OMNIDINE Corporation 9111 Park Drive Miami Shores FL 33138 Tel.: 305-754-7460

February 15, 1980

Dr. John Ahearne, Commissioner
Nuclear Regulatory Commission
1917 H Street, NW
Washington, D.C. 20555

Dear Dr. Ahearne:

I am writing to you at the suggestion of Frank von Hippel, Ph.D., nuclear physicist at the Center for Environmental Control, Princeton University. Dr. von Hippel mentioned to me that you would be interested in learning of the iodine device I have designed for Omnidine Corporation as the alternative to potassium iodide (KI) for an emergency source of thyroid blocking agent in the event of nuclear mishap with radioactive iodine (^{131}I) release to the atmosphere.

The Omnidine device (patent pending) is based on the controlled, minimal solubility of elemental iodine (I_2) in water: 300 mg/l @ 20°C. It consists of a squeezeable bottle, dispensing tip, extended overcap and contains pure iodine crtstals in a special retainer. The device generates "free" or molecular, diatomic iodine, recognized by thyroidologists as an effective thyroid blocking agent.

As you are aware, KI tablets have been criticized in that iodine availability or potency must be checked on a periodic basis. Published reports show cost estimates of $100,000,000 annually for potency evaluation, nationwide. And, even with potency stablished at a particular date, there exists the possibility of iodine loss between then and the next check. Should iodine be required for thyroid blocking due to an emergency during the interim, thyroid protection could be lacking.

The materials used in the Omnidine device have been selected for compatability with iodine. Material compatability combines with iodine's limited water solubility to produce an extremely important effect: the Omnidine device has a virtually unlimited shelf life in storage. The iodine in the device is ever ready for use when necessary. Therefore, the periodic checking costs for KI potency are completely obviated, resulting in highly significant program cost savings.

Additional savings are provided, too. I have frequently heard the KI initial cost figure quoted at 50 cents per person, or $2.00 for a family of four. In quantity, the Omnidine device can be supplied at a cost very much <u>less</u> expensive that KI tablets.

Yet another benefit is available with use of the Omnidine device. During nuclear emergency, it is quite likely that electricity in the area served by the nuclear power plant will be curtailed drastically or cut off. Municipal water supplies will therefore be subject to lapses in disinfection protection, thereby raising the problem of water-borne diseases. The same condition applies to private and farm wells dependent on municipal power.

The efficacy of elemental iodine as a broad-spectrum water disinfectant is very well established. Liquid "free" iodine dispensed from the device into a container of water rapidly renders the water potable for family use in drinking and cooking. This important benefit is simply not available with KI.

Another interesting aspect of the Omnidine unit is that in dispensing liquid iodine, it is simple and easy to correctly supply the reduced iodine dose requirements for infants and small children. Obviously, it is difficult and dangerous to attempt administration of a tablet to an infant. Certainly, the KI tablet could be broken and dissolved in liquid prior to feeding, but there is little doubt that during a nuclear emergency many people will panic. Under traumatic circumstances, the difficulty of administering KI tablets to the very young could produce untoward results, including overdosing.

Omnidine is now preparing to submit application to FDA for permission to make the demonstrable, desirable benefits of its device available to the American public. Should you be interested, we will be pleased to keep you informed of our progress.

Please feel free to contact me at Omnidine for any additional information you may require.

Sincerely,

Richard D. Polley

Richard D. Polley
President

RDP/rs

PS: As you are aware, FDA requires daily adult dosing of 100 mg I^- from KI. Current thyroid research indicates that this dose is significantly higher than that actually required to inhibit thyroid uptake of ^{131}I. I'll be pleased to forward this information when it becomes available.

cc: Dr John Kemeny, Dartmouth Univ.
Senator Gary Hart, U.S. Senate
Representative Morris Udall, U.S. House of Representatives
Senator Paul Tsongas, U.S. Senate
S.H. Ingbar, M.D., Harvard Medical School
Chairman Hendry, Nuclear Regulatory Commission
Commissioner Gilinsky, NRC
Commissioner Kennedy, NRC
Commissioner Bradford, NRC