered in every direction.

A few times during our trip, storms or heavy winds prevented us from leaving shore—a mere inconvenience for us, but a serious matter for the owners of the local fishing boats and the collecting ships that had to stay in port as well. Unsalted cod does not keep indefinitely, even on ice, and the financial losses when ships cannot move can be substantial. Fishing is the primary industry of the North Shore, so the people obviously depend a great deal on weather conditions, and hence on weather forecasts.

My conversations with numerous people throughout my trip made it obvious that the proposed toll-free connection between

the villages of the Lower North Shore and the Sept-Iles weather office is an excellent idea. For twelve hours per day, Monday through Friday, the calls would be answered by the weather-office staff. At night and on weekends, an automatic answering device would provide marine and inland forecasts.

In conclusion, the Lower North Shore is a remarkable but forbidding area, rightfully known as the Land of Cain. Its climate is harsh, but its people are friendly and warm. They depend mainly on the sea

for their survival—they have no roads to the outside world—and so it is essential for us to provide them with the most accurate weather forecasts possible. I would like to invite all meteorologists to take the three-day voyage aboard the supply ship *Fort Mingan*, for a chance both to visit many of the North Shore villages and to experience sailing the high seas. □

*Mr. Lavigne is Officer-in-Charge, Sept-Iles Weather Office, P.Q.*

## WOMEN ON THE MOVE



*Linda Stirling*

For Linda Stirling these are exciting times. For the past few months she has been manager of operations of the big Downsview Computing Centre. Overseeing the work of about 35 people, she directs a huge variety of data processing operations including the facilities for archiving Canadian Climate Centre records dating back 100 years.

Ever since she joined AES eight years ago as a programmer, Mrs. Stirling has worked with computers big and small. As a result of doing numerical work on cloud modelling for the Cloud Physics Section she found herself posted to Yellowknife, NWT for a season. It was her closest link with raw weather. Working with an AES weather modification team, her duties included running data tapes through a mini-computer to determine the shape of precipitation particles.

After experience in the Research Directorate's user support group, she became acting head of the Downsview research computer facility and when data processing services were moved to Central Services Directorate, she eventually became head of software systems. "Software is my speciality," says Mrs. Stirling. "I doubt whether I could take a printer apart even if smoke were pouring out of it. That is a job for the hardware people."

If she lacks hardware experience, it is of little importance. She is aware of the many possible future extensions of the big in-house AS-6 computer. These include hook-ups with the departmental library computer, with personnel records and with office word processors. Most exciting would be a possible linkage with the big new vector computer in Montreal with its enormous climate modelling and long-range forecasting capabilities.

Mrs. Stirling says she is one of the few women in either public or private sectors to manage a major computing operation (AES ranks third or fourth among government data processors).

The work is hectic and demanding, so just to get away from it all occasionally Mrs. Stirling pursues gardening and listening to opera as hobbies.

Born in Kenora, Ontario, Mrs. Stirling graduated in Physics and Math from Queen's University. During her last year she decided on a whim to take a computer sciences course there.

Despite her other qualifications, Mrs. Stirling says this was what people were really interested in. "The computer science course definitely helped launch my career." □

