(b) The Manufacturer of parts of a vessel to be completed in the field by some other party stamps these parts in accordance with Code rules and supplies the Form A-2 Manufacturer's Partial Data Report to the other party. The other party, who must hold a valid U2 Certificate of Authorization, makes the final assembly, performs the required NDE, performs the final pressure test, completes the Form A-1 or Form A-1P Manufacturer's Data Report, and stamps the vessel.

(c) The field portion of the work is completed by a holder of a valid U2 Certificate of Authorization other than the vessel Manufacturer. The Certificate holder performing the field work is required to supply a Form A-2 Manufacturer's Partial Data Report covering the portion of the work completed by his organization (including data on the pressure test if conducted by the Certificate holder performing the field work) to the Manufacturer responsible for the Code vessel. The vessel Manufacturer applies his Certification Mark with U2 Designator in the presence of a representative from his Inspection Agency and completes the Form A-1 or Form A-1P Manufacturer's Data Report with his Inspector.

1.2.6.2 In all three alternatives, the party completing and signing the Form A-1 or Form A-1P Manufacturer's Data Report assumes full Code responsibility for the vessel. In all three cases, each Manufacturer's Quality Control System shall describe the controls to assure compliance by each Certificate holder.

1.2.7 PRESSURE RELIEF DEVICES

The scope of this Division includes provisions for pressure relief devices necessary to satisfy the requirements of Part 9.

1.3 STANDARDS REFERENCED BY THIS DIVISION

(a) Throughout this Division, references are made to various standards, such as ASME standards, which describe parts or fittings or which establish dimensional limits for pressure vessel parts. These standards, with the year of the acceptable edition, are listed in Table 1.1.

(b) Rules for the use of these standards are stated elsewhere in this Division.

1.4 UNITS OF MEASUREMENT

(a) Either U.S. Customary, SI, or any local customary units may be used to demonstrate compliance with requirements of this edition related to materials, fabrication, examination, inspection, testing, certification, and overpressure protection.

(b) A single system of units shall be used for all aspects of design except where otherwise permitted by this Division. When components are manufactured at different locations where local customary units are different than those used for the general design, the local units may be used for the design and documentation of that component within the limitations given in (c). Similarly, for proprietary components or those uniquely associated with a system of units different than that used for the general design, the alternate units may be used for the design and documentation of that component within the limitations given in (c).

(c) For any single equation, all variables shall be expressed in a single system of units. Calculations using any material data published in this Division or Section II, Part D (e.g., allowable stresses, physical properties, external pressure design factor B) shall be carried out in one of the standard units given in Table 1.2. When separate equations are provided for U.S. Customary and SI units, those equations shall be executed using variables in the units associated with the specific equation. Data expressed in other units shall be converted to U.S. Customary or SI units for use in these equations. The result obtained from execution of these equations or any other calculations carried out in either U.S. Customary or SI units may be converted to other units.

(d) Production, measurement and test equipment, drawings, welding procedure specifications, welding procedure and performance qualifications, and other fabrication documents may be in U.S. Customary, SI or local customary units in accordance with the fabricator's practice. When values shown in calculations and analysis, fabrication documents or measurement and test equipment are in different units, any conversions necessary for verification of Code compliance and to ensure that dimensional consistency is maintained shall be in accordance with the following:

(1) Conversion factors shall be accurate to at least four significant figures

(2) The results of conversions of units shall be expressed to a minimum of three significant figures

(3) Conversion of units, using the precision specified above shall be performed to assure that dimensional consistency is maintained. Conversion factors between U.S. Customary and SI units may be found in Annex 1-C. Whenever local customary units are used the Manufacturer shall provide the source of the conversion factors which shall be subject to verification and acceptance by the Authorized Inspector or Certified Individual.

(f) Dimensions shown in the text, tables and figures, whether given as a decimal or a fraction, may be taken as a decimal or a fraction and do not imply any manufacturing precision or tolerance on the dimension.
(h) Loads and Load Cases
   (1) The user shall specify all expected loads and load case combinations as listed in 4.1.5.3.
   (2) These loading data may be established by:
      (a) Calculation
      (b) Experimental methods
      (c) Actual experience measurement from similar units
      (d) Computer analysis
      (e) Published data
   (l) Overpressure Protection
      (1) The user shall be responsible for the design, construction and installation of the overpressure protection system
          unless it is delegated to the Manufacturer. This system shall meet the requirements of Part 9.
      (2) The type of over pressure protection intended for the vessel shall be documented in the User's Design Specifica-
          tion as follows (see 9.1):
          (a) Type of overpressure protection system (e.g., type of pressure relief valve, rupture disc, etc.)
          (b) System design (see 9.7)
      (3) The user shall state if jurisdictional acceptance is required prior to operation of the vessel.

2.2.3.2 Additional Requirements. The user shall state what additional requirements are appropriate for the inten-
   ded vessel service such as:
   (a) Additional requirements such as non-destructive examination, restricted chemistry, or heat treatments
   (b) Type of weld joints and the extent of required nondestructive examinations
   (c) Nonmandatory or optional provisions of this Division that are considered to be mandatory for the subject vessel
   (d) Any special requirements for marking and their location (see 4.1 and Annex 2-F)
   (e) Requirements for seals and/or bolting for closures and covers
   (f) Additional requirements relating to erection loadings
   (g) Any agreements which resolve the problems of operation and maintenance control unique to the particular pres-
       sure vessel. See also 2.2.3.1(f)(4)(c).
   (h) Specific additional requirements relating to pressure testing such as:
      (1) Fluid properties and test temperature limits
      (2) Position of vessel and support/foundation adequacy if field hydrostatic testing is required
      (3) Location: Manufacturer's facility or on-site
      (4) Cleaning and drying
      (5) Selection of pressure test method, see 8.1.1
      (6) Application of paints, coatings and linings, see 8.1.2(e)

2.3 MANUFACTURER'S RESPONSIBILITIES

2.3.1 CODE COMPLIANCE
   2.3.1.1 The Manufacturer is responsible for the structural and pressure,s
   of, as established by conformance with the requirements of the rules of this
   Design Specification.
   2.3.1.2 The Manufacturer completing any vessel or part marked with the Certification Mark with the U2 Designator
   and class or the Certification Mark with the PRT Designator in accordance with this Division has the responsibility to
   comply with all the applicable requirements of this Division and, through proper certification, to ensure that any work
   by others also complies with the requirements of this Division. The Manufacturer shall certify compliance with these
   requirements by completing a Manufacturer's Data Report (see 2.3.4).

2.3.1.3 A single Manufacturer's Design Report may be completed and certified to document more than one pressure
   vessel that is to be located in a single, specific jurisdiction, provided that the details of design and construction demonstrate
   that the environmental requirements and jurisdictional regulatory authority applied for each installation location are
   the same or more conservative than required.

2.3.2 MATERIALS SELECTION
   2.3.2.1 When generic material types (i.e., carbon steel or Type 304 Stainless Steel) are specified, the Manufacturer
   shall select the appropriate material from Part 3, considering information provided by the user per 2.2.3.1(g)(3).
   2.3.2.2 Any material substitutions by the Manufacturer are subject to approval of the user.