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LONG RANGE PLAN
(FY80-FY84)

G. V. Butler

1.29.80

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Computer Special Systems

CSS LONG RANGE PLAN
BOOK #36
COMPANY CONFIDENTIAL

CORPORATE
CONFIDENTIAL

LONG RANGE PLAN
(FY80-FY84)

G. V. Butler 1.29.80

ABSTRACT

DISTRIBUTION:

"CMC" DISTRIBUTION

JIM COBURN	NU/D1
BILL GLOVER	PK3-1/P84
RUSS GULLOTTI	NP/A2
BRUCE PALMER	MK1-2/B11
MIKE SANDERSON	NP/A2
DAVE SPRATT	NP/A2
KRISTOFFER SYGEL	RA
FRANK WROE	HD

CSS WORLDWIDE BUSINESS MANAGERS

JIM BENNETT	HD
CARL CHAMPAGNE	KA
JOE DiNUCCI	CW
JOHN FARKAS	LK
PER-ARNE FRIMAN	SO
STUART HAUGHTON	RE
RON LANG	NU/D5
CHRIS MICHEL	AE
NICK RAMENSKY	SN
DAVE RASMUSSEN	NU/C1
PETER REISSER	MU
HIRO WATANABE	TQ

AREA MARKETING MANAGERS

FRITZ AUMANN	HD
ERIC COCKER	RA
MARK UHRICH	PK3-1/P84

Stan Olsen	MK1-2/C36
Pat Kress	MK1-2/E33
Bruce Delagi	MR2-1/M64
Bruce Ryan	MK1-2/E33

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INTEROFFICE MEMORANDUM

TO: "CMC" Distribution
CSS Worldwide Business Managers
Area Marketing Managers

DATE: 21 MARCH 1980
FROM: JERRY BUTLER
DEPT: CSS P. L. ADM
EXT: 264-6209
LOC/MAIL STOP: NP/A2

SUBJECT: ORGANIZATIONAL ANNOUNCEMENT

A fundamental strategy of CSS, over the next several years, will be to develop a market focus around application families and product groupings which are based somewhat upon technology skills concentrations. In order to achieve this focus, CSS will identify four market sectors:

1) INDUSTRIAL/SCIENTIFIC;
2) COMMERCIAL/BUSINESS;
3) CUSTOM MICROS & TERMINALS; AND
4) COMMUNICATIONS/MULTIPROCESSORS

To facilitate this focus, we will be assigning a market manager for each of the four sectors. These market managers will be part of the Corporate Staff and will report to the CSS Product Group Marketing Manager. The responsibilities of these managers will be to draw together strategies, product plans and product management on a worldwide basis.

The Long Range Plan provides more detail on pages 11 through 16, page 23--strategy #5, and pages 25 through 31.

We will discuss this further at our upcoming Woods Meeting in April. However, the purpose for making this announcement now is to provide background information to support the attached promotional announcement.

JB:dc

Attachment

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INTEROFFICE MEMORANDUM

TO: "CMC" Distribution
CSS Worldwide Business Managers
Area Marketing Managers

DATE: 21 MARCH 1980
FROM: JERRY BUTLER
DEPT: CSS P.L. ADM
EXT: 264-6209
LOC/MAIL STOP: NP/A2

SUBJECT: PROMOTIONAL ANNOUNCEMENT

Effective Monday, March 24, Fritz Aumann is promoted to the position of Communications and Multiprocessors Market Manager. He will continue as CSS USA Marketing Manager until such a time as a replacement is named. Fritz has been with Digital for more than ten years and has held several key assignments with CSS including Business Manager for Multiprocessors and Communications Equipment in Maynard, Business Manager for the CSS Western Regional Group, and most recently USA Area Marketing Manager. His experience and skill in business management along with his previous assignment in this specialty area uniquely qualifies him to meet the demands of this new position.

I know you all join me in congratulating Fritz on his promotion.

JB:dc

DISTRIBUTION:

FRANK WROE	HD
FRITZ AUMANN	HD
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ALEX CAMPBELL	HD
JOE DiNUCCI	CW
RON LANG	NU
DAVE RASMUSSEN	NU
DAVE SPRATT	NP
PAUL THORN	NU
JIM COBURN	NU
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KENN FARRELL	NU
PER-ARNE FRIMAN	SO
STUART HAUGHTON	RE
CHRIS MICHEL	AE
NICK RAMENSKY	SN
PETER REISSER	MU
HIRO WATANABE	TQ
PAUL CHURINSKE	HD
CARLTON DAVENPORT	NP
MIKE BILBAO	PK3-1
LOU LaROCCA	NP
PHIL LONDON	RA
GEOFF OADES	RA
BILL GLOVER	PK3-1
RUSS GULLOTTI	NP
BRUCE PALMER	MK1-2
MIKE SANDERSON	NP

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INTEROFFICE MEMORANDUM

TO: DISTRIBUTION

DATE: 27 MARCH 1980
FROM: JERRY BUTLER
DEPT: CSS P. L. ADM
EXT: 264-6209
LOC/MAIL STOP: NP/A2

SUBJECT: ADDENDUM TO THE CSS LONG RANGE PLAN
FURTHER DETAILS CONCERNING THE IMPLICATIONS OF BUSINESS UNIT COMPETENCE CENTERS UPON THE AREA ORGANIZATION

There are several statements in the Long Range Plan which are misleading. These lead one to draw the conclusion that the competence centers will remain responsible for all business activity within a geography (country or subsidiary), in addition to assuming a focus on specific competence(s). That conclusion is incorrect except for the business units which are remotely located in separate continents or hemispheres (Japan and Australia). It is our intention to separate the field application engineering activities from the business unit marketing activities. The field located application engineers will become a part of a "CSS SALES FORCE" reporting to the Area Marketing Managers and ultimately to Sales. These application engineers will be held responsible for booking business on behalf of any or all competence centers into their assigned geographies.

The business unit (i.e., technology center) marketing people will be responsible for providing support to the field application engineers in all geographies regarding the competence specialties offered by their business units. In this regard then, the relationship of the competence center manager to the subsidiary manager (where his business unit is located) is that of a tenant (issues discussed by the business unit managers and subsidiary managers involve wage scales, benefits, and general subsidiary strategies which impact his organization).

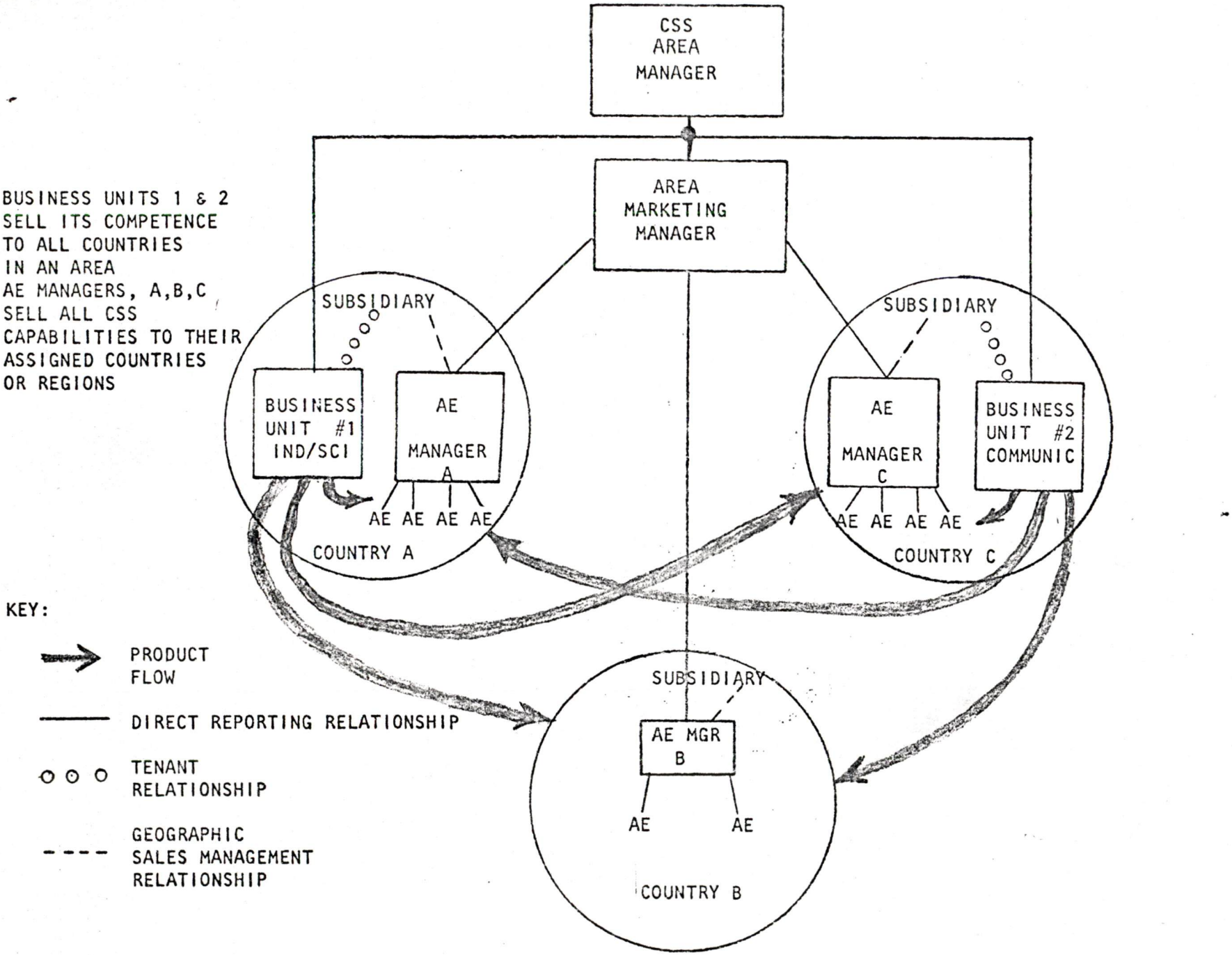
The country AE manager will be responsible for supporting the country sales manager (or subsidiary manager, if there isn't a sales manager) on sales strategies, bookings related activities, and salary structures for AEs. Therefore, in the long term, the responsibility for geographic management rests with the AE manager not the business unit manager as implied several places in the Long Range Plan.

The attached organization chart should help clarify this.

JB:dc

Attachment

CORPORATE CONFIDENTIAL


CSS
AREA
MANAGER
AREA
MARKETING
MANAGER
BUSINESS UNITS 1 & 2
SELL ITS COMPETENCE
TO ALL COUNTRIES
IN AN AREA
AE MANAGERS, A,B,C
SELL ALL CSS
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ASSIGNED COUNTRIES
OR REGIONS
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KEY:
PRODUCT
FLOW
DIRECT REPORTING RELATIONSHIP
TENANT
RELATIONSHIP
GEOGRAPHIC
SALES MANAGEMENT
RELATIONSHIP

OVERVIEW

"PRESENTATION"

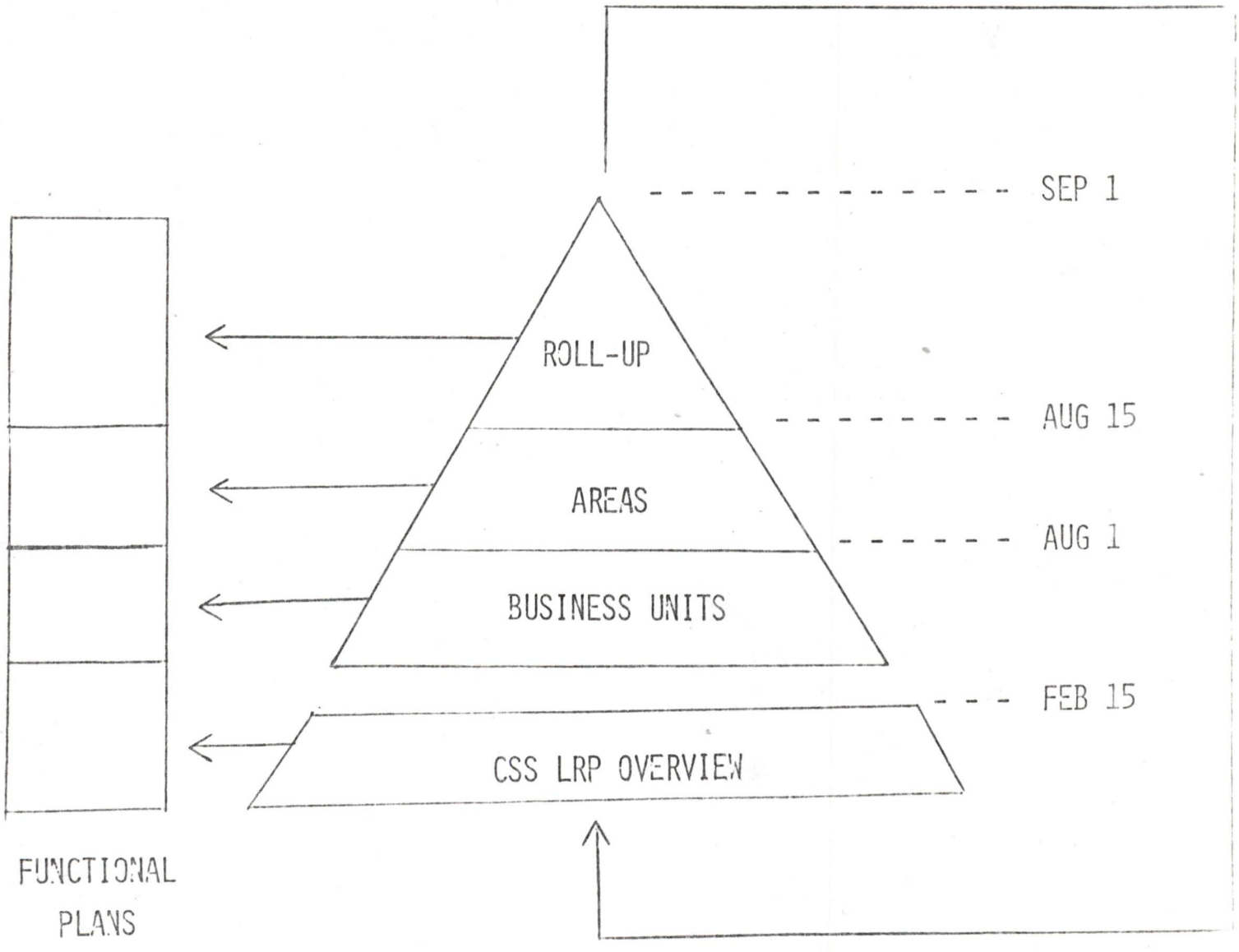
- PLAN PROCESS
- OPS COMMITTEE PRESENTATION
- SOME IMPACTS
- OPS COMMITTEE RESULTS

DETAILS

"CHALK TALK"

- SEGMENTATION (DETAILS)
- ORGANIZATIONAL STRATEGY (DETAILS)
- MFG STRATEGY (DETAILS)

QUESTIONS/ANSWERS



CSS LRP PROCESS

THE FOLLOWING IS A SUMMARY OF CSS LRP REVIEW MINUTES :

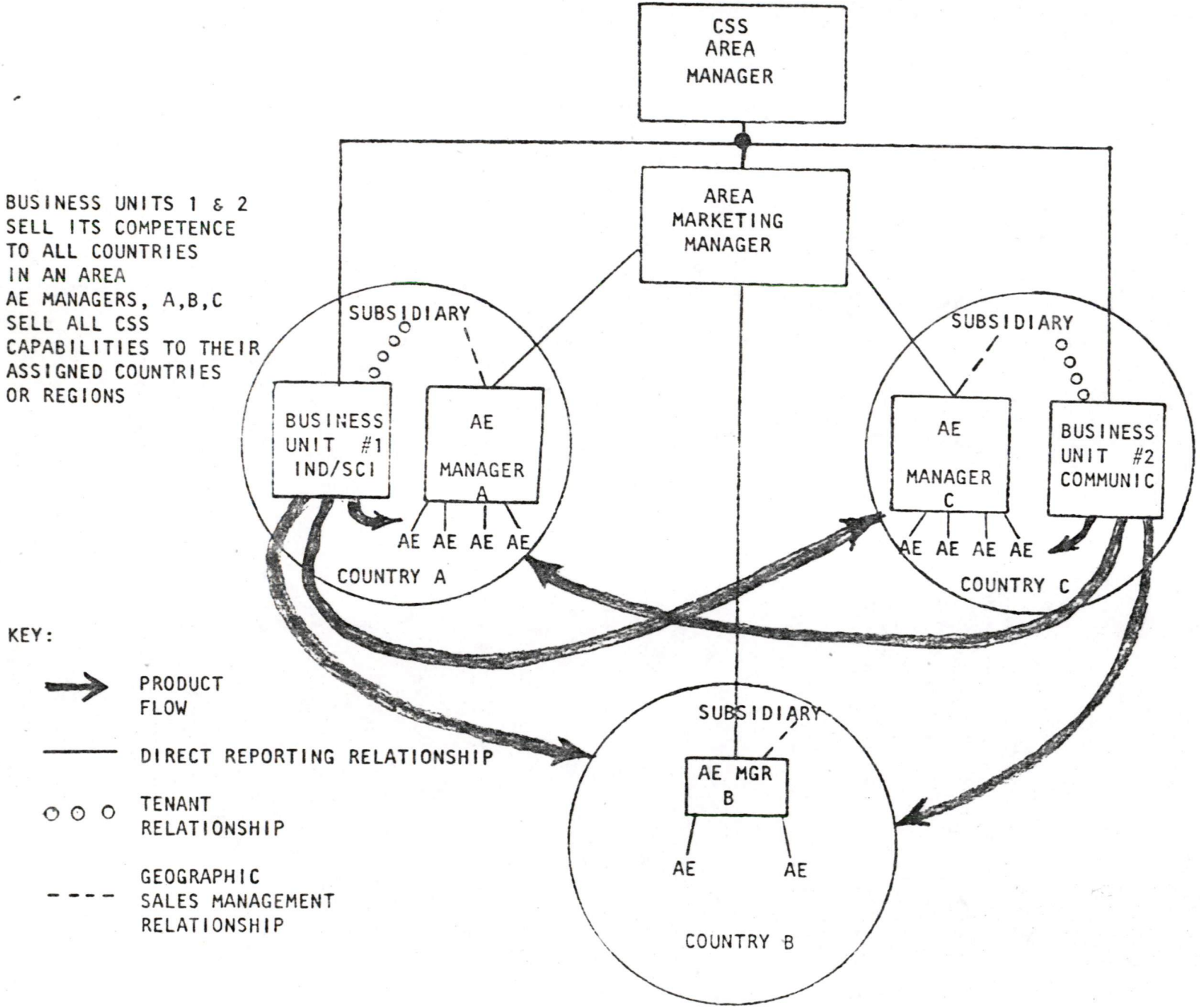
1. PLAN APPROVED.

2. BILL THOMPSON WOULD LIKE TO DISCUSS THE FY81 NUMBERS IN OUR BUDGET SESSION.

3. CSS DOES NOT NEED TO GROW. WE SHOULD SET OUR GROWTH AT A LEVEL WHICH IS MOST COMFORTABLE AND CONDUCIVE TO SUCCESS.

4. JULIUS MARCUS AND ANDY KNOWLES ARE TO TAKE RESPONSIBILITY FOR INITIATING AND DRIVING THE PRODUCT GROUPS TO OBTAIN JOINT STRATEGIES, PLANS, AND IMPLEMENTATION CONTRACTS WITH CSS.

-oOo-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SUBSIDIARY
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COUNTRY B
KEY:
PRODUCT
FLOW
DIRECT REPORTING RELATIONSHIP
TENANT
RELATIONSHIP
GEOGRAPHIC
SALES MANAGEMENT
RELATIONSHIP

MANUFACTURING STRATEGY

VOLUME PLANT(S)

- LOW COSTS
- HIGH EFFICIENCY
- FORMAL FORECASTS
- INDEPENDENT TIES
- OPTIMIZE CAPACITY RISKS

JOB SHOP PLANT(S)

- HIGH RESPONSIVENESS
- SHORT RUNS
- HIGH TECHNICAL CAPABILITY
- HIGH OFFLOAD PERCENTAGE
- LESS FORMAL METHODS
- DEDICATED TO BUSINESS UNIT CHARTER

MANAGEMENT ABSTRACT

SCOPE OF PLAN: This is an overview document intended to provide a frame of reference for individual CSS business unit planning.

THEME: Improve profits. Make CSS a strategic resource instead of a tactical service.

CHARTER: Unchanged.

BUSINESS SEGMENTATION: Develop market focus.

	CSS FOCUS	MARKET GROUP
Four Market Segments - and a Local activity Segment	Industrial/Scientific Business/Commercial Custom Micros/Terminals Communications Subsidiary Activities	Technical Commercial Computer Products
Three Product Classes -	New Design System Products Stand-alone Products	
Business Units -	Become Competence Centers	

SALES OUTLETS:

Customers - End Users, OEMS.

Modes of Selling
- System Products are sold by other product line salesmen with CSS AE support.
- Stand-alone products are sold by CSS funded salesmen.
- AE's to be managed by sales.

