September/October 1982

ZEPHYR

Environment Canada
Environnement Canada
Canada

By sending in editorial contributions you can help fill in the blank spaces and at the same time have an opportunity to express yourself.

Editorial

Pardon us pardners if we borrow a page from the American Wild West to get our message across. At Zephyr we may not be four-gun desperados but we do believe in talking tough when we see a full blown crisis careening over the horizon. Now to cut the cackle, we're *desperate* to receive editorial contributions from you our readers.

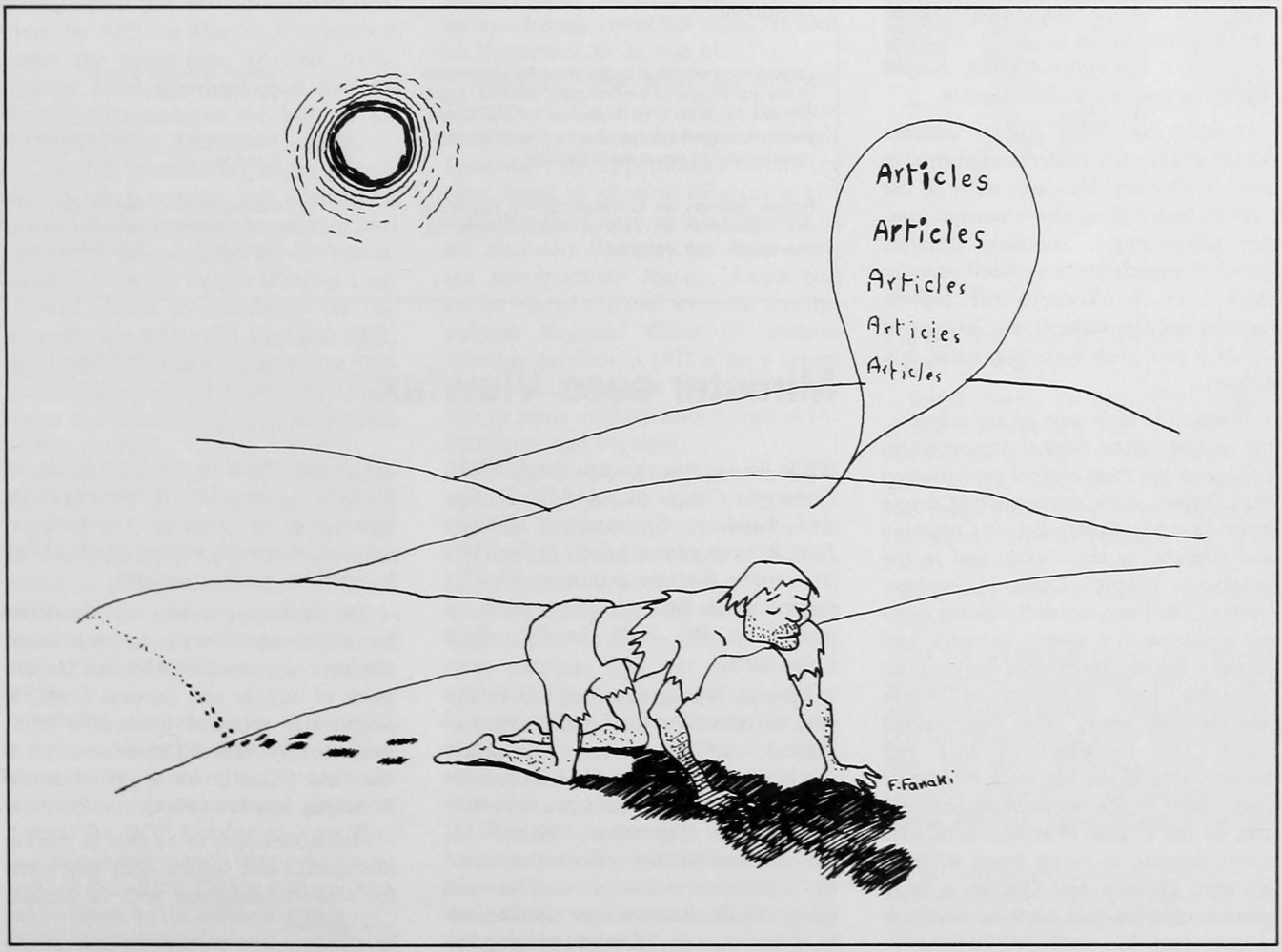
We'll bet our bottom silver dollar that there's a wealth of knowledge, talent and good ol' community spirit out there waiting to be tapped. Zephyr is the staff magazine for all AES employees and while they obviously know a lot about each other already, they also have piles of scientific knowledge, environmental savvy or plain everyday news to share with readers in other regions, other work categories and other thought continua.

At present we can count ourselves lucky if we get four short news items in a two month period. You can help swell our meagre editorial coffers by sending us the following:

* Full length articles about your work, your professional or trade interests, or an area of AES or the environment you have some involvement in or special knowledge of. Three or four typewritten pages of well-documented material will do just fine. And don't forget to include some photographs.
* Interesting news items about your department, branch or office . . . everything from special projects to major reorganizations and always keeping a sharp look out for the innovative or unusual.
* Book reviews. Everyone is a critic at heart and this would be a golden opportunity to express your views in a page or so on other people's writing. There's a very wide range of titles suitable for reviewing in Zephyr. The only rule is: the book must be available at the AES Downsview reference library. (They will ship it out to readers in *any* region on request.) If you would like to volunteer as a book reviewer or want more information, why not call us today at 416-667-4551.
* While a mite less famished in this area, we'll also consider short humor items, brief personal essays, verse, good atmospheric photos or cartoons.

As the sun sinks slowly in the West over the computerized cacti, we make one final appeal: PLEASE, PLEASE SEND US CONTRIBUTIONS!

Gordon Black



NEWS

Summer of '82 was cold

When the final month of Canada's so-so 1982 summer proved wet and cool, AES climatologists hurried to produce an analysis of the entire June-July-August season.

