

2. They employ technical means of verification which go beyond remote sensing to involve in-facility equipment and accounting methods, and include on-site inspection.
3. They have been applied in an area of substantial political, industrial and economic sensitivity, as well as of some technical intricacy.
4. They attempt to verify the use of facilities and materials while not infringing unacceptably on national sovereignty and on the permitted uses of those facilities and materials.

These features suggest that the Agency's methods and experience might be worth an extended examination. The second, third and fourth characteristics noted above suggest that the Agency's experience could be of special relevance to verifying arms control agreements that relate to other industrial production facilities and processes. It is not surprising, then, that this experience should be suggested as a possible source of guidance for the verification aspects of a treaty banning the development, production, stockpiling, transfer and use of chemical weapons and providing for the destruction of existing stocks of chemical weapons and their dedicated production facilities. The purpose of this study is to note some lessons from the Agency's experience for such an application and to suggest some areas for further research in this context.

A comprehensive ban on chemical weapons could present all or some combination of the verification requirements listed in Table 1. There are parallels between these requirements and the verification activities of the IAEA, which are clearest for the third, fourth and seventh requirements listed in Table 1, which involve the monitoring of production or transfers. There are also similarities for the first and second requirements, which involve the monitoring of facilities to verify the volume and character of material being disposed or to ensure that a facility supposed to be dismantled, shut down, or converted for other uses was not being operated illegally. Some form of inspection would be needed for requirements (5) and (6). While this could be in the nature of challenge inspections, in which the Agency has no experience, some aspects of its inspection experience could be of interest. Finally, the eighth requirement, to monitor scientific and technical advances, is an area in which the Agency does have some experience, through its efforts to modernize, upgrade and extend its safeguards activities.

While the Agency can be a valuable source of lessons for verification in other arms control areas, these lessons should be approached carefully. The use of the Agency as a "model" must be tempered by the recognition that its characteristics and performance must be studied and adapted, not simply mechanically transferred to other areas in which verification involving inspection may be desirable.