UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555 - 0001

June 27, 2008

MEMORANDUM TO: Andrew N. Mauer, Branch Chief
Source Safety & Security Branch, DMSSA

FROM: John Jankovich **/RA/**
Source Safety & Security Branch, DMSSA

SUBJECT: SUMMARY OF MEETING WITH REVISS ON JUNE 25, 2008

The representatives of Russian English Venture in Isotope Supply and Services (REVISS), the principle supplier of Cs-137 irradiator sources in the world market, requested a meeting with NRC staff, on June 25, 2008, to discuss their interest with the NRC staff in investigating potential alternative technological processes to produce a "new generation" of Cs-137 sources. In the meeting, REVISS described the history of their company, which was set up in 1996 by the British and the Russian governments to manufacture sources in Russia and to distribute them worldwide from England.

As the outcome of the meeting, REVISS became aware of the importance of stakeholder input into NRC's on-going actions regarding CsCl and indicated that they will actively participate in the CsCl Workshop, being scheduled for the Fall of 2008, and in addition, they would also serve as key spokespersons in two of five sessions for the Workshop.

In the meeting, the REVISS representatives discussed the following technical issues:

- Manufacturing technology for glass and zeolite sources was developed in the 1980's at Amersham/England, the predecessor to REVISS, on a pilot basis an was sold as 'intellectual property' to Mayak/Russia;
- CsCl sources in glass form were manufactured up activities to 20-50 Ci in the 1980's;
- Typical Cs-137 content in sources is 37% (when new), specific activity is 18-25 Ci/gram;
- Specific activity is highly affected by self-absorption within the source; REVISS estimated that 20-30% of cesium's gamma emission is self-absorbed within the source; self-absorption, which is different in each physical/chemical composition, is an important factor in the design of sources to determine the volume (physical size);
- Recycling of sources, with CsCl in compressed powder form, would be feasible for approximately 50% of the sources in use currently;
- If less dispersible forms of Cs were to be used in the future, the following issues need clarification:
    - Definition of 'less-dispersible' because the relevant standard, ISO-2919, specifies leachability,

- Dispensability/solubility over time because of the build-up of barium daughter isotope during decay and molecular migration in the glass matrix;

– REVISS believes that scaling up to 1,000-2,000 Ci, activity levels suitable for irradiator use, is feasible, based on pilot studies with inactive Cs; commercial availability can be achieved in 2-4 years; but they see the following obstacles, that must be resolved, for source manufactures to start development of alternative forms of cesium:
  - there is much uncertainty in the source manufacturing industry about further product development because there is no market demand and no government requirement at the moment for alternative forms of Cs;
  - The source manufacturers must consider the size of the total market for new sources regarding investment in development and manufacturing because the U.S. market is only a part of their total sales; and
  - Initial startup costs would be large and the end product costs would also be higher than current CsCl sources. Detailed cost estimates were not discussed.

Participants:

NRC Staff:

Robert Lewis	Terrance Reis	Andrew Mauer
John P. Jankovich	Anthony Huffert	Farouk Eltawila

REVISS:

John L. Schrader	David Coppell

Attendees from the Public:

Stephen Foraste/QSA Global, Inc., Burlington, MA
Steven D. Dolley/PLATTS/McGraw-Hill/Inside NRC, Washington, DC

DISTRIBUTION:

FSME r/f	AMauer/DMSSA	JJankovich/DMSSA
MShaffer/NSIR	RLewis/DMSSA	TReis/DMSSA
AHuffert/RES	FEltawila/RES	

ML081790174

OFFICE	SSSB		
NAME	JJankovich **/RA/**		
DATE	6/27/08		

OFFICIAL RECORD COPY