

were essential for the performance of verification functions. Initial construction, engineering and US government costs amounted to \$25 million (US).<sup>10</sup>

To perform its early warning detection, identification and reporting functions,<sup>11</sup> the United States established three watch stations staffed exclusively with civilian personnel and four unmanned sensor fields equipped with line, point, and imaging sensors to scan the entrances to the passes, fixing positions and determining the size, speed, nature and direction of intruders. The sensors used in the passes were placed in strings several thousand metres long on the roads and trails leading through and across the passes.

#### i) Components of the Ground Sensor System

The following five automatic sensors, involving numerous detection capabilities, were used in the Sinai. These sensors incorporated the detection principles of seismic, acoustic, infra-red, magnetic, electromagnetic, pressure, electric and earth strain disturbances.<sup>12</sup>

**SSCS**      *The Strain Sensitive Cable Sensor* was a miniature coaxial cable of several hundred metres in length. Buried in the ground, it served as an invisible electromagnetic fence that registered the movement of people or vehicles across it.

**PIRCS**      *The Passive Infra-red Confirming Scanner* detected intrusions into the area it scanned. The infra-red picture produced by the scanner allowed operators to distinguish between people and vehicles, to count numbers and to specify direction and speed.

**MINISID III** *Miniature Seismic Intrusion Detectors* were used to detect earth vibrations produced by moving personnel or vehicles. This system could, in the sandy soil of the Sinai, detect a vehicle at 500 metres and a person at 50 metres. Tamper-proof and battery-operated, the detection devices were positioned just underneath the surface, close to the entrance of the passes.

<sup>10</sup> United States Sinai Support Mission, *Report to the Congress* (Washington, D.C.: Department of State, April 13, 1976), p. 35.

<sup>11</sup> The term "early warning system" and "verification system" are used in this paper somewhat differently than used by the parties to the Sinai Agreements and by other analysts. (For somewhat different views of this terminology see *Watch in The Sinai* (see note 9), and D. Barton, "The Sinai Peacekeeping Experience: A Verification Paradigm for Europe", In *SIPRI Yearbook, 1985* (London: Taylor and Francis, 1985), pp. 541-564.) This paper takes the view that any technical information gathering system such as a ground-based monitoring system (or the "early warning system" as it was termed by the parties) or aerial photo-reconnaissance form components of a verification system as long as the information gathered is used to assess compliance with commitments under an agreement. Similarly, on-site inspection and control posts form elements of a verification system. It is important to note that the components of the verification system in the Sinai Agreements changed over time as did the duties assigned to particular countries and organizations respecting these components.

<sup>12</sup> United States Sinai Support Mission, *Watch in the Sinai*, p. 25. See also David Barton, "The Sinai Peacekeeping Experience", pp. 546-547.

