PART 1 GENERAL

1.1 INTENT

.1 Provide demonstration and instruction sessions to familiarize the Owners operation and maintenance personnel with electrical systems and their operation and maintenance.

1.2 RELATED REQUIREMENTS

.1 Equipment and System Demonstration and Instruction Division 1

1.3 MANUFACTURER’S SITE SERVICES

.1 Arrange and pay for appropriately qualified manufacturer's representatives to provide or assist in providing electrical equipment and systems demonstration and instruction seminars for systems specified in this Section.

1.4 DEMONSTRATION AND INSTRUCTION SEMINARS

.1 Assist the owner to present Operator Training Seminar(s) including content specified by Division 1.

.2 (Spec Note: confirm with Architect and Owner.) [Obtain the services of a professional videographer to record all training seminars on video tapes in VHS format. All video tapes and copyrights of same will become the property of the Owner at the completion of the project.

The Owner reserves the right to review the video tape for content and clarity and may request a second training session to improve the quality of the tapes.]

PART 2 PRODUCTS

2.1 NOT USED.
PART 3 EXECUTION

(Spec Note: this section will require extensive editing by the specification writer. The items described herein are included as a sample only. Each project will be unique and will have to be evaluated on its own merit.)

3.1 SYSTEM AND EQUIPMENT DEMONSTRATIONS AND INSTRUCTION SEMINARS

.1 Provide demonstration and instruction seminars for the following equipment and systems identified. Include in demonstrations and instruction seminars, the information specified for each piece of equipment and system.

.2 Training seminars shall be a combination of classroom session and “hands-on” field demonstrations.

.3 Turn over to the Consultant at the completion of each seminar a completed seminar attendance sheet indicating attendance, length of seminar, date of seminar and items covered. Sheet to be signed by each attendee indicating their agreement with the presented matter.

.4 Some systems may require two independent seminars, one for the maintenance staff and one seminar for the user groups. Accommodate split seminars as required.

.5 Times indicated for each seminar are approximate only and may be adjusted by the Owner or his representative as required.

.6 Normal Power Distribution:

   .1 Distribution Switchgear: Time Allocated: [x] hours

       .1 Torquing procedures and values.
       .2 Circuit breaker or disconnect switch operation.
       .3 Protective features on breakers.
       .4 Kirk key interlocks.
       .5 Protective relaying - calibration and operation.
       .6 Metering - calibration and operation.
       .7 Safety procedures.
       .8 Troubleshooting procedures.
       .9 Visual maintenance inspections.
       .10 Maintenance procedures.
       .11 Testing requirements and procedures.
       .12 Spare parts.
.2 Dry Type Transformers: Time Allotted: [x] hour
  .1 Tap adjustment procedures.
  .2 Drying and cleaning requirements.
  .3 Temperature and alarm devices.
  .4 Safety procedures.
  .5 Visual maintenance inspections.
  .6 Maintenance procedures.
  .7 Testing requirements and procedures.

.3 Panelboards: Time Allotted: [x] hour
  .1 Types and sizes of breakers.
  .2 Spare capacity.
  .3 Visual maintenance inspections.
  .4 Maintenance procedures.
  .5 Testing requirements and procedures.
  .6 Spare parts.

.4 Branch Circuits: Time Allotted: [x] hour
  .1 Power receptacle system.
  .2 Miscellaneous wiring devices.
  .3 Miscellaneous equipment.
  .4 Branch Circuit wiring in patient care areas.
  .5 Heat tracing.

.7 Emergency Switchgear Time Allotted: [x] hours
  .1 Torquing procedures and values.
  .2 Circuit breaker or disconnect switch operation.
  .3 Protective features on breakers.
  .4 Kirk key interlocks.
  .5 Protective relaying - calibration and operation.
  .6 Metering - calibration and operation.
  .7 Safety procedures.
  .8 Troubleshooting procedures.
  .9 Visual maintenance inspections.
  .10 Maintenance procedures.
  .11 Testing requirements and procedures.
  .12 Spare parts.

.8 Fire Alarm System: Time Allotted: [x] section at [x] hours each
  .1 Alarm silence.
  .2 Trouble conditions, alarm and silence.
  .3 Annunciator and control panel operation.
  .4 Mechanical systems control.
  .5 Control panel module replacement.
.6 Alarm lamp replacement.
.7 Power supply.
.8 Sequence of operation under alarm conditions:
  .1 First stage
  .2 Second stage
  .3 Central station tie-in
  .4 Sprinkler system interface
  .5 Fan shutdown
  .6 Fire damper interface
  .7 Troubleshooting procedures.
  .8 Maintenance requirements and procedures.
  .9 Spare parts.

.9 Lighting: Time Allotted: [x] hours

  .1 Interior/Exterior Lighting:
    .1 Description of each luminaire with respect to lamp and ballast or any other special features:
      .1 Troubleshooting procedures.
      .2 Maintenance procedures.
      .3 Re-lamp schedules.
      .4 Spare parts.

  .2 Emergency Lighting Battery Units and Exit Lights:
    .1 Troubleshooting procedures.
    .2 Maintenance procedures.
    .3 Spare parts.

  .3 Lighting Controls:
    .1 Line voltage switching.
    .2 Dimmers.
    .3 Low voltage switching.
      .1 Relay replacement.
    .4 Photo-cell/time clock operation.
    .5 Master control unit programming.
    .6 Troubleshooting procedures.
    .7 Maintenance procedures.
    .8 Spare parts.
.10 Communication and Security Systems:

.1 RF Television System: Time Allotted: [x] hours
   .1 Splitters and Amplifiers.
   .2 Type of cable used.
   .3 Troubleshooting procedures.
   .4 Maintenance procedures.

.2 Public Address System: Time Allotted: [x] hour
   .1 Head-end equipment.
   .2 Speaker and transformer taps.
   .3 Troubleshooting procedures.
   .4 Maintenance procedures.

.3 Nurse Call System: Time Allocated: [x] sessions at [x] hours each
   .1 All Master Stations features.
   .2 Programming of room numbers.
   .3 Control console and power supplies.
   .4 Interfacing with other systems such as pocket pagers.
   .5 Troubleshooting procedures.
   .6 Maintenance procedures.

.4 Clock and Program Equipment: Time Allocated: [x] hours
   .1 Programming of Master Clock.
   .2 Secondary Clocks and Elapsed time Clocks.
   .3 Interfaces to other equipment and systems.
   .4 Troubleshooting procedures.
   .5 Maintenance procedures.

.5 Security System:
   .1 System Overview
   .2 Programming of security schedules, zones, groups
   .3 Interfaces to other systems
   .4 Sequence of operations
   .5 Maintenance procedures

.6 Card Access Control System:
   .1 System Overview
   .2 Programming of individual cards, access privileges, schedules, zones and groups.
   .3 Addition and deletion of cards onto the system.
   .4 Interface with other systems.
   .5 Sequence of operations
.6 Interface with door hardware
.7 Maintenance Procedures

.7 CCTV System Overview:

.1 Programming of sequencers, VCR's and switches.
.2 Operation of cameras
.3 Adjustment of monitors
.4 Interface with other systems
.5 Maintenance procedures.

3.2 SITE TOURS

.1 Provide a series of walk through Contractor guided tours of facility to allow operators to familiarize themselves with the buildings electrical systems.

.2 Coordinate timing of tours with the Consultant. Allow for tours at approximately the following times.

.1 90% complete stage. Three weeks prior to Interim Acceptance of the work.

.2 At Interim Acceptance of the Work.

END OF SECTION