GENERAL BUSINESS STRATEGIES:

- Leverage Digital Sales
- Price to get what the market bears
- Use customer resources
- Manage the risk profile to control profits
- Invest in winners
- Focus CSS by market segment
- Prepare, publish, and operate to a plan
- Integrate CSS with Digital
- More Drive - Less React
- Increase productivity with tools

P&L TIMELESS MODEL:

NOR	100%
GM	51%
EXPENSES	30.5%
PBT	20.5%
PAT	12.3%
ROA	17.4%

ORGANIZATIONAL STRATEGY:

Functional Staff Managers	- Set Policy and Strategy
Marketing	- Sets strategic market direction
Operations	- Responsible for tactical operations, profits (2 year time frame)
	- Operations units function as technology centers

MARKETING STRATEGY:

- Develop a strategy with each product line.
- Focus strategies into four market segments
- Limit number of applications
- Get worldwide focus on products.
- Product Lines must budget and forecast non-strategic CSS activity

COMPETITION:

- CSS prices are very high
- We can continue to demand high prices
- Winning strategies
  - . Focus on target technologies/markets
  - . Invest in products and packages
  - . Reduce learninig costs through repeat efforts

FUNCTIONAL STRATEGIES:

Engineering	- Stop duplication - Focus on technology competences - Integrate with central engineering
Manufacturing	- Manage volume production centrally - Keep business units focused on job-shop concepts. - Build materials responsiveness

Personnel	- Develop Business growth models - Execute human resource plan to support models - Establish an environment for creativity and productivity
F & A	- Improve controls - Provide MIS tools
Customer Services	- Planned Product Introductions - Develop CSS Maintainability Strategy

FINANCIAL PROJECTIONS

	79	80	81	82	83	84
NOR	56	68	82	102	125	152
GROWTH		21%	20%	24%	23%	22%
PBT	7.7%	17.5%	16.1%	17.1%	18.4%	19.3%
ROA	9.7	15.0	14.2	15.2	17.0	17.8

RISKS/ISSUES

R	- Business mix control
R	- Change (culture, business posture)
R	- Manpower intensive
R	- Old products
I	- Other product groups have no CSS strategy
I	- Sales Funding
I	- Plan not reviewed by others, yet.

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CSS LRP TABLE OF CONTENTS

INTRODUCTION

SCOPE OF PLAN

It is the intent of this plan to be an overview document. Because it is an overview, this document contains no geographic strategies or specific product strategies. It will be used to set the direction of the product group and be a frame of reference for the preparation of five year plans by each of the business units which make up CSS.

PLAN PROCESS

Over the next few years, we are planning to make some major changes in the way we operate. These changes are necessary to react to the long-term erosion of profits of CSS. For that reason and also because we haven't done a plan in two years, we are starting from scratch. The process we are using to develop the plan is as follows:

AUG-OCT '79	. Assess the status of CSS
NOV '79	. Challenge the charter and rewrite it if necessary
DEC '79	. Obtain inputs from other product lines
DEC '79-JAN '80	. Review & reestablish the definition of markets assigned to CSS . Establish timeless P&L model objectives . Establish the general business strategies . Establish the strategies & direction for CSS by function and by market . Set 5 year volume profit & asset targets . Complete the 5 year plan overview Represented by this document . Review with CPG VP
FEB '80	. Review with OPS Committee and gain approval of direction and targets
FEB-JUL '80	. Integrate plans within CSS & outside CSS
JUN '80	. Acquire plans by business units who use targets & strategies as a frame of reference
JUL '80	. Complete 5 year plan

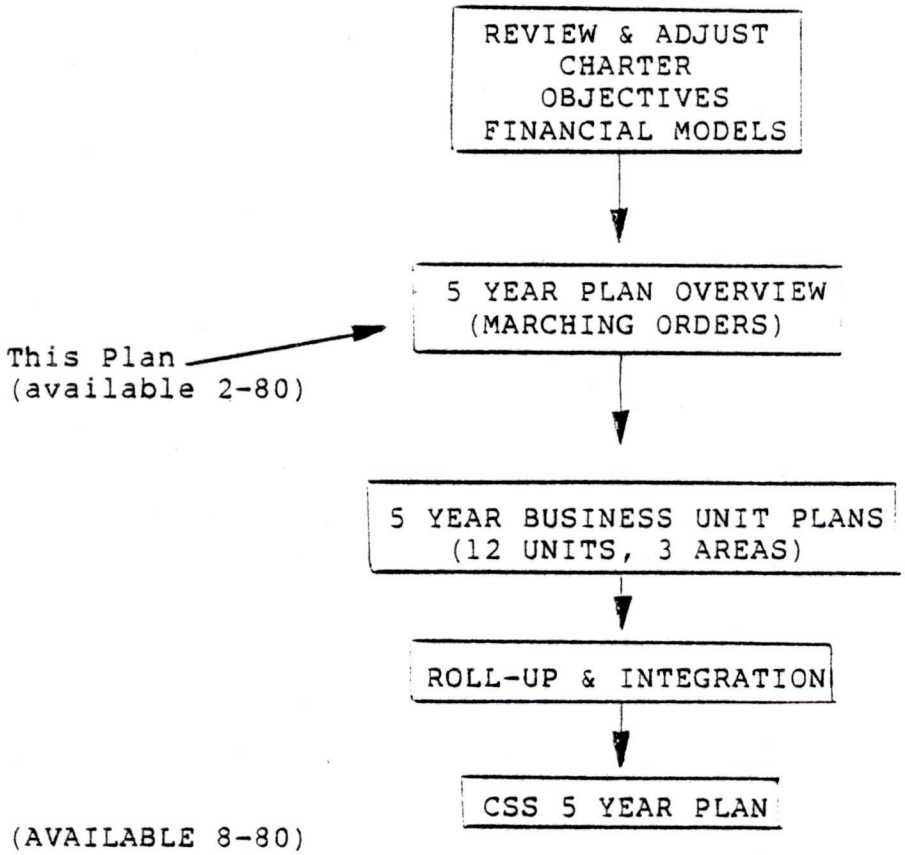

FIGURE 1.1 PLAN PROCESS.

PLAN THEME

The four year profit performance History of CSS (excluding the current FY'80 forecast) shows a negative trend while product group volume growth has remained better than 30% per year.

	FY76	FY77	FY78	FY79	FCST FY80
NOR	23M	30M	42M	56M	68M
GROWTH %	30%	34%	34%	35%	21%
PBT %	14.3%	13.5%	12.8%	7.7%	17.5%
ROA %(est)	13.6%	8.3%	4.2%	9.7%	15.0%

Some of the key factors contributing to declining profits are as follows:

1) A conscious effort to increase our business in the software applications area was undertaken by most business units. The effort to increase this business was successful. However, the profitability of it was poor for the following reasons:

   - Insufficient project management discipline and personnel
   - Poor assessment of customer expectations
   - Weak estimating skills
   - Very large jobs
   - Low applications knowledge
   - No two jobs were alike (amplifying learning costs)

2) Business units went through cycles of low backlog causing them to accept large jobs at aggressive prices. This tended to amplify the business unit problems extending the depth of the problems and the recovery period.

3) Few management tools (including MIS) were made available to accommodate the product line growth. Most business units had entirely manual administrative systems. With increased growth the amount and timeliness of management information suffered.

4) Business units were striving for growth. Because appropriate administrative tools were not available, the overhead structures grew faster than the real business growth rate putting additional pressure on margins.

5) Little market focus or direction was established. This puts CSS in a position of doing too many one-of-a-kind jobs. The cost of learning was high and the return on the learning effort low.

To limit the recurrence of these problems in the future. We are making a fundamental change in product line direction. CSS will move from a tactically used and managed resource toward a strategically managed group. This then becomes the basic theme of the long range plan. Supportive elements of this theme which can be found in every section are:

- Establish market focus and direction
- Install management tools, methods, procedures
- Control growth
- Limit risk

ASSUMPTIONS

- No major Digital organizational changes.
  - The Product Group remains the fundamental strategic business unit.
  - Areas are not given individual autonomy for business strategy and direction.
  - No change in the CSS Charter.
  - No change in other product line charters which would have substantial impact on CSS.
- Accounting practices do not change substantially.
  - Allocation algorythms do not change substantially.
  - Major below-the line expenses are not reclassified above the line without corresponding reductions of corporate allocations.
  - Owned buildings and/or leaseholds are not assigned to controllable asset base.
- We will be allowed a reasonable period of time to achieve our model performance. During that period, investments in control, support systems, and product development will be approved consistent with our plan.
- Contents of this plan are consistent with proper interpretation of the CSS charter.
- Other product lines and functions do not intend to compete with CSS rather they intend to seek integration of strategies with CSS to achieve their business objectives.
  - CSS will be the only group to conduct hardware engineering contracts with customers.
  - CSS & SWS operating according to their charter statements will be the only groups to conduct software engineering contracts with customers.
- CSS will face continued heavy pricing pressure from all its competitors. We will remain a high quality high priced business.
- Growth will be consistent with our financial, profit, ROA, and cash flow objectives. Growth will not be an objective but rather the result of carefully managed business.

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CHARTER

On November 5th, 1979 a discussion was held in the marketing committee on the subject of the CSS charter. At that meeting problems with the operating interfaces to other product lines were highlighted and charter alternatives discussed. The general consensus was (no vote was taken) that the CSS charter should not change. Based upon that recommendation CSS will operate in accordance with the April, 79 official charter. In order to resolve some of the problems associated with the interface to other product lines we have attempted to integrate the CSS market plans and strategies with the other product lines. The process used to gain integration was as follows:

Step 1: CSS presents capability profiles and business mix data to product lines.

Step 2: Product lines prepare CSS strategy statement and highlight needs.

Step 3: CSS prepares long range plan using PL inputs.

In general, though some improved integration of plans was achieved, the plans from other product lines lacked focus and specificity for CSS. Since direction and focus are necessary to achieve improved profitability, CSS has established focus and direction in the plan based upon our own knowledge of the market place and upon an assessment of our capabilities. We will attempt to gain further integration of this plan with other product lines by inviting their critique in a long range plan review session.

CSS GROUP CHARTER

MISSION:

The primary business of CSS is to sell design services and resulting repeat products to Digital customers. CSS sells repeat products (both hardware and software) which result from customer contracts.

CSS objective is to aid in the development of key accounts and to provide products and services that aid in obtaining system sales for Digital.

CSS is an application development resource for Digital and, therefore, takes responsibility for customer funded, reusable application software.

A. CSS bids and executes repeat software and hardware development projects.

B. CSS operates from an identified market strategy.

C. CSS is responsible for repeat product sales.

D. CSS is responsible for software on all CSS hardware design projects.

CSS is a resource to develop and sell low volume products which complement our standard product strategy with the intent of aiding in the sale of standard Digital products.

MARKETS: CSS is chartered to provide custom systems and custom products in all of Digital's markets.

TERRITORY: All geographic areas are covered by CSS.

RESOURCES: CSS resources include all of the staff necessary to quote, contract, design, construct, and deliver a finished product to our customer. CSS is represented by Application Engineers in the field.

TERMS: Unique CSS terms and conditions agreements are employed for the sales of CSS services and products in all cases except the sale of specially designated low volume CSS repeat products which may be sold under standard terms and conditions of OEM, End User and Components groups. CSS is authorized to set prices for its products and services when quoted on a bid basis.

PROFIT GUIDELINES: CSS profit goals are consistent with corporate profit goals for all product line business. Where practical, consistent measures of performance are applied.

PRODUCTS: CSS sells products and product design services that are customer funded but may result in consequential repeat sales. CSS also develops and markets repeat products. Product responsibility can shift to another product line or Central Engineering upon mutual agreement with CSS, and willingness to invest in this process.

CSS is responsible for product quality and support for any unique product designed by CSS and sold by CSS to meet a special need.

*SYSTEM CREDIT:

CSS will take total responsibility for an order under the following conditions:

- There is joint agreement between the mainframe Product Line manager and the CSS area manager, and;
- CSS is taking most of the financial risk, and;
- CSS is responsible for more than 50% of the revenue.

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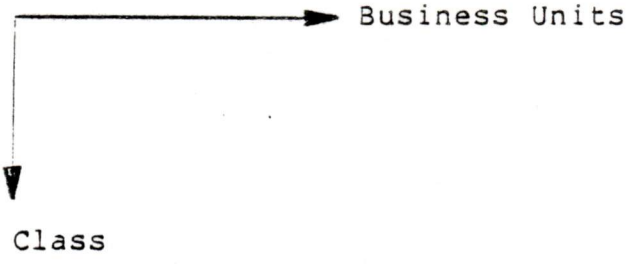
BUSINESS SEGMENTATION

CURRENT SEGMENTATION:

Today CSS segments its business along two axis - Business Unit (geography) and Product Class.

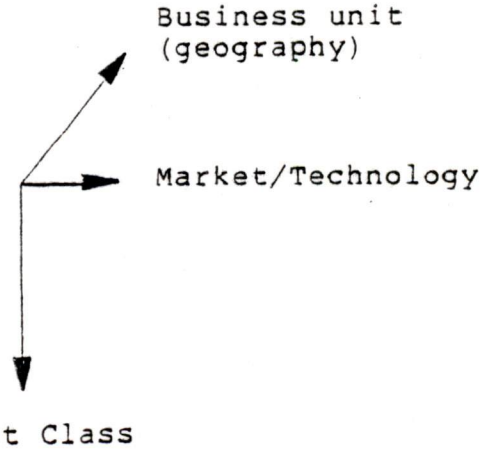


There are twelve business units which roll up into three areas which roll up into the product group. In addition, the product line reporting has been segmented into product class.

PL42 - New Design Hardware
PL43 - Software
PL49 - Products

PLANNED SEGMENTATION:

A fundamental strategy of CSS over the next several years will be to develop a market focus around applications families and product groupings which are based somewhat upon technology skills concentrations. Beginning in FY'81 CSS will segment its business along three axis - Business Unit (geography), Product Class, and Market/Technology sector.



MARKET SEGMENTATION

In order to achieve a focus by Market/Technology CSS will identify four market sectors:

Industrial/Scientific
Commercial/Business
Custom Micros & Terminals
Communications

Table 3.1 shows the product families, example applications areas, and required skills for each sector. It should be noted that the Industrial/Scientific, Commercial/Business, and Custom Micros & Terminals sectors, respectively, approximately align with the Technical Market group, Commercial Market group, and Computer Product Market, groups respectively. The industrial activities (MDC) are grouped with the technical group for technology focus reasons.

SUBSIDIARY ACTIVITIES

In addition to the four market segments we will establish a segment to accomodate the activities unique to local business units which don't fit the CSS corporate strategic objectives. These activities will be budgeted in conjunction with the local subsidiaries and the other product lines. The activities conducted in this sector must achieve high profits (60% Gross Margin) or be funded external to CSS consistant with an annual budget.

The kinds of activities which fit in this catagory include:

Local communication option qualifications (Australia)

Special cables and system configuring

Support activities to lever sales

Funding agencies can include Subsidiaries, Central Engineering, and other Product Lines.

BUSINESS UNIT SEGMENTATION

We expect the character of business unit to move from an all-purpose CSS center supplying all CSS goods and services to all markets in a geography toward a competence center possessing certain specified local skills. The competences maintained in a local business will be determined by the local market demand on a planned priority basis. See Fig. 3.2 It is assumed that a CSS Business Unit cannot be "All Things To All People". With the exception for certain very specific local requirements we expect the skills developed in a unit to concentrate on one or more of the four key business segments.

MARKET FOCUS	HARDWARE PRODUCT FAMILIES	APPLICATIONS	TECHNOLOGIES	
			H.W.	S.W.
INDUSTRIAL/ SCIENTIFIC	Process I/O, A-D,D-A Conv. Industrial Packaging Instrumentation Interfaces	Scan-Log-Alarm Energy Management Bldg. Security Systems, Materials Handling	Analog Packaging Instrument -ation	RSX11 RT11 VMS Microwave
BUSINESS APPLICATIONS	Document Readers Document Printers Terminals Tapes Card Readers	Payroll Accounts Payable Accounts Receivable Inventory Control General Ledger	Peripherals	COBOL DIBOL Microwave
COMMUNICATIONS	Multiplexers Concentrators KMS/KMC Micros Bus Switches Line Switches Inter Processor Com	Polling Switching Store and Forward Special Protocols	Multi Proc HWE COM HWE	Microware Protocols IBM Inter-connect RSK VMS
CUSTOM TERMINALS/MICROS	Microprcessors Terminals	Banking Terminals Factory Terminals HASP Work Stations	Terminals Packaging Micro Proc. Applic.	Microware

CSS will develop specific focus within each business unit. In addition certain units may build capabilities not explicitly covered above to accomodate the needs fo the local subsidiary.

Table 3.1

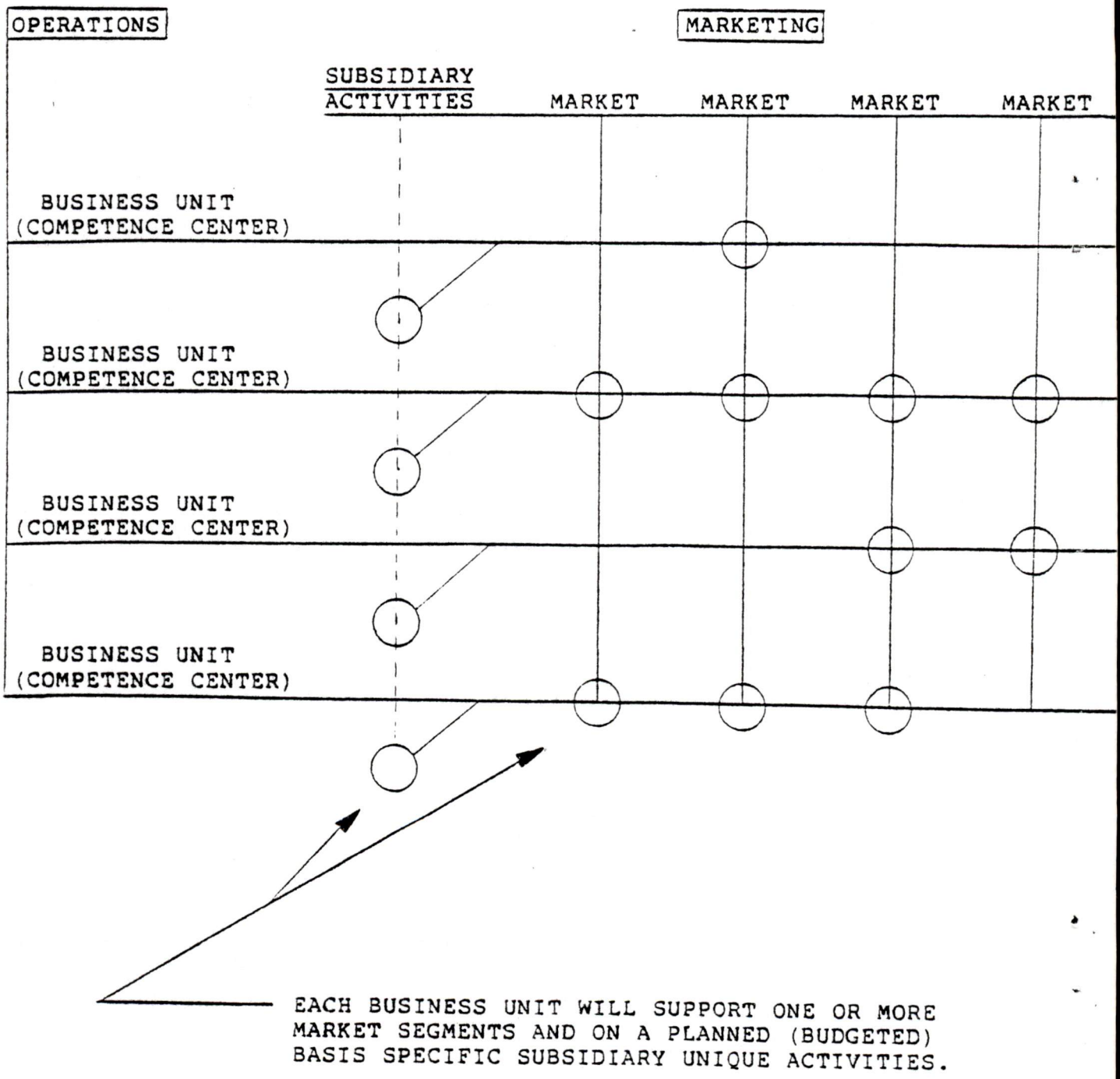

OPERATIONS
MARKETING
SUBSIDIARY ACTIVITIES
MARKET
MARKET
MARKET
MARKET
BUSINESS UNIT (COMPETENCE CENTER)
BUSINESS UNIT (COMPETENCE CENTER)
BUSINESS UNIT (COMPETENCE CENTER)
BUSINESS UNIT (COMPETENCE CENTER)
EACH BUSINESS UNIT WILL SUPPORT ONE OR MORE MARKET SEGMENTS AND ON A PLANNED (BUDGETED) BASIS SPECIFIC SUBSIDIARY UNIQUE ACTIVITIES.

Figure 3.2

PRODUCT CLASS SEGMENTATION

In addition to focus by Market/Technology CSS must segment its business within markets by product class. These classes will be:

- New Design
- System Products
- Standalone Products

NEW DESIGN - The new design activities are those non-recurring engineering efforts which include hardware engineering, software engineering, drafting, technical writing, prototype construction, assembly, debug, and project management.

SYSTEM PRODUCTS - The system products are recurring sales of products (developed of course under new design activities) which are sold as adjuncts to systems. Examples include tape units, card readers, A-D converters, HASP packages, etc.

