

Transmitted by the expert from Japan

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(38th GRSP, 6-9 December 2005,

agenda item B.1.8.)



Japan's Comment on GRSP/2005/5 ECE-R.16

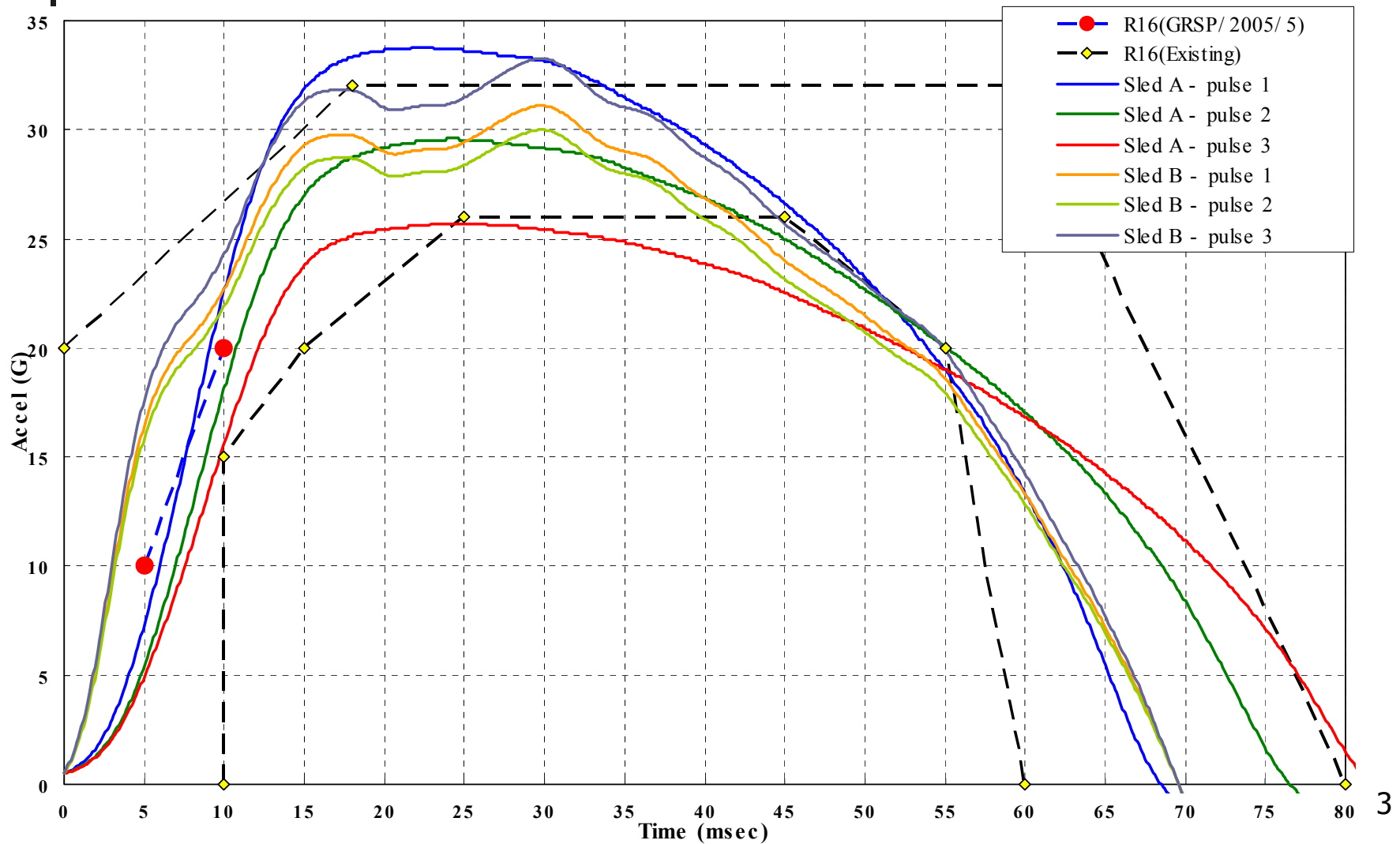


Introduction

- At the 37th GRSP, we verified if the content proposed in GRSP/2005/5 as below is feasible in HyGe test facilities commonly used in Japan and reported the result:
 - . Acceleration curve within the corridor
 - . Initial slope of acceleration
 - . 5ms-10G & 10ms-20G
 - . Sled total velocity change
 - : $\Delta V = 51 \pm 2/0$ km/h
 - . Sled acceleration distance
 - : $50 \pm 1/0$ km/h = 40 ± 5 cm
- As we reported the result of verification in Informal Doc. GRSP-37-10, we could not produce a sled pulse complying with all requirements simultaneously.
- We decided to conduct a verification test again to see if “Initial slope of acceleration: 5ms-10G, 10ms-20G” can be achieved with the condition excepting “Sled acceleration distance”.

