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**COMMITTEE OF EXPERTS ON THE TRANSPORT
OF DANGEROUS GOODS**

(Twenty-first session,
4-13 December 2000,
agenda item 5 (a))

PROGRAMME OF WORK

Programme of work for the 2001/2002 biennium and related proposals

Development of a new harmonized UN Pressure vessel test

Transmitted by the experts from Japan and the Netherlands

Background

In its 19th session, the Committee decided to include the development of a new harmonized UN Pressure Vessel Test (PVT) in the work programme for the 1997/1998 biennium. The experts from Japan and The Netherlands transmitted a document to the 20th session of the Committee (ST/SG/AC.10/1998/37), reporting the progress during the 1997/1998 biennium and proposing to proceed with the work during the 1999/2000 biennium.

In April 2000, the working group agreed that the results of the work should be communicated to the Committee by a joint Japanese/Netherlands document, including a proposal to continue the work during the 2000/2001 biennium.

Work during 1999/2000

The working group on the harmonized PVT, met three times during the 1999/2000 biennium. The first meeting was held in March 1999, the second in December 1999 and the third in April 2000. Another meeting is scheduled for November 2000. Representatives from authorities and industry from France, Germany, Japan, the Netherlands, Sweden, the United Kingdom and the United States of America participated. In the time between the meetings also informal discussions were held.

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As described in document ST/SG/AC.10/1998/37, the original intention was to replace the three existing tests, i.e. the Dutch PVT (UN E.2), the US PVT (UN E.3) and the Japanese PVT (not in the UN Manual), by one closed PVT. Two tests were candidate for further development:

- the Modified Thermal Explosion Vessel Test (formerly UN test E.5),
- the Modified Closed Pressure Vessel Test (proposed by Japan).

During the 1999/2000 meetings, it was concluded that the MCPVT probably was the best candidate, although from certain points of view the MCPVT had some drawbacks as well. It was therefore decided to proceed with the development of a new PVT on two different tracks:

1. To further develop the MCPVT with the aim to introduce the test as a screening test, not only for test series E, but possibly also for other test series, as preliminary test results indicated that this could be possible. Further development of the MCPVT also would be a very useful option in view of the future globally harmonized system.
2. To study the possibility of combining the current PVTs into one harmonized pressure vessel test, i.e. an open pressure vessel test,

Historically seen, the first track even has two different origins. In Japan, the development of the MCPVT started in view of the possible use as a heating under confinement test, while in the United Kingdom it started as a possible screening test for class 1 properties. The work carried out during the 1999/2000 biennium concentrated simultaneously on both tracks.

Originally, the following plan of work was adopted for the 1999/2000 biennium.

1. The test procedure, conditions and criteria for the MCPVT will be defined.
2. A round-robin programme with the MCPVT will be carried out. Several laboratories in Japan, the Netherlands and the United Kingdom already indicated that they will participate. Other laboratories are invited to participate as well.
3. In 2000, a proposal to include the MCPVT as a screening procedure in the UN Manual will be submitted to the Committee.
4. It will be studied whether the MCPVT can replace one or more of the series E tests. If so, test criteria will be developed.
5. The possibility to combine the existing PVTs into one harmonized PVT will be studied. Comparative tests will be conducted.

On the basis of extensive discussions and preliminary test results, the test procedure and the conditions for the MCPVT could be provisionally adopted. Agreement was also reached with respect to a series of substances to be tested. Unfortunately, it appeared that a number of participants was not able to carry out the agreed series of tests in due time. Consequently, the goals specified under 3 and 4 could not be reached.

As far as item 5 is concerned, extensive series of tests were carried out in order to study the differences between the current tests (USPVT and DPVT). From the test results, it was concluded that the different geometry of the vessels does not influence the test results, which a possible harmonisation of the tests one step closer. Currently, the influence of the other main differences (sample cup, heating rate) is being studied.

Although the work during the 1999/2000 could not be carried out according to the intended plan of work, the participants are still convinced of the need to harmonize the current PVTs and of the important role the MCPVT can play in a harmonized system.

Plan of work for the 2001/2002 biennium

1. The round-robin programme with the MCPVT will be continued. Several laboratories in France, Japan, the Netherlands and the United Kingdom already participate. Other laboratories are invited to participate as well.
2. If the round-robin programme can be finished in due time, in 2002 a proposal to include the MCPVT as a screening procedure in the UN Manual will be submitted to the Committee.
3. It will be studied whether the MCPVT can replace one or more of the series E tests. If so, test criteria will be developed.
4. The study into the possibility to combine the existing PVTs into one harmonized PVT will be continued. Depending on the outcome, a proposal will be submitted to the Committee in 2002.

Proposal

The experts from Japan and the Netherlands propose to include the development of the Modified Closed Pressure Vessel Test and the harmonisation of the existing open Pressure Vessel Tests in the working programme for the 2001/2002 biennium.
