

Marking, Rendering Inert, and Licensing of Explosive Materials

INTRODUCTION

Following several major bombing incidents in the United States in the 1990s, most notably the New York World Trade Center and the Alfred P. Murrah Federal Building (Oklahoma City) bombings, considerable discussion at the federal level has focused on ways to reduce the threat of terrorism. In particular, there has been interest in the possibility of reducing the threat through some combination of decreasing the explosive potential of certain chemicals that might otherwise be used to manufacture explosives; introducing additives, called “taggants,” into explosive materials to permit detection or tracing of the material; and imposing licensing or other controls on explosive materials or their chemical precursors. Explosives made from mixtures of ammonium nitrate and fuel oil (ANFO) were used in some of the most publicized bombing incidents. ANFO is the most widely used commercial explosive in the United States,¹ and any new legal or regulatory requirements could have a direct impact on a broad range of U.S. industries, particularly the chemical, fertilizer, and mining industries. Other industries and private-sector groups have taken strong positions with respect to various proposals in this controversial area (see the section below titled “Taggant Stakeholders”).

The possible use of taggants was examined more than 15 years ago in a study by the Office of Technology Assessment.² That study considered taggants to be additives that could survive an explosion and be used to trace the origin of the materials or additives that would enhance the detectability of the explosives prior to an explosion. The former have been used overseas, particularly in Switzerland, for a number of years,³ although a variety of new taggant approaches are being developed. Similarly, remarkable progress has been made in trace chemical analytical instrumentation that could be applied to detection of tagged or untagged explosives. However, questions persist about the efficacy, safety, and cost of using taggants. In addition, industry trade associations and private-sector groups have raised a variety of economic and legal questions that must be considered within the technical context of specific approaches to using taggants.

¹ See Hopler, Robert. 1997. “Today’s Commercial Explosives Industry: Trends in Products and Operations.” Washington, D.C.: Dyno Nobel Inc.

² Office of Technology Assessment. 1980. Taggants in Explosives. Washington, D.C.: Government Printing Office. April.

³ Explosives Symposium, ATF, Fairfax Virginia, September 18-22, 1995.