I would like to describe some of the other influences on web tension.

PAPER ELASTICITY paper should have elasticity which allows the paper to stretch, this stretch can vary between maintained stretch and rebound stretch. Weak papers without stretch can be a big problem.

MOISTURE CONTENT moisture content is very important and can very much affect paper elasticity.

ADDED MOISTURE moisture added through dampening units and silicone applicators. Large additions of water can cause elongation of the paper, especially non-coated papers. This can result in low tension after the units or chills.

MOISTURE REMOVED high dryer temperatures can remove moisture and leave paper dry and brittle.

SLIPPAGE THROUGH DRIER ROLLERS on very high speed presses paper must not be allowed to slip through folder nips, chills and infeeds. Slippage can cause paper surge and erratic temperature.

INFLUENCE OF 1 WEB ON ANOTHER on multi-web presses, webs are affected by each other especially when the webs come together in the folder.

CONCLUSION A well designed press should with accurate surface speeds and with designed tension control should require a minimum of alteration between different papers. Tensions should be the lowest possible to maintain paper and colour register. This of course will vary with paper weight and type.

The type of equipment and arrangement I have described is typical of very high speed modern presses, but can vary from press to press, I hope however that I have been able to give some general guidance.