# STAFF CHANGES

## Promotions/ Appointments

**M. Adamson** (EG-5) Officer-in-Charge, WS2, Baker Lake, N.W.T.

**S. Bain-Bourque** (CS-3) Head, Training & Consulting, ACPC, Downsview, Ont.

**D. Belisle** (CM-5) Communicator, QAEM, St. Laurent, P.Q.

**J. Bloxam** Visiting Fellow, ARQL, Downsview, Ont.

**H.R. Bohemier** (SCY-2) Secretary, CAED, Winnipeg, Man.

**K. Brice** Visiting Fellow, ARQA, Downsview, Ont.

**R.W. Brown** (MT-5) Meteorologist, PWC, Vancouver, B.C.

**S. Buzza** (EG-2) Weather Obsv. WO3, Resolute, N.W.T.

**G.S. Campbell** (EG-6) Ice Observer, ACIR, Downsview, Ont.

**M. Cegelski** (CS-1) Programmer, QAEMI, P.Q.

**R. Chagnon** (CS-1) Chemist, ARMS, Downsview, Ont.

**F. Conway** (MT-6) Meteorologist, Toronto Int'l. Airport, Toronto, Ont.

**T. Dame** (AS-4) Chief, Admin. Svcs. WAED, Edmonton, Alta.

**D. Dubuc** (EG-4) QAEOO, Dorval, P.Q.

**B. Dumont** (CS-4) Planner, ACPB, Dorval, P.Q.

**L.D. Fraser** (SCY-2) Secretary, PAES, Vancouver, B.C.

**G.E. French** (CS-4) Manager, User Services, ACPC, Downsview, Ont.

**G. Gagnon** (CM-5) Communicator, QAEM, St. Laurent, P.Q.

**B. Gorman** (AS-2) Head, AAGR, Downsview, Ont.

**M. Greenwood** (EG-7) Supervisor, WAEOI, Edmonton, Alta.

**F. Gyat** (EG-6) Inspector, QAEOI, St. Laurent, P.Q.

**T. Hansen** (EG-4) Aero. Tech. WS2, Inuvik, N.W.T.

**F. Herfst** (MT-8) Meteorologist, Chief, Weather Services, PAED, Vancouver, B.C.

**E.H. Holtzman** (CS-4) Planner, ACPB, Downsview, Ont.

**S.M. Horvath** (EG-4) Aero. Obsv. WS4, Mould Bay, N.W.T.

**F. Hunter** (MT-5) Meteorologist, Officer-in-Charge, WO4, Regina, Sask.

**K. Kanthak** (CR-2) Clerk, AAGD, Downsview, Ont.

**S. Kornblum** (SCY-2) Secretary, ARPP/ARPD, Downsview, Ont.

**J. Kozlowski** (EG-4) Aero. Tech. WS2, Norman Wells, N.W.T.

**E. L. Kulin** (IS-5) Senior Communications Advisor, ID, Downsview, Ont.

**C. Labonne** (CR-3) Clerk, QAEW, St. Laurent, P.Q.

**D. Lane** (CH-2) Chemist, ARQA, Downsview, Ont.

**J. Le Drew** (CR-1) Clerk, AAGR, Downsview, Ont.

**L. Legal** (MT-6) Meteorologist, Shift Supervisor, Prairie W.C. Winnipeg, Man.

**K. Lloyd-Walters** (EG-4) Aero. Tech. WS2, Norman Wells, N.W.T.

**J.H. MacIver** (EG-5) Officer-in-Charge, WS1, Coral Harbour, N.W.T.

**F.J. MacLeod** (AS-3) Supervisor, Climate & Contract Stns. CAED, Winnipeg, Man.

**M.A. MacLeod** (MT-7) Meteorologist, AFON, Downsview, Ont.

**M.A. Majcher** (EG-2) Met. Tech. WS4, Cree Lake, Sask.

**R. Martinson** (EG-6) Officer-in-Charge, WO4, Banff, Alta.

**D. McLeod** (CR-2) Clerk, AAGR, Downsview, Ont.

**J. Paquette** (EG-1) Observer, QAEOO, Mirabel, P.Q.

**C. Pare** (EG-3) Tech. WS1, Maniwaki, P.Q.

**K.E. Perry** (EG-1) Met. Tech. PAEOE, Vancouver, B.C.

**D. Petrunik** (EG-5) Pres. Tech. WO4, Vancouver, B.C.

**S. Pettibone** (AS-3) Ex. Ass., ARQD, Downsview, Ont.

**O. Prescod** (DA-PRO 5) ACPO, Downsview, Ont.

**R. Provost** (EG-6) Ice Observer, ACIR, Downsview, Ont.

**R.L. Raddatz** (MT-6) Meteorologist, CAED, Winnipeg, Man.

**P. Rainville** (EG-5) Pres. Tech. WO4, Vancouver, B.C.

**W. Scott** (EG-1) Technician, WS3, Port Alberni, B.C.

**M.M. Savard** (EG-5) Pres. Tech. QAEW, Val d'Or, P.Q.

**A. Sevigny** (MT-6) Meteorologist, Supervisor, QAEM, P.Q.

**K.P. Spring** (MT-5) Meteorologist, PWC, Vancouver, B.C.

**B. Stifora** (EG-5) Pres. & Obs. Tech. WO4, Calgary, Alta.

**L.M. Stirling** (CS-4) Manager Operations, ACPC, Downsview, Ont.

**D. Taylor** (EG-5) Ops. Support Officer, WAEEO, Edmonton, Alta.

**Y. Tham** (EG-4) Technician, ARQA, Downsview, Ont.

**L. Tripp** (CS-3) Head, ACPC, Downsview, Ont.

**D. Uberschar** (EL-6) Supervisor, Re-

gional Electronics, PAED, Vancouver, B.C.