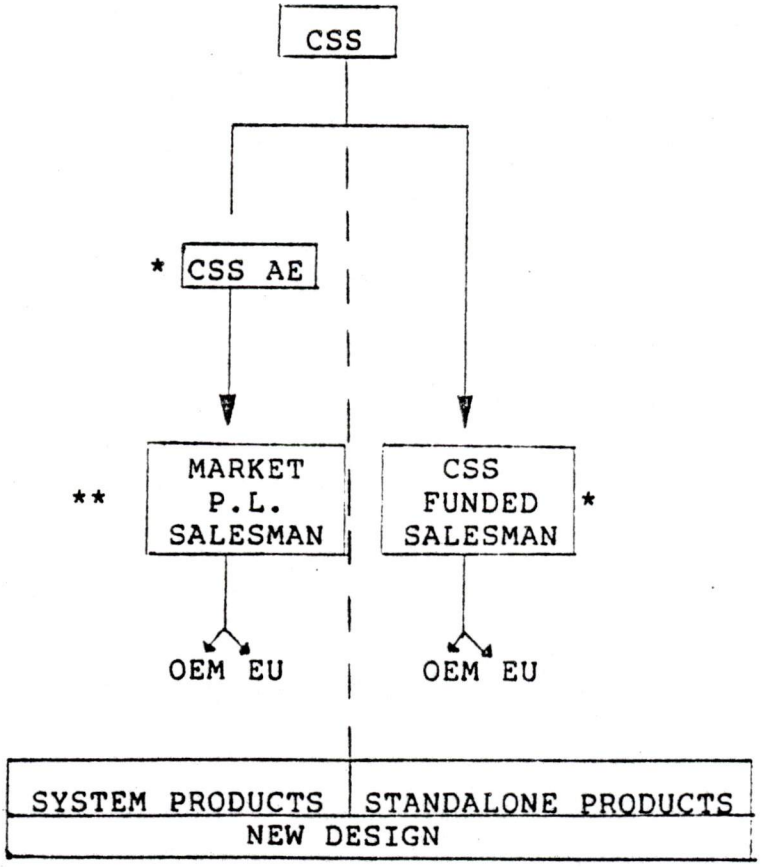
STANDALONE PRODUCTS - A standalone or turnkey product (also developed under new design activities) is a complete package of hardware, software, micro-code, etc. which is sold to accomplish a single purpose. The customer is not purchasing a computer, he is purchasing a machine tool controller (say) or a conveyor controller. This purchase may be independent of a computer system sale.

SALES OUTLETS (CHANNELS)

Of the five Digital sales outlets (end user, OEM, retail stores, catalog sales, distributors) CSS intends to work through the Digital Direct Sales force into two customers - End Users and OEM's. No CSS activities through the retail store, catalog sales, or distributors are currently planned.

SELLING AND SALES FUNDING

We plan to work closely with the sales organization to review the funding and management of selling resources on behalf of CSS. Currently CSS is represented in the field by applications engineers which operate in sub account mode under the CSS management structure. It is envisioned that at some point in time we should pass the management of these resources to the sales organization. It is also envisioned that beginning in FY'82 CSS will fund direct account salesmen in support of our standalone products business activities. See Fig. 3.3



* CSS FUNDED SELLING ACTIVITIES

** SELLING ACTIVITIES FUNDED BY OTHER P. L.

Figure 3.3

C.S.S.

P&L

TIMELESS MODEL

	NEW DESIGN.	SYST. PROD.	S.A. PROD.	WEIGHTED TOTAL
MIX	20%	50%	30%	100%
NOR	100%	100%	100%	100%
C.O.M.	55	41	41	43.8
WARRANTY	4	4	7	4.9
GROSS MARGIN	41	55	52	51.3
MARKETING	16	8	5	8.7
SELLING	--	--	7	2.1
ADMIN.	11	11	11	11.0
ENG.	--	7	5	5.0
TOTAL	27	26	28	26.8
CONTRIB	14	29	24	24.5
CORP. ALLOC.	4	4	4	4
PBT.	10	25	20	20.5
P.A.T.	6.0	15.0	12.0	12.3

C.S.S.

R.O.A.

TIMELESS MODEL

	NEW DESIGN	SYST. PROD.	S.A. PROD.	WEIGHED TOTAL
ASSUMED				
FACTORS				
MIX	20%	50%	30%	100%
P.A.T.	6.0%	15.0%	12.0%	12.3%
D.S.O.	60	80	80	76
INV. WEEKS	16	30	26	26
% NOR - H.W.	4	12	12	10.4
ASSETS				
P.L. A/R	17	22	22	21
P.L. INV.	17	24	21	21.7
P.L. C.E.	8	8	8	8
CORP MFG ALLOC	5	15	15	13
CORP ASSETS	7	7	7	7
TOTAL	54	76	73	70.7
R.O.A.%	11.1	19.7	16.4	17.4

CSS TIMELESS MODEL ASSUMPTIONS

BUSINESS MIX

The new design activity is set at 20% because it is felt that this is the level necessary to ensure sufficient product fall-out for the other business as well as accomodate non-strategic business activities.

The stand-alone activity is a new and growing segment of our business and it is felt that it can reach 30% within the planning window without placing undue strain on adminstrative systems.

The systems products activity is a traditional CSS activity which will reduce as a percent of the total to 50% due to the addition of our stand-alone products business.

COST OF MANUFACTURING

New designs cost of manufacturing improvement will result from raising prices, a greater degree of selectivity in order selection, and improved project management discipline.

Cost of manufacturing for systems products and stand-alone products are based on improvements to historical rates caused mostly by pricing and product selection decisions.

WARRANTY

Historical rates were used for new design and systems products. Three additional percent were added to stand-alone products to account for the fact that warranty support sourced from CSS would be very limited.

MARKETING

Heavy A.E. involvement in the new design business is the prime cause of the 16% rate for the new design business. This assumes some efficiency improvement. Current new design marketing is estimated to exceed 20% of NOR.

Reduced or no involvement of the A.E.'s in the systems products and stand-alone products business account for the 8 and 5 percent rates, respectively.

SELLING

An assumption is made here that for the standalone Product Business CSS will be funding the sales force at a rate comparable to high volume standard product lines.

ADMINISTRATION

Historical rate, reflecting high cost of decentralized operations and complex matrixing.

ENGINEERING

New design business is customer funded. Systems products rate is consistant with the corporate average. The stand-alone products are expected to receive some of their products from new design activities but will require some productizing resources.

CORPORATE ALLOCATION

Given corporate rate per the long range plan requirements.

TAX RATE

The tax rate is assumed to be 40%.

DSO

Progress payments are assumed for the new design business, corporate worldwide goals for the systems products, and stand-alone products business. An assumption is made that CSS is header product line on all its orders. This is an assumption for DSO purposes only.

INVENTORY WEEK

An assumption of milestone billings with 4 month intervals between billings for the new design business. Systems products business assumes a model 26 weeks plus 4 weeks additional in an FA&T facility. Stand-alone products are assumed at our normal production cycle of 26 weeks.

CORPORATE H.W. %

Based upon historical rates for the model mixes.

CSS PRODUCT LINE CAPITAL ASSETS

Assumes an increase in capital assets due to the fact that a large portion of our assets are old and need to be replaced. Assumes capital investments to improve productivity.

CORPORATE ALLOCATIONS

Per corporate long range plan model.

GENERAL BUSINESS STRATEGIES

The following are 10 General Business Strategies which underlie all our more specific strategies. On the surface, these strategies individually seem almost obvious but together they set the tenor of the thrust of this plan which is to change CSS from a tactically used and managed resource to a strategically managed group.

STRATEGY 0

Leverage Digital Sales - The reason behind the existence of CSS is that by offering the customer a service to tailor our equipment to his needs, we increase Digital's market penetration not only by the value of the CSS sales but also by the value of the equipment the customer might otherwise have purchased elsewhere.

STRATEGY 1

Price to Get What the Market Bears - Custom engineering is a risky business. To offset the risk CSS prices high. We look at each sales situation individually and set the price as high as possible taking into account the customer's ability/willingness to pay and the competition. In no case will we price less than our minimum margin target without acknowledging such pricing as an investment and therefore planning for a substantial return. We use a formal ROA analysis andd review procedure in these circumstances.

STRATEGY 2

Use Customer Resources - This is perhaps one of CSS' most unique strategies. We use the customer's ideas and his funding on which to build the CSS business base. We are in a unique position to hear directly from our customers the weaknesses or hole in our standard product offerings. If the customer requires that one of these holes be filled, we will quote a solution for him. The customer thus funds the non-recurring engineering to create a new product offering. The CSS strategy is to make maximum use of customer ideas and funding.

STRATEGY 3

Manage the Risk Profile to Control Profits - Each new design effort represents an additional risk to Digital - that is, new design manufacturing costs are highly volatile and very difficult to estimate accurately. If a mistake is made in estimation, we may not back out because of our moral and contractual obligations to our customer. To balance this risk, we try to achieve two things.

1) We try to make sure that most new design activities we undertake will result in a product or repeat technology fall-out.

2) We try to keep the ratio of repeat product sales to new design sales high.

These actions result in higher leverage for our new design activity and lower P&L risk if we suffer unexpected cost orerruns. The following diagram shows our current objectives.

	New Design	Products
Mainstream CSS Business	20% Results in Product	70%
Very High Profit or Funded By Others	10% No Product Fall-Out (One-of-a-Kind)	
	30%	70%

STRATEGY 4

Invest in Winners - What investment funding is made available through CSS profits will only be invested in the mainstream business in accordance with a business plan. Investment in one-of-a-kind contracts through price concessions will not be done by CSS - even if it's an important account. The group to make such investments is the product line which will reap the return. CSS will accept funding from others to help with this business.

STRATEGY 5

Focus CSS by Market Segment

- CSS will organize to focus its efforts in a strategic way on targeted markets. We will focus our technologies and resource development on the needs of the markets.

STRATEGY 6

Prepare, Publish, and Operate to a Plan.

- CSS will prepare long range strategic plans and annual plans. We will publish them to the product lines, Sales, and other functions, and then we will operate according to the plan. Each year we will have certain established capabilities and/or products which we will continue to market and we will have certain selected new market or technology focuses. We will operate in these published areas and resist "taking all commers."

STRATEGY 7

Integrate CSS with Digital

- The plans which CSS operates to will be prepared jointly with other Digital product lines and functions. They will be supportive of and complementary to the other Digital group strategies. It is expected that each product line will have a CSS strategy, each account plan will also, and that these strategies will be entirely congruent.

STRATEGY 8

More Drive Less React

- Having developed plans and strategies which are integrated into the other corporate plans, CSS will operate in a directive style to carry them out. CSS will aggressively persue opportunities consistent with its plans and turn away distractions.

STRATEGY 9

Increase Productivity with Tools

- CSS is a manpower intensive organization and the skills demand is high. It is difficult to obtain enough properly trained people to fill our needs. We will thus concentrate on creating high productivity. We must make it easy to get things done. This means an investment in clear policy, procedures, and methods. It also means capital investments in tools such as computer aided design, management information systems, and sophisticated test equipment.

ORGANIZATIONAL STRATEGY

BACKGROUND

CSS is a geographically disbursed organization with facilities in nine (9) locations worldwide. The rationale for this disbursement is as follows:

- Communication with the customer is key to understanding the problem to be solved, to setting mutually understood expectations, to correct alignment of a project to the design problem and to establishing the trust necessary to receive the bid award.

- The cultural/political biases of the customer can be overcome by remote units which use local labor, speak the local language, and understand local cultural issues.

- Resistances to import caused by local government policies can be somewhat offset if the final product contains locally supplied labor and materials.

A geographically disbursed organization poses some special management problems in the areas of financial control, strategic focus, and teamwork.

- Financial control is difficult to achieve with widely disbursed business units. Each unit requires a fully qualified business manager with broad skills in engineering, marketing, manufacturing, finance, and personnel. Each of these units will make the daily profit/loss decisions which determine financial success or failure for the product group. It is virtually impossible to involve product line management in these decisions because the communications burden would be excessive.

- Because of the independent operational authority which is given to the business unit managment team, an entrepreneurial culture is established which tends to resist control from "outside" the unit. This impedes establishment of common strategic focus and direction from CSS Corporate management.

- As the business units grow, they reach plateaus of increased control and operations systems required to support their activities. Direction, coordination, and guidance must be applied from the top to minimize the investments in tools and procedures and to gain cross/unit compatibility.

- Because of integration of the business units with the subsidiaries, conflicts may arise where product group and subsidiary aims are inconsistent. Special effort must be made to ensure alignment of subsidiary and product group goals.

ROLE OF THE CSS PRODUCT GROUP MANAGER

In this structure of geographically disbursed business units operating independently but in concert with Corporate level CSS strategies, the majority of the operational (tactical) decisions are made within the business units, while the role of the CSS Product Group Manager (and his Staff) is to provide the longer term strategic focus for the product group and to provide an environment for successful business unit operation as follows:

1. Provide the strategic market direction for the product group.

2. Cause the integration of CSS plans and strategies with those of other product lines and the Corporate functional groups.

3. Cause the integration of individual business unit plans to the extent necessary to achieve the product group strategies.

4. Provide an environment for a high degree of success in the independent business units by:

   a) Providing management coaching, consulting and guidance.

   b) Establishing systems and procedures for each of the major disciplines within the product group to assure a business environment which is conductive to success.

   c) Provide the management training and development programs necessary to build the required talent for financial success.

   d) Provide a crisis management system which allows the full talents of the product group to be applied to difficult problems encountered by the business units.

   e) Incorporate tactical and strategic inputs from the business groups and subsidiaries into the product group plans as necessary.

5. Build a proforma P&L structure which is tolerant of individual isolated cost overrun situations likely to occur in the fixed price engineering business.

6. Model the growth of business units and the functional groups within business units in order to enable installation of systems, procedures, and new talent at the appropriate points in the growth curve to ensure smooth organized growth in business units from the start up (5 or 6 people) through maturity (100 people or more).

7. Ensure that communications links and the proper motivatiton exists within the business units to effect maximum worldwide market penetration of products or designs developed in a specific business geography.

OBJECTIVES

The objectives of the CSS organizational strategy are as follows:

1. Accommodate the operation of a number of remote technology centers located close to customers.

2. Facilitate the development and execution of focused strategies by market at the product group level with tactical support and execution of these strategies in the business units.

3. Allow for the continuous integration of CSS strategies with DEC Corporate Product Lines, functional groups, and subsidiaries.

4. Provide for an efficient communications process which will allow information sharing and senior guidance to be provided to the business unit along functional and technological lines.

IMPLEMENTATION

The key steps implemented to meet the objectives are as follows:

1. Establish several key market/technology focuses at the product group level.

2. Treat the business units as competence centers which operate in one or more of the focuses areas.

3. Establish a Corporate unit (Marketing) to concentrate on strategic direction in the selected market/technology focuses.

4. Focus the business units on the short-term (two years) tactical issues. The scope of the marketing unit will be longer range (5 years).

5. Matrix the business units with the marketing unit in such a way as to cause joint ownership of the long range plan.

6. Within the marketing unit provide for interfaces to other product lines so as to achieve integrated strategic plans.

7. Establish product line leadership on a functional basis by establishing functional staff managers in the following disciplines:

   Engineering and Project Management
   Marketing
   Finance and Administration
   Personnel
   Manufacturing

   The focus of these managers will be on strategy, policy, procedures, and tools. They will also act as consultants on major operational problems.

Figure 6.1 depicts a matrixed responsibility between the operations group and the marketing group. Operations consists of twelve business units located geographically disbursed. Each of these business units will operate in one or more of five market segments according to a strategic plan. The function of the marketing group is to establish the integrated worldwide plan for each market assuring alignment of the plans with other product lines and functions. The operations are responsible to carry out the first two years of the long range plan. They carry responsibility for all tactical decisions necessary to meet the plan. They are also responsible to input to the marketing group local opinion on the direction the LRP should take.

Figure 6.2 shows the complete functional organization and Figure 6.3 shows the functional ties to the business units. The CSS Corporate Staff serves to establish the general strategic direction on a functional basis including the establishment of standards, procedures and systems of operation for the business units. The Corporate Staff can respond to very few tactical situations because of the distance and communications burden but control within the business groups is improved through the establishment of standard methods for operation which emphasize conservative practices.

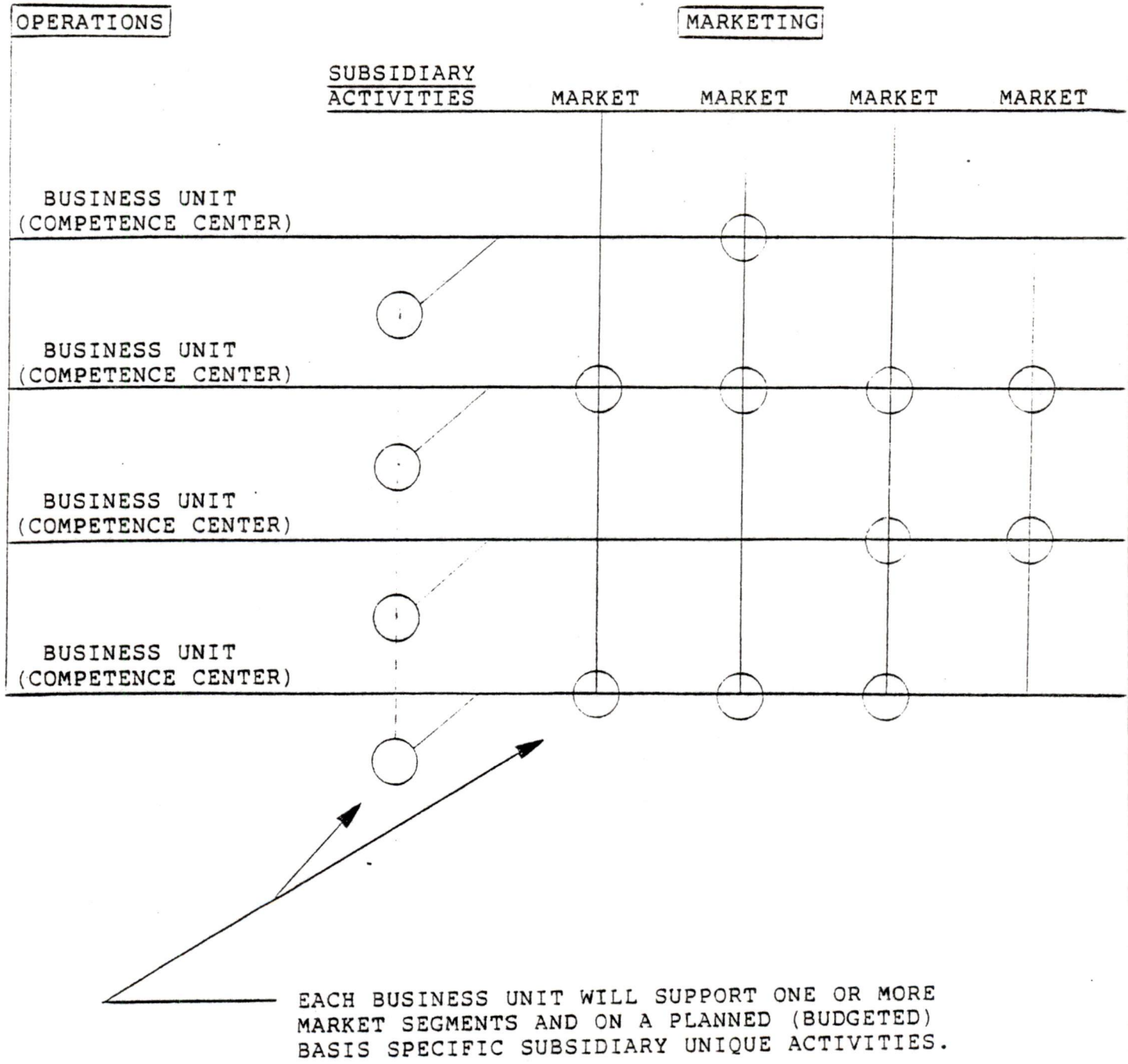

OPERATIONS
MARKETING
SUBSIDIARY ACTIVITIES
MARKET
MARKET
MARKET
MARKET
BUSINESS UNIT (COMPETENCE CENTER)
BUSINESS UNIT (COMPETENCE CENTER)
BUSINESS UNIT (COMPETENCE CENTER)
BUSINESS UNIT (COMPETENCE CENTER)
EACH BUSINESS UNIT WILL SUPPORT ONE OR MORE MARKET SEGMENTS AND ON A PLANNED (BUDGETED) BASIS SPECIFIC SUBSIDIARY UNIQUE ACTIVITIES.

