Decisions by the criticality working group 11-12 December 2017
During the previous WG in July 2017, the WG agreed the following new text proposed by UK.

676.2 Where the number of possible parameters is very large the probability of them all achieving their most reactive value during normal or accident conditions of transport may be vanishingly small. In such cases it may not be necessary for a criticality safety assessment to assess all possible permutations provided the Competent Authority is satisfied that criticality safety has been adequately demonstrated.

Is it possible to introduce this new paragraph inside the next version of SSG-26?
Discussion about national assessment of fissile packages - Find a way to exchange about national practices

There is a general agreement that sharing national practices might be interesting.

This is, for example, the case for the definition of the confinement system and the interpretation of para 681, the use of the information inside the transport document from para 546.

A questionnaire seems to be a correct manner to do that. Such an informal questionnaire could be discussed during the next meeting.
Discussion about the IAEA Technical Basis Document (TecBasDoc) Draft 6 June 2017

There is a general agreement that a correct and complete Technical Basis Document is essential to provide a criticality safety basis for the Regulations, to understand the Regulations and to support revisions (including deletions and additions) when needed.

This is, for example, the case for para 683 (requirement for packages to be transported by air), para 674, the introduction of the -40°C requirement to criticality safety.

Moreover, the draft of the Technical Basis Document of June 2017 does not take into account all information about Criticality Safety Index (CSI) and Transport Index (TI) and the minimum external dimension of 10 cm requirements/recommendation in all editions of the Regulations.
Discussion about the IAEA Technical Basis Document (TecBasDoc) Draft 6 June 2017

The working group has several questions about the Technical Basis Document:

• What is the purpose of this document?
• What is the connection between the SSG-26 and the Technical Basis Document?
• What is the future plan for the Technical Basis Document?
• How to contribute to the Technical Basis Document?
Paras 2012:417(f) and 2012:606 for subcritical material and exception from FISSILE

In the 2009 edition of the Regulation (and the previous ones), washed 30” cylinder was classified as fissile excepted as per the limit of 15 g of fissile nuclides per package.

In the 2012 edition of the Regulation, this exception was removed. The mass of fissile nuclides inside some washed 30” cylinders could be higher than the 3.5 g limit introduced in this edition. The consequence is that these cylinders can’t be classified as fissile excepted as per para 417 c) and should be transported under exclusive use as per para 417 e). However, shipment by sea under exclusive use is difficult and costly.

In the 2012 regulation, there is a new possibility to evaluate an unlimited quantity of such empty packages as a subcritical material according to para. 606. Is it possible to apply para. 606 for this purpose?
CSI limits for seagoing vessels

Since the 1960/1970, sea transport has evolved. The seagoing vessels are bigger but the number of the holds and defined deck areas have not increased accordingly. So, the number of FISSILE package loaded inside a seagoing vessel is limited.

<table>
<thead>
<tr>
<th>Type of freight container or conveyance</th>
<th>Limit on sum of CSIs in a freight container or aboard a conveyance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not under exclusive use</td>
</tr>
<tr>
<td>(ii) Total vessel:</td>
<td></td>
</tr>
<tr>
<td>Packages, overpacks, small freight containers</td>
<td>200&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Large freight containers</td>
<td>No limit&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
CSI limits for seagoing vessels

IMO asked about the Technical Basis for the different limits between large freight containers and packages, in particular for the total vessel.

Inside the seagoing vessel, there is a requirement for segregation of FISSLIE packages. But, what can happen in case of accident? Is it possible to lose separation of FISSLIE packages during an accident or due to misloading? How the loading/unloading of vessels are performed?

During a next meeting, WNTI might make a presentation about the loading/unloading and operations of container ships.

The working group could also perform an investigation about the Technical Basis of the actual limits of CSI for seagoing vessels.
There is a difference of exclusive use for freight container for radiation protection (para 221) and for criticality safety as per para 570 e).

The 45 g limit of para 570 e) applies to the amount of fissile nuclides in a conveyance which means, for a seagoing vessel, a hold or a defined deck area. For the Technical Basis point of view, could this limit be applied to a large freight container instead of the whole conveyance?

This issue is linked with the issue of CSI limits for seagoing vessels. This issue exists also for aircraft.
Thank you for your attention!