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Terrorist Use of Semtex: A Current Threat Assessment



A Research Paper

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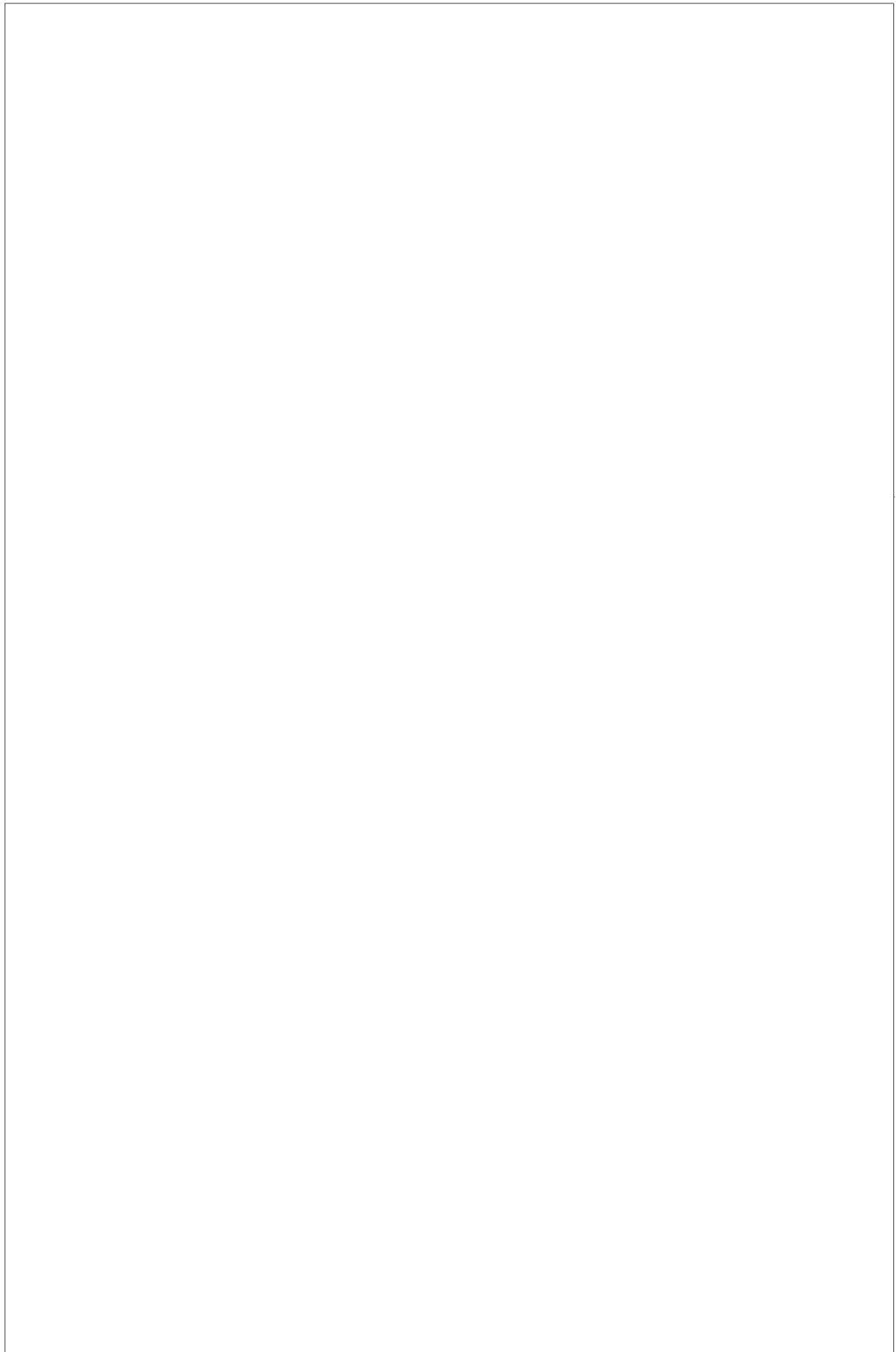
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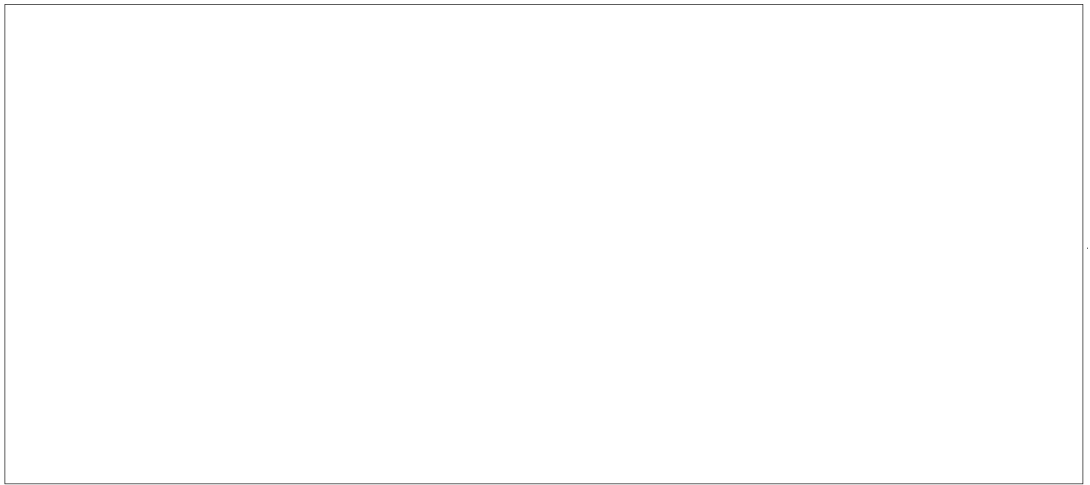