Figure 6.1

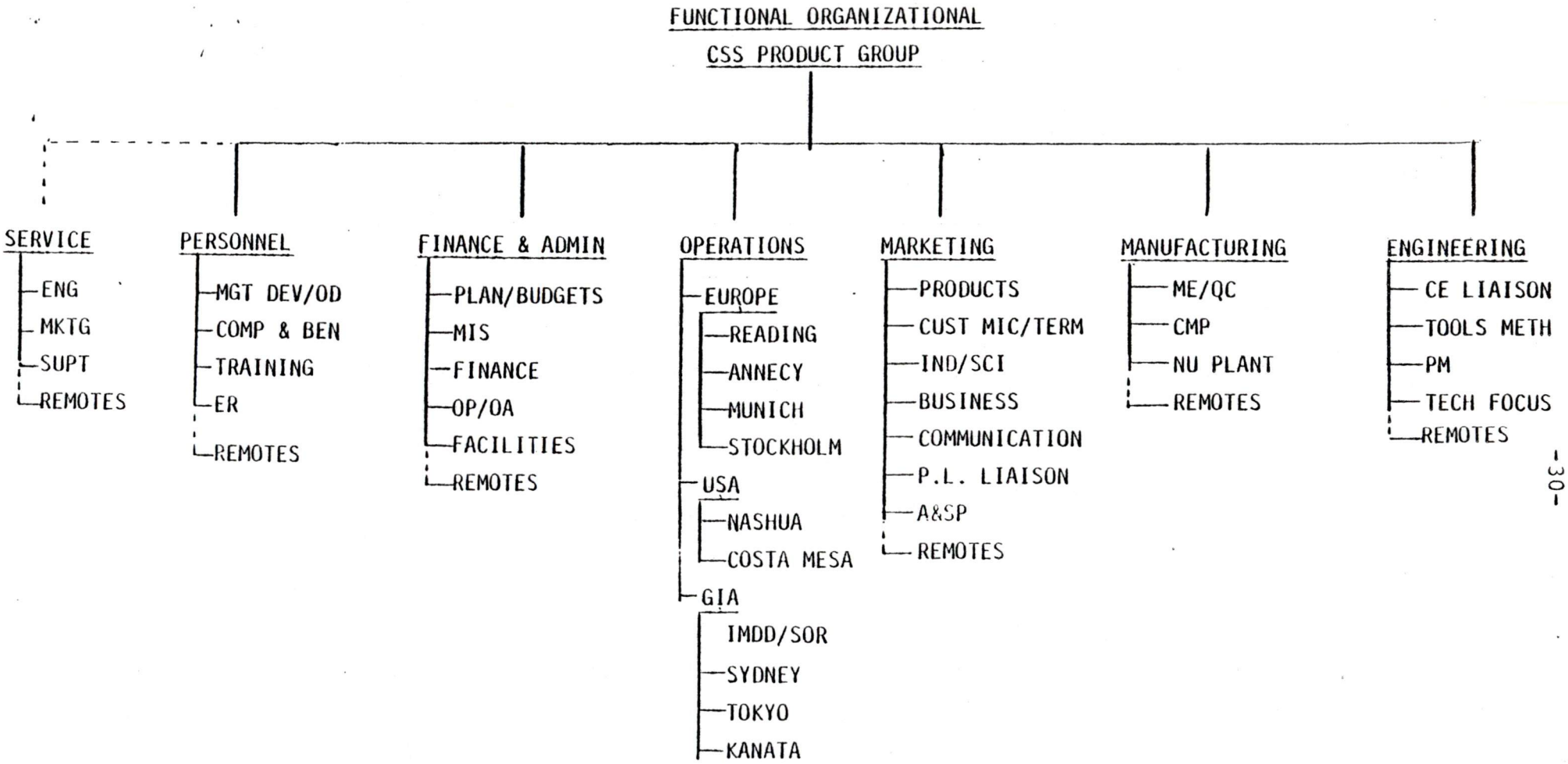

FUNCTIONAL ORGANIZATIONAL
CSS PRODUCT GROUP
SERVICE
ENG
MKTG
SUPT
REMOTES
PERSONNEL
MGT DEV/OD
COMP & BEN
TRAINING
ER
REMOTES
FINANCE & ADMIN
PLAN/BUDGETS
MIS
FINANCE
OP/OA
FACILITIES
REMOTES
OPERATIONS
EUROPE
READING
ANNECY
MUNICH
STOCKHOLM
USA
NASHUA
COSTA MESA
GIA
IMDD/SOR
SYDNEY
TOKYO
KANATA
MARKETING
PRODUCTS
CUST MIC/TERM
IND/SCI
BUSINESS
COMMUNICATION
P.L. LIAISON
A&SP
REMOTES
MANUFACTURING
ME/QC
CMP
NU PLANT
REMOTES
ENGINEERING
CE LIAISON
TOOLS METH
PM
TECH FOCUS
REMOTES

FIG. 6-2

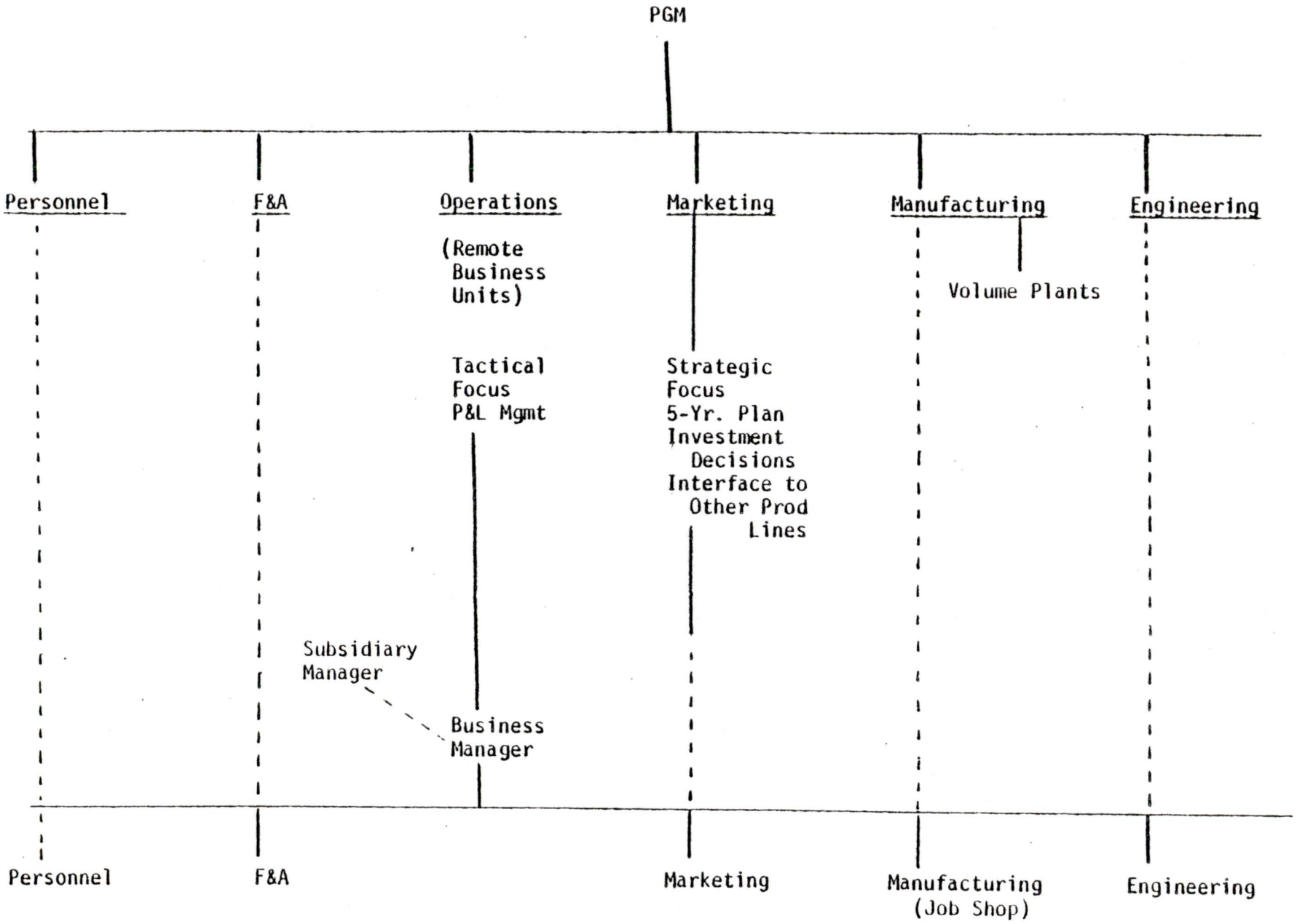


FIG. 6-3 PRODUCT GROUP STAFF/BUSINESS UNIT ORGANIZATIONAL RELATIONSHIPS

MARKETING STRATEGY

BACKGROUND

CSS attempted in this pass of the Long Range Plan to obtain from the other product lines a set of Marketing Strategies which could be used as the nucleus of a CSS Marketing Plan. These inputs lacked detail and specifity sufficient to facilitate preparation of such a plan. A copy of the feedback from each product line can be found in the back of this section. A summary of our finding follows:

- The other product lines expect CSS to be the principle source of:
  - -- Process I/O (MDC dissents - we must solve this)
  - -- Graphics
  - -- Customer Communications
  - -- Multiprocessors
- Few product lines were able to identify applications areas where CSS should concentrate its efforts.
- All product lines support CSS products. Some are willing to help forecast.
- None of the product lines saw a need for one-of-a-kind new design activities as an essential part of their strategies.
- No product lines were able to forecast their requirements in the new design area. Some indicated product development activities they would like us to consider.

Tables 7.1 and 7.2 show the involvement of CSS in other product lines during FY'79.

TABLE 7.1

FY'79 BREAKDOWN OF CSS BUSINESS ACTIVITIES

BY PRODUCT GROUP

PRODUCT LINE	PERCENT OF CSS BOOKINGS
TOEM	27%
MDC	18%
TUG	15%
LDP	13%
GSG	6%
ESG	6%
CSI	6%
COEM	4%
CPG (ENTIRE GROUP)	5%
	100%

TABLE 7.2

FY'79 CSS BUSINESS SHOWN AS

A PERCENT OF PRODUCT GROUP

PRODUCT LINE	CSS BOOKINGS AS A % OF PL BOOKINGS
MDC	8%
TUG	8%
GSG	7%
TOEM	6%
LDP	5%
CSI	4%
ESG	3%
COEM	1%

CSS MARKETING PLANS

Based upon the limited input we have received from the product lines and upon our own knowledge of our capabilities, CSS will focus on four Market/Technology segments as outlined in the section on "Market Segmentation."

INDUSTRIAL/SCIENTIFIC

BUSINESS/COMMERCIAL

CUSTOM MICROS/TERMINALS

COMMUNICATIONS

Our plan will be to put in place four senior marketing people to develop a plan for each segment. During FY'81 we will work hard to integrate our planning efforts further with the product lines resulting in more substantive plans from which to generate the focus required to achieve our strategic objectives. We expect the four market managers to work closely with all CSS business units to establish local competence focus in concert with the Market/Technology plans. Through the rest of FY'80 and into FY'81, CSS will operate to existing market plans which will be modified to eliminate activities agreed not to be part of our strategies.

CSS APPLICATIONS:

A summary of the CSS applications focus follows:

COIN COUNTING

- CTOCS VI
- Banking Systems

DISTRIBUTION AND ACCOUNTING SYSTEMS FOR THE DISTRIBUTION INDUSTRY

- Finished Goods Inventory Control
- Post Delivery Order Entry and Route Settlement
- OP/AR/AP/GL/EEO/Payroll

ENERGY MANAGEMENT

- Furnace Control
- Building Environmental Systems

FACTORY MANAGEMENT

- Work in Process
- Terminal Concentration and Sequencing
- Inventory Management
- Time and Attendance Systems
- Workshop Scheduling

GAS, WATER & ELECTRICITY DISTRIBUTION SYSTEMS

HIERARCHICAL COMPUTER CONTROL OF GROUPS OF NUMBERICAL CONTROL TOOLS

MEDICAL CLAMS PROCESSING

Insurance Claims Entry/Edit Systems
Hospital Administration - Patient/Data Entry/Edit

PACKET SWITCHING SYSTEMS

Private Networks
Thresholds to Public Switched Networks
HDLC - Only Connections and Applications
(Level 4 and Level 3)

PORTFOLIO PRICING

Banking/Trust Institution
Insurance Companies

PROCESS MONITORING

Sensor Processing
Transient Monitoring
Color Displays
High Availability Systems

SECURITY SYSTEMS

Site Access Control
Security Vehicle and Personnel Control
Site Services Monitoring and Control

SEQUENCE CONTROL SYSTEMS

In Automated Discreet Product Testing e.g. Internal Combustion Engines
Where CSS Hardware is Required for Dual Processing, Custom Terminals, Unique I/O, etc.

TV DISPLAY SYSTEMS

Display-Oriented Applications

TELEX SYSTEMS

Telex Message Switching Systems
Telex Production and Dispatch Systems
Point-to-Point Telex Systems

WAREHOUSE MANAGEMENT

Case Handling
Inventory Control
Stock Location

PRODUCT LINE INPUTS:

The following section contains inputs we received from each product line. Some of these inputs were received verbally and some in written form. All have been discussed with the product line prior to inclusion in this document. These statements do not represent CSS' opinion or agreement to other product line opinions.

TOEM - Long Range Plan Feedback to CSS

It is TOEM strategy to offer a wide range of products to a wide range of customers. Long term commitment for product families and smooth growth pattern are key product line requirements to their customers.

Central Engineering is not fulfilling all of TOEM's product needs. Specific concerns with regard to DEC standard products are:

- Process I/O (MDC going commercial)
- Graphics
- High speed A/D/A
- Communication products
- Moderate volume products

TOEM is looking at CSS to fill some of the above product gaps. Two mechanisms for product development are required:

1. Have CSS develop the product and take revenue. (CSS investing in some of all of the development costs.)

2. Fund CSS on a cost basis as an engineering development group. (TOEM is funding.)

TOEM recommended that:

1. CSS take over the corporate charter for process I/O and graphic products.

2. CSS be TOEM's contingency resource for Hydra and communication products.

3. CSS to provide design review to Central Engineering (e.g. the new interconnect products). TOEM considers CSS to be their largest customer with early involvement in new DEC products.

4. Simplify the TOEM - CSS interface.
   a) CSS must look like one product line.
   b) World-wide deals only.
   c) Products must be Category A only.
      (Reason being that 50% of TOEM's products end up in the international area.)

Examples of specific needs of today are:

1. Re-engineer the "shoebox" (based on FONZ today) to a one board, T-11 based product. Volume is very high; therefore, a transfer to manufacturing and TOEM would be required.

2. Non-volatile C-MOS memory board with battery back-up on a board to allow migration of PDP-8 and 11/05 core memory based system to newer MOS memory machines. CSS possibly to take revenue for this product.

TOEM would like to work with CSS to define product family content and make long term commitments (both ways).

TOEM invited CSS to come back to their staff meeting on a regular basis to present and discuss products, new product developments, and product strategies.

MDC will invest heavily in the 32-bit product range. By 1982 fifty percent of the total revenue should come from the 32-bit based products. The 16-bit products, as well as the 36-bit products are considered "cash cows". New investments in the 16-bit product space will be limited. CSS has an opportunity to focus on the 16-bit low end in the process I/O market.

The process I/O is viewed as part of MDC's network concept, including DEC-net as well as DPM.

CSS can complement the network components with its networking products like CMR (remote low-speed process I/O), the PCL (parallel interprocessor link) and multiprocessor products. DPM terminals are offered by CSS with an asynchronous serial line. CSS color terminals (VT30, VSV-11) will be of value to some of MDC markets.

IBM communication products are of importance in the MDC networks. CSS' IBM interconnect products complement the corporate offerings. An existing product is HASP; CSS products under development are 3272/3277 interactive cluster display emulator and a replacement of the DX-11 parallel IBM channel interface.

SNA will be the most popular interconnect method to IBM mainframes.

A basic conflict exists in the current overlapping offerings of MDC and CSS in the process I/O segment. MDC suggested that CSS should support the standard MDC process I/O products and take credit for the process I/O products whenever a CSS modification to the standard offering was required (be it hardware or software). CSS suggested that MDC should consider the CSS CMR product as a complementary product to the MDC offerings and supports its worldwide sales.

Generally, the large MDC customers are asking for higher "functionality" above and beyond the basic hardware and operating systems.

MDC sees an opportunity for CSS to provide this functionality in certain applications such as the BILES software package, SCAN, LOG AND ALARM packages both for process and industrial control applications or the LOTS package for WIP applications.

MDC suggested that in the long run only a limited number of their sales- people would be chartered and trained to sell to the process I/O community. While the majority of MDC salespeople would sell standard (32-bit) products, a small specialiity sales force could align itself with CSS field application engineers and CSS engineering competence centers to sell professionally into the process I/O market. (Goal: Get the sales cost down and yields up.) Therefore, unique products would only be sold into geographies with reasonable MDC and CSS focus and coverage.

LDP changed its marketing structure from Small-Medium-Large Systems to a division by markets: Government Research, Industrial Research, and University Research.

The main competitors are still IBM and HP. (EDP influence and instrumentation base, respectively.) It is LDP's goal to sell through "customer excitement" versus lowest price.

LDP is only developing products for a broad application range. CSS packages which add functionality to the base value of LDP's products are very attractive to LDP's customers. Networking is a specific focus with LDP's large institutional customers. The network will be a barrier for competitive intruders. CSS can help here with its communication and multiprocessor options; e.g., PCL and X.25 multiplexers.

Single large procurements, especially with large new accounts, might require a corporate commitment which includes application specific products and services. CSS is considered a valuable partner in these situations.

The industrial research market demands a higher level of functionality than just hardware and operating system. Application tools are required which make it easier for the customer to implement his application. The "BILES" packages is one example of a CSS software application tool. CSS process I/O products have a high level of functionality built in; (e.g. scan routines and protocol to host processor in micro-code).

The very low end (MINK) is being sold in high volume as a standard product without special content.

LDP decided that the European market needs were sufficiently different to warrant a modification to the U.S. plan. Specific products which mapped best into LDP's European market focus include:

DRU11G	Parallel high speed continuous
DRQ11G	Data interface
DES02	Multi-Line split and switch
VT35	Color graphics for wave form graphs
CAMAC	Instrumentation interface
MIOS	Digital/Analog I/O
IEEE	Interface
CMR	Remote Digital/Analog I/O

It was agreed to have further meetings to work out joint marketing strategies between LDP and CSS.

The overall TELCO strategy consists in building a strong partnership with key customers to capitalize on the long term, high volume business that TELCO foresees for the 80's. This partnership implies that risk assessments, business decisions, account management activities have to favor always the long-term global view.

CSS' present reliance on local application engineers to generate CSS business in the Telecommunications market is often at odds with TELCO's long term strategy. Therefore, it has been agreed that CSS will review its intention to quote with TELCO before actually committing to any special work.

Three main areas of long range focus are:

- Technical support of telephone operations.
- Interactive data processing needs to the telecommunications companies.
- New telecommunications services - packet switching, networks, viewdata, office information systems, etc.

CSS participation is seen to focus on special products and technical expertise with a strong emphasis on switches, communication devices and special I/O. This covers products like mass bus switches, KMC, KMS, TU45, X.25 interfaces, etc. A tight working relationship between CSS and TIG in this area implies liaison with TIG System Engineering, Order Administration, Manufacturing and Customer Services groups. To ensure a smooth flow of goods to our customers, this may mean the buildup of a CSS inventory for TELCO's FA&T needs and implies that TELCO will forecast the more popular CSS products to CSS.

The interactive data processing area covers applications such CTOCS. TOEM looks upon CSS as a potential resource for project management in this area provided CSS develops its technical expertise in VMS-VAX with emphasis on transaction processing and high level languages.

Overall CSS' involvement in TELCO's activities should continue at the same relative business level within the LRP time frame with stong dependence on low volume manufacturing of special products.

The major GSG strategies are:

- Support the DOB/Intelligence community with an increasing thrust of direct support to the end user, primarily in the U.S.
- Develop a GSG engineering focus oriented toward RFI and other GSG unique products.
- Define the standard communication product offering.
- Investigate the ADP marketplace.
- Concentrate on products business vs. labor and services business.

In the past, CSS has been involved mostly with:

Complementary Products

- Remote line printers.
- Card readers.
- Mag tape.
- Multiprocessor options.
- Communication options.

Future needs will include more:

Market Specific Products

- Special packaging.
- RFI Tempest.
- Protocols X.25 and

Application Tools

- Multiprocessor development.
- Communication development.
- Protocol development.
- RFI development.

Current requirements of GSG are:

- Removable disc.
- Graphics capability.
- Tempest products (enhance skills both hardware and software).
- System integration.
- Mil. Spec. module manufacturing.
- Data entry requirements.
- Software design capabilities.

GSG would like to be updated on CSS product offerings and new product development plans.

CSS is invited to work with GSG on a partitioned Tempest market strategy including 11/780, 11/70, RP06, H983 RAB, Integration, etc.

ESG is an applications-oriented end user product line selling standard DEC systems and a number of specific buy-out software packages to the engineering community. ESG has a very strong dependency on graphics products. Future business will be VAX,VMS oriented.

CSS is helping to fill ESG's graphics needs today:

- VS-70 CSS-California serves as an engineering house to supply the buy-out VS-70 graphics system.
- VS11 Close cooperation between ESG and CSS has been established for the VS-11 product family.

ESG is supplying firm forecast commitments to CSS for both the VS-70 and the VS-11.

ESG perceives its future need for graphic products to be:

- All video based display systems.
- High resolution/high speed.
- Color requirements.
- Software supported by handlers and utilities; emphasis on VAX and VMS.

Other ESG needs fall into the area of high performance tapes and disks. (Whatever IBM offers will eventually be required by ESG's customers.)

Another important product need is in the area of communication products to connect to IBM, CDC, and Univac mainframes. An example of an ESG product need might be the HASP on VAX (in the $10K to $25K price range).

ESG sees a certain demand for software packages in the "Project management" and "Engineering Documentation" areas.

CSI wants CSS involved in two aspects of their business.

1. CSS Standard Product (Field Service Class A)

   Some of the CSS standard products are of interest to CSI. These products are typically the CSS Class A supported products of either the complementary type (e.g. TU45, high speed line printer) or communication products (e.g. com. multiplexers) or the multi-processor products (e.g. PCL, Bus switches DT07).

   CSI will forecast these products to CSS to ensure smooth integration of the CSS products with the main system.

2. CSS local engineering support to customize and design office automation products (e.g. terminals, printers) for very large DDP projects, usually requiring a large number of terminals or equipment to be customized (no one-offs). More activity is expected in Europe than in the USA.

Besides these two main strategies, CSI is aware of the fact that CSS is interested in the development of strategic commercial software application packages (with re-sale possibility). TRAX could be used embedded in the CSS project. CSI will not sell TRAX as a stand-alone product.