The report issued under the Supervision of the Canadian Climate Centre's Yves Durocher, tried in part to show that the summer had not been all that bad in the West but had had considerably below normal temperatures in the East. On the other hand it pointed out that July had been a pleasant sunny, near normal month even in Ontario, Quebec and the Maritimes.

This gist of the Summer of '82 report reads as follows: "The early portion of the summer was warm in British Columbia and Alberta but June was a very cold month from Manitoba to Newfoundland. July brought near normal temperatures across all of southern Canada, but without any real hot spells; August was again cold across the country.

Overall the three month summer period was slightly cooler than normal in most of Canada, although parts of the Prairies had slightly above normal summer temperatures. Southern Ontario, however, experienced its coldest summer since 1929. In Toronto the highest temperature this summer was 30 degrees C, the lowest such maximum value in a century.

During the early part of the summer, the warmer than normal temperatures and much less than normal precipitation were factors in the occurrence of severe forest fires in northern British Columbia and Alberta, in the Yukon and in the Mackenzie District. Later, in southern British Columbia, wet dull weather caused problems for cherry growers and farmers. Across the Prairies there was an unusually high incidence of severe weather with heavy rains, hail, funnel clouds and tornadoes in July and August. During the last week of August heavy frost in the northern agricultural area of the Prairie Provinces produced severe damage to cereal crops while in southern Ontario and Quebec a large portion of what had been an excellent tobacco crop was destroyed by frost."

Zephyr Highlights

Cover: As Fouad Fanaki's cartoon shows, the sheriff hasn't yet rounded up the loot: piles of editorial contributions to Zephyr from you our readers.

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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Environment Canada / Environnement Canada

Atmospheric Environment Service / Service de l'environnement atmosphérique

Minister sees Viewfax

While on his way to open the Sunburst Children's Centre in the AES Downsview building, Environment Minister John Roberts paused briefly in the lobby to examine the new prototype Viewfax system which had previously been on display at the AES Satellite Data Laboratory.

Viewfax is a system designed to display in television format the meteorological satellite imagery currently displayed in AES weather offices as paper copy. (Such data are currently received at Vancouver, Edmonton, Toronto and Halifax and are distributed by facsimile). Viewfax receives and stores the facsimile images electronically. It has the capability of changing image enhancement to suit local needs, of displaying it in color, of zooming in on detail and of showing animated sequences, all greatly improving the ability to interpret weather patterns.

The prototype system was developed by Muirhead Systems Limited under contract supported by AES and Department of Supply and Services from the unsollicited proposal fund. It is being evaluated by AES at Downsview and in the field (initially for a period at the Winnipeg weather office).

Muirhead hopes to be able to market this system and similar ones developed for other applications both in Canada and abroad.

Probability of Precipitation a reality

On July 5 AES began supplying Probability of Precipitation (POP) information in the daily forecasts. Less than a year earlier, on October 29, 1981 the Radio Television News Directors' Association of Canada/Atmospheric Environment Service Task Force (RTNDA/AES) formulated 13 recommendations designed to improve the communication of weather information to Canadians. The second recommendation requested that "The AES provide probability of precipitation information as a routine parameter in public weather forecasts as public demand for such information is high."

This spring Barry Pauley, President of the RTNDA, presented Environment Minister John Roberts with the recommendations. He accepted them and Don Smith, director general of Field Services Directorate was given the responsibility to implement this new service to be provided by AES. In March, Al Campbell under the supervision of Phil Aber, director Field Meteorological Systems Branch, was assigned the task of initiating the POP program.

Campbell immediately began gathering reference material and performing the administrative work to select a project person to assist him. David Grimes, an MT6 from the Pacific Weather Centre was chosen to coordinate the implementation with AES Regional staff, the CMC, Training Branch, the Research Directorate, Information Directorate and many others and to prepare written material.

Grimes reported to AES Downsview on April 29 and immediately began research and preparation of an implementation plan. He quickly produced papers to promote discussion of probability and for guidance on implementation in the forecast offices as well as an explanation of POP to users by the WO4s.

A POP meteorologist for each region was then chosen to coordinate the implementation procedures. It was their responsibility to recommend points of interest for POP (serving as a verification rain gauge in each regional forecast area) to their RDs. They would also funnel problems to the national coordinator during implementation and recommend preparation of regional studies of precipitation frequencies under different regimes.

Information Directorate prepared a complete press package consisting of entertaining taped public service announcements for radio stations across Canada, a POP fact sheet, a Rough and Ready User's Guide and a press release announcing the beginning of the program July 5. Press response was good and AES staff were interviewed by various media.

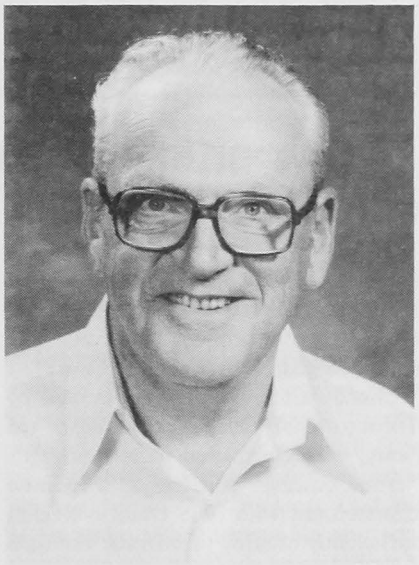
In September the procedures will be reviewed and in March 1983 the program will be evaluated. If all goes well and the success of this program continues, Probability of Precipitation will become a permanent part of the daily weather forecasts.

Ralph O'Brien:
a tribute by Jim McCulloch

On October 2, I was part of a group of over four hundred (my estimate) who met in Bedford United Church to honour the memory of Ralph O'Brien. There were many others across the country who could not attend, and sent messages of regret. Last March, Ralph's doctors discovered that he was suffering from an advanced case of abdominal cancer which surgery, radiation and chemo-therapy could not cure. He died on September 30; he was 61.

