

principle of random sampling. Both of these, however, are within the general program of routine inspections developed by the Agency and communicated to states.

Although unannounced or "surprise" inspections are permitted, Fischer and Szasz suggest that their usefulness could be limited. Simply obtaining the necessary visas could be a source of delay, so that they become "short-notice" inspections. In addition, the successful technical performance of an inspection may benefit from or require advance notice to a facility.¹² This possibility should be borne in mind in any consideration of challenge inspections. Although blatant violations (e.g., the mere existence of an undeclared facility, or a very clear violation at a declared facility) might be readily detectable by a short-notice visit, more subtle violations might be difficult to detect in the "disruption" that such an inspection could create.

A final lesson from the Agency's experience is the general need to recognize that inspection, as a specific set of techniques, interacts with the other safeguards techniques employed by the Agency. Separating inspection from its context of the goals of safeguards, the activities being safeguarded, and the array of techniques employed must result in a very limited appreciation of the implications of inspection. Inspection is the central element of the system, but it is also in part defined by the other elements. Materials accounting, containment and surveillance techniques are used to simplify the inspector's task and to reduce the disruption caused by inspections. In turn, one task of the inspector is to verify the integrity of the other elements of the safeguards system. Inspection may compensate for some weaknesses in other techniques, but may also be weakened by them. A need to perform frequent maintenance on containment or surveillance devices, for example, could divert the energies and attention of an inspector.

Anomalies

Anomalies are not necessarily proof of diversion: they are simply unusual occurrences that *could* indicate a diversion. They could also arise through inaccuracies in accounting systems, plant operation practices, accidents, or other sources. They may, in a sense, be creations of a safeguards system itself. Some, such as broken seals or instrument malfunctions, would not exist in the absence of a safeguards system. The RECOVER (Remote Continuous Verification) system, developed by the Agency as a means of monitoring the functioning of some containment and surveillance devices, would be as valuable for monitoring instrument malfunctions as for its possible real-time protection against tampering. The problems and progress in developing this system should be studied. Other anomalies, such as significant levels of Material Unaccounted For, depend on what levels are deemed significant by the safeguards system, and thus reflect appreciations of risk as well as limits of technical sensitivity.