NONMANDATORY APPENDIX UIG-A

UIG-A-1: General

I. The purpose of this Appendix is to serve as a quick reference guide that can be used in conjunction with Part UIG to assist Manufacturers and summarize the requirements to manufacture Certified Material and/or graphite pressure vessels.

UIG-A-2: Material Qualification

I. Prepare a Certified Material Specification (CMS) form for each grade of Certified Material.
   a. See UIG-77 for required information for the CMS form.
   b. See UIG-3 for raw material definitions and limitations.

II. Prepare a Certified Cement Specification (CCS) form for each cement material to be used in Certified Material Manufacturing.
    a. See UIG-78 for required information for the CCS form.

III. Prepare Certified Material Qualification (CMQ) form(s) for each Certified Material. See Form CMQ.
    a. See UIG-77 for the essential variables and other requirements for the CMQ form.
    b. See Table UIG-6-1 for Certified Material minimum strength requirements.
    c. See Mandatory Appendix 36 for flexural testing standard.
    d. See Mandatory Appendix 37 for tensile testing standard.
       i. See Figures UIG-76-1 through UIG-76-6 for test specimen requirements.
    e. See Mandatory Appendix 38 for compressive testing standard.
    f. See Mandatory Appendix 39 for coefficient of permeability testing standard.
    g. See Mandatory Appendix 40 for coefficient of thermal expansion testing standard.
    h. All tests to be performed for Certified Material Qualification require 10 test specimens each.

IV. Prepare a Certified Cement Qualification (CCQ) form for Certified Cement Material. See Form CCQ.
    a. See UIG-78 for the essential variables and other requirements for the CCQ form.
    b. See Mandatory Appendix 37 for tensile testing standard.
       i. See Figure UIG-76-2 for test specimen requirements
    c. All tests to be performed for Certified Cement Qualification require 10 test specimens each.

UIG-A-3: Cementing Procedure and Cementing Technician Qualification

I. Prepare a Cementing Procedure Specification (CPS) for each Certified Cementing Procedure.
   a. See UIG-79 for required information for the CPS form.

II. Prepare a Cementing Procedure Qualification (CPQ) form for each Certified Cementing Procedure. See Form CPQ.
    a. See UIG-79 for essential variables and other requirements for the CPQ form.
    b. See Mandatory Appendix 37 for tensile testing standard.
       i. See Figures UIG-76-2, UIG-76-3, and UIG-76-4 for required test specimens.
    c. All tests to be performed for Cementing Procedure Qualification require 10 test specimens each.
III. Prepare a Cementing Technician Qualification (CTQ) form for each individual that will be performing Certified Cementing Procedures. See Form CTQ.
   a. See UIG-80 for Cementing Technician Qualification requirements.
   b. See Mandatory Appendix 37 for tensile testing standard.
      i. See Figure UIG-76-2 for test specimen requirements.
   c. All tests to be performed for Cementing Technician Qualification require 4 test specimens each.
   d. Upon Qualification, each Cementing Technician shall be assigned an identifying number, letter, or symbol by the Manufacturer, which shall be used to identify his work.

UIG-A-4: Lot Testing

I. For each lot (see UIG-3 for definition) of Certified Material, testing shall be performed to ensure that the recorded material properties remain consistent.
   a. See UIG-84 for Certified Material lot testing requirements.
   b. See Table UIG-84-1 for Certified Materials testing frequency requirements.
   c. See Table UIG-6-1 for the minimum values permitted for any single test specimen.
   d. All tests to be performed for Certified Material Lot testing require 5 test specimens each.

II. Prepare a Certified Material Test Report (CMTR) for each Certified Material that is Lot tested.
   a. See UIG-6(b) for information required on all CMTR Forms.

UIG-A-5: Documentation

I. Specification Forms shall be created by the Manufacturer and shall contain, at a minimum, the information required per Part UIG.
II. Qualification Forms are provided in Part UIG.
III. Certified Material Test Reports (CMTR) shall be created by the manufacturer and shall contain, at a minimum, the information required per Part UIG.
IV. The Manufacturer shall maintain records of all Certified Material documentation as shown in UIG-121.