Should a project come along with a more general application for which no ready-made solution exists in the market and this application is of strategic value to CSI, CSI agreed to approach CSS to find out whether or not this application was of interest to CSS.

Opportunities of new CSS product developments are:

- Laser high speed line printers.
- X.25 communication products (until standard corp. products become available).

C-OEM sells standard systems to a large customer base. It is C-OEM's strategy to limit the number and variety of products sold. Focus is given to win large system house OEM's and to support smaller OEM's (today 85% of total base) in their struggle to succeed.

C-OEM perceives a need to offer some specific communication products to be able to connect to IBM mainframes (SNA, X.25).

CSS involvement is largely limited to supplying standard CSS products. Selected key accounts may require CSS new design capability. C-OEM wants to stay away from one-of-a-kind activities and even low volume business.

COMPETITION

CSS has commissioned a detailed study of our competition in the special systems business. The following conclusions are drawn from preliminary USA data obtained in the study. A more complete analysis will be available for incorporation into next year's plans.

In analyzing Computer Special Systems lost business we find several types of competitors including:

1. Large Mainframe Manufacturers
2. Mini-Computer Manufacturers
3. Systems Houses

LARGE MAINFRAME MANUFACTURERS:

The large mainframe manufacturers have in-house marketing groups identifying applications packages for target markets and have some amounts of local software and systems support priced into their hardware. For target markets they may cut their normal margins or in some cases do for the experience toward eventual market penetration.

Since equipment prices include field (local) support services local customization is very heavily subsidized causing these vendors to often give away labor or charge lightly for that labor.

MINI-COMPUTER MANUFACTURERS:

The mini-computer manufacturers equipment pricing does not include local support servcies or custom work. They will, in general, perform hardware new design for quantity tools in widespread markets and will do no small quantity specials. Custom software is nearly always given to outside systems houses.

SYSTEMS HOUSES:

Systems houses are doing the bulk of the end user custom software not being done by the end user himself. They will usually be very effective in their specialty area usually on a small geographical area as well. They will have good experience and building block tools and application packages in their market. When they are asked to perform outside their specialty areas their prices are somewhat higher but still lower than either mainframe of mini-computer houses due to low overhead operations, limited support services offered, and usually lower corporate profit objectives.

PRICING:

The competitive study does indicate DEC Special Systems pricing is higher than other vendors and systems houses. Analysis of lost business opportunities indicates price was a factor in the customer's selection of a competitor in 4 of 7

lost business circumstances investigated. In business opportunities won by Digital CSS was higher than the competition by at least 20% in every case. Investigation of published labor rates showed that CSS rates were the second highest, with IBM being the only competitor acknowledging higher rates.

VENDOR SELECTION CRITERIA:

In the cases studied the following criteria were given for vendor selection.

Applications knowledge (CSS credibility)
Single vendor capability
Credibility of support services
Total system price - in some cases: cost of ownership.

CONCLUSIONS:

Based upon this preliminary data we have drawn the following conclusions:

. Our prices are very high
. We can continue to demand high prices
. Competition is keenest from vendors offering single vendor capability.

Special Systems at DEC can be an effective strategic force to lock out both the mainframe and mini-computer manufacturers with the following strategies:

. Build target technologies in key markets/industries.

. People resources need to repeat similar project to gain the speciality experience to compete favorably.

. We must invest until skills and building block software/hardware tools are available so new design content is small (e.g., modification of previously design applications packages).

In competing with systems houses our pricing will probably be higher in most cases. This will force us to sell only to knowledgeable customers who will be able to evaluate the worth of long term support and those features of a manufacturer that will help the customers long term, such as taking advantage of future development. This should allow a 20 - 30% premium to be justified in favor of another manufacturer. Also, we will need to have specific skills, tools and building block software elements to be effective.

CSS Engineering will consist of three functions which will be closely integrated; Hardware Engineering, Software Engineering, and Program Management.

The CSS Engineering Objectives are:

1) To have technically competent and up-to-date engineers oriented toward solving practical systems problems.

2) To remain competitively productive through using efficient and up-to-date design tools and techniques.

3) To achieve sufficent integration with Central Engineering so as to become a part of Digital's total engineering strategy.

To facilitate achieving these objectives, a CSS Engineering Manager will be established to focus on providing an environment for the successful operation of the engineering units. The strategies used will include:

- Develop increased rapport with Central Engineering in all geographical areas to ensure product compatibility, to permit resource sharing, and to keep abreast of technical and product development.

- To keep abreast of the latest technologies and recommend appropriate ones for use in CSS.

- Provide planning necessary to implement new technologies in an effective manner resulting in an economical advantage over other engineering groups.

- Provide program management tools required to assure effective project planning and ongoing project control.

- Provide a crisis management system to assist business units in resolving difficult problems encountered.

- Establish systems and procedures for Engineering and Manufacturing which will enable successful operation and assure conformance to corporate standards.

- Monitor design procedures to assure that they keep pace with the latest reliability, maintainability, and product safety requirements.

- Provide training and development programs for technical personnel focused on career planning and growth as well as the development of technical proficiency.

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Customer Services CSS ME (Maintainability Engigneering) will provide Field Service with high quality, profitable CSS Products which are easy to service using standard tools and service delivery methods.

CSS ME will work toward providing an environment for total Customer Satisfaction with the purchase and service of DEC/CSS Products.

The strategies used to achieve these goals will include:

PLANNING

- Implement a standard Product Planning Process to uniformly introduce worldwide CSS Products into the Customer Service System.
  - Maintenance Planning on all CSS Products.
  - Standard Information distribution methods.
  - Product familiarization and training.
  - Full Logistics support for all higher volume CSS Products.
- Assist CSS Central Engineering in development of uniform design techniques which will assure adherence to DEC STDS and good design practice.
- Develop RAMP guidelines and distribute worldwide to be used in the design of future CSS Products.
- Plan for Remote Diagnosis capability in those products which are applicable.
- Plan for Customer Support capability where applicable.
  - Customer Spares.
  - Customer Returns.
  - Customer Training.
- Develop workable strategies to servicing high impact low volume products.

SUPPORT

- Support the F.S. Representatives at Remote CSS locations by providing them with ongoing up-to-date information on:
  - Product Planning tools.
  - Current service delivery methods.
  - Maintainability Engineering methods.
  - Product Review guidelines.

- Provide Customer Support plan information used to properly set customer expectations in the quote/proposal state of limited support CSS products.

- Ensure F.S. Support involvement during product development.

- Support Field Service in a sustaining engineering role.

GOOD BUSINESS

- Use up-to-date Business Planning tools to present competitive, profitable maintenance price information to Field Service Marketing.

- Develop Field Service quidelines to be used by CSS in determining "Good Business".

- Monitor product profitability and correct problems areas.

- Monitor CSS product reliability and provide feedback to help correct problems.

1. CSS will manufacture its own products unless it is to the advantage of the product line to offload such manufacture to a DEC high volume ~~factory~~ PLANT or an outside subcontractor. Additionally, CSS may choose to manufacture DEC produced options in order to reduce its dependance on that organization and to realize shorter lead times.

2. In order to avoid costly duplications of efforts and capabilities, CSS will build its products using a dual concept.

   - volume manufacturing plants (medium ~~robot~~ volume production)
   - ~~engineering units~~ (~~LVP~~) (low volume production)
     PILOT Plants

   Volume plants and ~~engineering units~~ Pilot plants will be structured to allow for quick response output to the needs of the product line.

   By the very nature of their organizational charter and design, the ~~engineering unit~~ pilot plant manufacturing groups will be more flexible, use shorter manufacturing lead times, and be most responsive to short term changes in manufacturing needs. Conversely, volume manufacturing locations will use longer run, lower cost, more formalized procedures.

   ~~Engineering units~~ Pilot plants will be responsible for the assembly, test and shipment of the new design requirements of the specific business location. Additionally these units will manufacture those engineering repeats that result from the futurity that will be built into our designs.

   Volume plants will normally assume responsibility for the product under the following conditions:

   - category A products will be built by volume plants or,
   - ~~when the product is sold into 3 or more business group geographies~~ when export volume becomes significantly greater than build for local use or,
   - when the product is projected to consume 35-40% of an engineering units' manufacturing capacity for a period of one year or more.

   It is quite reasonable to allow an ~~engineering unit~~ pilot plant to be co-located with a volume plant. These manufacturing entities may use the same management.

   Additionally, the transfer of products to a volume plant will mean (1) reduced exposure to the individual ~~engineering unit~~ PILOT manufacturing group, (2) less tendency towards "favoring" the needs of the local group when exports are involved, and (3) obvious economies of scale that result from a centralized location.

3. Control systems

   - direct labor additions for ~~engineering units~~ pilot plants must be justified on the basis of ~~engineering~~ low volume ~~repeat~~ engineering repeat needs, not volume products

   - Costs of transfer from an ~~engineering unit~~ pilot plant to a volume manufacturing plant will be clearly defined and excluded from the business group P&L measurement

   - capital intensive manufacturing processes will normally be located in volume facilities. The CSS manufacturing manager will establish controls to prevent unnecessary duplication of capital investments.

   - Work to develop standardized control systems, reporting, MIS within ~~engineering unit~~ pilot manufacturing. A separate systems approach ~~will~~ may be required for volume manufacturing.

4. All CSS plants are required to conform to pertinent DEC standards. CSS volume plants will conform to additional appropriate manufacturing standards. (e.g., standard cost, corporate reporting, etc.). ~~Engineering units~~ pilot plant manufacturing will need to comply with fewer of these standards.

5. Volume plants will be added to CSS in support of product line geography. i.e., before a 2nd U.S. volume plant is added, we will first add one in Europe and G.I.A. This recognizes that many of our volume products are area geography oriented. changed.

6. As volume plants are opened in an area (U.S., G.I.A., Europe) these plants will develop independent quick response materials acquisition capability. This capability may be developed by using an already existing acquisition group (e.g., an FA&T plant). All ~~engineering units~~ pilot plants within the area would then obtain its materials through the area volume plant.

   - CMP would continue to maintain a distribution function as long as required.

7. Reporting relationships;

   - Volume plants will report to the product line manufacturing manager with a matrix tie to the area manager.

   - ~~Engineering units~~ pilot plants will report to the local business manager with matrix ties to the product line manufacturing manager.

It will be the prime responsibility of the personnel function to manage all aspects of CSS activities with regard to effective acquisition, development, and utilization of the human resources. Key strategies we will utilize in this area area:

- Assure that each CSS business unit is properly supported by local personnel functions.

- Model business unit growth and establish human resource (specifically management) requirements for each phase of growth.

- Establish a plan of management training and job rotation designed to fulfill the projected needs for the business based upon growth models.

- Employ organizational assessment techniques in each operating unit to understand the levels of employee satisfaction and the operational actions necessary to assure healthy working environments.

- Work with each business unit to establish an appropriate growth plan and organizational migration process commensurate with local requirements.

- Develop low cost mechanisms for interchanging personnel amongst operations to encourage the maximum benefit from cross fertilization of manpower on a geographic needs basis.

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F&A 5 YEAR STRATEGY

ASSUMPTION'S FOR THE FUTURE

- PRODUCT GROUP ENVIRONMENTAL ASSUMPTION

1) The product group will evolve into a group matrixed by function (Operations & LVP Manufacturing), geography and market focus. The market focus will be provided by market product lines who will have strategic P&L responsibility. The execution of these marketing strategies will be the responsibility of the operating units located in geographics which support our strategic market objectives. The operating units will have P&L and ROA responsibilities within a two year horizon. Low volume production and central material planning will report to the product group directly and provide direct and indirect production support to the Worldwide organization. (See CSS Five Year Plan for further details).

2) CSS engineering groups will continue to be the basic operating entity for the non-low volume production activity. These engineering groups will be established in geographics which can support our world-wide market strategies. Each engineering group will be modeled to grow no larger then 100 people before it will be segmented. The segmentation may or may not be along geographic lines.

- DEC F&A ENVIRONMENTAL ASSUMPTIONS

1) Budgeting & Reporting - The product group will continue to be the strategic business unit of the corporation.

2) Accounting - Each operating unit of the corporation will eventually have its own ledger and of necessity have to start building its own accounting organization. The CSS sites located in non-US sites will be the last to have this capability.

3) Order Processing - Order Processing will become increasingly mechanized with the product group O.P. eventually becoming a staff function with no operations. Scheduling will continue in our plants and engineering groups.

4) M.I.S. - The M.I.S. function will continue to parallel the company's organization structure with coordination provided via symposiums, and a long range planning process.

5) Areas - Areas will increasingly become the operating arm of the company.

6) Credit & Collection - Credit & Collection will increasingly become a field activity. The product group function will become strictly policy setting and liaison with the field.

7) Facilities - The facilities function will become increasingly professionalized with support provided in the geographies and the planning provided by the strategic business unit level.

- CSS F&A GENERAL STRATEGIC ASSUMPTIONS

1) CSS F&A will attempt to parallel the corporations F&A structure to the greatest extent possible without jeopardizing its mission to support the product group.

2) All staffs above the operational level will exist solely for the purpose of coordinating activities at the operational level.

- CSS F&A ORGANIZATIONAL STRATEGY

The CSS F&A organization will be built around the general strategy of using the business groups and area level F&A organizations are geographically orientated organizations whose function is to implement within their geographics policies and procedures formulated at the world-wide operations and manufacturing level. This would be in addition, but not subservient, to their general business support responsibilities.

The three general levels of organization and their type of activities are as follows:

1) Corporate Level - This level will concentrate on the following primary business activities:

a) Reviewing policy and procedure proposals from worldwide operations and manufacturing.

b) Ensuring an integration of the planning process between marketing, manufacturing, and operations.

c) Auditing compliance to corporate policy by the various CSS entities.

d) Reviewing business proposals.

e) Reviewing investments in capital equipment and facilities.

f) Coordinating MIS proposal and investments.

g) Analyzing and reporting on operating results by market segment.

2) World-Wide-Operations and Manufacutring Level

a) Operations

1) Direct world-wide responsibility for all functions of an operational nature such as order processing and credit and collection.

2) Publishing of all policies and procedures on a world-wide basis for all functional responsibilities to be implemented at the area, and business group level.

3) Review of all budgets and investment proposal.

4) Coordination of MIS requirements of the operating business groups.

5) Reporting on performance against plan.

b) Manufacturing

1) Direct world-wide responsibility for all cost accounting issues.

2) Publishing of all policies and procedures on a world-wide basis relative to functional responsibilities of the world-wide manufacturing group manager for implementation at the area and business group level.

3) Review of all budgets and investment proposal.

4) Coordination of MIS requirements of the manufacturing organization.

5) Reporting on performance against plan.

3) Area Level

a) Responsible for implementing approved world-wide F&A policies for all CSS functions existing within the area geography.

b) Establishing unique policies and procedures if so required, so long as they do not conflict with the World-Wide policies and are approved at the corporate level.

c) Representing all CSS Area F&A activities at DEC area councils.

d) Establishing staff functions as necessary to ensure integration with relevant DEC area functions.

e) Reviewing budgets of the area business groups.

f) Reviewing investment proposals of the area business groups.

g) Ensuring the integration of area business group plans with that of the area LVP facility.

h) Analyzing and reporting on area business groups performance against plan.

NOTE: Activities relative to the area LVP facility will be limited to integration of plans, representation at area level councils, and implementation of approved policy.

4) Operational Level

a) Business Group

- Budgeting & Planning for all activities of the business group.
- Responsible for order processing, credit and collection, cost accounting.
- Provide financial backup for all business proposals, and investments.
- Coordinate all MIS requirements and manage the functions.
- Analyze and report all operating results.

b) LVP

- Budgeting and planning for all activities of the LVP facility.
- Responsible for all cost accounting and cost analysis.
- Provide financial backup for all investment proposals.
- Coordinate all MIS requirements and manage the function.
- Analyze and report all operating results.

STRATEGY STATEMENT
CSS-MIS

The CSS-MIS strategy is in support of the following charter:

a) Ensure that all systems being used within CSS provide for the support of a controlled business environment.

b) The systems themselves be properly controlled, managed, and support.

c) They provide an adequate level of functionallity.

d) Are capable of being easily installed, maintained, enhanced and implemented; transportable to other CSS sites of a similar size and business focus.

e) Do not inhabit growth of a business.

1. Develop two good systems, sponsored by the product line; one in support of Manufacturing and the Material distribution, the other in support of the Business Operations.

2. Considering the cost of development and programming, in relationship to hardware and operations, it is desirable to:

   a) Centrally procure and fund (but not necessarily execute) the development of applications software, turnkey packages and user tools.

   b) Regionally support and enhance these systems.

   c) Locally manage, operate and use them.

3. Follow a hardware and software migration path which will enable us to be running VAX, or VAX compatible systems within the next four years.

4. Operate all data centers as production systems with appropriate, professional hardware, software, operations, and field service support.

5. In support of the Business Operations we will build upon the MX-11 (Munich) RSX-11 System that is currently being installed in Munich and Annecy. Stockholm and Japan are planned for this year. California, Australia, Canada, and Reading (operations) are probable for next year. This system is currently being enhanced in Europe to a good entry level functionality.

6. Manufacturing requires an on-line system, integrated with the materials distribution functions. Both an 11 and 10 based solution to this are being examined. Since the two manufacturing areas are Nashua which is fairly large, and Reading which is fairly small, a single fit will most likely be found in the VAX compatible 11 based system. Continue to add desired functionality over the next 18 months.

7. Corporate Order Processing, loading and scheduling of products demand as well as all related USA backlog, bookings and revenue functions will be done on our own OP11 System domestically. In Europe all bookings and backlog information will be processed through the corporate system located in Scotland and Maynard, thence into both CSS and the Corporate systems simultaneously.

8. A major marketing system and database will be developed using a modern database management system, on VAX, which will enable us to consolidate, retain, analyze and manipulate worldwide marketing data.

9. The long-term system objective is to provide profit and loss/balance sheets for the several viewpoints required (organizational, market, geographic) operating within the framework of the DEC data requirements. And to provide the systems required to generate all data necessary to support each line or those financial statements.

10. Several philosophies we believe in are:
    - Use DEC hardware always, and software where practical.
    - Use database management systems, on-line systems, on-line systems, report generators, and retrieval tools.
    - Grow our own MIS staff through protential paths, and avoid overhiring.
    - Accept to have a senior U.S. analyst in Europe as a personal development path.

FINANCIALS

BUSINESS VOLUME ASSUMPTIONS

- Growth is not an objective it is the result of careful management.
- Growth will be managed, however, to meet control and profit objectives.
- New design activities drive the system products and standalone products business.
- Growth in FY80 & FY81 will be limited to emphasize gaining control.
- The increasing complement of standard offerings will make system products growth rates lower than the corporate average.
- Stand-alone products (custom micros, custom terminals, graphics, process I/O & communications) growth will increase dramatically by:
  - Offering stand-alone products (start-up).
  - Concentrating on volume requirements of customers.
  - Working in fast growth markets.

The following tables show the projected business mix by product class. These mixes are to be taken as product group planning objectives. Final business mix plans will be determined by integrating the detailed business unit plans when they are completed.

NOR PLAN TARGETS

	FY79	FY80	FY81	FY82	FY83	FY84
NEW DESIGN	17M	17M	20M	25M	30M	36M
GROWTH		0	17%	25%	20%	20%
SYSTEM PRODUCTS	37M	48M	56M	65M	74M	84M
GROWTH		26%	16%	16%	14%	14%
STAND-ALONE PRODUCTS	3M	3M	6M	12M	21M	32M
GROWTH		0%	100%	100%	75%	52%
TOTAL	57M	68M	82M	102M	125M	152M
GROWTH		19%	20%	24%	22%	22%

NOR MIX ANALYSIS

	FY79	FY80	FY81	FY82	FY83	FY84
NEW DESIGN	30%	25%	24%	25%	24%	23%
SYSTEM PRODUCTS	65%	70%	69%	64%	59%	56%
STAND-ALONE PRODUCTS	5%	5%	7%	11%	17%	21%
TOTAL	100%	100%	100%	100%	100%	100%

GROSS MARGIN ASSUMPTIONS

- New design margins were very poor in FY'79. Significant control steps and pricing moves will be taken to improve margins.
- Target minimum new design margins will be 50% for each individual business opertunity.
- We will plan for 10% average reduction in margins for opportunities which show product fall-out potential. Each such pricing decision will be approved by the appropriate business managers.

GROSS MARGIN PLAN TARGETS

The following table shows the gross margin objectives by product class:

GM%	FY79 (ACT)	FY80	FY81	FY82	FY83	FY84
NEW DESIGN	21%	29%	32%	34%	36%	38%
SYSTEM PRODUCTS	48%	52%	53%	54%	55%	55%
STAND-ALONE PROD.	48%	52%	53%	52%	51%	50%
TOTAL	40%	48%	48%	49%	50%	50%

FIXED EXPENSE ASSUMPTIONS

- Administrative expenses during the initial years of the plan we are expecting increases in MIS expenses and related equipment depreciation. Improvements in productivity caused by these investments show in later years of the plan as reduced administative expenses as a percent of revenues.
- Product line engineering investments will be better identified (not hidden in manufacutring costs). This will cause increases in engineering and corresponding improvements in gross margin. In addition we plan to spend more (5% in the model) to stabilize our product development, capitalize on mid-life kickers, and stay current with new CPU's and operating systems.
- CSS will fund selling in FY'82 on for its stand-alone products.
- If/when sales assumes responsibility for our field AE's, the related expenses will be reclassed from marketing to sales. This plan shows these expenses in marketing.