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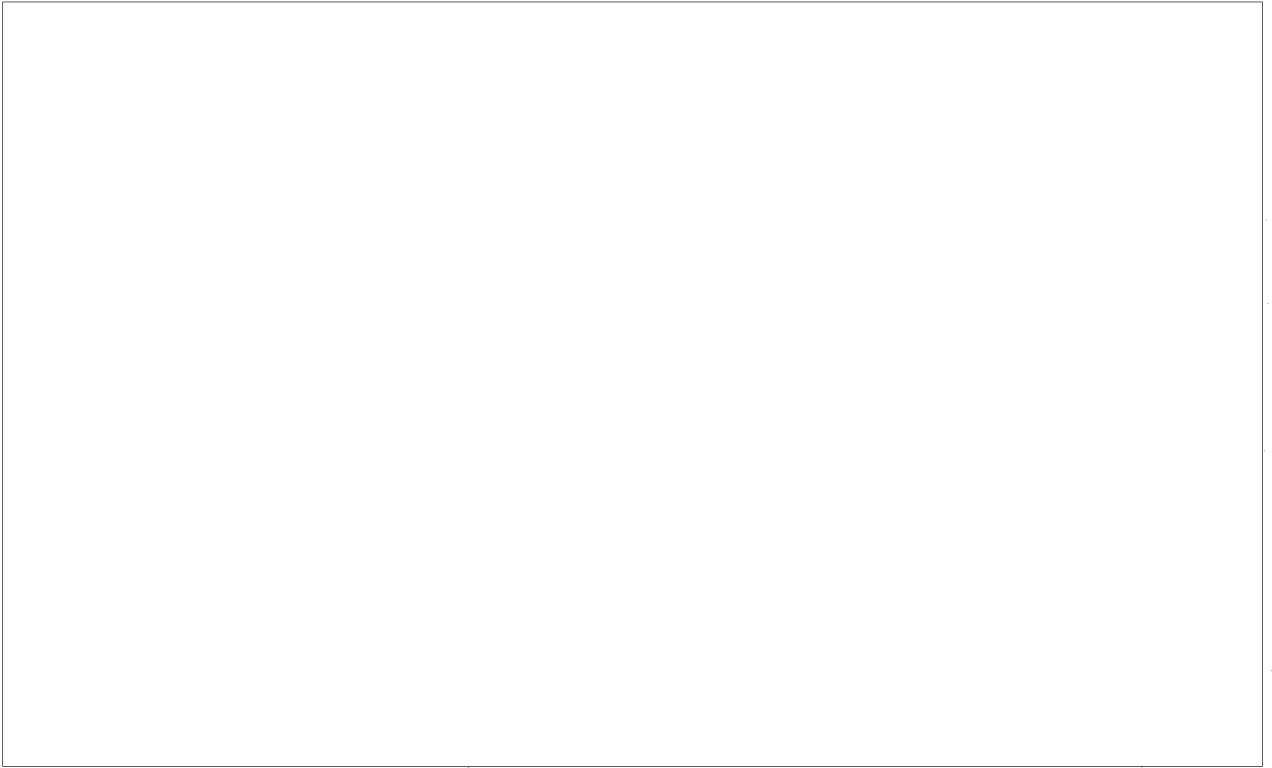
This paper was prepared by John Racoosin, Office of Global Issues. Comments and queries are welcome and may be directed to the Chief, International Security Issues Division, OGI, on 482-5541 or secure 52003. (U)