**D. Watts** (EG-5) Pres. & Obs. Tech. WO1, Whitehorse, Yukon.

**R.A. Webster** (EG-6) Tech. Vancouver Int'l. Airport, B.C.

**H.T. Wilkinson** (EG-1) Technician, WS3, Revelstoke, B.C.

**H. Wilson** (EG-7) Supervisor, WAEOI, Edmonton, Alta.

**L.R. Wright** (FI-2) Finance, PAED, Vancouver, B.C.

## Transfers

**P.G. Aber** (MT-9) Director, AFSD, Downsview, Ont.

**J. Albert** (MT-2) Meteorologist, Pacific W.C., Vancouver, B.C.

**H.T. Beal** (MT-6) Meteorologist, SSU, PAED, Vancouver, B.C.

**R. Brannen** (EG-6) Pres. Tech. WO1, Gander, Nfld.

**T.S. Dame** (AS-4) Chief, WAEAF, Edmonton, Alta.

**B. De Lorenzis** (MT-5) Meteorologist, ARMS, Downsview, Ont.

**M. Dube** (EG-2) Observer, QAEOO, Dorval, P.Q.

**D.H. Engemoen** (EG-4) Project Tech. PAEO, Vancouver, B.C.

**A.J. George** (EG-6) Pres. Tech. WO4, Goose Bay, Nfld.

**R. Gillis** (EG-6) Officer-in-Charge, WS2, Cambridge Bay, N.W.T.

**M.A. Giroux** (SCY-3) Secretary, ACIF, Ottawa, Ont.

**C.E. Klaponski** (MT-6) Meteorologist, AFDG, Downsview, Ont.

**H.B. Kruger** (EX-2) Special Advisor, ACPK, Ottawa/Downsview, Ont.

**C. Lauze** (MT-2) Meteorologist, Pacific Weather Centre, Vancouver, B.C.

**J.H. Mader** (EG-3) Technician, MAED, Bedford, N.S.

**S. Martin** (EG-1) Observer, QAEOO, Cape Dyer, N.W.T.

**S. Metcalf** (EG-5) Pres. Tech. WO4, Thunder Bay, Ont.

**A.W. Morrison** (MT-3) Meteorologist, WO1, Gander, Nfld.

**S. Nickel** (EG-6) Aviation Programs Off. WAED, Edmonton, Alta.

**P.J. Pender** (MT-8) Meteorologist, AFDG, Downsview, Ont.

**T. Piska** (EG-6) Inspection Standards Officer, Data Acquisition, WAED, Edmonton, Alta.

**P. Racznski** (EG-7) Instructor, TCTI, Cornwall, Ont.

**B.R. Ramsay** (MT-5) Meteorologist, Ice Forecasting Central, Ottawa, Ont.

# STAFF CHANGES

**M. Regan** (MT-5) Meteorologist, Instructor, ACTA, Cornwall, Ont.  
**F.L. Risbey** (EG-7) Instructor, TCTI, Cornwall, Ont.  