STRATEGIC PLAN

FINANCIAL INPUT DATA

	FY80	FY81	FY82	FY83	FY84
-BOOKINGS$	69	88	112	135	166
-MLP$	--	--	--	--	--
-NOR$	68	82	102	125	152
-TRANSFER COST % MLP	45	43	42	40	40
-HWW % MLP -SWW % MLP	2	4	4	4	4
-OTHER COS % NOR	5	4	5	5	5
-PL DIRECT EXPENSES % NOR	27	30	28	27	26
-OTHER EXPENSES % NOR	3	3	3	4	4
-ANNUAL YIELD/SALESPERSON	--	--	--	--	--
-ANNUAL COST/SALESPERSON	--	--	--	--	--
-D S O	45	44	44	45	45
-PG INVENTORY WEEKS	39	32	30	28	26
-CAPITAL EXP. (MACHINERY & EQUIP.)	2.0M	2.4M	2.9M	3.6M	4.4M
-CAPITAL EXP. (FACILITIES)	--	--	--	--	--
-QUARTER END PEOPLE	941	1035	1138	1251	1376

CSS FIVE YEAR P&L TARGETS

C.S.S.

P&L

	FY80	FY81	FY82	FY83	FY84
NOR	68	82	102	125	152
C.O.M.	33.9	38.4	48.5	57.1	69.6
WARRANTY	1.6	3.3	4.0	5.5	6.8
GROSS MARGIN	32.6	40.3	49.5	62.4	75.6
%	47.9%	49.1%	49.0%	50.0%	50.0%
MARKETING/ADV	7.4	9.3	10.8	12.7	15.5
SELLING	--	--	.4	1.0	1.4
ADMIN./OTHER	8.8	11.0	12.9	15.1	17.5
ENG.	2.2	4.4	5.0	6.8	7.5
CORP ALLOC.	2.3	2.4	2.9	3.6	4.3
TOTAL	20.7	27.2	32.0	39.4	46.2
%	30.4%	33.2%	31.3%	31.5%	30.4%
PBT.	11.9	13.1	17.5	23.0	29.4
%	17.5%	16.1%	17.1%	18.4%	19.3%

CSS FIVE YEAR ROA TARGETS

C.S.S.

R.O.A.

	FY80	FY81	FY82	FY83	FY84
FACTORS					
P.A.T.	10.6%	9.6%	10.3%	11.0%	11.6%
D.S.O.	54	54	54	45	45
INV. WEEKS	38	32	30	28	26
ASSETS					
P.L. A/R	9.7	11.7	13.7	17.0	20.1
P.L. INV.	21.7	21.7	24.7	26.9	30.6
P.L. C.E.	3.1	3.9	5.1	7.5	10.6
CORP MFG ALLOC	2.2	2.8	4.3	5.9	7.9
CORP ASSETS	5.4	8.2	10.2	11.8	14.7
TOTAL	45.6	52.6	65.2	77.0	94.1
R.O.A. %	15.8	15.0	16.1	17.9	18.8
R.O.A. % fully loaded *	15.0	14.2	15.2	17.0	17.8

* Adjusted for full AR responsibility

RISKS/ISSUES

RISKS

CSS as a matter of course is a very risky business because of:

- Fixed price engineering contracts
- Decentralized operations
- Heavy dependence upon manpower continuity
- difficult to manage customer expectations

The following are additional risks in this plan:

. This plan depends upon successful integration of CSS activities with other Digital organizations. Possible heat generated relative to our drive for strategic focus and profits may impede this integration.

. CSS is manpower intensive. Failure to attract strong technical people could hinder plan's success.

. The strategy to reduce risks and improve profits could have a negative impact. Creativity could be sufficiently reduced so as to impede building the CSS product base. The cultural changes required could impact short term results (turn over).

. Many CSS products are old. Failure to replace them in a timely fashion could impact profits.

. The strategy on Business Mix could go wrong in several possible ways:

  - Failure to precipitate enough new products from the new design base.
  - In rejection of non-strategic one-of-a-kind business, the new design bookings could drop too low leaving us with a capacity problem.

. Failure to improve new design profits (-10% P.B.T. to +10%) through project control and quote control could prevent us from reaching our margin objectives.

. CSS does not feel that the other product lines have a clear idea of how our resources should be utilized in their markets.

. CSS expects the other product lines to forecast their requirements which are outside our declared plans and to pay for those resources forecasted which are under utilized. Currently there are no official forecasts for this business.

. CSS expects to turn management of AE's over to sales and to fund salesmen for stand-alone products. This issue has not been discussed with the sales organization other than in passing comments.

. This plan has not been reviewed by the areas, functions, or other product lines.

digital

Computer Special Systems

printed in U.S.A.

9.3 CSS MANUFACTURING

1. CSS will manufacture its own products unless it is to the advantage of the product group to offload such manufacture to a DEC high volume plant or an outside subcontractor. Additionally, CSS may choose to manufacture DEC volume produced options in order to reduce its dependance on that organization and to realize shorter lead times.

2. In order to avoid costly duplications of efforts and capabilities, CSS will build its products using a dual concept.

   - volume manufacturing plants (medium volume production)
   - pilot plants (low volume production)

   Volume plants and pilot plants will be structured to allow for quick response output to the needs of the CSS product group.

   As a guideline, volume plants will normally manufacture in quantities from 200-5000 units per option per year. Pilot plants will generally deal with volumes of 1-200 per year.

   By the very nature of their organizational charter and design, pilot plant manufacturing groups will be more flexible, use shorter manufacturing lead times, and be most responsive to short term changes in manufacturing needs. Conversely, volume manufacturing locations will use longer run, lower cost, more formalized procedures.

   Pilot plants will be responsible for the assembly, test and shipment of the new design requirements of the specific business location. Additionally these units will manufacture those engineering repeat products that result from the futurity that will be built into our designs.

   Volume plants will normally assume responsibility for the product under the following conditions:

   - category A products will be built by volume plants or,
   - when export volume exceeds local use volumes or,
   - when the product is projected to consume 35-40% of pilot plants' manufacturing capacity for a period of one year or more.

   It is quite reasonable to allow a pilot plant to be co-located with a volume plant. These manufacturing entities may use the same management.

   Additionally, the transfer of products to a volume plant will mean (1) reduced exposure to the individual pilot plant manufacturing group, (2) less tendency towards "favoring" the needs of the local group when exports are involved, and (3) obvious economies of scale that result from a centralized location.

3. Control systems

   - direct labor additions for pilot plants must be justified on the basis of engineering repeat needs, not volume products

   - Costs of transfer from a pilot plant to a volume manufacturing plant will be clearly defined and excluded from the business group P&L measurement

   - capital intensive manufacturing processes will normally be located in volume facilities. The CSS manufacturing manager will establish controls to prevent unnecessary duplication of capital investments.

   - Standardized control systems, reporting, and MIS will be developed pilot plant within manufacturing. A separate systems approach may be required for volume manufacturing.

4. All CSS plants are required to conform to pertinent DEC standards. CSS volume plants will conform to additional appropriate manufacturing standards. (e.g., standard cost, corporate reporting, etc.). Pilot plant ~~unit~~ manufacturing will, of course, need to comply with fewer of these standards.

5. Volume plants will be added to CSS manufacturing based on a determination of need, cost, and geography. Specific location of future plants will undergo an analysis of manpower availability, import/export restrictions, material sourcing capabilities, etc. The current Nashua volume plant will be capped at 200,000 square feet and 400 employees.

6. As volume plants are opened in an area (U.S., G.I.A., Europe) these plants will develop independent quick response materials acquisition capability. This capability may be developed by using an already existing acquisition group (e.g., an FA&T plant). All pilot plants within the area would then obtain their materials through the area volume plant.

   - CMP in Nashua, NH would continue to maintain a distribution function as long as required.

7. Reporting relationships;

   - Volume plants will report to the product group manufacturing manager with a matrix tie to the area manager.

   - Pilot plants will report to the local business manager with matrix ties to the product group manufacturing manager.

FY 79
CSS

STRATEGY STATEMENT CSS MANUFACTURING

1. CSS will manufacture its own products unless it is to the advantage of the product line to offload such manufacture to a DEC high volume factory or an outside subcontractor. Additionally, CSS may choose to manufacture DEC produced options in order to reduce its dependance on that organization and to realize shorter lead times.

2. In order to avoid costly duplications of efforts and capabilities, CSS will build its products using a dual concept.

   - volume manufacturing plants
   - engineering units (LVP)

   Volume plants and engineering units will be structured to allow for quick response output to the needs of the product line.

   By the very nature of their organizational charter and design, the engineering unit manufacturing groups will be more flexible, use shorter manufacturing lead times, and be most responsive to short term changes in manufacturing needs. Conversely, volume manufacturing locations will use longer run, lower cost, more formalized procedures.

   Engineering units will be responsible for the assembly, test and shipment of the new design requirements of the specific business location. Additionally these units will manufacture those engineering repeats that result from the futurity that will be built into our designs.

   Volume plants will assume responsibility for the product under the following conditions:

   - category A products will be built by volume plants or,
   - when the product is sold into 3 or more business group geographies or,
   - when the product is projected to consume 35-40% of an engineering units' manufacturing capacity for a period of one year or more.

   It is quite reasonable to allow an engineering unit to be co-located with a volume plant. These manufacturing entities may use the same management.

   Additionally, the transfer of products to a volume plant will mean (1) reduced exposure to the individual engineering unit manufacturing group, (2) less tendency towards "favoring" the needs of the local group when exports are involved, and (3) obvious economies of scale that result from a centralized location.

3. Control systems

   - direct labor additions for engineering units must be justified on the basis of engineering repeat needs, not volume products

   - Costs of transfer from an engineering unit to a manufacturing plant will be clearly defined and excluded from the business group P&L measurement

   - capital intensive manufacturing processes will normally be located in volume facilities. The CSS manufacturing manager will establish controls to prevent unnecessary duplication of capital investments.

   - Work to develop standardized control systems, reporting, MIS within engineering unit manufacturing. A separate systems approach will be required for volume manufacturing.

4. All CSS plants are required to conform to pertinent DEC standards. CSS volume plants will conform to additional appropriate manufacturing standards. (e.g., standard cost, corporate reporting, etc.). Engineering unit manufacturing will need to comply with fewer of these standards.

5. Volume plants will be added to CSS in support of product line geography. i.e., before a 2nd U.S. volume plant is added, we will first add one in Europe and G.I.A. This recognizes that many of our volume products are area geography oriented.

6. As volume plants are opened in an area (U.S., G.I.A., Europe) these plants will develop independent quick response materials acquisition capability. This capability may be developed by using an already existing acquisition group (e.g., an FA&T plant). All engineering units within the area would then obtain its materials through the area volume plant.

   - CMP would continue to maintain a distribution function as long as required.

7. Reporting relationships;

   - Volume plants will report to the product line manufacturing manager with a matrix tie to the area manager.

   - Engineering units will report to the local business manager with matrix ties to the product line manufacturing manager.

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CSS PRODUCT LINE

file INVENTORY MODEL

FY81

KENN FARRELL

digital

Computer Special Systems

COMPANY
CONFIDENTIAL

file

CSS PRODUCT LINE
INVENTORY MODEL
FY81

KENN FARRELL

PRODUCT LINE GROWTH IN NOR

	FY80 NOR	FY80-FY81 GROWTH	FY81 NOR	FY82-FY84 AVERAGE GROWTH PER YEAR
TERMINALS	120	108%	250	38%
MICROS	77	82%	140	43%
OEM'S	490	32%	649	30%
FA&T EXCLUDING OEM'S	1013	35%	1371	39%
A&SG, TPL, CSS	207	37%	283	30%
FIELD SERVICE	493	34%	660	35%
TOTAL CORPORATE	2400	40%	3353	36%

SOURCE:

PRODUCT LINE LONG RANGE PLAN

NOVEMBER, 1979

11/21/79

DISTRIBUTION OF NOR BY PRODUCT LINES

	FY80	FY81	
TERMINALS	5%	8%	RESELLER MARKET
MICROS	3%	4%	
OEM'S	20%	19%	
FA&T EXLUDING OEM'S	42%	41%	
A&SG, TPL, CSS	9%	8%	
FIELD SERVICE	21%	20%	
TOTAL	100%	100%	

SOURCE:

PRODUCT LINE LONG RANGE PLAN

NOVEMBER, 1979

11/21/79

MANUFACTURING CAPACITY TO SUPPORT

3,353 NOR (INVENTORY WEEKS CONSTANT)

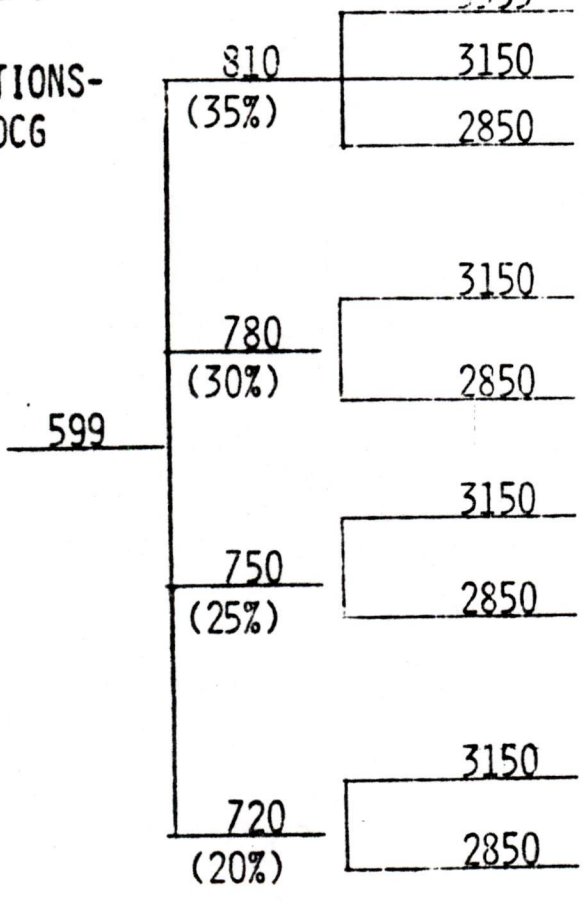
	FY80		% GROWTH		FY81
CPU	155	-	51%	-	232
MASS STORAGE	187	-	35%	-	253
TERMINALS	179	-	73%	-	306
MEMORY	37	-	60%	-	56
GEN'L MFG	37	-	23%	-	43
TOTAL	599	-	49%	-	890
	↓				↓
NOR	2.40	-	40%	-	3.35

11/21/79

FY80

NOR = 2400
(33% GROWTH)
TOT GROSS
INVENTORY
727

CORP. INV.
TURNS 1.97
FA&T WEEKS
25.7
VOL. OPTIONS-
FA&T/DCG
599



FY81 NOR	FY81 TOTAL GROSS INV	FY81 CORP INV TURNS	FY81 FA&T WEEKS	FY82 RANGE OF GROWTH IN NOR
3353 (40%)	955	2.09	19.2	16%-31%
3150 (31%)	1029	1.82	26.5	24%-46%
2850 (19%)	1107	1.53	36.2	32%-53%
3150	965	1.94	24.4	17%-36%
2850	1043	1.62	33.8	25%-46%
3150	905	2.07	22.3	11%-26%
2850	983	1.72	31.3	20%-40%
3150	843	2.22	20.1	5%-17%
2850	921	1.84	28.9	13%-35%

SOURCE:

PRODUCT LINE LONG RANGE PLAN

NOVEMBER, 1979

11/21/79

CORPORATE GROWTH RATE

CONCERNS/RISKS

FY81

CONCERNS

- PRODUCT LINES PROJECTING 40% GROWTH IN FACE OF ANTICIPATED RECESSION.
- SIGNIFICANT SHIFT TO TERMINALS AND LOW-END CPU'S.
- RECESSION SENSITIVE ELEMENTS OF CUSTOMER BASE PROJECTING FASTEST GROWTH.

CHOICES/RISKS

- $3.35 BILLION NOR (40% GROWTH) WOULD DRIVE PRODUCT LINE INVENTORIES DOWN BY 7 WEEKS, SERIOUSLY JEOPARDIZING CUSTOMER SERVICE.

- IF WE POSITION OURSELVES TO SUPPORT 40% GROWTH AND ACTUALLY ACHIEVE 25%, WE WILL EXPERIENCE SUBSTANTIAL DETERIORATION OF INVENTORY TURNS AND ROA FOR FY81 AND 82.

- WE MUST DETERMINE WHERE TO POSITION OURSELVES BY END Q2. THE DIFFERENCES BETWEEN HI & LO PLAN INCLUDE 4,000 PEOPLE AND $150M IN RAW MATERIAL PURCHASES.

LONG TERM GROWTH

CONCERN

- PRODUCT LINES PROJECTING 35 - 40%/YEAR THROUGH '84.
- COMPUTER PRODUCT GROUP PROJECTING GROWTH FROM 21% OF NOR TODAY TO 34% NOR BY '84.

CHOICES/RISKS

- A FIVE YEAR AVERAGE ANNUAL GROWTH RATE OF 35% RATHER THAN 30% MEANS AN ADDITIONAL $2 BILLION IN FY'85 NOR. THE EXTRA 2 BILLION REQUIRES:

  INVENTORY INVESTMENT: $400M

  MANUFACTURING SPACE: 2.7M FT^2

  (INSTEAD OF BREAKING GROUND FOR 12 PLANTS IN THE NEXT 2 YEARS, WE'D HAVE TO START 20 PLANTS (@ 300K FT^2/ PLANT)

  RAW MATERIAL PURCHASES: $400M (4K NEW VENDORS)

  PRINTED CIRCUIT BOARD FT^2: 1 MILLION FT^2

  (A $20M INVESTMENT IN A PLANT WITH GROUNDBREAKING REQUIRED WITHIN 1 YEAR)

  SUBSTANTIAL CASH FLOW IMPLICATIONS.

- IN ADDITION TO BEING VERY SENSITIVE TO TOTAL GROWTH, MANUFACTURING'S PLAN IS VERY MIX DEPENDENT.

  COMPUTER PRODUCT GROUP SUBSTANTIALLY MORE HARDWARE TRANSFER COST/NOR $'S AND IS VERY TERMINALS, LOW END CPU SPECIFIC SHIFT OF MANUFACTURING CAPACITY.

INVENTORY MEASUREMENTS

1) CORPORATE INVENTORY TURNS

$$= \frac{\text{COST OF GOODS SOLD}}{\text{NET YEAR ENDING INVENTORY}}$$

- COST OF GOODS SOLD INCLUDES TRANS COST OF SALES, FA&T COST, COSTS OF SERVICE, ETC.

- THIS IS A BACKWARD LOOKING MEASUREMENT

2) WEEKS

$$= \frac{\text{QUARTER "X" ENDING INVENTORY}}{\text{QUARTER "X + 1" OUTPUT}} \times 13$$

THIS IS A FORWARD LOOKING MEASUREMENT

FY 80 ENDING INVENTORIES

A) RECENT HISTORY - TURNS

	76	77	78	79	80 PROJ
CORP	1.94	1.59	1.87	1.97	1.80
VOL	2.5	2.1	2.7	2.5	2.06
SYSTEMS	3.7	3.6	2.6	3.1	3.21

B) RECENT HISTORY - $ MILLIONS

CORP (NET)	218.8	375.0	428.1	513.0	720.0
VOL.(GR)	116.2	194.5	188.4	246.0	350.0
SYSTEMS (GR)	78.2	131.6	190.4	190.0	225.0
OTHER (GR)	57.8	91.7	112.4	138.7	210.0

C) RECENT HISTORY -WEEKS

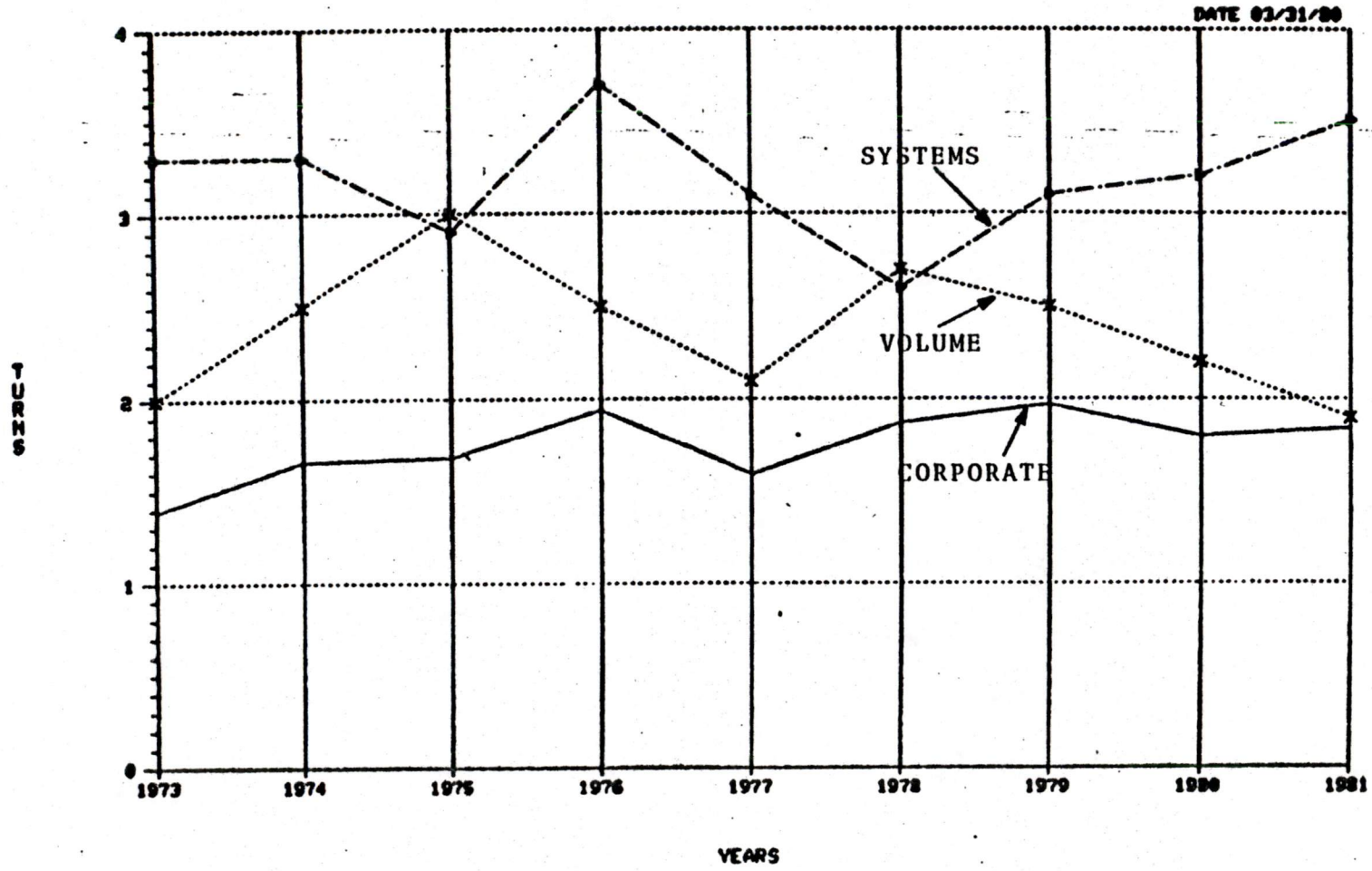
CORP	40.0	53.0	50.0	49.0	48.5
VOL	15,9	17.1	19.1	17.5	17.8
SYSTEMS	15.2	17.5	26.0	24.0	25.0

D) NET OPER REV.