Summary

*Information available
as of 1 April 1990
was used in this report.*





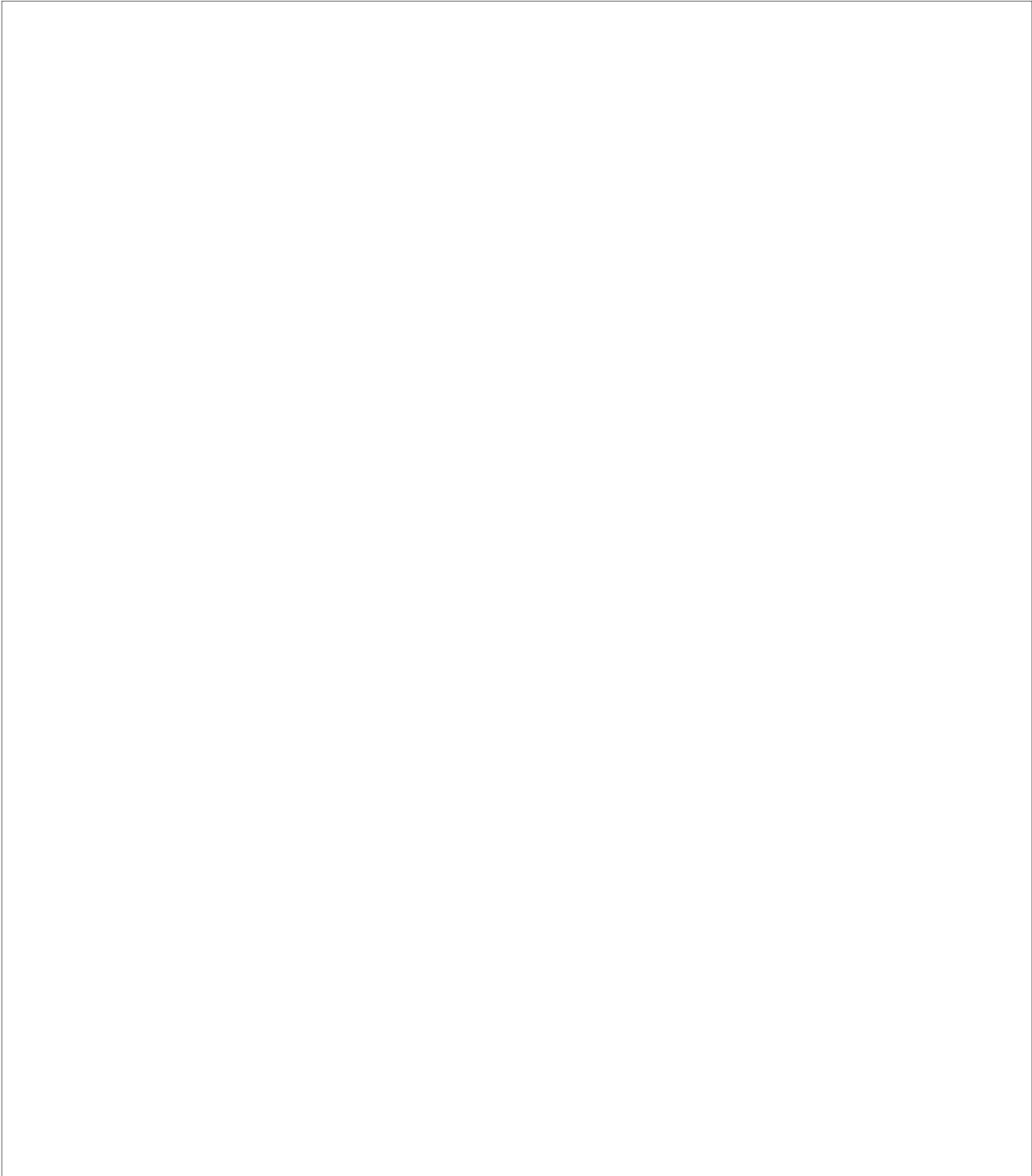


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Speaking of Semtex

The spokesman repeated that Czechoslovakia has not supplied, is not supplying, and will not supply the Semtex explosive to any terrorist organization, and recalled that it has not been exporting it for several years.

— *FBIS London, reporting on statement by Czechoslovak Foreign Ministry spokesman Ivan Kulhanek
12 January 1989*

We accept the Czechoslovak Government's assurance that they do not export explosives to terrorists. We understand that they no longer export Semtex and have not done so since 1982.

