The industry forum and round-table discussion

Addressing new challenges in the biological safety of municipal and commercial drinking water

Wednesday, 22 September, Room 15, 12.00-12.45 and 13:30-14:15

Presented by Dr. Rabinski, President of R&D Innovative Solutions Inc., Canada
Federal-Level incorporated organization
(www.WaterBioSafety.com)
(R&D Innovative Solutions Inc. also exhibits in the exhibition booth 120)

Forum organizer	Dr. Gene (Guenadi) Rabinski **DrRabinski@waterbiosafety.com**
Expected audience	**Municipal and Government water treatment authorities, as well as government water safety agencies**
The Forum's presentation summary	Natural water sources are getting polluted by contaminants which arrive from far-abroad by air and precipitate with rains. Moreover, industrial waste leaking into natural water resources has resulted in the presence of contaminants which were unseen even few years ago, such as, for example, nano-particles. For years biological safety of drinking water has been based on reactive approach where water samples of finished municipal drinking water and bottled water are tested on a periodic basis and such tests require at least one day and sometimes several days. In addition, water samples are, typically, only a few milliliters of water in volume. Since, unlike with dissolved chemical contamination, distribution of biological contamination in source water is highly non-homogeneous, judgments of microbiological safety of large volumes of potable water (often, in millions of gallons) based on the analysis of a very small water sample may often be inaccurate. In the event a biological contaminant is found in such a small water sample, the implication is that citizens might have already drunk unsafe water. A biological contaminant may also be intentionally introduced to drinking water by an unknown entity. In the modern world, presence of biological contaminants in drinking water of all types poses a critical danger for our entire society. Most modern widely-used drinking water treatment processes in both municipal drinking water and bottled water markets, such as flocculation/coagulation/gravity filtration/charcoal/decontamination/disinfection, microfiltration and nano-filtration, UV systems, and RO systems, do not guarantee continuous safety of drinking water. This is primarily due to unexpected variation of in the quality of the source water, micro-cracks in filtration media, etc. In addition, the US EPA, FDA, and Health Canada are increasingly concerned with the impact on public health arising of drinking water treatment chemical by-products. **We believe that modern threats require modern solutions, TBD during the presentation.**
Expected outcomes and outputs	Sharing experience in addressing the most complex water biosafety challenges **Establishing an international group focusing on complex biological safety challenges**