Ralph had been appointed Regional Director of the Atmospheric Environment Service's Atlantic Region only last December. His appointment was a very clear signal to all meteorologists in the AES that there were no more barriers to the Executive Category for those without post-graduate degrees. Ralph had earlier blazed the trail when he was appointed Regional Chief of General Weather Services in 1973 after a varied career which began in 1943 and carried him to many military assignments in the Maritimes and overseas.

He was a very special person, a big man both physically and spiritually. I first met him in the 1960's when he was OIC of the Weather Office at Halifax International Airport. It was in 1975, when my family and I moved to Atlantic Region, that we got to know Ralph as a close associate, and him and Gwen as very close friends. In all that they did to help us make Atlantic Canada our new home, there was no feeling that they were "going out of their way"; that was their style, and they did it quite naturally. That style carried over into all of his activities including his relationships with his staff across the Region, the provincial officials with whom he dealt and his friends. Undoubtedly, it contributed to



Ralph O'Brien

the fact that Atlantic Canada is very well served by Weatheradio.

Ralph loved sailing. The "Merry Chase" usually got into the water as soon as she had her bottom scraped and painted, and came out when it became too masochistic to be in a 25-footer in the waters around Halifax. His work called for him to travel extensively throughout Atlantic Canada during all seasons.

At the memorial service, Gwen was accompanied by daughter Judy, son Bob and daughter-in-law Nancy. Grandchildren Robbie and Kelly were home in bed. For those who have lost touch, Gwen's address is: 60 Bedford Hill Road, Bedford, Nova Scotia, B4A 1J9.

(Mr. McCulloch is director general, AES Central Services Directorate, and at the time of Mr. O'Brien's last appointment was director general, Field Services Directorate.)

NEWS

Gord Shimizu named to new DG's post

Gord Shimizu has been appointed director general, Policy, Planning and Assessment with offices in the AES Ottawa headquarters.

In making the announcement, ADMA Jim Bruce said that the reorganization of his planning staff, outlined some 18 months ago, had now been formally confirmed by Treasury Board and that, according to Mr. Bruce means that "the AES planning and policy unit is now parallel to those of the other Environment services and will allow better overall coordination of staff functions in the AES Ottawa Headquarters." He added that the move also parallels the evolution of program evaluation and review processes within the federal government.

Mr. Shimizu's appointment means that AES now has five director generals instead of four. Reporting to Mr. Shimizu are the chief of Program Development and Evaluation (APEC), the senior policy advisor (APPA), the senior economist (APSE), the liaison meteorologist (MET L) and the scientific programs coordinator (APCO).

Mr. Shimizu was born in British Columbia, did his undergraduate studies in math and physics at McMaster University (Ont.) and received a Masters degree from the University of Toronto in 1958. From 1976-77 he studied at the Centre d'Études Industrielles in Geneva.

Joining the Canadian weather service, Mr. Shimizu spent 12 years working in Montreal in various operational positions at forecast offices and at the Canadian Meteorological Centre. Between 1971-73 he carried out a number of assignments for the Management Orientation program at AES Downsview. From 1973-76 he was Officer-in-charge, Maritimes Weather Office, Halifax. He returned to Downsview as chief of the Computers and Communications Division and in late 1977 he was appointed director, Program Development and Evaluation Branch, Hull.

Zephyr article changes climatologist's life

It all started with a feature article in the November/December '81 Zephyr describing Dave Murdoch's work as "The Climatologist in the Criminal Court".

Shortly after, the article was read by Toronto Star science columnist Val Sears, who considered Mr. Murdoch's "crime busting" activities as a forensic climatologist with AES Ontario Region sufficiently exciting to warrant writing a front page article in his newspaper.

From thereon things sort of snowballed. The Toronto Star story was "picked up" by the Canadian Press news agency and similar articles about Mr. Murdoch's unusual career began appearing in newspapers as far apart as Saskatoon and Halifax. Requests for interviews came in from smaller papers too and the newly popular climatologist couldn't turn down an enquiry from the Brampton Daily Times, the "local paper" as far as his work at the Toronto International Airport was concerned.

Next came the radio interviews in Montreal, Niagara Falls, Brampton (again) and of course Toronto, where he appeared on CFRB's popular Valerie Pringle Show and on CBC radio's Cross Canada show. He did so well on the latter that the interview was repeated next day and later aired on the CBC's International Service. This overseas coverage eventually led to an interview on London's BBC.

Radio was followed by TV. He was interviewed on Global network's "On the Road Show" and on CBC's Take 30. Finally, due to pressures of work, he had to turn down requests for interviews on CTV's Canada AM show and on NBC's "That's Incredible". Exposure on the latter would have catapulted Dave Murdoch into the big-time North American celebrity league.

Write-ups about him did appear in the tabloid National Enquirer though and he granted an interview to a Florida radio station which specializes in covering Canadian activities.

Despite his reluctance to take on all media comers, he still remains one of Canada's best known climatologists. For example an article about his forensic exploits that appeared in the British weekly, New Scientist is being adapted for publication in the huge circulation Reader's Digest. Further write-ups on Mr. Murdoch have appeared in police, criminological and learned journals on both sides of the Atlantic. Naturally all this exposure has greatly increased demand for him as a public speaker, and boosted the number of his police and legal consultations as well as the frequency of his court appearances.

One thing is sure. Since last year's Zephyr article Dave Murdoch's life has never been the same.

Weather radar is "star" of AES display at CNE

Passersby at the AES display at the Canadian National Exhibition stop and stare at the weather radar screen informing them of current bad weather in the Toronto area.

The Cloud Physics section supplied a telidon weather radar system for the first major AES participation at the Canadian National Exhibition (Toronto) in several years.

The system proved to be the most popular part of the Environment Canada exhibit at the federally-sponsored Our Canada pavilion. Crowds constantly approached the unit to watch precipitation patterns the moment they developed on the screen. Some people were so impressed with the actuality of the system, they checked back every hour to see whether their baseball game, concert or visit to the ex-

hibition midway ran the risk of being rained out. The weatheradio even pinpointed a severe thunderstorm right over the CNE grounds which, of course, resulted in large numbers of visitors getting drenched a few minutes later.