— *The Daily Telegraph, London, 10 February 1990, quoting British officials in 1989 following a visit to London by Czechoslovak explosives experts in the wake of the Pan Am Flight 103 bombing.*

The last export to non-COMECON [CEMA] countries took place in 1981; the last export to COMECON [CEMA] nations in 1988.

— *Jiri Novi, Semtex Factory Director, quoted by The Daily Telegraph, London
9 February 1990*

The revelation was all the more baffling because Czechoslovakia's Communists have failed to reveal whether they supplied terrorist quartermasters such as Libya directly. . . . Mr. Novi and his senior managers hinted that Libya got supplies from a third party. . . . For the first time, Mr. Novi disclosed production figures for the plastic explosive favored by the IRA [Irish Republican Army] and Arab terrorists. The Synthesia factory in the village of Semtin makes 100 tons a year.

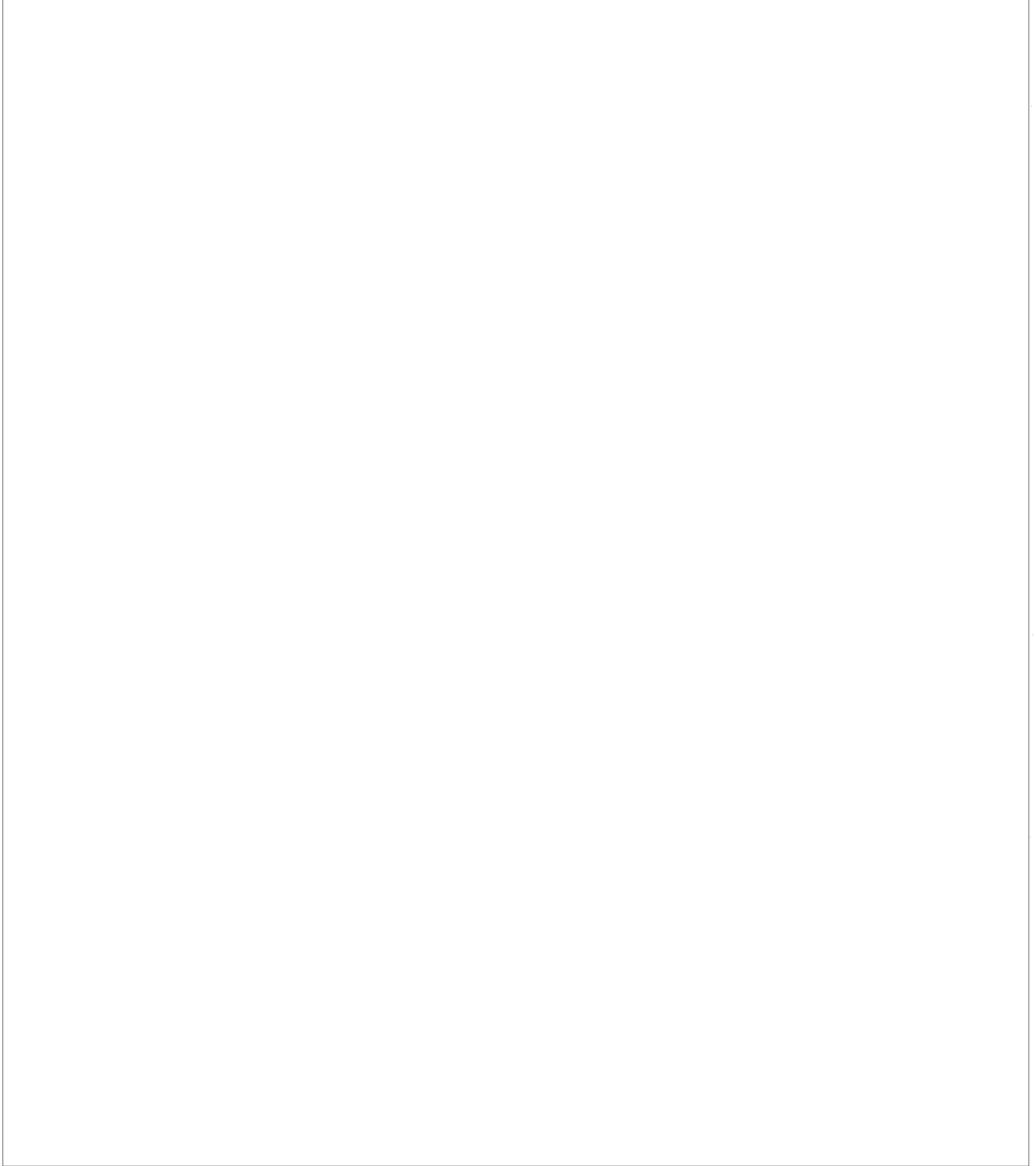
— *The Daily Telegraph, London
10 February 1990*

