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Company Private

Varian Associates, Inc.
Corporate Audit Department
Audit Report 96-614

Varian Korea Limited
Special Review

Field Work Completion Date: November 22, 1996

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Executive Summary

BACKGROUND

At the request of the VKL Board of Directors, Corporate Audit performed a special review of the transfer of the Etch Project technology to Chung Song Systems and the issues involving the potential dissolution of the Small Systems Business. Additionally, we conducted a preliminary investigation of the supplier relationship with Chung Song Engineering, owned in part by S.K. Suh, a related party.

The Etch Project was initiated as a joint project between VKL and Samsung to produce an Etch System. VKL's responsibility was to develop the backbone and system integration and Samsung was to develop the Etch Module. In April 1996, the project leader, J.H. Bae, left VKL and formed another company, Chung Song Systems. During the fieldwork, we contacted J.H. Bae, who indicated that he was the sole owner of Chung Song Systems; however, we were not able to verify this ownership information of this private company. A number of engineers associated with the Etch Project left shortly afterwards and went to work with J.H. Bae. Samsung has reportedly transferred the related Etch Project documents to Chung Song Systems. The result is that VKL no longer possesses the technology or personnel associated with the Etch Project and is incapable of producing any further systems.

In September 1996, two fairly complete machines produced during the past year by VKL were sold to Chung Song Systems (CSS) at approximately a 15% markup over cost. CSS paid VKL with promissory notes due in December 1996 and March 1997. K.S. Hwang reported that the December promissory note was discounted and sold to the bank with proceeds deposited to the VKL account. Mike Spelman indicated this is a common practice in Korea. K.S. Hwang indicated there are no plans to discount and sell the second note.

AREAS OF REVIEW

Our review was conducted in the following three areas:

- Costs invested in the Etch Project by VKL.
- Review of the Small Systems Business product line.
- Analysis of material purchases by VKL from Chung Song Engineering.

To perform the review steps detailed below, Corporate Audit engaged the assistance of Coopers & Lybrand Korea (Samil Accounting - Mr. Yong-Won Kim, Audit Manager) to review and translate documents, and Mr. Mike Noye, Cost Accounting Manager, Ion Implant Systems.

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AREAS OF REVIEW (continued)

1. Etch Project

Through our review process we estimated the R&D costs incurred on the project to be approximately \$1.4M, comprised primarily of labor, material and overhead.

We reviewed the fixed asset detail and based on our observations, it appears that VKL did not transfer or dispose of any significant assets related to the project.

We recommend in Finding No. 1 that VKL be compensated for their investment in this project and that a standard royalty agreement be developed for any future sales. See Finding No. 1 for additional details.

2. Small Systems Business

In light of the proposed dissolution of the Small Systems Business and the plan to terminate the employment of 31 people out of 41 associated with this business, we have performed a review of Small Systems Business. We noted the total projected layoff is 33 people (as detailed by K.S. Hwang, Finance Manager), with the remaining 2 employees from other areas.

The Small Systems Business (SSB) is involved in manufacturing mechanical components for local Korean customers. It currently employs approximately 20 engineers and support personnel and 20 R&D team members. Gross sales revenue was approximately \$2.7M in 1996. A small warranty liability of \$40K was recorded on the balance sheet for this product line and it appears complete. Fixed assets used by this product line are approximately \$300K. We did not note any significant sales of fixed assets to Chung Song Systems.

VKL provided a list of employees to be terminated in December 1996 in connection with the proposed discontinuation of Small Business Systems operation. We noted the aggregate annual salaries for the 33 persons involved approximated US\$910K. A resulting statutory termination pension benefit payout of US\$395K is required by the Korean government. This amount has already been accrued monthly in the normal course of operations. With the proposed layoff schedule, only 6 people would remain in the Small Systems Business group and 4 in the related research and development group.

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K.S. Hwang indicated that many of the terminated employees may go to Chung Song Systems. In order to determine the cost of training these employees, we reviewed the length of service, promotion structure and training costs at each level (as provided by IIS). We have estimated the training cost of these 33 employees based on their years of service to VKL to be US\$500K.

In Finding No. 2, we recommend that VKL seek compensation for the training investment of the personnel who transition to Chung Song Systems or the future buyer of SSB and that an independent valuation be performed to determine the fair market value of this business. See Finding No. 2 for additional details.