The telidon was also popular with non-AES staff manning the DOE booth and despite lack of technical knowledge they enjoyed explaining its operation to the public.

Back of the weather radar, AES also mounted a major weather satellite display complete with complex schematics, illuminated panels and a video tape film.

Visitors to the Environment exhibit also expressed great interest in the acid rain problem and dozens of acid rain booklets were handed out along with hundreds of Stop Acid Rain buttons.

The general environment exhibit concentrated on outlining the function and organization of the principle DOE branches by means of panels, working models and an electronic question and answer machine.

The Ontario Region of DOE, principal coordinators of the exhibit, highlighted major environmental problems affecting the province. According to DOE regional director, Howard Ferguson, almost one third of all information enquiries received by the RDG's office in August were generated through Environment Canada's presence at the CNE.

New Synoptic Meteorology award honors Jim Percy

A new award for excellence in synotic meteorology has been established by AES Training Branch to honor the memory of the late Jim Percy. For almost a decade he worked as an instructor with the branch's training program for operational meteorologists (MOC).

In a memorandum to the AES Management Committee, Jim McCulloch, director general Central Services Directorate explains that the award will be made every year to the student "who has demonstrated exceptional knowledge, understanding and application of the physical principles of synoptic meteorology." He added that the purpose of the award was to stimulate interest in synoptic meteorology amongst AES meteorologists-in-training and to encourage them to develop the skills required to better understand the physical principles and processes of the atmosphere.

A senior training branch team will annually evaluate potential candidates and announcement of names of recipients will be made at graduation ceremonies with winners receiving "a suitable book pertaining to the science of meteorology."

Mr. McCulloch described Mr. Percy as "an excellent and enthusiastic lecturer . . . a dedicated and conscientious scientist, always in search of a deeper and more complete understanding of the physical principles governing atmospheric phenomena and freely sharing his insights with his students and colleagues."

Students make Quebec region diaporamas

AES Quebec Region has produced two new public information slide shows using the services of summer students with backgrounds in communications and audio visual arts.

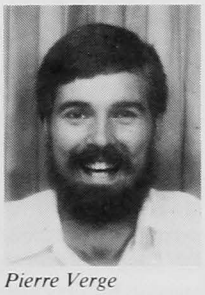
The new "diaporamas" containing lively recorded commentaries and modern cross fade techniques, are titled "Weather Services for One and All" (running time: six minutes) and "Let's Find Out About AES" (running time 10 minutes).

Pierre Verge of the University of Montreal and Claire Dubois of the University of Quebec in Montreal were commissioned last May to begin their 16 week project which required a careful study of AES policy and objectives, familiarization with the work of weather service personnel and their equipment and enough awareness of the weather offices throughout the region to be able to obtain the best quality and most eye appealing pictures. The students personally supervised the French and English commentaries, adding music and sound effects.

Laurent Primeau, regional chief, Quebec Region weather services, who commissioned the "diaporamas", commented, "The work was very well done . . . certainly an improvement over what we had before. The students used the latest audio visual techniques and produced two topnotch slide presentations."

He added that the diaporamas would be used at exhibitions, conferences and in schools. They could be loaned out by contacting the AES Quebec region office, 100 Alexis Nihon Blvd., Ville Saint Laurent, P.Q. H4M 2N6.

Claire Dubois



Pierre Verge

Mitch Kallauer

Mitch Kallauer has been appointed the new chief of the AES Downsview Computing Centre, it was announced recently by Jim McCulloch, director general Central Services Directorate.

Mr. Kallauer previously spent nine years at Ryerson Polytechnical Institute (Toronto), the last two as director of the computing centre there. He has also worked on computing at Northern Telecon (Montreal).

Mr. Kallauer attended the University of Toronto and then Wayne State University (Detroit) where he obtained his BSc degree in 1968.

John Roberts praises spirit at AES Children's Centre opening

Beaming with pride AES climatologist Joan Masterton stood in the middle of the room holding a certificate, the licence to operate a day care centre, presented to her by Herta Fletcher of the Ontario Ministry of Community and Social Services.

Environment minister, John Roberts, in his first remarks to officially open the Sunburst Children's Centre at AES Downsview September 24 said "The Sunburst Children's Centre is open today as a result of long hours of work by many people."

Essentially it is the result of the co-operative effort shown by AES staff, management and unions representing AES employees, to inquiries from a few AES staff who wanted to know why no day care facilities existed in the building. The request was first made to the unions who raised the question at a union-management meeting only to discover that no day care facility existed anywhere in Canada in a federal government building, and none was permitted.

In November 1979 the AES Management Committee (AMC) gave Equal Opportunities for Women (EOW) permission to investigate the need for and the feasibility of a work place day care centre. EOW first questioned female AES staff in their yearly survey by asking them if they felt day care was needed in the building. Response was positive. With the support of AMC and the unions representing AES, EOW sponsored a survey of all AES employees with regard to day care. Results indicated both male and female employees would support it. A representation was then made by AES through Environment Canada to the Treasury Board for permission to create a day care centre. On June 25, 1981 AES was granted permission by Treasury Board to participate in a program designed to facilitate the operation of pilot day care centres in federally-owned or leased buildings. The Sunburst Children's Centre is the first participant in the program to open.

A non-profit, charitable corporation offering full time, quality day care to children from birth until five years of age, the centre is unique in supplying infant child care. The corporation is run by a Board of Directors composed of parent-users who are responsible for all administrative and financial decisions, including staff salaries, supplies and equipment.

All together now . . . 3-year olds Brian Street and Mia Skarpathiotakis help Environment Minister John Roberts to cut the cake commemorating the opening of the Sunburst Children's Centre at AES Downsview.

The aim of the centre is to offer high quality day care at reasonable fees to federal employees and people in the immediate community. Sunburst has a capacity for 37 children. Eventually, when the centre reaches its maximum enrollment, nine qualified and experienced teachers will care for the children. Because of its small size Sunburst is able to offer a very good staff-to-child ratio, not usually found in other day care centres.