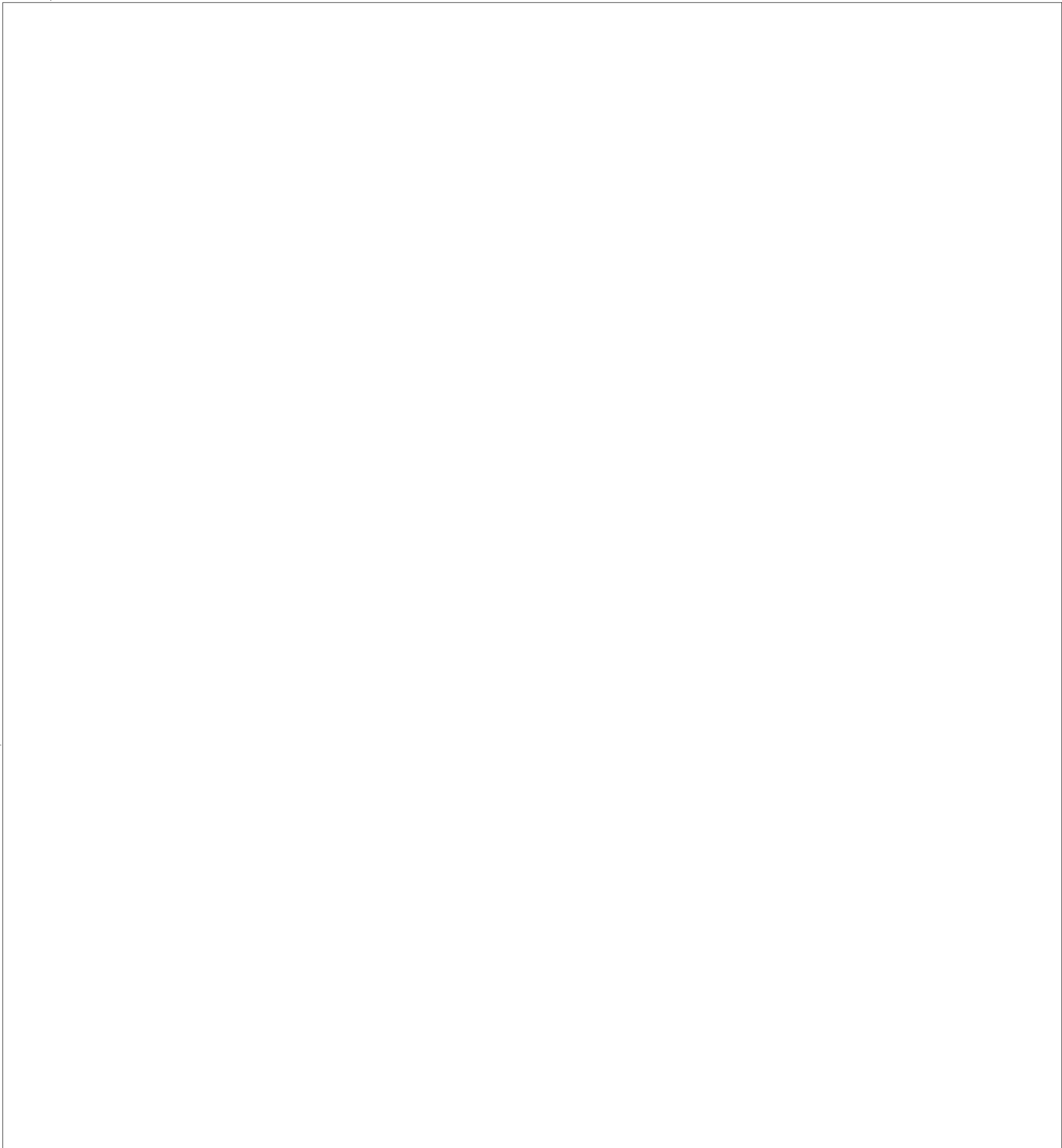
Semtex is produced in Czechoslovakia. . . . the past regime exported 1,000 tons to Libya. If you consider 200 grams is enough to blow up an aircraft, this means world terrorism has enough to last 150 years.