736.3	1058.6	1436.6	1804.0	2366.0

CORPORATE INVENTORY TURNS

CORP NET INVENTORY TURNS OVER TIME



COMPANY CONFIDENTIAL

SUMMARY

- CORPORATE INVENTORY TURNS WILL FALL TO 1.80 IN 1980 VS. 1.97 IN '79, AND NOT IMPROVE UNLESS WE CAN ACHIEVE THE 5 YEAR PLAN.

- VOLUME MFG. OUTPUT IN FY81 ($75MM TOO HIGH TO FA&T/DCG) IS DRIVING THE '80 AND '81 INVENTORY PROBLEM.

- ASSET MANAGEMENT GOALS ARE MYTHS UNTIL WE CAN SET A VOLUME MFG. PLAN IN PLACE THAT DOES NOT EXCEED THE COMPANY'S NEEDS FOR PRODUCT.

- OPPORTUNITIES AND ISSUES TO WORK TO FIX THIS:
  - DROP FY81 OUTPUT. BEING WORKED BY WEISS/MFG. STAFF.
  - REDUCE VOLUME - VOLUME INTERDEPENDENCIES. FRAN GRIGSBY DRIVING. SPRINGFIELD STARTED AS PILOT EFFORT.
  - UNDERSTAND/FORMALIZE SYSTEMS MFG. (PRODUCT GROUPS) INVENTORY MANAGEMENT TOOLS AND SYSTEMS. PETE BAGG FY81 TO WORK.
  - UNDERSTAND "OTHER PRODUCT LINES" (F.S., CSS, TPL, A&SG) AND THEIR IMPACT. PETE BAGG TO WORK Q4,80.
  - IMPROVE EXCESS/OBSOLETE MATERIAL MANAGEMENT. SHIRLEY HINGSTON.

MANUFACTURING INTERDEPENDENCIES

MAJOR OPTIONS

Fran Grigsby
2/14/80

CODE FOR PRODUCT FLOW CHARTS

 = External Vendor.

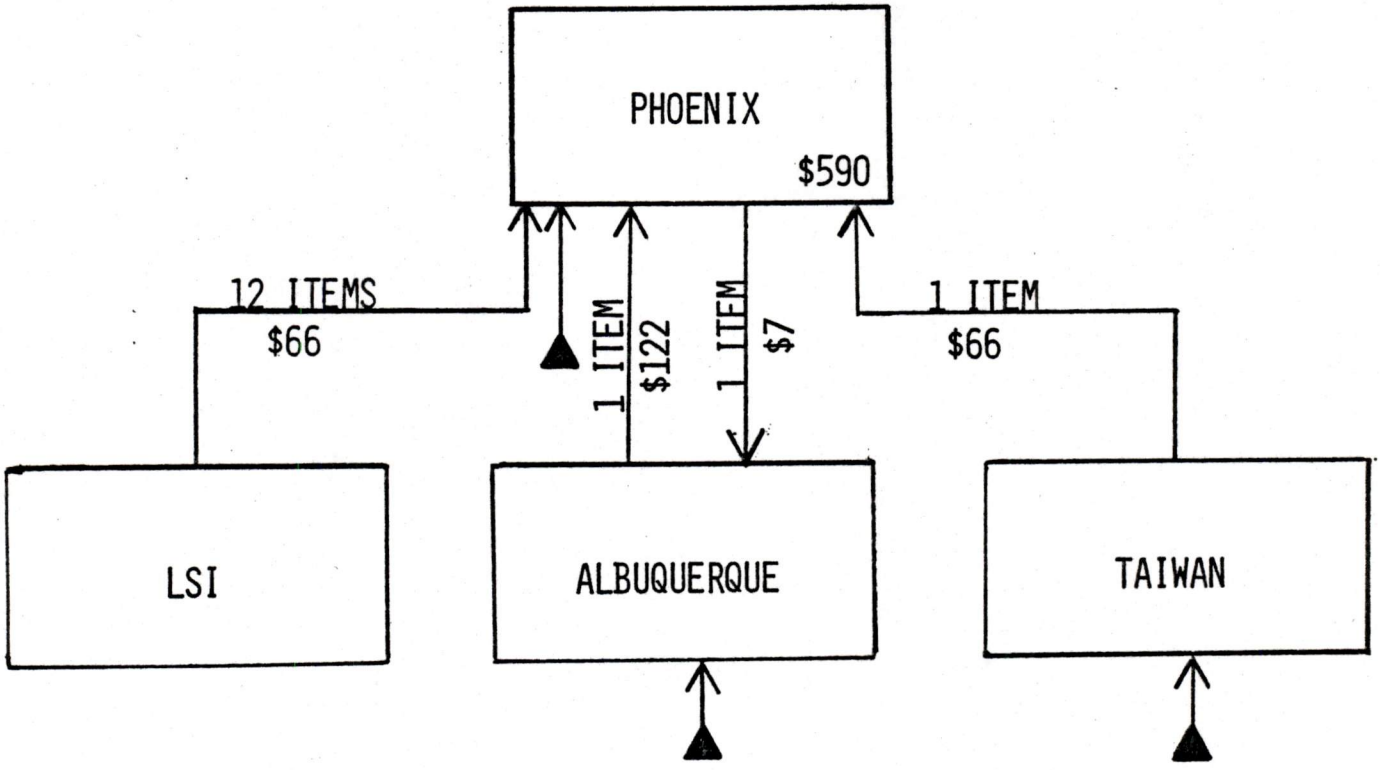
ITEMS = Total part numbers supplied by indicated plant for one option.

UNITS = Total number of pieces supplied by indicated plant for one option (when greater than number of discrete parts).

FCG
12/28/79

VT100
-AA

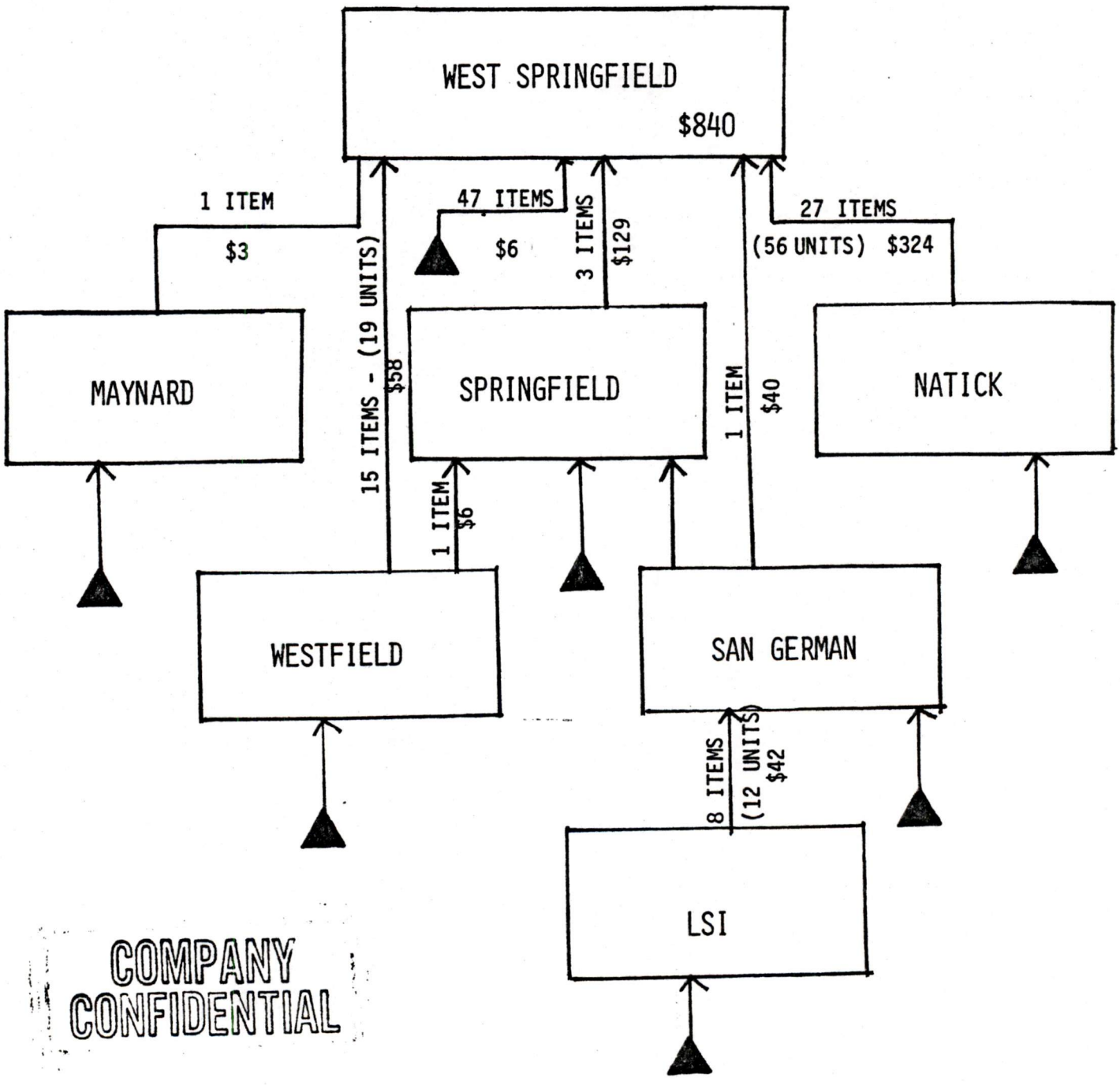
(3)



FCG
12/17/79

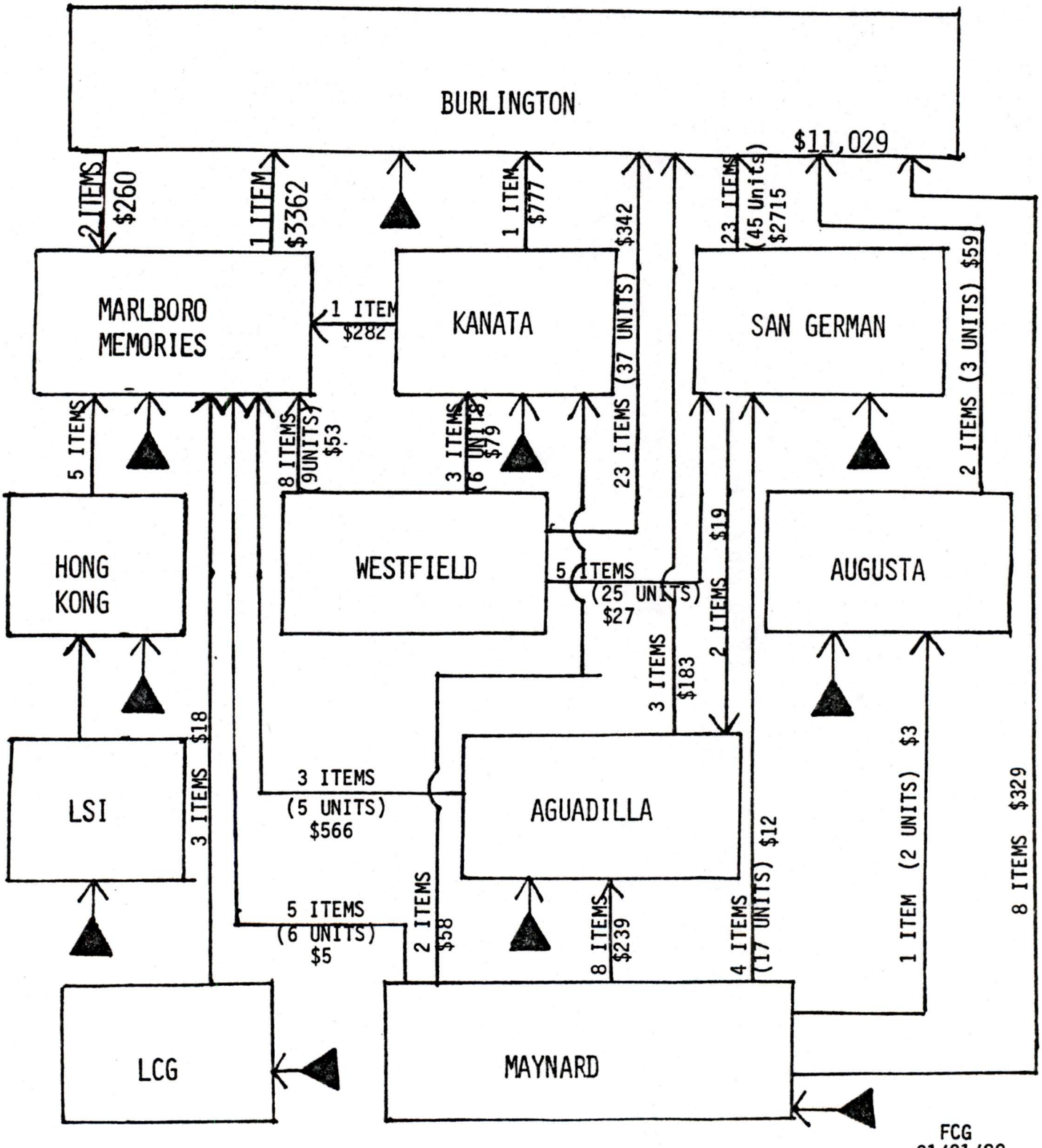
RX02
-BA

(6)



11/70
-MK

(10)

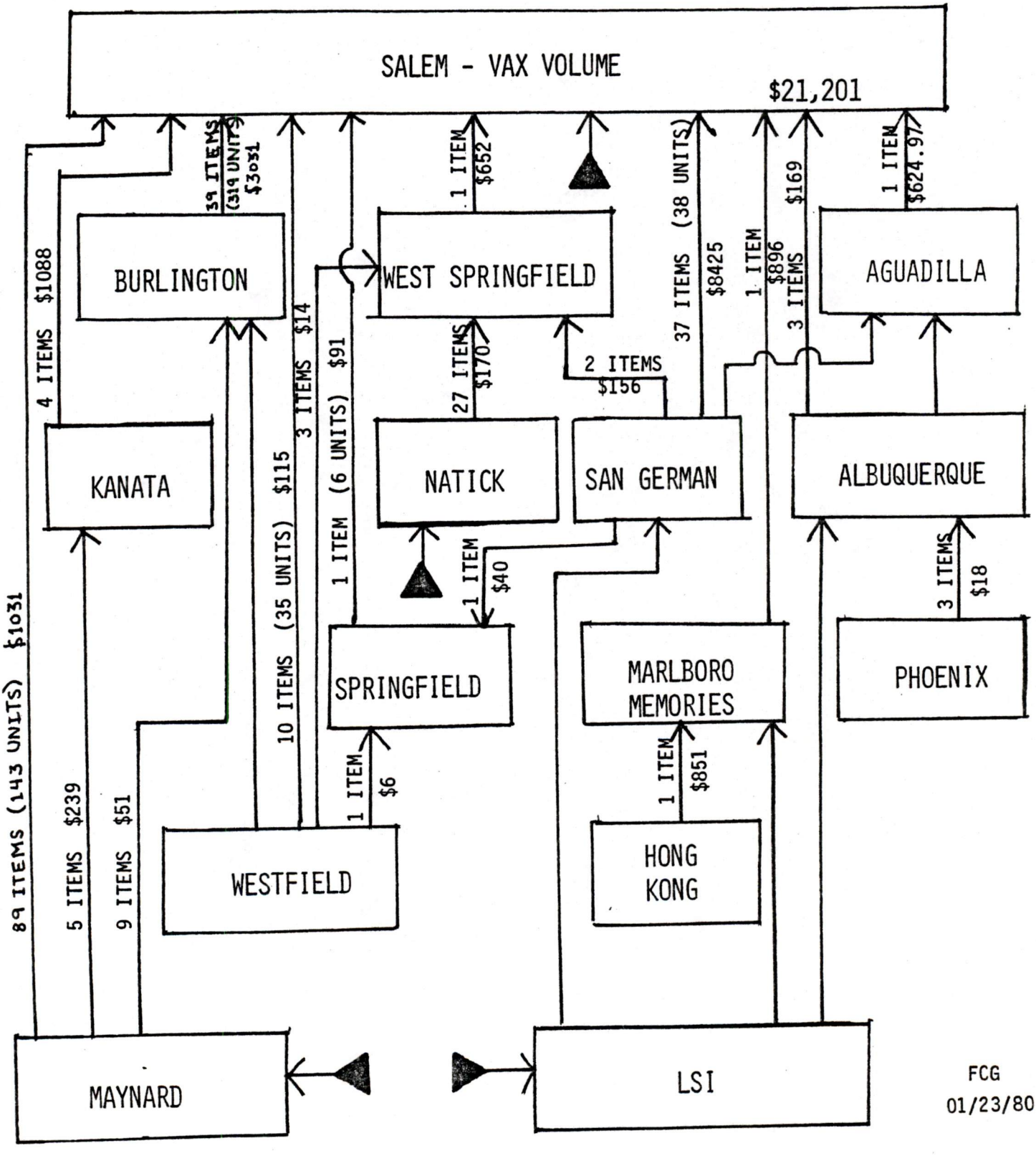


FCG
01/21/80

COMPANY CONFIDENTIAL

11780
-DA

(14)

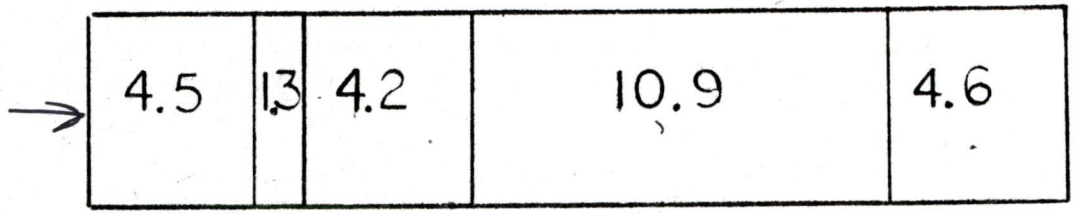


P/L WEEKS OF INVENTORY MODEL

MODEL FY81

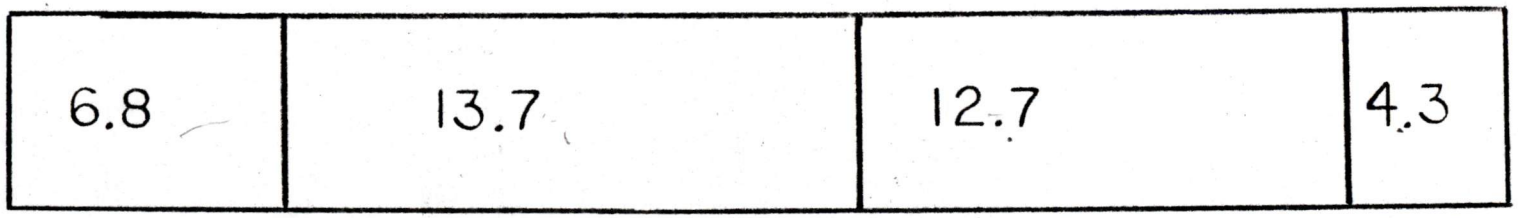
4.5
1.3
4.2
10.9
4.6
25.5

25.5



CMP INV. CONT. | 1/T | SITE R/M | WIP | F/G

ACTUAL Q2



CMP INV. CONT. | SITE R/M & INTRANSIT | WIP | F/G

NOTE: ACTUAL IS AS REPORTED BY P/L.

"FINISHED GOODS"

INVENTORY WEEKS

FA&T = 4(.35) = 1.4

SITE SHELF STOCK = 4(.80) = 3.2

TOTAL: = 4.6

ASSUMPTIONS

1) 35% OF PRODUCT LINE OUTPUT USES FA&T

2) AVERAGE FA&T CYCLE EQUALS 4 WEEKS.

