14. Joint Deflections at Fittings.

a. Requirements.

1) Deflecting joints at fittings is not permitted. Lay out the alignment to eliminate any deflecting joints at fittings.

2) Exceptions to the prohibition on deflecting joints at fittings may be requested for DIP only and after all other reasonable designs have been considered. There is no guarantee that WSSC will give approval for deflecting joints at fittings. Bends may be designed with joint deflections, if thrust restraint design calculations for the bend for additional joint deflections are submitted in accordance with Part Three, Section 27 (Thrust Restraint Design for Buried piping) and the joint deflection does not exceed WSSC allowable joint deflections, see Part One, Section 12 (Allowable Joint Deflections). See the following example for deflecting joints at fittings on DIP.

Example: <u>Deflecting Joints at Fittings on DIP</u>.

Deflecting joints on a standard manufactured 16"- 45° (1/8) bend could make the total bend deflection equal to fifty (50°) degrees.

Using WSSC allowable joint deflections from Part One, Section 11 (Allowable Joint Deflections), for mechanical joint, the allowable joint deflection is 2°24' on each bell joint of the fitting.

Standard Details for blocking are based on forty-five (45°), not fifty (50°) degrees.

If the thrust restraint design calculations for the bend for additional joint deflections are submitted in accordance with Part Three, Section 27 (Thrust Restraint Design for Buried piping) and the joint deflection does not exceed WSSC allowable joint deflections, see Part One, Section 12 (Allowable Joint Deflections), then the exception may be approved.

3) Typically, try to avoid deflecting joints at fittings to allow for any unforeseen adjustments to the alignment during construction.