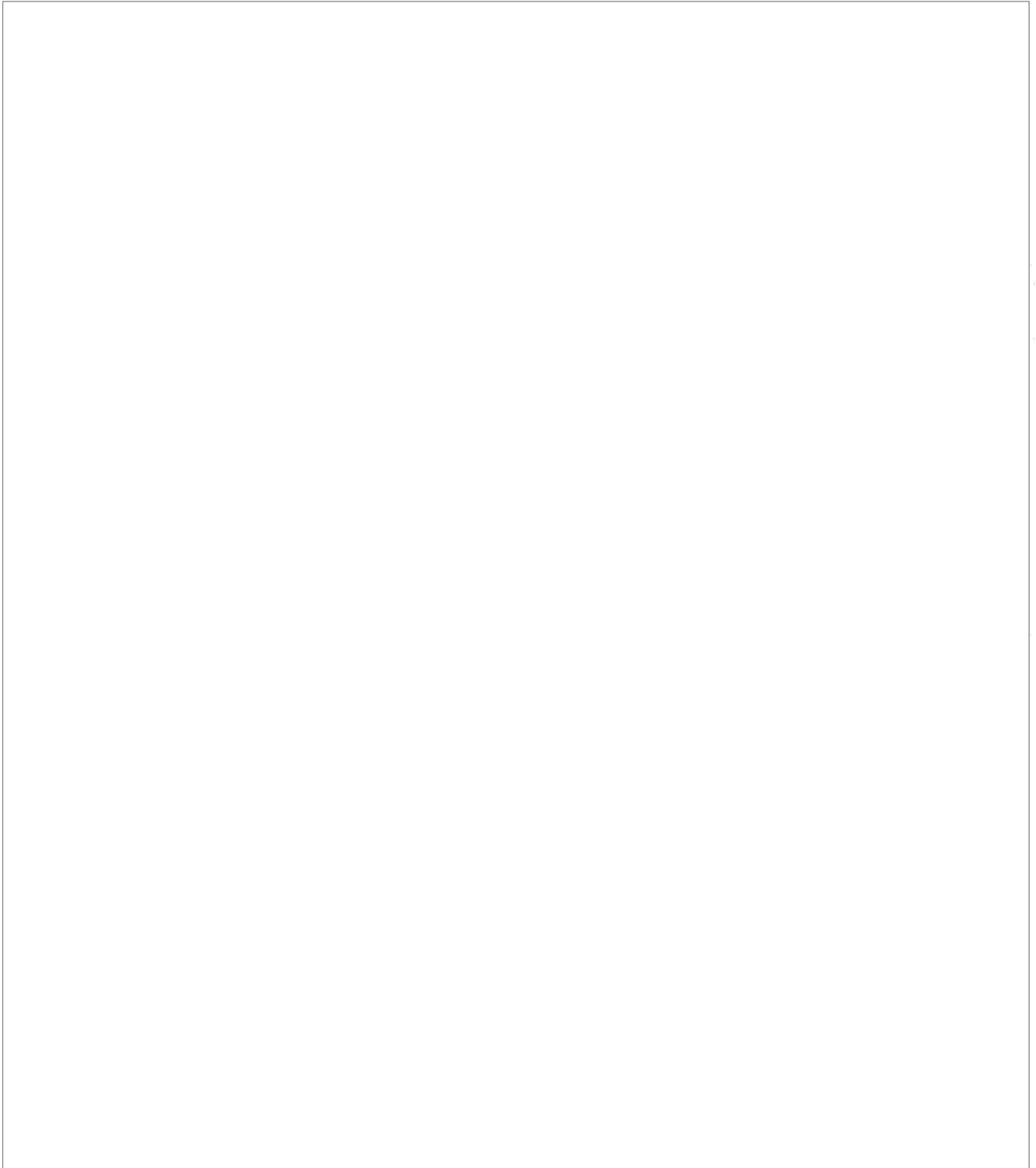
— *Czechoslovak President Vaclav Havel quoted by the London Press Association
22 March 1990*



