Pointer size bits information

Occasionally when testing or monitoring a SONET signal your test set may come up with an indication in Summary: Pointer size bits 10. This tech tip addresses what causes this indication and whether this is a service affecting condition.

The pointer size bits are bits 5 & 6 of the H1 byte in the line overhead. As per GR-253 (pg 3-63, para. 3.5.1) these bits are undefined and should be set to 00. The document refers you to section 3.2 which states in para 03-2 "A SONET NE should send all zeroes pattern (before scrambling) in all undefined bits and bytes.

While the pointer size bits are undefined (00) in SONET they are defined and are to be set to 10 in SDH. So when your test set tells you in summary: Pointer size 10, it is telling you that these bits are set incorrectly for a SONET signal but instead they are indicating an SDH signal. These bits are hard coded by the particular equipment manufacturer.

As to whether this condition is service affecting: It should not be. GR-253 states on pg 3-2, para R3-1 " A SONET NE shall have the capability to ignore the values contained in all undefined and unused bits and bytes (except for the Bip Interleaved Parity BIP-8 calculations) to prevent misinterpretation of the received patterns.

In conclusion: If testing on a SONET circuit and your test set shows "Pointer size 10" in the summary results, then your network equipment is setting the H1 bytes 5&6 incorrectly to 10 as they should be 00 for a SONET signal.