R.16 Test Results

Sled Acceleration (GRSP-37-10)





Verification test

- This verification test was conducted to satisfy the following conditions first,
 - . Acceleration curve within the corridor
 - . Sled total velocity change

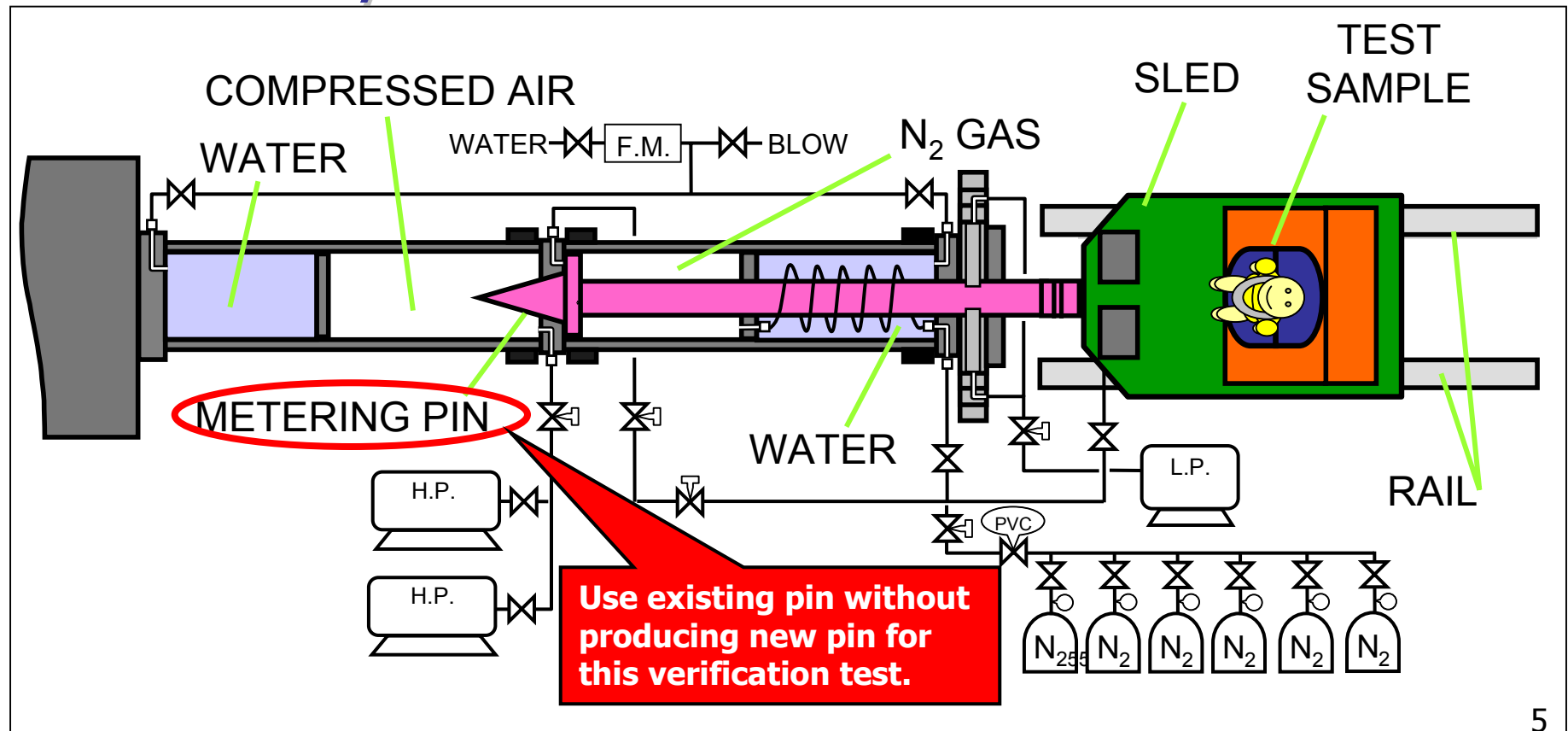
$$:\Delta V = 51 \pm 2/0 \text{ km/h}$$

and then we reviewed whether it is possible to satisfy the initial slope of the sled acceleration (5ms-10G, 10ms-20G) or not.

- The tests were conducted with the pins currently possessed by each facility on this occasion.