The Sunburst Board of Directors is composed of Denis Bourque, Peter Chen, Joan Masterton, Mike Skarpathiotakis, Roger Street, Chris Stuart, Evelyn Wilson and Eva Voldner. Composition of the board is expected to change as parents with children in the centre gradually replace board members without enrolled children. Two married couples Denis and Sheila Bourque and Sheila and Roman Guzylak at AES headquarters currently have children enrolled at the centre while Mike Skarpathiotakis has two children enrolled.

The supervisor of the Sunburst Children's Centre has also received requests from two pregnant women who wish to enroll their children once they are born, in 1983. A number of requests have arrived at the centre from parents who currently have their children either at other day care centres or with nannies and would like to have their children enter Sunburst as soon as possible.

Sunburst, like many small businesses, is starting small and building its capital

On behalf of the Sunburst Children's Centre, Joan Masterton receives a copy of the operating licence from Herta Fletcher of the Ontario Government Ministry of Community and Social Services. Looking on are Environment Minister John Roberts and ADMA Jim Bruce.

resource, in this case children, gradually. Eight children are currently attending with more enrolled to attend in the coming months. Mr. Roberts half jokingly remarked at the official opening that he expected in the near future to be receiving a request from AES to enlarge the day care facilities as news of the centre spread and enrollment reached its maximum.

Environment Canada will cover the cost of renovations and maintenance for the area. Generous donations have been received by the Sunburst Board of Directors from the Province of Ontario, the City of North York, the Public Service Alliance of Canada, the Professional Institute of the Public Service, Levi Strauss Canada, Inc., and the Ontario Federation of Labour. AES employees have also given the centre financial support with interest-free loans, donations and lottery ticket purchases. Dr. Fouad Fanaki donated one of his own water colours to be raffled off to raise money for the centre.

A doll centre including a sink, stove, refrigerator, table and chairs was bought by the Board of Directors, at a small discount from the Correctional Services section of the office of the Solicitor General, Mr. Kaplan (the local M.P. for the area).

The Department of Public Works was responsible for the renovations and design of the centre, including the play area outside.

The minister and his entourage briefly toured the centre gaily decorated with children's drawings, streamers and weather balloons. While admiring the doll centre everyone tried to keep a straight face on hearing the strains of a humorous children's record being played in the background.

ADMA Jim Bruce then made a short speech, praising the work of the people involved with the centre and introducing Mr. Roberts, citing him as a minister recognized for his innovations. After introducing the Sunburst Board of Directors, Mr. Bruce gave the floor to Mrs. Herta Fletcher who presented Joan Masterton with the licence to operate the day care centre.

In his speech Mr. Roberts stressed the co-operation that had existed among EOW, the unions and management in creating the centre. Commenting on the organization of the centre, he remarked how delighted Mme Sauvé, the speaker of the House of Commons, must be to see a day care opening in one of her former portfolios, the Department of the Environment, where she first tried to initiate work place day care.

Brian a son of AES employee Roger Street and Mia daughter of Mike Skarpathiotakis stood hand in hand holding the knife with the minister as he kneeled to cut the cake with them to mark the official opening.

The centre, packed to overflowing with people watching the ceremony through glass partitions marking the different sections, burst into spontaneous, sustained applause after the cake was cut.

While outside someone mentioned that an anemometer would eventually be mounted to the roof of the children's storage shed "We are raising little meteorologists," interjected Joan Masterton. Turning to Mr. Bruce the minister quipped "I hear this is part of your program to increase the number of meteorologists." Time will tell!

Translator's note:

A strange environment indeed!

Environment is a field where some dusty devil can be seen blowing away from a penitent field, where white horses do not have four legs or, as a matter of fact, any legs at all. These friends of man can ride on the waves, while mackerels can fly in the sky.

And all that finishes up in the air or, as the French say, en queue de poisson (in a fish tail).

Daniel Pokorn

Science achievements highlight Arctic stations anniversary

The era of viewing the Canadian North as one vast meteorological laboratory now dates back 35 years. A permanent link between science and Arctic weather was forged in April 1947 with the opening of the Eureka high arctic weather station on Ellesmere Island in the Northwest Territories. It was followed several months later by the opening of Resolute as the central weather station on the Canadian Arctic Archipelago. Over the next three years three more high arctic weather centres were established, one at Isachsen (subsequently closed), one at Mould Bay, and finally, one at Alert at latitude 82 degrees 30, the most northerly station in the world. The opening of all five stations was originally a joint Canadian-U.S. project known as JAWS, but in 1972 operation of the stations became entirely Canadian with the AES performing all meteorological tasks. Over the years there have been many scientific and meteorological improvements and this year (1982) it was decided to commemorate the 35th anniversary of all four remaining stations.

To mark the 35th anniversary of the Eureka High Arctic station, Don Smith, director general, Field Services Directorate, hands station OIC Iain Ross a commemorative certificate currently being distributed to all present and past AES staff who have served at the station as well as to visitors.

The opening event was a congratulatory message sent out last April by ADMA Jim Bruce to the Officer-in-Charge and the staff of Eureka station the first to join the network.

Then in the fall seven AES personnel forming part of a 12-man High Arctic Weather Stations planning team and led by Don Smith, director general of Field Services Directorate, made a five-day tour of inspection including Eureka, Mould Bay and Resolute. The aim of the mission was both practical and celebratory. In the latter category AES officials were to hand out certificates to all staff and ex-staff who had served or spent time at any of the high arctic stations.

AES members on the 35th anniversary tour (October 1-6) were: Don Smith (AFDG), Joe Boll (AABD) and from Central Region: Mike Balshaw, Regional Director; Dennis Stossel, superintendent, Arctic Operations; Alan Abraham site development officer and Cliff Hines, superintendent electronic maintenance.