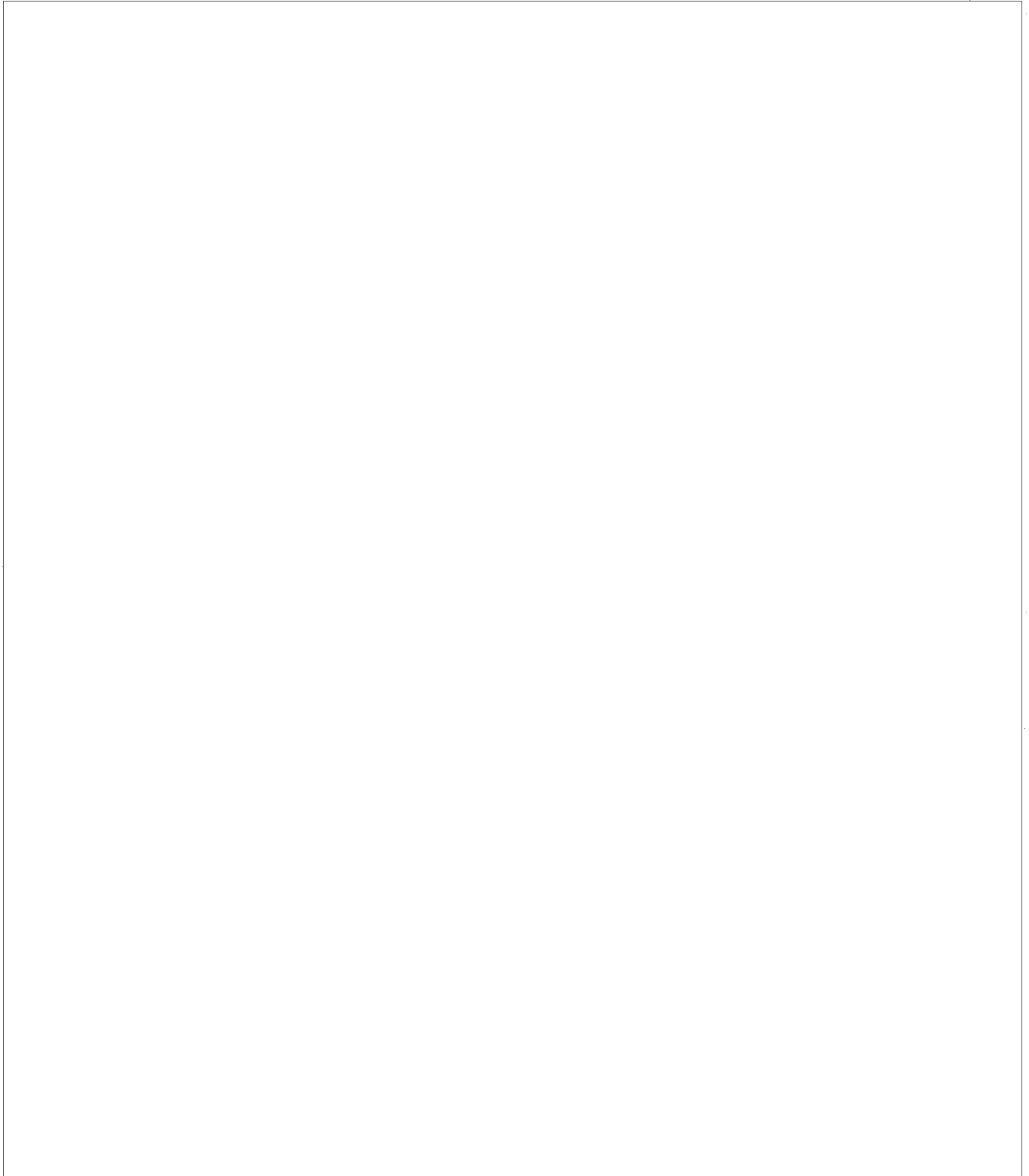


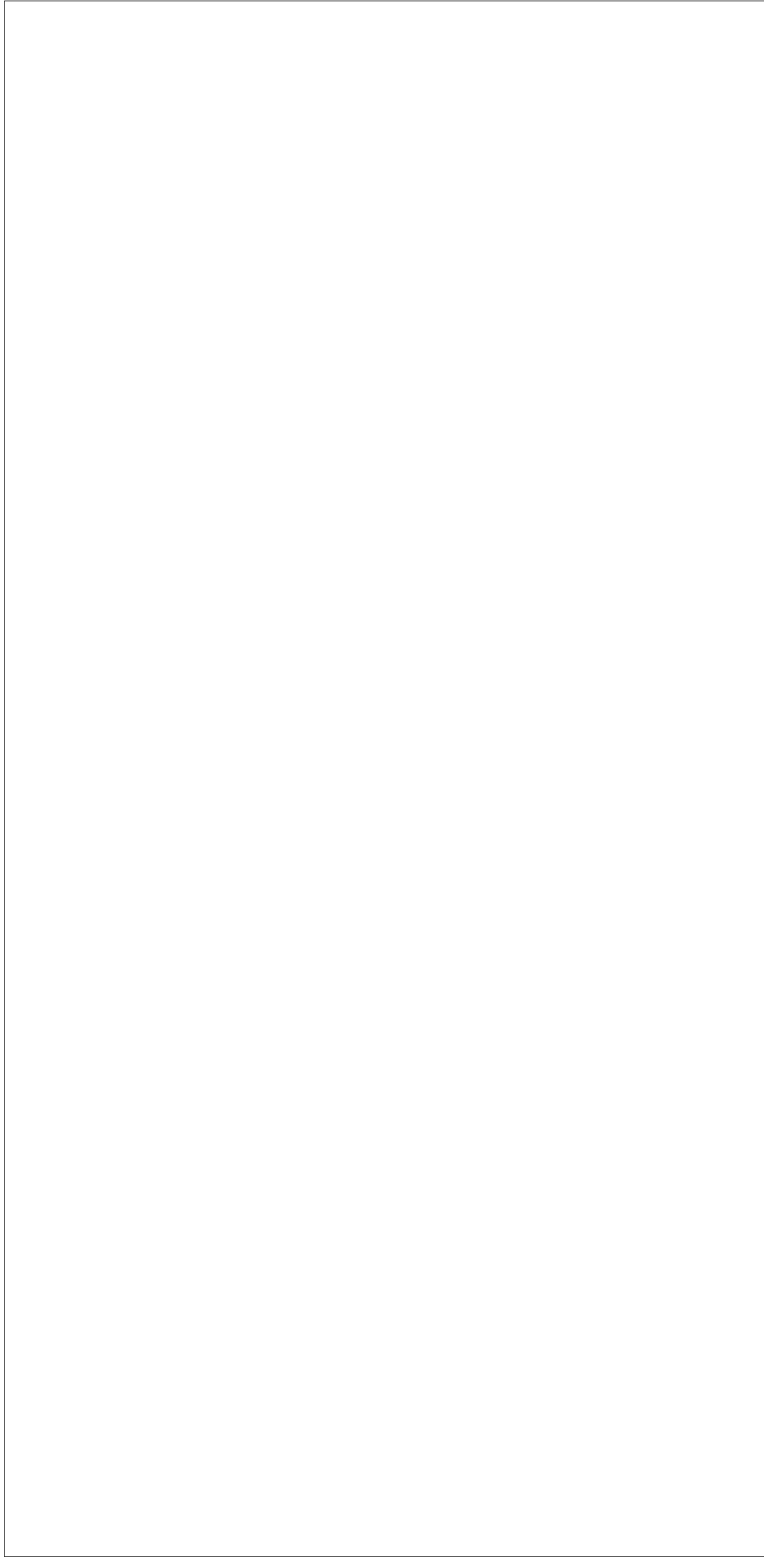












Appendix B

An Explosives Primer

An explosive can be defined as a substance or mixture of substances that, when suitably initiated and without external reactants, undergoes rapid chemical decomposition with resultant release of heat and expansion of gases.

Explosive compounds can exist as liquids, solids, or gases, but all have the basic construction of fuel (usually hydrogen and/or carbon) bonded with oxygen (usually in nitrogen groups), all on the same molecule. The proximity of fuel and oxygen creates the explosive effect—very rapid decomposition (oxidation) with no need for a separate, external oxygen source; yet explosives are stable enough to require externally initiated detonation.

Explosives can be divided into two general classifications—high and low explosives. High explosives decompose at a rate faster than the speed of sound of the material (detonation); low explosives burn at a slower rate. High explosives are a very convenient source of power and are used in most demolition applications. One kilogram of a typical modern plastic high explosive can generate 5,000 megawatts of power for the duration of its explosive reaction. Such a charge can occupy a volume less than 4 inches square, remain unaffected in storage for years, and cost approximately \$2.

Explosives factories commonly manufacture several versions of an explosive type:

- Commercial explosives can be more sensitive, less durable, and less versatile than military explosives, because of the controlled circumstances in which they are used. Industrial uses for explosives include quarrying, mining, and tunnel/road construction, where single blasts using tens of tons of high explosives are not uncommon.

- Military explosives for field use (as opposed to explosives used to fill ordnance) must be easy to transport and safe to handle under adverse conditions. Large-scale uses include breaching of natural barriers and demolition of manmade structures, as well as military engineer versions of traditional industrial applications.

Plastic bonded explosives such as Semtex and the US-made composition C-4 are made of explosive compounds mixed with binders and plasticizers. The plastic qualities make these explosives ideal for military use: they are easily formed into desired shapes and sizes necessary for storage, transport, and operational use. They are durable, are insensitive until properly detonated, and can be stored for long periods of time.

