[redacted]

REPORT ON THE U.S. INTELLIGENCE COMMUNITY'S PREWAR INTELLIGENCE ASSESSMENTS ON IRAQ

Ordered Reported on July 7, 2004

SELECT COMMITTEE ON INTELLIGENCE

UNITED STATES SENATE

108th CONGRESS

PAT ROBERTS, Kansas, *Chairman*
JOHN D. ROCKEFELLER IV, West Virginia, *Vice Chairman*

ORRIN G. HATCH, Utah
MIKE DEWINE, Ohio
CHRISTOPHER S. BOND, Missouri
TRENT LOTT, Mississippi
OLYMPIA J. SNOWE, Maine
CHUCK HAGEL, Nebraska
SAXBY CHAMBLISS, Georgia
JOHN W. WARNER, Virginia

CARL LEVIN, Michigan
DIANNE FEINSTEIN, California
RON WYDEN, Oregon
RICHARD J. DURBIN, Illinois
EVAN BAYH, Indiana
JOHN EDWARDS, North Carolina
BARBARA MIKULSKI, Maryland

BILL FRIST, Tennessee, *Ex Officio*
THOMAS A. DASCHLE, South Dakota, *Ex Officio*

[redacted]

[redacted]

(3) Iraqi agents agreed to pay up to [redacted] for each 7075-T6 aluminum tube. Their willingness to pay such costs suggests the tubes are intended for a special project of national interest.

(4) Iraq has insisted that the tubes be shipped through such intermediary countries as [redacted] in an attempt to conceal the ultimate end user; such activity is consistent with Iraq's prewar nuclear procurement strategy but are more robust than post-war denial and deception (D&D) efforts.

(5) Procurement agents have shown unusual persistence in seeking numerous foreign sources for the tubes, often breaking with Iraq's traditionally cautious approach to potential vendors.

(6) An aluminum tube built to the Iraqi specifications for the tubes seized [redacted] was successfully spun in a laboratory setting to 60,000 rpm (1000Hz). This test was performed without balancing the tube; a critical step required for full speed operation, but still provided a rough indication that the tube is suitable as a centrifuge rotor.[15]

(7) The dimensions of the tubes [redacted] are similar to those used in the Zippe and Beams-type gas centrifuges. The inner diameter of the seized tubes - 74.4 mm – nearly matches the tube size used by Zippe and is described in detail in his unclassified report on centrifuge development. The length and wall thickness of the seized tubes are similar to Iraq's prewar Beams design.

(8) Iraq performed internal pressure tests to induce a hoop-stress level similar to that obtained by an operating rotor.

(9) [redacted]

(U) The NIE included discussion of some of these assessments in the main text and contained an annex with a more extensive discussion of the assessments and extensive dissenting opinions from both the DOE and INR. The following section outlines the intelligence and assessments provided by the intelligence agencies on the aluminum tubes.

---

[15] [redacted]

[redacted]

[redacted]

that in manufacturing rockets either a layer of insulating material is painted to the interior wall and the case is then filled with solid propellent, or a precast grain of solid propellant is loaded inside the tube cavity using thin metal spacers to separate the grain from the tube wall. In either case, minor surface imperfections would have no effect on the performance of the rocket. According to the IAEA, the finish of the Iraqi tubes that were intercepted [redacted] was worse than the finish on the older tubes Iraq declared in 1996. In addition, any machining Iraq had to perform to change the wall thickness of the tubes would also change the interior surface of the tubes, making a request for a smooth finish unnecessary if the tubes were intended to be used in a thin walled centrifuge.

([redacted]) (3) Iraqi Agents Agreed to Pay up to U.S. $17.50 Each for the 7075-T6 Aluminum Tube. Their Willingness to Pay Such Costs Suggests the Tubes Are Intended for a Special Project of National Interest

([redacted]) A [redacted] intelligence report does indicate, as the NIE notes, that Iraq may have agreed to a price of about U.S. $17.50 per tube in an attempt to procure aluminum tubes. Most reports showed, however, that Iraq had negotiated lower prices for the tubes, typically U.S. $15 to U.S. $16 per tube, and as low as U.S. $10 per tube [redacted]. The DOE told Committee staff that according to the IAEA [redacted] Iraq paid between [redacted] for each aluminum tube acquired in the 1980s. If inflation is taken into account, Iraq would be paying less today than in the 1980s for the same tubes. A DOE analyst also contacted a U.S. aluminum tube manufacturer to request a price quote for 7075-T6 aluminum tubes with similar dimensions to the Iraqi tubes. The analyst did not request specific tolerances which could have raised the price of the tubes. The U.S. manufacturer quoted a price of $19.27 per tube, higher than the price Iraq was able to negotiate.

(U) Furthermore, the NIE assessment about the cost of the tubes referenced the fact that Iraq was using 7075-T6 aluminum, which the NIE noted "is considerably more expensive than other, more readily available material." As noted previously, DOD rocket engineers told Committee staff that 7075-T6 aluminum is not more expensive that other suitable materials, suggesting that the use of 7075-T6 aluminum did not increase the cost of the tubes.

[redacted]