10. Calculations for friction loads, face loads, interjacks, jacking pressures etc. for the complete system, including thrust walls, which demonstrate how the pipes will be installed with no damage.

11. Calculations giving predicted settlements along and adjacent to route of pipeline.

1.1.5 Quality Control

A. Prior to dispatch of any product and/or material from source the Contractor shall notify the Engineer in writing in sufficient time to allow the Engineer the opportunity to inspect and test the product and/or Material prior to delivery in accordance with Section 01400 of the specification.

B. Products and materials shall be from a manufacturer/supplier that operates a quality system which is registered to ISO 9000 series or approved equal.

C. To allow the Engineer to inspect the Works the contractor shall give the Engineer a minimum of 24 hours notice of carrying out the following activities on site.

1. Geotechnical investigation.
2. Construction of thrust and reception pits/shafts.
3. Undertaking each stage of NDM work.

D. The Contractor shall ensure instrumentation is calibrated for each drive. He shall provide a valid calibration certificate and ensure that the certificate is available to the Engineer upon request.

E. The designer shall be an approved qualified Engineer experienced in the design of this work or similar.

F. The installer shall be an approved company with specialised personnel in performing the work with minimum 5 years' experience in the application of non-disruptive method of pipeline construction of projects of similar size.

1. All operators in the employment of the Contractor and his sub-contractor shall be skilled and have a minimum 12 months experience in their respective trades and in particular in operating a machine similar to the machine used by the Contractor. Operators shall be subject to a probationary period of three months.
2. Curriculum Vitae of key personnel and operators shall be