

## WRITING SPECIFICATIONS

Specifications fill several needs:

- Owner or Purchaser gets a chance to review proposed work or equipment purchase.
- Documentation needed for bidding purposes.
- Documentation to refer to when evaluating bid.
  - Technical specs met?
  - Contractual requirements met?
- Document that Contract is built around.
- Specification to be met during manufacture, delivery, and installation of equipment.

Typical Outline of Equipment Specification/Contract.

- \* Letters of Understanding (in executed contract)
- \* Contract Addendum (with executed contract)
- Bidding Instructions
- General Conditions
- General Requirements (Standards, Typical Requirements)
- Specific Requirements (site/application-specific)
- Data to be provided with proposal
- Appendices - drawings & other information

## I. General Conditions

- A. Included Documents
- B. Definitions
- C. Intent of Contract Documents
- D. Ownership of Documents

## II. Preliminary Matters

- A. Time to Commence Work
- B. Time starts to run
- C. Execution of Agreement

## III. Surety Bonds

## IV. Insurance

## V. General Rules of the Contract

- A. Work by Owner and Others
- B. Legal restrictions, permits, and regulations
- C. Remedies not exclusive
- D. Prompt written notice of claim required
- E. Patents and Royalties
- F. Arbitration

## VI. Contractor's Responsibilities and Rights

- A. Supervision
- B. Duty to Examine and compare contract documents
- C. Subcontractors, suppliers, manufacturers
- D. Labor, Equipment, Materials, Workmanship
- E. Substitute Equipment or Materials
- F. Submittals
- G. Contractor's right to stop work or terminate contract
- H. Indemnification

## VII. Owner's Responsibilities and Rights

- A. Communications with Contractor
- B. Owner's right to correct or complete the work
- C. Owner's right to suspend work
- D. Owner's right to terminate contract
- E. Use of completed work

## VIII. Engineer's Status During Performance of the Work

- A. Owner's consultant
- B. Role as Interpreter
- C. Interpretations by Engineer
- D. Visits to site
- E. Authority to disapprove or reject defective work
- F. Limitations of Engineer's responsibilities.

## IX. Additional, omitted, or changed work

- A. Changes in the work
- B. Changes in the Contract price.
- C. Changes to the Contract time.

## X. Rules Governing Acceptance of Work

- A. Warranty and Guarantee
- B. Access to the Work
- C. Tests and inspections
- D. Defective Work
- E. Removal and replacement of defective work
- F. Correction or repair of defective work
- G. Acceptance of defective work
- H. Correction of defective work during guarantee period

## XI. Payments and Completion

- A. Schedule of Values
- B. Payments
- C. Final inspection and acceptance
- D. Final payment
- E. Payments withheld
- F. Contractor's warranty or title
- G. Waiver of Claims
- H. Contractor's continuing obligation
- I. Interest ("legal rate in force")

## GENERAL REQUIREMENTS

### Summary of Work

- A. Description of Project
- B. Work under this contract
- C. Other Contracts

### Administrative Matters

- A. Initial Coordination Conference
- B. Work Progress Schedule
- C. Work Progress Reports
- D. Compliance Submittals
- E. Transmittal and Review of Compliance Submittals
- F. Information to Manufacturer's District Office
- G. Delivery Schedule

### Shipment of Equipment

- A. Preparation
- B. Marketing
- C. Bills of Material
- D. Delivery
- E. Damage

### Receipt and Unloading of Equipment and Materials

### Storage of Equipment and Materials

### Manufacturer's Field Services

- A. Contractor's Field Representative

Exhibits (Reference to drawings or other attached or enclosed materials)

## GENERAL REQUIREMENTS

(Technical part of equipment spec)

### General

- A. Description
- B. Quality Assurance (Applicable Standards to be met)
- C. Delivery
- D. Job Conditions

### Equipment and Materials

- A. Materials
- B. Base
- C. Tank Assembly
- D. Core and Coil Assembly
- E. Insulating Oil
- F. Oil Preservation System
- G. Dial Type Indicators
- H. Conduit and Wiring
- I. Finish

### Field Services

- A. General
- B. Tools and Test Equipment
- C. Field Services Work
- D. Statement of Readiness

## SPECIFIC REQUIREMENTS APPLICABLE TO TRANSFORMER

### General

- A. Description
- B. Application
- C. Quality Assurance (Factory Tests)

### Equipment and Materials

- A. Ratings
- B. Cooling Equipment and Controls
- C. Load Tap Changer
- D. Bushings
- E. Surge Arresters
- F. Current Transformers
- G. Transformer Control Cabinet
- H. Other Construction Details

## DATA TO BE SUBMITTED WITH PROPOSAL

Dimensions, weight, shipping requirements, guaranteed specs, etc.