GRSP Ad hoc Group on R44 COP

34th GRSP - 8 to 12 December 2003
The Ad hoc group

- Germany
- UK
- Sweden
- Spain
- Clepa
- France

Meeting the 16 & 17 October in Paris

Working documents:
- GRSP/2001/13
- GRSP/2003/13
Agreed principles

- 3 phases
  - Type approval
  - Qualification of production
  - Control Of Production
- Statistical Control based on:
  - Mean value
  - Standard deviation
Clepa shows that 10 samples don’t bring a lot more confidence than 5

Effect of Sample Size on Accuracy

Using: \[ n = \left( \frac{z \times s}{E} \right)^2 \]
Where: \( E = \text{Error} \), \( S = \frac{20}{550} \) and \( z = 1.96 \) for 95% confidence level.
Clepa shows that the repartition of the CRS population is skewed and not normal.
Qualification of the production

- With for maximum horizontal head excursion
  - $M + 1 \times \text{SD} \leq \text{Limit}$
  - no value $\geq 1.05 \times \text{Limit}$

  on 5 samples

  we are confident in the improvement of quality of the production

- Application of the first criteria to the 3 ms clipped resultant chest acceleration for information only
Conformity Of Production

- By batch control
  - Normal: 2 (+2) by batch between 500 and 5000 units => 0.04% (0.08%) (x 4)
  - Strengthened: 4 (+4) by batch between 500 and 5000 units => 0.08% (0.16%) (x 5)

- By continuous control
  - Normal: 0.02% of the production (x 40)
  - Strengthened: 0.05% of the production (x 30)
Conclusions

- Some add on:
  - Control and recording of marking
  - Application to Universal, Semi Universal and Restricted CRS
  - Needs that approval Authorities must verify the conformity of production procedures of manufacturers during periodic visits