For more than three decades the stations have been isolated outposts for studying and recording the Arctic air masses that play such an important role in North American weather patterns. They have also been extremely valuable to aviation, Arctic shipping and climatologists. Meteorological programs, carried out at high arctic stations include hourly weather, synoptic weather, aerological and ozone soundings, solar radiation, CO_2 sampling, aerosol monitoring, sunshine observation, snow surveys, ice thickness, freeze and break up studies, evaporation, soil temperature, CANSAP precipitation sampler and noctilucent cloud research.

The raison d'etre of all weather stations is to provide frequent, regular observations of atmospheric parameters in order to know present weather conditions, prepare forecasts and determine the climatology of the area.

Once stations had been established in the Arctic for meteorological purposes, it was natural to provide support for numerous other scientific projects. Snow survey, soil temperature and solar insulation surveys were instituted. Total ozone amounts can now be measured on a daily basis and the ozone layer sampled once a week. In addition CO_2 is sampled once a week at Alert and Mould Bay, neutron-gamma rays are monitored at Alert for the National Research Council and seismological programs are carried out for Energy, Mines and Resources at Mould Bay, Resolute and Alert.

A wide variety of support services are also provided — for example, assistance to the Polar Continental Shelf project, aerial mapping surveys, rocket sounding in the Western Arctic, marine transits of the Northwest passage, ice reconnaissance support for programs such as the raising of the lost 19th century ship *Breadalbane* or support for ground truth RADARSAT/FIREX experiments at Mould Bay linking ice conditions and

satellite imagery. Sometimes AES undertakes projects for other agencies. For example, a study on atmospheric corrosivity in cold regions was carried out for EMR at 20 northern sites (1978-9). Occasionally support is provided for international studies such as Mould Bay tracking of constant altitude balloon flights launched by the Danish space agency.

AES is continually making improvements at the stations, introducing updated technology and implementing new policies. For example, ADRES minicomputers were tested at Norman Wells and Eureka before being implemented across the Canadian upper air network; in 1979 the communications circuit 110 was up-graded via Anik satellite from Hay River to Sachs Harbour; broadcasts to ships in the vicinity of Resolute and Frobisher Bay began in 1978; a saltwater desalinization plant was installed at Eureka in 1982; ice broadcasts were introduced in 1978 to improve ice reconnaissance coverage; automatic weather stations were installed in several northern regions in 1979; Coral Harbour was used as a pilot training centre for native trainees in 1976 under the Arctic Community Airports program; public weather broadcasts began in 1979 via CBC for Cambridge Bay, Resolute and Nanisivik, and this winter AES is "piggyback" for teletype and telephone communications on the DND new microwave link from Alert to Eureka and via satellite from Eureka to Ottawa/Toronto.

Heat exchanger/recovery systems off new power generating plants at Mould Bay and Eureka this year are now providing heat to the staff barracks, garages and main operations buildings.

Future plans include iceberg surveillance, increased weather services to aviation and shipping, local climate studies, monitoring of air quality, improvement to the forecast system and communications, support services to polar expeditions as required and support for new national parks.

Arctic Co-ordinator (Downsview) John McBride says that almost 60 meteorologists and 400 technicians have served in Resolute alone over the past 35 years. To the question: what draws people to the Arctic? he answers "It's more than just escaping from the world. Television brings the news to many isolated communities in the North via satellite. For some the job is challenging and the pay is great. For many, it is the unique geography and the climate." Quoting former Resolute OIC Eldon Oja: he adds "You have to live through the seasons — the light and the dark — and experience the flowers in July and the blowing snow in winter. There is something to experience in the unconquered forces of nature."

Eureka Station, Ellesmere Island from the outside.

Observing the weather via ASAP and "Cooperating Vessels"

The Japanese car carrier MV Friendship enters Vancouver harbor in her capacity as cooperating ship for the ASAP weather observation program.

There is an unusual link between the large number of Japanese car imports and a joint Canada-US experimental weather observation program on the west coast. One of the big Japanese car carriers that run regularly across the Pacific is carrying a containerized systems equipped to release radiosondes and send reports of upper atmosphere wind, pressure, temperature and humidity. Signals from the balloon born sonde are received on the ship, processed by a micro-computer, and transmitted by the GOES West satellite to a receiving station in Boulder, Colorado. From there they go to the Pacific Weather Centre in Vancouver for distribution to weather offices around the world.

With the Japanese carrier vessel *MV Friendship* as a "Cooperating Vessel" the AES is conducting feasibility tests of the Automated Shipboard Aerological Program (ASAP). Extending the technology used in the 1980 Storm Transfer and Response Experiment (STREX), the current program involves fitting a self-contained upper air station into a standard sized sea container (approximately 3m by 3m by 6m) and placing it aboard a commercial ship plying the north Pacific between Japan and west coast ports. The container includes upper air expendables, a special balloon filler/launcher, helium and the electronic equipment to receive, process and transmit the upper air observations to the satellite.

ASAP is actually an international project with contributions by Canada, the U.S.A. and Japan, plus some Finnish instrumentation. The Japanese Shipping Association was particularly helpful in establishing contact with ship operators willing and able to take part in ASAP.

One of ASAP's objectives is to provide upper air soundings from the data sparse north Pacific at a fraction of the cost of a full weathership program which could cost Canadian taxpayers some $6 million annually. ASAP team member Bob Vockeroth says each ASAP equipped vessel would cost about $200,000 per year to operate.

The entire system is housed in a standard sea container secured to the ship's deck. The design facilitates rapid loading and unloading of the container, essential considering the short time car carriers are in port. In fact only shipboard electrical power is needed to operate the equipment. The system uses liquid or bottled helium to provide lifting gas for the balloon. Launching of balloons and sondes is carried out using a specially designed all weather launch cannon. This means that a single technician can handle initial preparations, launch the balloon, oversee the processing and transmit the data.

