

## SWF-UNIDIR First Committee Side Event

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# *The Value of TCBMs in Ensuring Space Security*

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# TCBM Background

- Interest in TCBMs for outer space dates to nearly the dawn of the space age, and some measures are included in current international agreements (both legal and voluntary)
  - 1967 OST
  - 1968 Astronaut Rescue Agreement
  - 1972 Liability Convention 1975 Registration Convention
  - 1990-1993 GGE
  - GA Resolutions 60/66 Dec 05, 61/75 Dec 06, 62/43 Dec 07, 63/68 Dec 08
  - 2007 COPUOS Space Debris Guidelines
  - 2009 COPUOS decision on “long-term sustainability” agenda

# GA Resolutions

- The first GA Resolution, 60/66, asked Member States to provide “views on the advisability of further developing” TCBMs
- The subsequent GA Resolutions -- 61/75, 62/43, 63/68 -- invited Member States to submit “concrete proposals” for TCBMs
- All the GA Resolutions were spearheaded by Russia
- Voting on all was by a large majority, with 1 State (the US) voting no, and one State (Israel) abstaining

## Member State Responses

- As per the TCBM resolutions, the Secretary-General provided a compendium of responses in July 2009
  - Following the issuance of a “note verbale” request in Feb 2009
- Responses included were from: Argentina, Columbia, Cuba, the Czech Republic for the EU, Lebanon, Mexico, Nicaragua, Qatar, Syria, Ukraine

# Member State Responses, cont'd

- In Sept 2009, three more States provided responses
  - Canada, China and the Russian Federation
- Substantive comments with commonality
  - All responders supported the need for TCBMs
    - 3 qualifying that TCBMs are not a substitute for legally binding measures
  - A number supported new mechanisms for info exchange on policies, launches, maneuvers, visits and tech demos
  - Several suggested annual reports to the SecGen on activities and/or policies
  - 7 supported a space-based weapons ban
  - 2 suggested a new GGE

# Russian Response

- Building on previous suggestions, Russia provided the most detailed set of possible measures
  - Info exchange on:
    - Outer space policies
    - Orbital parameters of space objects
    - Major research and use programmes
    - Foreseeable dangerous situations
  - Familiarization visits
    - Expert visits to launch sites, C2 centers, infrastructure
    - Launch observations
    - Tech demos

# Russian Response, cont'd

- Notification of:
  - Planned launches
  - Scheduled maneuvers which could result in dangerous proximity to spacecraft of other States
  - Start of uncontrolled descents and predicted Earth impact
  - Guided descents
  - Descent of malfunctioning nuclear power sourced spacecraft
- Consultations:
  - To clarify info provided on research and use
  - On “ambiguous situations,” issues of concern
  - To discuss implementation of agreed TCBMs
- Thematic workshops on research and use, bi- and multi-lateral, including scientists, diplomats, military and technical experts

## Russian Response cont'd

- Many of Russia's proposals echo measures suggested by previous technical expert studies on "best practices" for space safety and "traffic management" including:
  - The American Institute of Aeronautics and Astronautics 2001 report, "Addressing the Challenges of the New Millennium"
  - The International Academy of Astronautics Cosmic Study on Space Traffic Management, 2006
  - The 2008 "Rome Manifesto" and a series of conference by the International Association for the Advancement of Space Safety
  - The on-going effort by major multinational commercial operators to develop a "Data Center" for sharing detailed orbital data and predict/avoid collisions

# Canadian Response

- Canada also has had a long interest in the development of TCBMs, both political and technical
- Canada's GA response, however, focuses on the political, asking States to pledge:
  - To ban the placement of weapons in outer space
  - To prohibit testing and use of weapons on satellites so as to damage and destroy them
  - To prohibit the use of satellites themselves as weapons
- Canada proposes development of above agreement at CD, as a foundation for “appropriate legal protections”
- Canadian “norm setting” approach echoes the EU Code of Conduct on Outer Space Activities, which focuses on behavioral norms

# Emerging Consensus

- There are emerging areas of consensus re TCBMs
  - Most States, including the United States, support TCBMs
    - The nay vote on the GA Resolutions stemmed from linkages to negotiating a PAROS treaty
  - Many States recognize that TCBMs are valuable in their own right for reducing tensions and preventing conflicts
  - Many States also recognize TCBMs could lay a foundation for a legally binding treaty

# Emerging Consensus

- There is widespread agreement in the technical community, and growing awareness in the political community, of the types of technical measures required to improve transparency
  - Especially re space observation, data exchange regarding orbital parameters and maneuvers
- Some consensus on need for voluntary political norm-setting
  - Canadian proposal
  - EU Code of Conduct for Outer Space Activities gaining support

# Obstacles Remain

- Differences among States in linkage between TCBMs and negotiation of the Russian-Chinese PPWT at CD
- Questions of venue for work on TCBMs
  - COPUOS long-term sustainability agenda?
  - CD?
    - Continued political resistance to CD-COPUOS cooperation
  - GGE?
  - Other, such as creation of a International Civil Aviation Authority for space?

## Obstacles Remain, cont'd

- The “how” of technical data exchange is extremely complicated
  - Different data sets, models for predicting orbital paths, definitions of close approach etc.
  - Concerns about legal liability for reporting on potential collisions
- Military secrecy in major space-faring States remains a problem for data exchange and other transparency measures
  - Some nations do not release any data at all about their military space programs

## Obstacles Remain, cont'd

### Question of voluntary measures vs. legal measures

- TCBMs can be incorporated into a legally binding instrument, contrary to popular belief
  - i.e. Law of the Sea Treaty
- Lack of knowledge, buy-in from non-spacefaring States could create political obstacles
  - Potential for false linking to nuclear and/or other agendas and/or conflicts
  - Fears of costs preventing development

# Suggestions for the Way Ahead

- An in-depth study compiling, comparing and contrasting technical measures proposed
  - Including assessment of feasibility/practicability
  - Recommendations for step-by-step implementation
- State consideration of “buy in” to industry Data Center
  - States could improve their own space situational awareness
- Increased consultations on norm-setting as first step
  - Can/should Canadian and EU approaches be reconciled?
  - Ad hoc mechanism for meetings between CD and COPUOS experts?
  - Creation of an informal experts group to inform both bodies (space agencies, militaries, MoFAs, industrialists, academics)?

## Way Ahead, cont'd

- Increased efforts by spacefaring States to inform/include non-spacefaring/emerging space States
  - Necessary to educate regarding the importance of space security
  - Consideration must be given to helping emerging spacefaring States to comply with any future regime
- Most importantly, political will!

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