3. Chung Song Engineering

Chung Song Engineering is owned in majority by S.K. Suh, the VKL joint venture partner. VKL purchased approximately US\$1.4M worth of parts from Chung Song Engineering (CSE) during FY 1996. We obtained a copy of the unaudited financial statements for CSE for the nine months ended September 1995 and noted that the purchases from VKL comprised approximately 100% of CSE's total *annualized* product sales (versus service).

From the list of parts purchased from CSE, we selected a number of parts that we wished to compare price paid to CSE versus competitive quotes. Per K.S. Hwang, no quotes are obtained on parts purchased from CSE. Therefore, we requested the technical drawings for these parts to compare them to similar parts purchased at IIS. VKL was very reluctant to provide this documentation and failed to provide some promised drawings after the completion of our fieldwork. We did obtain four drawings and, we noted that VKL paid between 17% - 157% more than the IIS cost for the same or technically similar part.

In Finding No. 3, we recommend that pricing policies and procedures with Chung Song Engineering be reviewed and any proprietary parts produced by Chung Song Engineering be properly protected by confidentiality agreements between Varian and CSE. See Finding No. 3 for additional details.

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Finding No. 1



VKL should be compensated for the investment cost of the technology transferred to Chung Song Systems and a standard royalty agreement established for all future sales.

Finding:

R&D Project Cost

The following represents VKL's Etch Project costs for prototype development efforts as reported at the Board of Directors meeting April 25 - 26, 1996 and as recalculated by Corporate Audit. It does not include the costs to build the two production machines once the R&D work was completed.

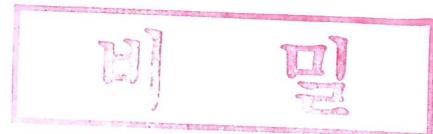
	<u>Reported to</u> <u>Board of Directors</u>	<u>Calculated by</u> <u>Corporate Audit</u>
Materials	US \$550K	US \$550K
Labor	221K	399K
Travel	<u>10K</u>	<u>10K</u>
	781K	959K
Training		134K
Overhead Costs		268K
Gen'l & Admin	<u>78K</u>	<u>78K</u>
	<u>US \$781K</u>	<u>US\$1,439K</u>

We noted that the labor cost had remained unchanged since July 1995 and therefore, we determined the personnel involved, length of time involved and related salaries and recalculated the labor. Based on our calculation, we have determined the labor portion to be US\$399K.

We also noted that overhead and general and administrative costs had not been allocated to the project. We determined the overhead allocation rate by using R&D overhead to total R&D labor and applied the rate to the project labor amount. We then calculated an allocation of G&A based on total G&A less certain selling expenses and warranty costs (which, in Korean accounting, are classified as G&A) to total sales. Overhead and G&A are US\$267K and US\$78K respectively. Both K.S. Hwang and C&L Korea have concurred with our calculation estimates.

As part of the technology transfer to Chung Song Systems (CSS), J.H. Bae, Etch project leader, and 4 Etch Project employees moved to CSS and VKL has lost an estimated \$133K of staff training and development costs associated with these employees. The project originally engaged 10 people - only 4 remain (1 employee retired).

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K.S. Hwang indicated that all related technical drawings were passed from Samsung to CSS and that no drawings were given from VKL to CSS.

In total, we have estimated the R&D Etch Project investment to be \$1,439K.

Manufacturing Revenue and Costs 제조수익과 비용

After the prototype work was completed, the two production systems were produced by VKL and sold to Chung Song Systems, who, in turn, has sold or will sell them to Samsung. We reviewed the appropriate documentation to verify the sales price recorded in the general ledger without exception. The revenue and costs recorded were as follows:

	<u>Machine 1</u>	<u>Machine 2</u>
Revenue	\$1,283	\$927
Direct Costs	<u>1,116</u>	<u>809</u>
Profit	<u>\$ 167</u>	<u>\$118</u>

We also reviewed the bill of materials for the machines and tested the cost of a number of components to original invoices without exception. We also reviewed the method of allocating overhead to the Etch machines and noted it was consistent with other similar systems. It appears the revenue and costs recorded for these two production machines are reasonably recorded.

Backlog

On November 14, 1996, we discussed the possibility of future orders for the Etch System with J.H. Bae of Chung Song Systems, who indicated that he had no additional orders for the machine. This was also reiterated by K.S. Hwang of VKL. We note that S.K. Suh was not present during the audit and we have not directly asked him this question. As CSS is a private company, we were not able to obtain from public sources or review any financial information or company formation information with respect to this company.