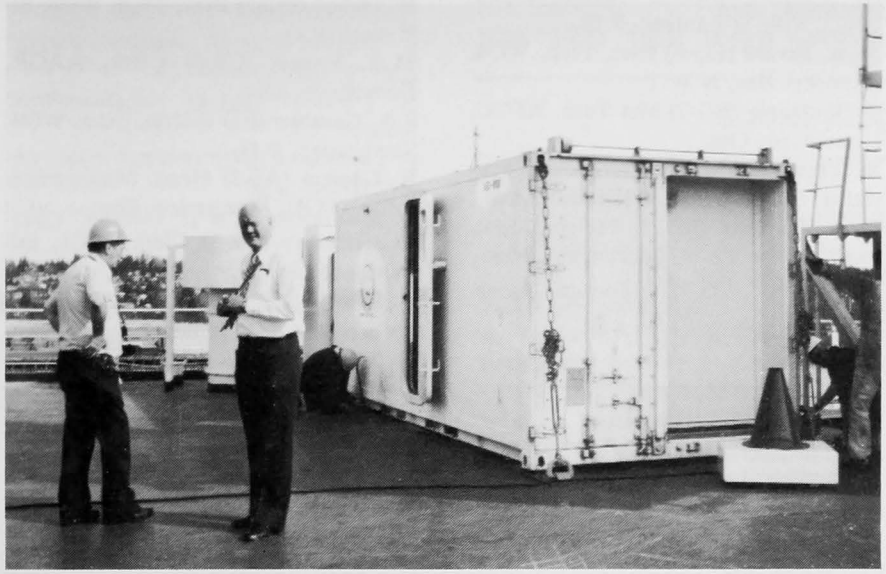
Ironically, stepped up inspections of imported Japanese cars by Canadian customs officials over the past few mon-

ths have caused some delays in the ASAP program. For example, AES personnel have had to travel from Vancouver to Portland, Oregon to service their container.

Environment Canada has made a one year cooperative agreement with the *Friendship's* owners, Mannex Management Limited of Hong Kong. A Japanese Second Officer, M. Takata, has been assigned to support the shipboard program. He underwent two weeks training in Vancouver before sailing, and after two voyages he conducted the third voyage single handed.

The sea trials to date have shown great promise for this system. During the first four voyages, many problems were solved, and 103 soundings were obtained.

The current feasibility trials are to extend through the fall and winter storm season in the north Pacific, and will result in a full operational and technical report by March 1983. A decision is expected soon on extending the present operation to March 1984. The future of a proposed multi-ship program in the north Pacific, and of possible ASAP type systems in other oceans, will depend upon the demand of the world meteorological community for aerological soundings from the world's oceans, and on the budgets of their meteorological services.



The ASAP container sits on the deck of the MV Friendship while Jack Mathieson, regional director AES Pacific Region (right) and Alex Gibb port meteorological officer confer.

STAFF CHANGES

Promotions/ Appointments

F. Amirault (EG-7) Climatologist, MAED, Bedford, N.S.

J.G. Babineau (MT-5) Meteorologist, CMQ, Ville St-Laurent, P.Q.

D. Besner (EG-7) Supervisor, WO4, Montreal/Dorval Int'l., P.Q.

G. Born (EG-7) Supervisor, WO4, Montreal/Dorval Int'l., P.Q.

B.D. Brodie (MT-6) Meteorologist, SSO Marine Met & Military Oceanography, NDHQ, Ottawa, Ont.

S. Clark (EG-2) Met. Tech, WS3, Slave Lake, Alta.

E. Cowell (EG-7) Supervisor, WO4, Montreal/Dorval Int'l., P.Q.

R. Daoust (EG-6) Agrometeorology Tech. CMQ, Ville St-Laurent, P.Q.

R. D'Amours (MT-6) Meteorologist, Chief Prognostician, CMC, Dorval, P.Q.

C. DiCenzo (MT-6) Meteorologist, Supervisor, WC1, Edmonton, Alta.

P.J. Delannoy (MT-5) Meteorologist, Base Met. Officer, Gagetown, N.B.

F. Didiodato (EG-5) Pres. Tech. WO3, Yellowknife, N.W.T.

J. Dmytriw (MT-7) Meteorologist, SSO Met, Air Command Hqs. Winnipeg, Man.

S. Dulude (EG-8) Superintendent, QAEO, Ville St-Laurent, P.Q.

P. Dupré (EG-7) Supervisor Projects, QAEO, Ville St-Laurent, P.Q.

R. Dupuis (EG-6) Inspector, QAEO, Ville St-Laurent, P.Q.

M. Edwards (EG-4) Aero. Tech. WS2, Inuvik, N.W.T.

B. Fehr (EG-5) Officer-in-Charge, WO4, Churchill, Man.

R. Fournier (EG-6) Pres Tech. WO4, Montreal/Dorval Int'l., P.Q.

W. Frymire (EG-8) Superintendent, PAEWR, Vancouver, B.C.

M. Gelinas (EG-6) Pres Tech. WO4, Montreal/Dorval Int'l., P.Q.

G. Girard (EG-7) Supervisor, QAEO, Ville St-Laurent, P.Q.

N. Guérin (EG-8) Officer-in-Charge, WO4, Montreal/Dorval Int'l., P.Q.

J. Hallé (MT-6) Meteorologist, Chief Prognostician, CMC, Dorval, P.Q.

C.A. Hayes (SCY-3) Secretary, AFSD, Downsview, Ont.

B. Howe (EG-4) Radar Tech. WS3, Broadview, Sask.

P. Hunt (CR-3) Clerk, WC1, Edmonton, Alta.

M. Hurlburt (CR-4) Clerk, AAFA, Downsview, Ont.

B. Johnson (EG-5) Pres. Tech, WO4, Churchill, Man.

M. Jones (EG-4) Aero. Tech. WS3, Cambridge Bay, N.W.T.

K. Kirkwood (CS-2) Computer System Analyst, PAEM, Vancouver, B.C.

T. Koolwine (MT-6) Meteorologist, SS0 Support Systems, NDHQ, Ottawa, Ont.

T. Layes (EG-2) Met. Tech. WS3, Ft. Reliance, N.W.T.

R. Lepine (EG-2) Met. Tech. WS3, Ft. Reliance, N.W.T.

R. Macarios (CR-1) Clerk, AAGR, Downsview, Ont.

M. McGregor (EG-5) Pres. Tech. WO4, Inuvik, N.W.T.

P. Minvielle (EG-4) Aero.Tech. WS3, Cambridge Bay, N.W.T.

A.S. Mohamed (FI-1) Finance, PAEAF, Vancouver, B.C.

