Interaction, in real-time, with the central processing system would offer the possibility of detecting discrepancies and resolving ambiguities at the time the data are collected. Transporting the data on disks or portable machines would interject a delay in the formal evaluation and it might necessitate additional visits to the site in case of discrepancies.

Another factor that would affect the choice between direct access from the field to central headquarters would be the concern for security of the information. The question has to be examined whether transporting the information from the field to central headquarters would allow the possibility of more or fewer potential security breaches than electronic transmission. Information protection would be an important factor in the routine monitoring of commercial facilities.

7.0 Conclusions

This paper has attempted to present some of the factors that would affect the design of the information processing system. Although a more thorough analysis of the requirements derived from the rolling text is needed, the emerging architecture would be a distributed system consisting of a central node linked to local processing nodes at remote sites. Some of the remote nodes, such as destruction facilities, would consist of local monitoring systems; others would only be portable computers, local instruments, or portable and transportable instruments. Other possible nodes might be the headquarters of the National Authorities.

The links between the central and the local nodes could be public or private. The particular implementation would depend on the volume of transmitted data, the frequency of transmissions, the security requirements and the need for timelines. For some applications there might not even be any need for electronic transmission of information; data would be transported by the people who collect them.

The system should have a hierarchical structure. To preserve the confidentiality of the information each facility should be linked only to central headquarters; if there would be a need to mix information from different facilities, this should only be done at the central processing node and with appropriate safeguards.