Joint Project Agreements

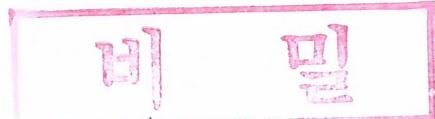
During the course of our review we could not locate a specific agreement between VKL/Varian and Samsung addressing the details of the arrangements for rights to the technology and related intellectual property for this Etch Project. We understand there are other co-development projects ongoing at VKL.

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We recommend that the VKL Board obtain compensation from Chung Song Systems for VKL's R&D investment in the Etch Project, including development of a standard royalty agreement for future sales related to the technology involved. The royalty agreement should provide for an annual audit of all Etch related sales made by Chung Song Systems. We also recommend that for each current or future co-development project that a detailed agreement be developed describing the rights of each party in the project. We also recommend an independent audit of Chung Song Systems to determine ownership, business activity and true current backlog or future commitments for the Etch technology products.

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Finding No. 2



VKL should seek compensation for training costs associated with Small Systems Business personnel transitioning to Chung Song Systems or other future buyer.

Finding:

The termination of the Small Systems Business was raised at the October 21-22, 1996 VKL Board meeting. The termination of the Small Systems Business would result in the loss of 31 employees and approximately \$2.7M in revenue annually. We have calculated the training and development investment in the 31 related employees to be approximately US\$500K.

We reviewed the warranty obligations relating to sales in Small Systems Business and noted they approximate US\$40K, which represents all current warranty obligations. We also reviewed the material fixed assets related to Small Systems Business, which approximated \$300K. We observed drawings that relate to the Small Systems Business but no value was assigned to these items per the fixed asset detail.

During our visit, K.S. Hwang indicated that many of the employees who would be terminated as a result of the discontinuation of the Small Systems Business would probably go to work at Chung Song Systems. On November 14, 1996, we discussed the Small Systems Business with J.H. Bae, who indicated that he did not know if he was interested in purchasing the Small Systems Business.

Recommendation:

Based on the training investment involved and the impact of a potential transfer of SSB activity to Chung Song Systems, we recommend that an independent audit of Chung Song Systems be performed by Coopers & Lybrand to assess backlog and future sales potential of SSB sales activity. We also recommend that the VKL Board obtain compensation for the training investment in personnel who may transfer to CSS as well as compensation for any future SSB personnel transferred to CSS.

We also recommend an independent valuation be performed in connection with determining the fair market value of the Small Systems Business for purposes of sale to a third party. Additionally, in order to maximize VKL's investment in training and development costs of related employees, we recommend that the transfer of the business be structured to include the appropriate personnel.

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Finding No. 3

An independent audit of Chung Song Engineering should be performed to verify pricing of products sold to VKL.

Finding:

During the statutory audit for FY 1995, Coopers & Lybrand noted that VKL purchases components from a company, Chung Song Engineering, that is owned in majority by VKL's joint venture partner, S.K. Suh. In order to determine that transactions are occurring at arms-length, we reviewed the annual purchases from Chung Song Engineering and selected a number of parts, with the intention of reviewing competitive bid files. Since we were informed that bids are not pursued, we then attempted to obtain technical drawings for these parts. We only obtained a few parts which were reviewed by the engineering staff at IIS. The following chart represents the cost (in US\$) to IIS and VKL of the same part.

<u>Part Name/ Number</u>	<u>Description</u>	<u>VKL Cost from CSE</u>	<u>IIS Vendor Cost</u>	<u>Difference</u>
101480001	Arc Chamber Front Plate	\$ 329	\$ 171	92%
F5392001	Arc Chamber MED Body	\$ 549	\$ 311	76%
E11048430	SDS Upgrade Kit	\$10,976	\$4,272	157%
VSE17011320	Source Filament Insulator	\$ 6	\$ 5	17%

Recommendation:

We recommend that a third party audit (such as Coopers & Lybrand with assistance from IIS technical staff) be conducted to review the pricing for products purchased by VKL. This review should be a comprehensive review of the cost paid for all significant parts purchased by VKL from CSE vs. the cost of those same parts from IIS. All future purchases by VKL should be from the lowest cost provider.

We also recommend as part of this review that any proprietary Varian parts produced by CSE be specifically protected by a Confidential Disclosure Agreement between Varian and CSE.