

pressure system required for water-cooled reactors. Organic liquids are much less corrosive than water at high temperatures and therefore more normal structural materials such as aluminum alloys could be used in the reactor.

Organic liquids are, however, affected by radiation and will require some continual replacement by fresh material. Furthermore, fuel costs in an organic-cooled reactor are likely to be higher than in a heavy-water-cooled reactor.

Organic liquids have been used with interesting results in a power reactor experiment conducted by Atomics International for the United States Atomic Energy Commission at Idaho Falls, Idaho. In that experiment, however, both the heat transfer medium (the "coolant") and the material which promotes the burning of the uranium (the "moderator") are organic liquids. Such liquids absorb more neutrons than does heavy water and therefore, when organic liquid is used for moderator, enriched uranium must be used for fuel. The Canadian study would, like the NPD (Nuclear Power Demonstration) plant now under construction near Rolphton, Ont., be aimed at providing a system which would use the natural uranium available in plentiful supply in this country.

Among the information to be considered in the design study and development work by C.G.E. will be the fuel costs resulting from the use of organic liquids rather than heavy water, the cost of continual replacement of organic liquids affected by radiation, effects of corrosion on materials, and a variety of other problems in the fields of engineering, physics and chemistry.

The organic liquid proposed for the OCDRE plant is a mixture of oil-like substances called "polyphenyls". They consist of hydrogen and carbon atoms linked together in unique ways. When subjected to radiation, they form tars which will have to be continually replaced by fresh liquids to maintain the required property of the coolant.

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ROYAL VISIT - TORONTO, OTTAWA

Four drives, covering different sections of the city with stops at various points of interest, will allow Her Majesty Queen Elizabeth and His Royal Highness Prince Philip to see and be seen by most of Toronto during the Royal visit to Ontario's capital on June 29 and 30.

On the morning of the first day, Her Majesty and Prince Philip will drive to Woodbine Park in east Toronto, where they will be greeted by assembled school children. On the return trip the Royal Party will stop at the City Hall for a civic reception.

In the afternoon the Queen will tour the Redpath Sugar Refinery and then drive to High

Park where Her Majesty will make a presentation to 9 Queen's Scouts and 9 Queen's Guides.

After leaving High Park the Royal Party will proceed to Exhibition Park where the 48th Highlanders will be on parade in front of the grandstand. A 20-minute stop will be made while the Queen inspects the regiment of which she is Colonel-In-Chief and takes the salute at a march past.

In the interval between the morning and afternoon drives on Monday, Her Majesty will be hostess at a luncheon on board the *Britannia*. At the same time the Duke of Edinburgh will be the guest of honour at a luncheon of the Engineering Institutes of Canada at the Royal York Hotel. In the evening Queen Elizabeth and Prince Philip will attend a dinner given by the Province of Ontario, also at the Royal York.

On Tuesday morning Her Majesty will stop at the site of the new O'Keefe Centre before visiting the Arthur Meighen Home on Davisville Avenue where she will meet Salvation Army officers and the 4 oldest inhabitants of the Home. From there she will drive to Sunnybrook Hospital, where a brief stop will be made. Leaving Sunnybrook Hospital the route will be east on Eglinton Avenue to the Golden Mile where there will be a 10-minute stop.

Her Majesty will not be accompanied by Prince Philip on the Tuesday morning tour, as His Royal Highness will be visiting Upper Canada College during this period, and later will attend a meeting and luncheon of the Canadian Medical Association at which he will be installed as President.

The drive to the new Woodbine on Tuesday afternoon will include a 10-minute stop at the Etobicoke Municipal Offices. Her Majesty is scheduled to arrive at Woodbine at 3.00 p.m. and leave for Malton airport at 5.25 p.m. From Malton the Royal Party will leave by air for Ottawa for a 1-day visit to the nation's capital.

During their visit to Toronto Her Majesty and Prince Philip will stay on the Royal Yacht *Britannia*, which will be docked at the Queen Elizabeth pier.

OTTAWA

Arriving at Uplands Airport, Ottawa, early in the evening of Tuesday, June 30, the Royal Party will be met by His Excellency, the Governor General, Mr. Vincent Massey, and by Prime Minister John G. Diefenbaker.

Following the arrival ceremonies, Her Majesty will proceed by car via Riverside Drive, Hog's Back, Col. By Drive, Bronson Avenue, and The Driveway to Lansdowne Park where Ottawa school children and youth organizations will be assembled. Here Her Majesty will be welcomed by Mayor George Nelms.

On leaving Lansdowne Park, Her Majesty will drive to Rideau Hall by way of The Driveway and Sussex Street. The Royal Party will dine at Government House on Tuesday evening without further public appearances.

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