



**Trinity Section  
American Nuclear Society**

P. O. Box 5367, Albuquerque, NM 87185-5367  
<http://local.ans.org/trinity/>

**DINNER MEETING ANNOUNCEMENT**

**“The Supply of Medical Radioisotope Tc-99m/Mo-99: Recent Shortages  
Call for Action in Developing a Domestic Production Capability”**

**Speaker: Dr. Ed Parma, Sandia National Laboratories.**

**Abstract:** Technicium-99m (Tc-99m), the daughter product of molybdenum-99 (Mo-99), is the most widely used medical radioisotope in the world. In the US, about 50,000 Tc-99m-based diagnostic procedures are performed every day. Mo-99 is currently produced by irradiating highly enriched uranium (HEU = 93% enriched U-235) loaded targets in high-flux reactors in Canada and Europe. Mo-99 is produced through fission with a yield of 6.1%. After irradiation for about seven days, the targets are processed at a hot cell facility. Recent events, including the cancelation of the MAPLE-X reactors in Canada, the unplanned outage of the NRU reactor in Canada due to a leak, and planned outages in Europe, have caused there to be a significant shortage of Mo-99 for the US and the world. A domestic supply of Mo-99 is needed to ensure that the future demand for the radioisotope can be sustained. The domestic production facility must also include the use of low enriched uranium (LEU <20% enriched U-235) instead of HEU. This presentation will give a brief history of Mo-99 production efforts in the US, an update on the proposed congressional action to promote a domestic supply, and domestic production proposals including the Sandia National Laboratories reactor production concept.

**Biography:** Ed Parma received his Ph.D. in nuclear engineering from Texas A&M University in 1986. He has worked as an experimenter at the Sandia National Laboratories Tech Area V Reactor Facility for 23 years. He is currently a principle member of technical staff in the Advanced Nuclear Reactor Concepts department at Sandia. During his career, he has been involved in projects including nuclear pumped lasers, space reactors, nuclear hydrogen production, advance reactor concepts, and medical isotope production. He has been a member of ANS for over 20 years.

**Place:** Courtyard by Marriott, Santa Fe

3347 Cerrillos Road, Santa Fe, NM (505-473-2800)

**Directions:** From Albuquerque, take 1-25 North approximately 55 miles to Exit 278 (Cerrillos Road). Hotel is located 3 miles on the left-hand side of Cerrillos Road, just before Richards Avenue.

**Date:** November 6, 2009

**Time:** 6:00 Social Hour with Cash Bar

7:00 Buffet Dinner (“Courtyard dinner table” with chicken and salmon)

7:45 Speaker

**Cost:** \$30 per person,  $\frac{1}{2}$  price for students and children

We strongly encourage you to sign up and pay for this event using our PayPal payment account.

Visit the “Calendar” page of our web site (<http://local.ans.org/trinity/calendar.html>) and select the appropriate payment button. You may use your own credit card and do NOT need to have a PayPal account to make the payment.

**RSVP:** If you do not use PayPal payment, please RSVP no later than Nov 2<sup>nd</sup> to:  
Tracy Radel: [tradel@sandia.gov](mailto:tradel@sandia.gov) (505-844-8264) or  
Bill Flor: [wjflor@lanl.gov](mailto:wjflor@lanl.gov) (505-665-8768).

*RSVP must be received by 2 Nov in order to give final numbers to the caterers. While we strongly encourage everyone to use online payment to sign up and prepay, an RSVP is a commitment to attend/pay at the door. We cannot afford “no shows” after the final count is given to the caterers, as the Section is partially subsidizing the cost of this event. If you cancel after 2 Nov, you will still be responsible for paying.*