**M. Roch** (MT-2) Meteorologist, Pacific Weather Centre, Vancouver, B.C.  
**D. Ryback** (EG-5) Pres. Tech. WO4, Regina, Sask.  
**P.J. Schwarzhoff** (EG-3) Observer, WS2, Fort Nelson, B.C.  
**R.D. Sheppard** (EG-4) U/A Tech. Sable Island, N.S.  
**D. Waugh** (MT-3) Meteorologist, WC1, Edmonton, Alta.  
**T.L. White** (EG-7) Instructor, ACTA, Cornwall, Ont.  
**D. Wood** (EG-4) Officer-in-Charge, WS3, Slave Lake, Alta.

## Temporary or Acting Positions

**D. Au.** (CR-3) Clerk, AAF, Downsview, Ont.  
**C. Boulet** (TYP-2) Typist, QAEMA, St. Laurent, P.Q.  
**S. Checkwith** (MT-8) Meteorologist, Chief, WAEW, Edmonton, Alta.  
**A. Christie** (EX-2) Director, ARQD, Downsview, Ont.  
**K.E. Coburn** (CR-2) Clerk, AAGR, Downsview, Ont.  
**P. Creamer** (EL-6) Instructor, ACTA, Cornwall, Ont.  
**G. Deschenes** (EG-4) QAEOO, Cape Dyer, N.W.T.  
**E. Dixon** (CR-3) Clerk, AAF, Downsview, Ont.  
**S. Drysdale** (CR-3) Clerk, AAF, Downsview, Ont.  
**I. Fung Fook** (OCE-2) W/P Operator, ACTD, Downsview, Ont.  
**P. Gaudet** (EG-3) Met. Tech. MAEWR, Bedford, N.S.  
**S.A. Gauthier** (EG-5) Inspector, WO4, St. Hubert, P.Q.  
**M. Gelin** (EG-6) Inspector, WO4, Dorval, P.Q.  
**M. Gilbert** (SCY-2) Secretary, ACTD, Downsview, Ont.  
**P. Greenwood** (EG-6) Inspector, WS1, Hall Beach, N.W.T.  
**D. Hayward** (CR-3) Clerk, AAF, Downsview, Ont.  
**P. Lessard** (EG-7) Inspector, QAEOI, St. Laurent, P.Q.  
**N. Meadows** (MT-7) Officer-in-Charge, Alberta Weather Centre, WO1, Edmonton, Alta.  
**J.E. Mills** (LS-1) Librarian, AAL, Downsview, Ont.  
**M. Phillips** (RES-3) Research Scientist, ARQD, Downsview, Ont.

**R. Prior** (EG-4) Technician, ACGC, Downsview, Ont.  
**D.J. Russell** (MT-6) Meteorologist, ADED, Ottawa, Ont.  
**R.B. Saunders** (MT-6) MOP, ADED, Ottawa, Ont.  
**M.M. Savard** (EG-5) Inspector, WO4, Val d'Or, P.Q.  
**R.T. Varriano** (CR-4) Clerk, ACTS, Downsview, Ont.  
**J. Young** (REM-2) Research Scientist, ARQM, Downsview, Ont.

