UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAR 13 1980

Docket No. 50-142

The Honorable Anthony C. Beilenson
United States House of Representatives
Washington, D. C. 20515

Dear Congressman Beilenson:

This is in regard to your letter of November 2, 1979, requesting our assistance in responding to the concerns raised by Ms. Strum. These concerns are related to the emissions of radioactive gas from the University of California at Los Angeles (UCLA) research reactor. I regret that this answer has been delayed. The March 1979 accident at the Three Mile Island plant and its consequences have created a substantial increase in the agency's workload, which has prevented us from responding to you as promptly as we would have liked.

The design of the UCLA reactor allows a certain amount of air to enter into and circulate through the reactor core. Argon, which constitutes a small percentage of air, becomes radioactive when passing through the core. The radioactive species is called Argon-41. The Argon-41 is drawn out of the core, mixes with the air in the reactor room, and is taken out by a ventilation system which serves only the reactor room. The ventilation system then exhausts through a vent on the roof of the building housing the reactor. The prevailing winds in the area carry the exhaust plume over the roof of adjacent Math Sciences Building. This roof area can be occupied by students, faculty, and maintenance personnel during the hours in which the reactor is operating.

In licensing the UCLA reactor, the NRC staff has analyzed the generation of the Argon-41 gas and its potential effect on occupants of the Math Sciences Building. The results of the analyses have shown that, if the reactor is operated in accordance with the terms of the license, the radiation dose to individuals on the roof of the Math Sciences Building is well below the maximum allowed for individuals in unrestricted areas around nuclear facilities. However, the concern raised by Ms. Strum, as well as the "Committee to Bridge the Gap", is that our analysis did not account for the Argon-41 that could be drawn into an air-conditioning intake on the roof of the Math Sciences Building, and the potential dose to individuals inside the building. The Committee to Bridge the Gap has included this issue in a formal petition filed with the NRC.

Although not explicitly discussed in our safety evaluations in connection with the UCLA reactor license, the inside of the Math Sciences Building has been implicitly taken into account. The Argon-41 that is taken into the air conditioning system cannot be concentrated to any further degree

than it is on the roof. As a result, the dose to individuals inside the building is bounded by the dose to occupants on the roof. We have recently reviewed a UCLA radiation measurement program and its results and have performed preliminary calculations to verify that radiation levels are within allowable limits. The results of this review, including the calculations, will be included in our forthcoming response to the petition filed by the Committee to Bridge the Gap. We will ensure that Ms. Strum receives a copy of this response.

In conclusion, the UCLA research reactor does not pose any threat to the public health and safety. The Argon-41 emmissions from the reactor result in doses to individuals well below the maximum allowed by our guidelines. This is true for individuals inside the Math Sciences Building as well as those on the roof.

I trust that the information contained in this letter is responsive to your request.

Sincerely,

(Signed) E. Kevin Cornell

for William J. Dircks
Acting Executive Director
for Operations