Transactions of Scomi Precision Engineering and Bikar Metal Asia
2001-2002

Scomi Precision Engineering (SCOPE) of Malaysia, inspired by BSA Tahir and overseen by Urs Tinner, purchased and machined centrifuge component preforms for the Libyan centrifuge program. Bikar Metal Asia (BMA) of Singapore acquired preforms for SCOPE from at least four companies, including its parent company Bikar Metalle of Germany, Swiss sales agent ASMP that sourced from Russian manufacturers, the Slovakian producer Impol and an unknown Italian company. BMA acquired an almost equal amount of preforms from these firms as it sold to SCOPE.

Documents seized from BMA and its parent company, Bikar Metalle of Germany, show that BMA shipped preforms to SCOPE from November 2001 through September 2002. Annual usage figures from SCOPE show the quantities and dimensions of these preforms and their corresponding finished components. The required quantities of finished components ranged from 10,075 to 13,000, with a mode of 10,100. These quantities correspond with the 10,000 centrifuges ordered by Libya.

BMA shipped the preforms to two SCOPE offices in Malaysia using Kuehne and Nagel Logistics. BMA sent most deliveries to Scomi Sendirian Berhad and billed most purchases to Scomi Precision Engineering. Urs Tinner received correspondence from BMA at both locations while organizing purchase agreements. Other personnel handled follow-up invoices and deliveries.

Tinner used two-digit codes to mark SCOPE's finished components. These numbers labeled the boxes found on the BBC China. Tinner may have coded these to match with the centrifuge component designs furnished by AQ Khan.

SCOPE's usage figures and Tahir's testimony show that the firm machined fourteen centrifuge components. SCOPE purchased other sizes and types of preforms, such as those for bottom bearing cups, feed and withdrawal tubes and rotor tubes, but did not have the technical expertise to machine them. The delivery and machining locations of these parts are unclear. While packing lists and invoices show deliveries to Malaysia, other invoices omit the delivery address. Informal correspondence and invoices show that SCOPE directed some deliveries to KIRAG of Liechtenstein. SCOPE may have transshipped them to KIRAG from Malaysia or may have organized transshipment from afar.

Circumstance surrounding the centrifuge motor housings can illustrate the complexity of the transactions. Urs Tinner ordered preforms for motor housings from BMA. BMA obtained the preforms from its German parent company and accepted payment from Marco Tinner of TRACO. On Urs Tinner's instructions, either BMA or its parent company shipped them to KIRAG. The sender's identity could not be discerned from the accompanying invoices and delivery forms. Some invoices show SCOPE, not KIRAG, as the intended recipient. Marco Tinner obtained the motor housing preforms from KIRAG and machined them at TRACO of Switzerland. A Turkish factory received

the motor housings from Marco Tinner, inserted the motor stator and sent them on to Dubai. The finished component was ultimately destined for Libya, but was seized on the BBC China.

Documents obtained from BMA show discrepancies and possible falsification of customs documents. BMA and SCOPE arranged the sale and shipment of aluminium tubes that can be machined into rotor tubes. In a February 2002 phone interview with the Malay Mail, BMA official Thorsten Heise stated that, "Dual-use aluminium needs special export permits. In Scope's case, it was no problem as the aluminium 6081 and 6082 series are used for commercial applications." Yet a primary invoice and notes in the margin of a packing list show that SCOPE received 7,000 series tubes that, at the diameter given, were customs violations.

Table 1 shows quantities of preforms and centrifuge components that SCOPE ordered from BMA between November 2001 and September 2002. Dimensions are in millimeters. The items listed are tubes unless otherwise stated and quantities are approximate.

Table 1.

End Use (Mly. Police Rpt #)	Preform Quantity	Component Quantity	Material	OD	ID	Preform Length
Bottom Bearing Cup	173	12,802[1]	Cu-Be Bar	16	-	1,000
Crash Ring (12)	10,869	10,869	Al 6082	174	147	222
Feed/Withdrawal Tube	16,091 m	16,091 m	Al 6061	12	10	1,000, 1,090, 2,200
Molecular Pump (5)	10,902	10,902	Al 6082	174	147	192
Outer Casing (4?)	3,775	7,550	Al 6061	212	168	2,300
Rotor Tube	≥ 1,200	≥ 1,200	Al 7075	106	96	395
Motor Housing	9,033	9,033	Al 6082 Bar	210	-	105

Lastly, correspondences between BMA and SCOPE show that Tinner insisted on the highest quality preforms. Tinner measured the wall thicknesses, tolerances and eccentricities of preforms from BMA and was unsatisfied. Upon his complaint, BMA granted SCOPE a discount. BMA also wrote to its European supplier ASMP and asked for a comparable discount while noting that it would not file an official complaint.

[1] SCOPE produced 74 pieces when cutting a 1,000 millimeter long bar into sections of 10 millimeters.