## Retirements

**G. Abell**, Newfoundland WO, Gander, Nfld. December, 1981.  
**L. Adams**, Newfoundland WO, Gander, Nfld. December, 1981.  
**L. Bertsch**, Prairie Weather Centre, Winnipeg, Man. December, 1981.  
**W. Blezard**, WO4, Grande Prairie, Alta. November, 1981.  
**A. Boulet**, Prairie Weather Centre, Winnipeg, Man. December, 1981.  
**F.J. Brunning**, AFOI, Downsview, Ont. December, 1981.  
**L.W. Bryant**, Vernon, B.C. December, 1981.  
**E. Crouch**, WAED, Edmonton, Alta. December, 1981.  
**G. Danell**, CAED, Winnipeg, Man. December, 1981.  
**R.J. Dobbs**, Pincher Creek, Alta. December, 1981.  
**R. Gillis**, CCAS, Downsview, Ont. December, 1981.  
**E.H. Greckol**, ACPO, Downsview, Ont. December, 1981.  
**H.H. Hershoff**, ARPP, Downsview, Ont. November, 1981.  
**E. Higham**, CAED, Winnipeg, Man. November, 1981.  
**G. Irish**, Newfoundland WO, Gander, Nfld. December, 1981.  
**H. James**, Arctic W.C. WC1, December, 1981.  
**C. Jeans**, Newfoundland WO, Gander, Nfld. December, 1981.  
**P. Johns**, AFSD, Downsview, Ont. December, 1981.  
**M. Karnath**, ARMD, Downsview, Ont. November, 1981.  
**V. Marsh**, ARPX, Downsview, Ont. December, 1981.  
**J. McMorran**, Prairie Weather Centre, Winnipeg, Man. December, 1981.  
**A. Mills**, Newfoundland WO, Gander, Nfld. December, 1981.  
**H. Milne**, ACTS, Downsview, Ont.  
**R.J. O'Brien**, WO4, Regina, Sask. December, 1981.  
**D.E. Page**, CMC, Dorval, P.Q. December, 1981.

**J. Poluk**, WO4, Edmonton, Alta. December, 1981.  
**W.W. Rhodes**, Vancouver, B.C. December, 1981.  
**G. Ridings**, Upper Air Station, The Pas, Man. December, 1981.  
**A. Russell**, AAF, Downsview, Ont. November, 1981.  
**I. Schneiderman**, WO4, Halifax Int'l. Airport, N.S. December, 1981.  
**R. Stelck**, Weather Station, Wynyard, Sask. December, 1981.  
**F.G. Williams**, Vancouver, B.C. December, 1981.

## Departures from AES

**L. Beach**, Upper Air, Dease Lake, B.C.  
**B. Broughton**, WS1, Alert, N.W.T.  
**D. Brymer**, ARQT, Downsview, Ont. to Petro Canada, Calgary, Alta.  
**R. Dery**, QAEOU, Kuujuaq, P.Q.  
**S. Dupuis**, Arctic Weather Centre, Edmonton, Alta. to Alberta Gov't.  
**H.F. Earle**, ACTD, Cornwall, Ont.  
**H. Ehrenreich**, Weather Station, Mould Bay, N.W.T.  
**E. Elliotson**, AFDH, Downsview, Ont. to Employment & Immigration, Toronto, Ont.  
**H. Ferguson**, ARQD, Downsview, Ont. to DOE Region Office, Toronto, Ont.  
**N.J. Foster**, ACTD, Cornwall, Ont.  
**C. Hunchak**, WS2, Norman Wells, N.W.T. to Government of N.W.T.  
**O. Jacobsen**, WO4, Vancouver Int'l. Airport, Vancouver, B.C.  
**K.E. Johnston**, WO4, Regina, Sask. (Educational leave)  
**S. Jonuik**, WO4, Vancouver, B.C.  
**R. Lawford**, COCO, Downsview, Ont.  
**A. Mamertino**, Vancouver, B.C. to National Parole Board  
**H. Mapes**, AAGD, Downsview, Ont.  
**J. Old**, Data Acquisition, Vancouver, B.C.  
**L. Partanen**, AFSD, Downsview, Ont. to Employment & Immigration, Toronto, Ont.  
**J.Y. Perron**, ACTD, Cornwall, Ont.  
**L. Soneff**, WAED, Edmonton, Alta. to PSC Edmonton, Alta.  
**T. Won**, CCAA, Downsview, Ont. to North Island College, B.C.  
**M. Woodroff**, Weather Services, Vancouver, B.C.

## Deaths

**B.T. Goldrup**, MAED, Bedford, N.S. December 6, 1981.  
**J.M. Martel**, QAEW, Mirabel, P.Q. January 8, 1982.