Acceleration Sleds Used in Japan

→ Pneumatic sled test devices (HYGE) are mostly used





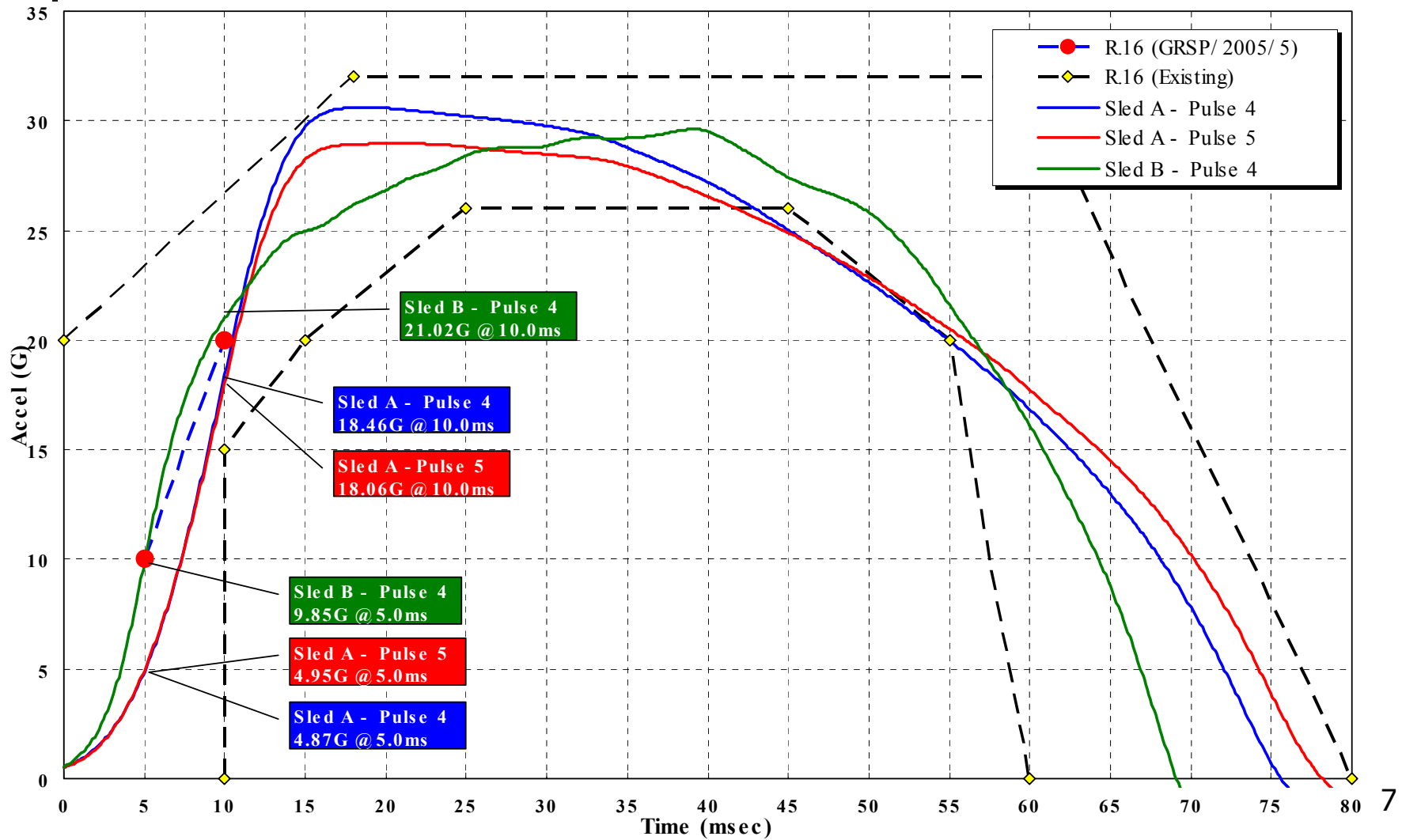
Results of Verification

- The test was conducted using existing test facilities in Japan (HyGe). Unfortunately the test results did not fulfill all the proposed requirements.
- Especially as the 12inch HyGe Sled has heavy sled mass, the 5ms-10G and 10ms-20G requirements were very hard to be met for this size sled.

On the other hand, the specified ranges of accelerate corridor and speed will be hard to satisfy when trying to satisfy the initial slope of sled acceleration.

R.16 Test Results

Sled Acceleration (New)





Conclusion

- Proposed conditions were achieved in one test with Sled B of smaller sled mass (9 inch, Sled mass = 700 kg), but could not be achieved in the other tests with Sled A of larger sled mass (12 inch, Sled mass = 1,100 kg).
- We would like to make tuned metering pin for current proposal and conduct verification test with 12 inch HyGe sled again, and then we will review the proposal by the 39th GRSP session.