Paper ID: 22494
oral

SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES (D6)
Commercial Point-to-Point Safety & Insurance Issues (2-D2.9)

Author: Mr. David Wade
Atrium Space Insurance Consortium, United Kingdom

Mr. Robin Gubby
Atrium Space Insurance Consortium, Canada
Mr. David Hoffer
Atrium Space Insurance Consortium, Canada

PREPARING FOR THE WORST: THE SPACE INSURANCE MARKET'S REALISTIC DISASTER SCENARIOS

Abstract

Each year approximately thirty insured satellites are launched, and insurance coverage is provided for a further one hundred and fifty in-orbit satellites. The total insured exposure for these satellites is currently in excess of USD 25 billion. Commercial geostationary communications satellites represent the majority of these risks although a larger number of commercial imaging satellites, as well as the second generation communication constellations, will see the exposure in low Earth orbit start to increase in the years ahead.

Regulations covering Lloyd's of London syndicates require that each syndicate reserve funds to cover potential losses and to remain solvent. New regulations under the European Union's Solvency II directive now require each syndicate to develop models for the classes of insurance provided to determine their own solvency capital requirements. Solvency II is expected to come into force in 2016 to ensure improved consumer protection, modernised supervision, deepened EU market integration and increased international competitiveness of EU insurers.

For each class of business, the inputs to the solvency capital requirements is determined not just on previous results, but also needs to reflect the extreme cases where an unusual event or sequence of events exposes the syndicate to its theoretical worst case loss. To assist syndicates covering satellites to reserve funds for such extreme space events a series of realistic disaster scenarios (RDS's) have been developed by the authors which all Lloyd's syndicates insuring space risks must report upon on a quarterly basis. The RDS's are constantly reviewed for their applicability and were recently updated to reflect changes within the space industry to incorporate such factors as consolidation in the supply chain and the greater exploitation of low Earth orbit.

The development of these theoretical RDS's will be overviewed along with the limitations of such scenarios. Changes in the industry that have warranted the recent update of the RDS, and the impact such changes have had will also be outlined. Finally, a look towards future industry developments which may require further amendments to the RDS's will also be covered by the paper.