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

DEC 17 1992

Evelyn E. Watson, Program Director
Radiopharmaceutical Internal Dose
Information Center
ORISE
P. O. Box 117
Oak Ridge, TN 37831-01117

Reference: FIN L1699: SHORT-TERM TECHNICAL ASSISTANCE

Dear Ms. Watson:

This letter is a follow-up to our telephone conversation with you September 3, 1992, which authorized ORISE to perform technical assistance in accordance with paragraph 2.3 - Task 3 of the Statement of Work for FIN L1699.

TASK 3, Subtask 7: Calculation of estimated dose to a fetus from a 10 millicurie iodine-131 (I-131) medical diagnostic procedure given to a pregnant woman.

Background: On February 24, 1992, a 46-year-old female patient received a 10 millicurie dose of I-131 for a whole body scan. The patient had a previous history of papillary cancer of the thyroid and was treated with surgery and 127 millicuries of I-131 in 1985. The patient had subsequent total body scans in 1987, 1990, and 1992. On May 28, 1992, the hospital performing the total body scan was informed that the patient was pregnant and was probably pregnant at the time of the I-131 administration. In May the patient's OB & Gyn physician estimated the patient was 8 weeks pregnant and an ultrasound scan performed 2 weeks before September 2, 1992 was used to estimate the fetal age at 34 weeks.

The performing organization shall:

1. Provide organ (if applicable) and whole body doses to the fetus from the I-131 procedure.

2. Provide the health and safety significance of the estimated doses, if possible.

Reporting Requirements:

Your September 3, 1992, letter provides the estimated whole body dose and the attached paper by Dr. Robert L. Brent addresses the radiation risk from the estimated dose. No additional reports are needed if you concluded both that the fetal thyroid was not differentiated at the time of the I-131 study and fetal organ doses from I-131 were not significant.

17/4

Level of Effort:

The level of effort to calculate the dose estimates, analyze the assumptions, provide health and safety significance, and prepare the written report should not exceed 8 staff hours.

Sincerely,

Donna-Beth Howe, Ph.D.
Project Manager
Medical and Academic Section
Division of Industrial and
Medical Safety
Office of Nuclear Material Safety
and Safeguards

DISTRIBUTION:

IMAB R/F	JGlenn	NMSS r/f	JGreeves
DBHowe	LCamper	RCunningham	NRC File

OFC	IMAB	E	IMAB	N/C	PIB	E		
NAME	DBHowe DBH		LCamper		DUmbel da			
DATE	12/18 /92		12/17 /92		12/ /7 /92			

C=COVER E= C&ENC. N= N/C G:DBH\Watson.DBH