G. Nicholas (CS-1) Computer System Analyst, Prairie Weather Centre, Man.

STAFF CHANGES

G.C. Paquette (EG-6) Pres. Tech. Quebec, P.Q.
B. Paruk (MT-5) Meteorologist, WC1, Edmonton, Alta.
A. Patoine (MT-5) Meteorologist, CMQ, Ville St-Laurent, P.Q.
M.M. Savard (EG-6) Pres. Tech. WO4, Frobisher Bay, N.W.T.
P. Shalapata (EG-7) Met Tech. AFOC, Downsview, Ont.
R. Thomson (MT-6) Arctic Env. Specialist, SSD, WAED, Edmonton, Alta.
P. Vailancourt (MT-2) Meteorologist, Development Level, Greenwood, N.S.
K. Wowryk (EG-7) Officer-in-Charge, WS1, Eureka, N.W.T.

Transfers

M. Beebe (EG-4) Radar Tech. WS3, Broadview, Sask.
C. Daigle (EG-2) Sfc. Obs. WS3, Churchill Falls, Nfld.
T.C. Farrell (MT-2) Meteorologist, WO1, Maritime Weather Office, Bedford, N.S.
F. Guay (EG-5) Pres. Tech. WO4, Val d'Or, P.Q.
J. How (EG-1) Observer, WS3, Cape St. James, B.C.
J.C. Leblanc (EG-5) Pres. Tech. WO4, St-Hubert, P.Q.
G. Lemay (CS-3) CIDC, Dorval, P.Q.
G. Lunn (EG-1) Observer, WS3, Revelstoke, B.C.
S.A. Lupack (AS-3) Admin. Officer, AFDH, Downsview, Ont.
E. MacDonald (EG-2) Met. Tech. SSD, Vancouver, B.C.
M. MacGregor (EG-5) Pres. Tech. WO4, Inuvik, N.W.T.
G. Pellerin (MT-6) Chief Prognostician, CMC, Dorval, P.Q.
H.P. Schmidt (MT-5) Meteorologist, CFFC, Trenton, Ont.
R. Younes (FI-2) Finance, QAEAF, Ville St-Laurent, P.Q.

Temporary or Acting Positions

D. Adams (CR-3) Clerk, WC1, Edmonton, Alta.
J. Arbour (EG-6) Instructor, TCTI, Cornwall, Ont.
J. Badger (DD-1) A-V Tech. ACRA, Downsview, Ont.
G. Desjardins (EG-8) Superintendent, QAEO, Ville St-Laurent, P.Q.
D. Dubuc (EG-5) Pres. Tech. WO4, St-Hubert, P.Q.
M.A. French (CR-5) Clerk, AAGR, Downsview, Ont.
S.A. Gauthier (EG-5) Pres. Tech. WO4, Sherbrooke, P.Q.
B. Goalem (AS-3) Head, Management Info. AFON, Downsview, Ont.
M. Harrison (CR-3) Clerk, WC1, Edmonton, Alta.
R. Jelinski (CR-3) Clerk, WC1, Edmonton, Alta.
C. Kreklywich (CR-3) Clerk, WC1, Edmonton, Alta.
L. Langevin (CR-3) Clerk, WC1, Edmonton, Alta.
R. Laurence (MT-6) Meteorologist, MOP, APDG, Ottawa, Ont.
J. LeDrew (CR-3) Clerk, AAGR, Downsview, Ont.
A. MacLeod (CM-6) Communicator, Pacific Weather Centre, Vancouver, B.C.
P.A. Renaud (EG-6) Officer-in-Charge, WO4, Sherbrooke, P.Q.
M. Saumure (EG-5) Pres. Tech. WO4, Val d'Or, P.Q.
R.B. Saunders (MT-5) Meteorologist, MOP, AFWC, Downsview, Ont.
M. Shewel (MT-7) Chief Meteorologist, Prairie Weather Centre, Man.

Departures from AES

M. Coté, CMQ, Ville St-Laurent, P.Q.
L. Jackson, WS3, Slave Lake, Alta. to Education
D. Mitchill, WO3, Resolute, N.W.T.
L. Pepin, AABD, Downsview, Ont. to Statistics Canada, Toronto, Ont.
D. Shaffer, WS1, Sachs Harbour, N.W.T.
L.R. Stevens, ACSL/E, Downsview, Ont. to Transport Canada, Toronto, Ont.

Secondment

J.G. Coté, AAG, Downsview, Ont. to Deputy Minister, DOE, Ottawa, Ont.

Retirements

R.M. Cleland, ACSL/I, Downsview, Ont. July 1982
C. Dell, WC1, Edmonton, Alta. September 1982
H. McLeod, ACSL/M, Downsview, Ont. September 1982
W. Peterat, CMC, Dorval, P.Q. June 1982

Abbreviations used are:

MT —	meteorologist
EG —	engineering & scientific support
SE-RES —	research scientist
PC —	physical scientist
ES —	economist, sociologist, or statistician
SX —	senior executive
DA-PRO —	data processing
EL —	electronics technologist
ENG —	engineer
GL-VHE —	general trades
ST —	secretary
FI —	financial officer

Note

Staff changes are displayed in these columns as closely as possible in the form they are received from the various Directorates General or Regional Directors' offices. While we try to correct major errors, we cannot guarantee that all designators or office identifiers are standardized. We suggest that all suppliers of staff change information thoroughly check for accuracy before sending in their lists and we recommend that they use letter abbreviations rather than full office names, eg. WAED rather than Western Regional Office or MAEM rather than Atlantic Weather Centre.