

## SECTION 28 60 00 – ATTENDANCE CONTROL SYSTEMS

### 1.01 SUMMARY:

- A. <sup>A17</sup>**Scope:** Scope of work shall be in accordance with Paragraph 1.01 D. of Section 01 81 26 (Communications, Control, Safety, and Security Systems), as required, for physical security in parts of the Works.<sup>A17</sup> Such physical security shall include managing and controlling attendance or presence in a work setting to minimize loss due to employee downtime. This Section of the Employer's Requirements shall be read in conjunction with the sections listed in Table 28 60 00-1.

B. **Related Sections:**

Table 28 60 00-1: Related Sections	
1.	Section 01 81 26 - Communications, Control, Safety, and Security Systems.
2.	Section 27 10 00 - Structured Cabling Systems for Communications Inside Plant.
3.	Section 27 21 00 - Data Communications Equipment.
4.	Section 27 53 13 - Time Synchronization Systems.
5.	Section 28 13 00 - Access Control Systems.
6.	Section 28 23 00 - Closed Circuit Video Systems.
7.	Section 28 50 00 - Evacuation Systems.

### 1.02 REFERENCE:

- A. **Applicable Publications:** Refer to Section 01 81 26 (Communications, Control, Safety, and Security Systems), Paragraph 1.02.
- B. **Background Information:**
1. **Timekeeping Software:** In December, 2007, the Employer plans to replace its "Time Reporting System" (TRS) with new software based on .NET and Oracle database. Both TRS and its .NET replacement software are developed in-house.

### 1.03 REQUIREMENTS:

A. **General Requirements:**

1. **General:**

- a. The Contractor shall meet all applicable requirements of Section 01 81 26 (Communications, Control, Safety, and Security Systems), Paragraph 1.03.
- b. Attendance systems shall be capable of handling no less than the following: 400 and 500 persons at Pacific and Atlantic locks complexes, respectively.

2. **Coordination and Interoperability:** Attendance control systems shall interact with the following systems:

- a. Access Control Systems (ACSs), refer to Section 28 13 00 (Access Control Systems).
- b. Employer payroll and timekeeping system in use at the time of installation.
- c. Evacuation systems refer to Section 28 50 00 (Evacuation Systems).
- d. Physical security by the Employer's "División de Protección y Respuestas a Emergencias" (OPP), closed circuit video systems (CCVSs), refer to Section 28 23 00 (Closed Circuit Video Systems).

B. **Hardware / Equipment and Materials:**

1. **Card Readers:** Shall be in accordance with Section 28 13 00 (Access Control Systems).
2. **Data Processing Equipment (DPE):** Shall be in accordance with Section 25 11 00 (Data Processing Equipment).

C. <sup>A16</sup>**Software:** Shall be furnished as required to meet the Employer's Requirements.<sup>A16</sup>

D. **Installation:**

1. **Card Readers:** Shall be installed at all employee entry/exit points.
2. **Data Processing Equipment (DPE):** (reserved)

**1.04 DESIGN CRITERIA/SYSTEM PERFORMANCE:**

A. **General:**

1. **Problem to be Solved:** Attendance systems shall solve the following business needs:
  - a. Manage operating personnel shifts and authorized overtime information.
  - b. Account for presence and absence of operating personnel.
2. **Restrictions to be Considered:** (reserved)

B. **Design Criteria:** (reserved)

C. **System Performance:**

1. The systems shall handle 3 shifts per day and be capable of generating warning lists of people present in locks facilities outside their respective work schedules.

2. The systems' time shall be based on time synchronization systems of Section 27 53 13 (Time Synchronization Systems).
3. The systems shall handle information on personnel, including, but not limited to, the following:
  - a. First, middle, and last name.
  - b. The employee-identification number (IP#) assigned by the Employer.
  - c. Photograph.
  - d. Position.
  - e. Employer business unit.
  - f. Regular work hours or work schedule.
  - g. Authorized overtime and work areas.
4. Visitor control shall include entry authorization, who is responsible for the authorization, purpose and authorized areas, and duration of stay. If duration is exceeded, an alarm shall be triggered.

**1.05 SUBMITTALS: The following shall be submitted for substantiation purposes:**

- A. **Design:** The following shall be in accordance with Section 01 81 26 (Communications, Control, Safety, and Security Systems), Paragraph 1.05 D.:
  1. Block diagram for hardware.
  2. Calculations, including system availability.
  3. Critical path method (CPM) diagram, with monthly updates.
  4. Descriptive literature.
  5. Drawings.
  6. Protection methods for corrosion, electrostatic discharge (ESD), fungus/humidity, lightning/surge, power distortion and harmonics, radio frequency interference / electromagnetic interference (RFI/EMI), thermal, and vibration.
  7. Quality assurance and control plans.
  8. Specifications.
  9. Any other data required for review.
- B. **Re-submittals Just Prior to Purchasing Materials:** All items in A. above that have changed from original submittal shall be resubmitted in a Design Conference in accordance with Section 01 81 26 (Communications, Control, Safety, and Security Systems), Paragraph 1.05.

**C. Upon Receipt of Shipped Items in Panama:**

1. Instruction manuals for administration, installation, maintenance, and operation.
2. Packing lists.

**D. Prior to Issuance of Taking Over Certificate:**

1. As-built drawings.
2. List of recommended spare parts.
3. Software licenses.
4. Test reports.
5. Training services.

**1.06 QUALITY ASSURANCE:** Shall include the following in accordance with Section 01 81 26 (Communications, Control, Safety, and Security Systems), Paragraph 1.06:

- A. Factory quality control tests (FQCT).
- B. Training services for no less than twelve persons who belong to the Employer's Personnel.
- C. Final field inspection tests (FFIT).
- D. Spare parts.
- E. Warranty.

**END OF SECTION**