3) 80% OF ALL OUTPUT IS SHELF STOCK REPEATS

4) MAINTAIN 4 WEEKS OF INVENTORY TO SUPPORT 4 MONTH BOOK TO SHIP CYCLE

"WIP CYCLE"

INVENTORY WEEKS

BUYOUT INTENSIVE 1.75

NON BUYOUT INTENSIVE 5.04

} (.70)=4.75

NEW DESIGN 20.7(.30) = 6.21

TOTAL WIP = 10.96

ASSUMPTIONS

1) ASSUME A MIX OF WIP TO INCLUDE 70% REPEAT AND 30% ENGINEERING.

---

2) REPEAT WIP IS COMPRISED OF 65% NON BUYOUT INTENSIVE, AND 35% BUYOUT INTENSIVE OPTIONS.

---

3) RAW MATERIAL IS 48% FOR NON BUYOUT INTENSIVE OPTIONS, AND 10% FOR BUYOUT INTENSIVE OPTIONS.

---

4) WIP NEW DESIGN USES 9 MONTH BOOK TO SHIP CYCLE.

---

5) MATERIAL IS 12.7% OF COST FOR NEW DESIGN PRODUCTS, LABOR IS 87.3%.

"ENGINEERING WIP (30%)"

Months:	1	2	3	4	5	6	7	8	9
Labor: 87.3%	.097	.194	.291	.388	.485	.582	.679	.776	.873
Material: 12.7%			.063	.127	.127	.127	.127	.127	.127
TOTAL:	.097	.194	.354	.515	.612	.709	.806	.903	1.00
Inventory Weeks: (4)	.388	.776	1.42	2.06	2.44	2.83	3.22	3.61	4.0

→ = 20.7

"REPEAT WIP (70%)"

		K	A	
BUYOUT INTENSIVE 35%	Material:	2 (.10)	3 (.10) 1 (.90)	4(.90)
	Inv. Weeks	.2	1.2	3.6 = 5.0 (.35) = 1.75
NON BUYOUT INTENSIVE 65%	Material:	2 (.48)	4(.80)	4(.90)
	Inv. Weeks	.96	3.2	3.6 = 7.76 (.65) = 5.04

TOTAL REPEAT WIP INV. WEEKS = 1.75 + 5.04 = 6.79(.70) = 4.75

"SITE RAW MATERIAL"

INVENTORY WEEKS

BUYOUT INTENSIVE	=	(.35) (.10) (10)	= .35
NON BUYOUT INTENSIVE	=	(.65) (.48) (10)	= 3.12
BUYOUTS	=	(.80) (1)	= .80

TOTAL INVENTORY = 4.27 WEEKS

ASSUMPTIONS

1) OUTPUT IS 65% NON BUYOUT INTENSIVE, AND 35% BUYOUT INTENSIVE

---

2) RAW MATERIAL CONTENT IS 48% FOR NON BUYOUT INTENSIVE, AND 10% FOR BUYOUT INTENSIVE.

---

3) 10 WEEKS PRIOR TO KIT ON SITE FOR RAW MATERIAL:

   2 WEEKS KIT
   4 WEEKS MATERIAL RECEIPT
   4 WEEKS ENGINEERING/SAFETY STOCK

---

4) BUYOUTS EQUAL 80% OF COST, AND SHOULD BE RESIDENT IN RAW STOCK FOR 1 WEEK PRIOR TO TEST.

"INTRANSIT"

INVENTORY WEEKS

AVERAGE
AVERAGE WEEKLY SHIP $ FROM CMP — TIME FRAME × 13

NEXT QUARTER OUTPUT

TOTAL = 1.31

50% to NVP - no intransit
50% to world X 50% (guess) cost = .25
X 4 avg weeks = 1.0 week.

ASSUMPTIONS

1) INTRANSIT IS DEFINED AS THE CALENDAR PERIOD OF TIME BETWEEN SHIPPING & RECEIVING SITE, INCLUDING ALL CUSTOM CLEARING PERIODS

2) TIME FRAMES SELECTED:

CORPORATE	1 WEEK
NVP	0
CALIFORNIA	1
FRANCE	6
GERMANY	5
ENGLAND	4
SWEDEN	5
CANADA	2
AUSTRALIA	5
JAPAN	4 WEEK

CMP - INVENTORY CONTROL STOCK

INVENTORY WEEKS

$$\frac{\text{ENDING INVENTORY}}{\text{NEXT QUARTER OUTPUT}} \times 13 = 4.5$$

TOTAL INVENTORY = 4.5 WEEKS

ASSUMPTION

1) PART TYPE MIX:

COMPONENTS	=	19%
LOOSE PIECE (MODULES, FAB)	=	25%
STANDARD OPTIONS (DEC)	=	40%
STANDARD OPTIONS (CSS)		16%

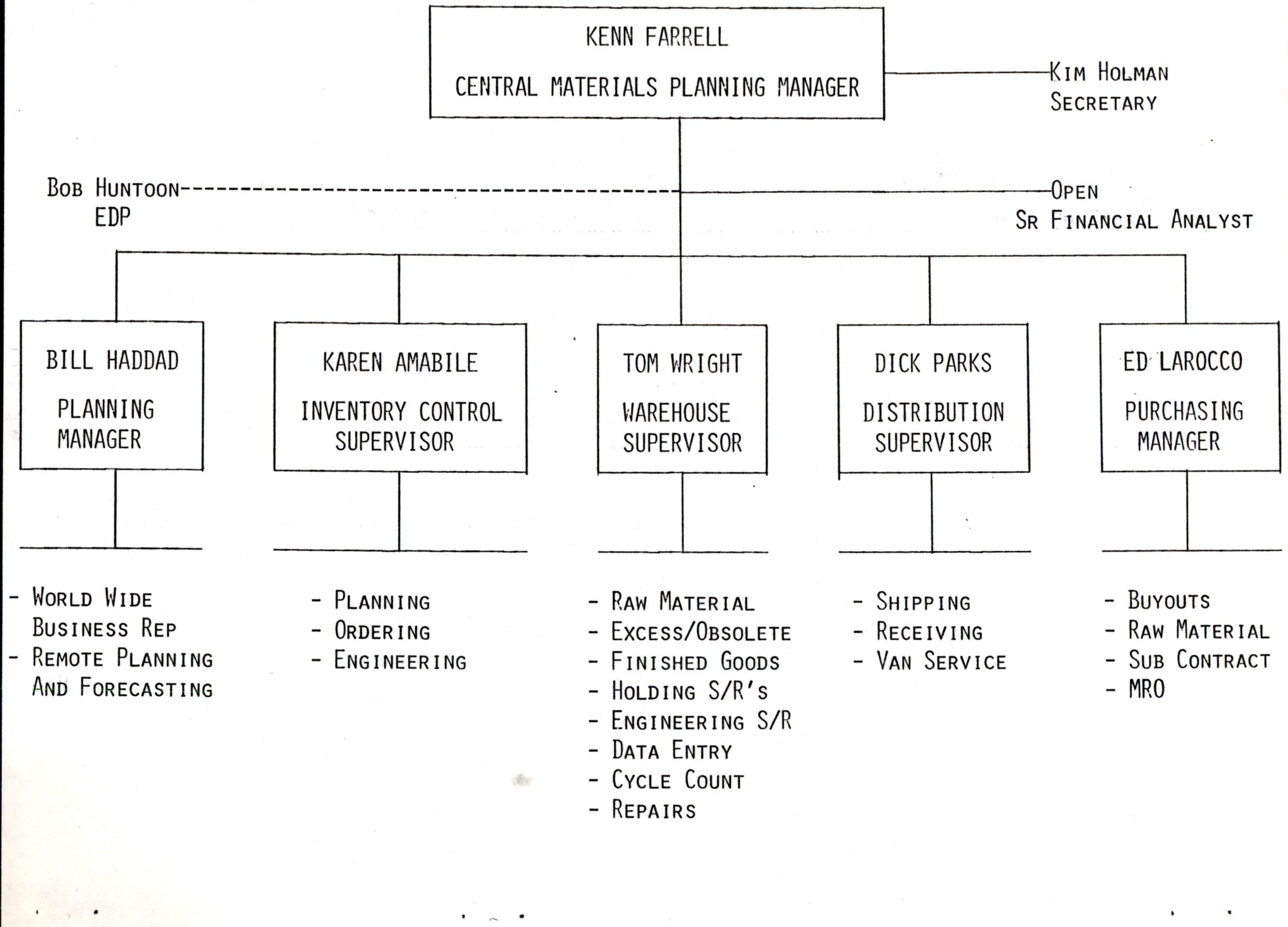
---

2) ORDERING RULES:

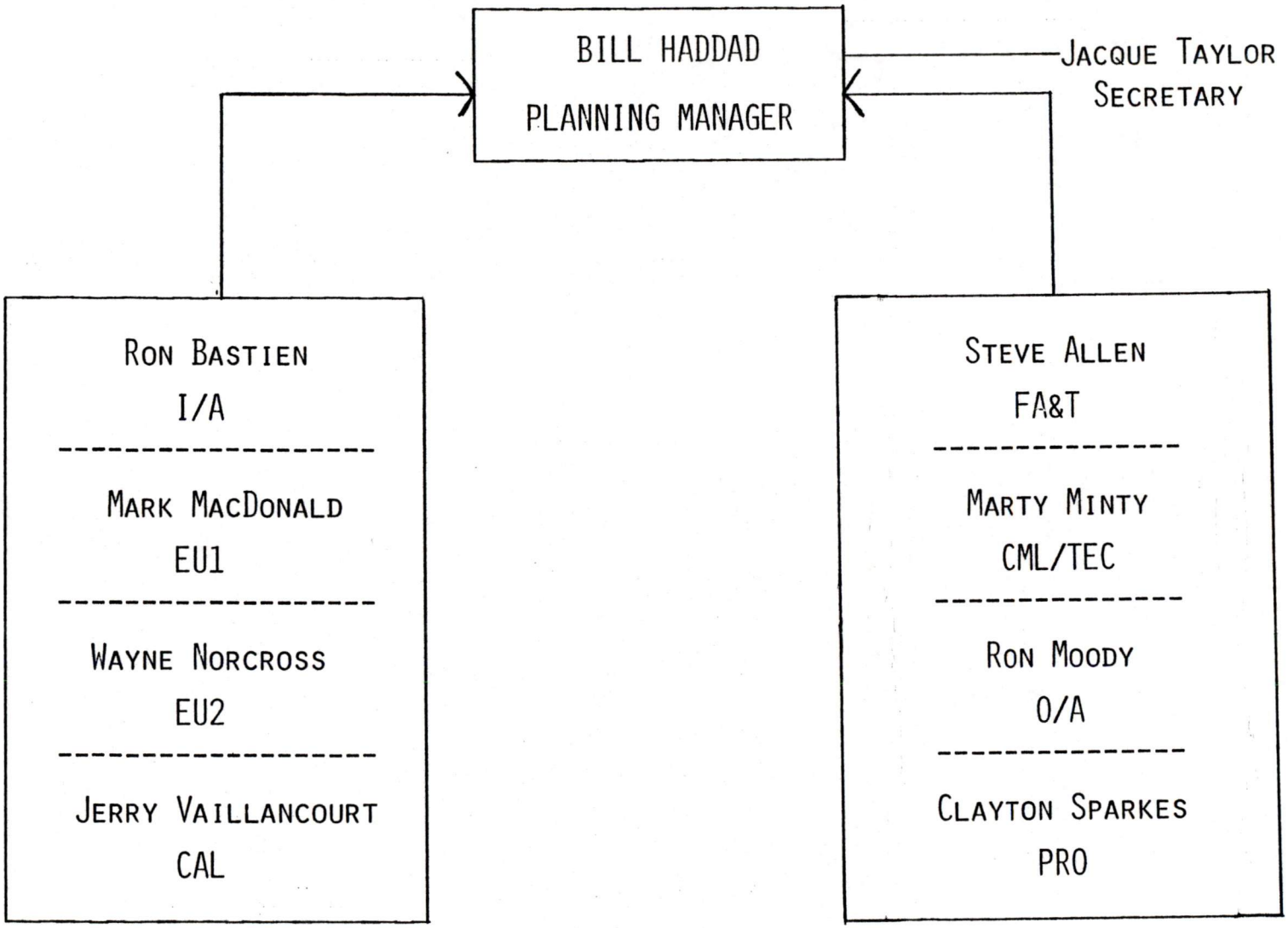
COMPONENTS	=	26 WEEKS
LOOSE PIECE (MODULES, FAB)	=	13 WEEKS
STANDARD OPTIONS (DEC)	=	5 WEEKS
STANDARD OPTIONS (CSS)	=	1 WEEK

---

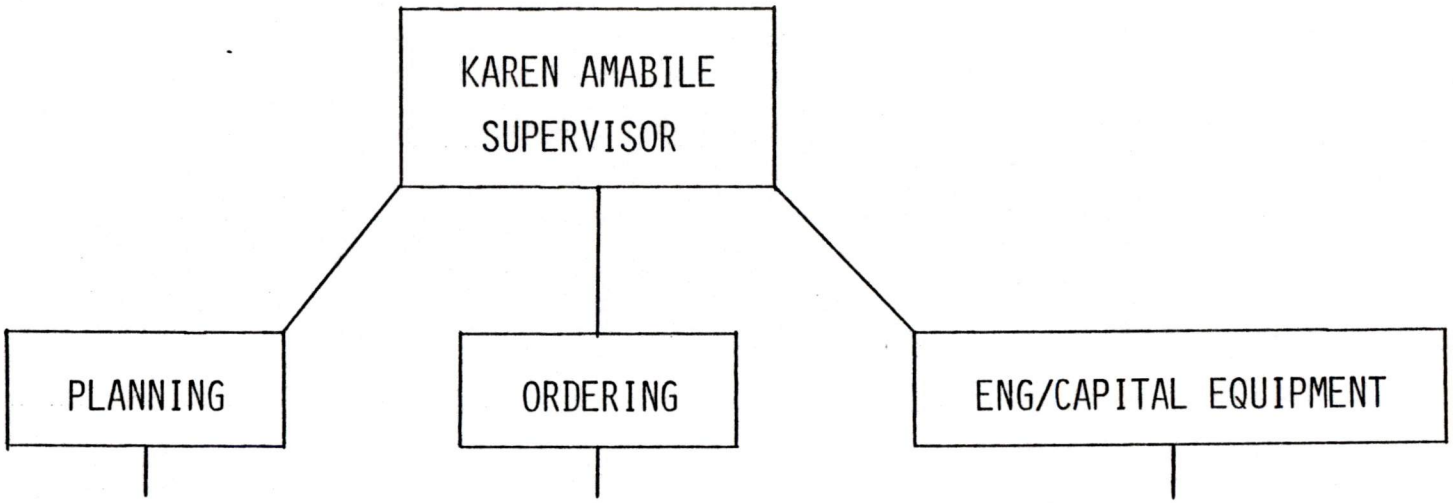
3) PERFORMANCE GOAL OF 85%; BACKLOG PLUS CURRENT MONTH


KENN FARRELL
CENTRAL MATERIALS PLANNING MANAGER
KIM HOLMAN
SECRETARY
BOB HUNTOON
EDP
OPEN
SR FINANCIAL ANALYST
BILL HADDAD
PLANNING MANAGER
KAREN AMABILE
INVENTORY CONTROL SUPERVISOR
TOM WRIGHT
WAREHOUSE SUPERVISOR
DICK PARKS
DISTRIBUTION SUPERVISOR
ED LAROCCO
PURCHASING MANAGER
- WORLD WIDE BUSINESS REP
- REMOTE PLANNING AND FORECASTING
- PLANNING
- ORDERING
- ENGINEERING
- RAW MATERIAL
- EXCESS/OBSOLETE
- FINISHED GOODS
- HOLDING S/R'S
- ENGINEERING S/R
- DATA ENTRY
- CYCLE COUNT
- REPAIRS
- SHIPPING
- RECEIVING
- VAN SERVICE
- BUYOUTS
- RAW MATERIAL
- SUB CONTRACT
- MRO

BUSINESS PLANNING



INVENTORY CONTROL

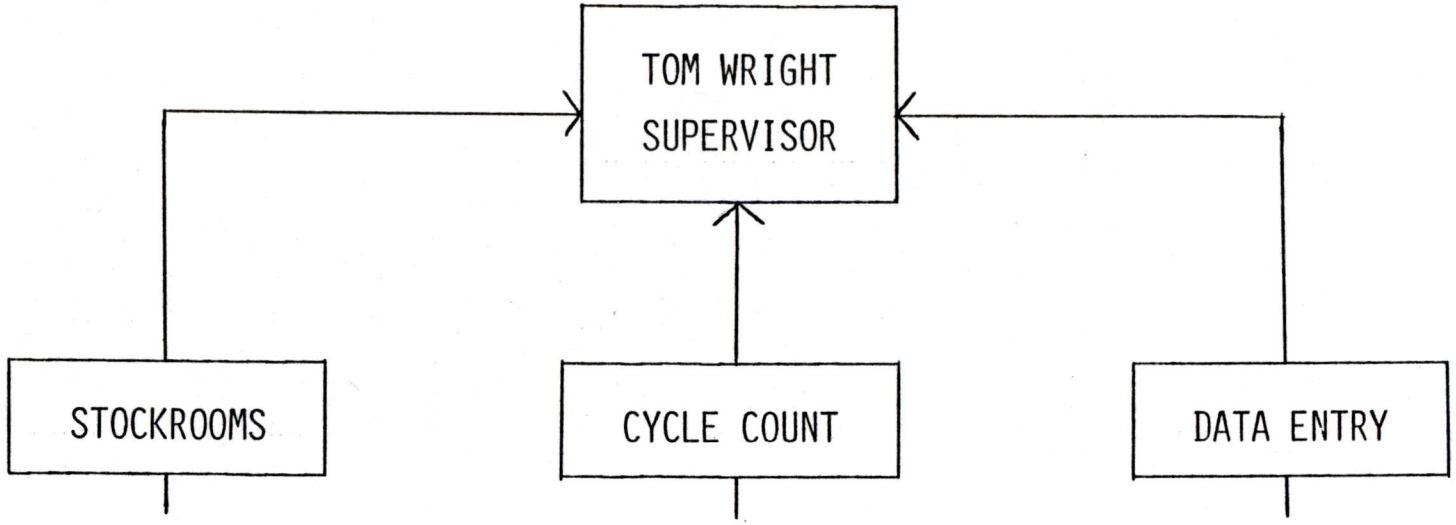


ROGER BOISVERT
DONNA FRASER
MIKE KEIRAN
NORM LORANGER

CRAIG MCLOUD
BOB MEUSE
MIKE PERRAULT
LEN STANHOPE

CHRIS ANDERSON
STU COVEY
JOANNE ROGERS

WAREHOUSING



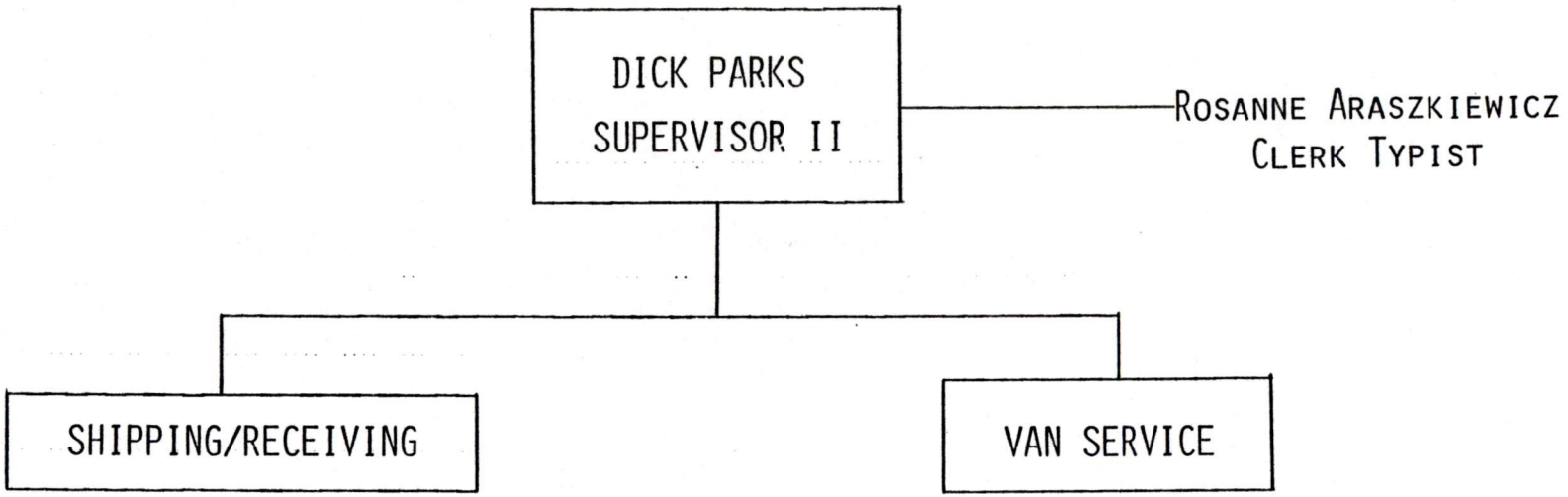
*Joe Souza
*Dave Paquet
Denise Breau
Ed Cabana
Mike Gagnon
Marie Legere
Mike Needham
Rafael Rodriguez
Rich Shapiro

Pat Boggis
Open

*Kathy Famularo
Luanne Dube
Eileen Gurska
Sandy Thibault

* = Work Coordinator

DISTRIBUTION

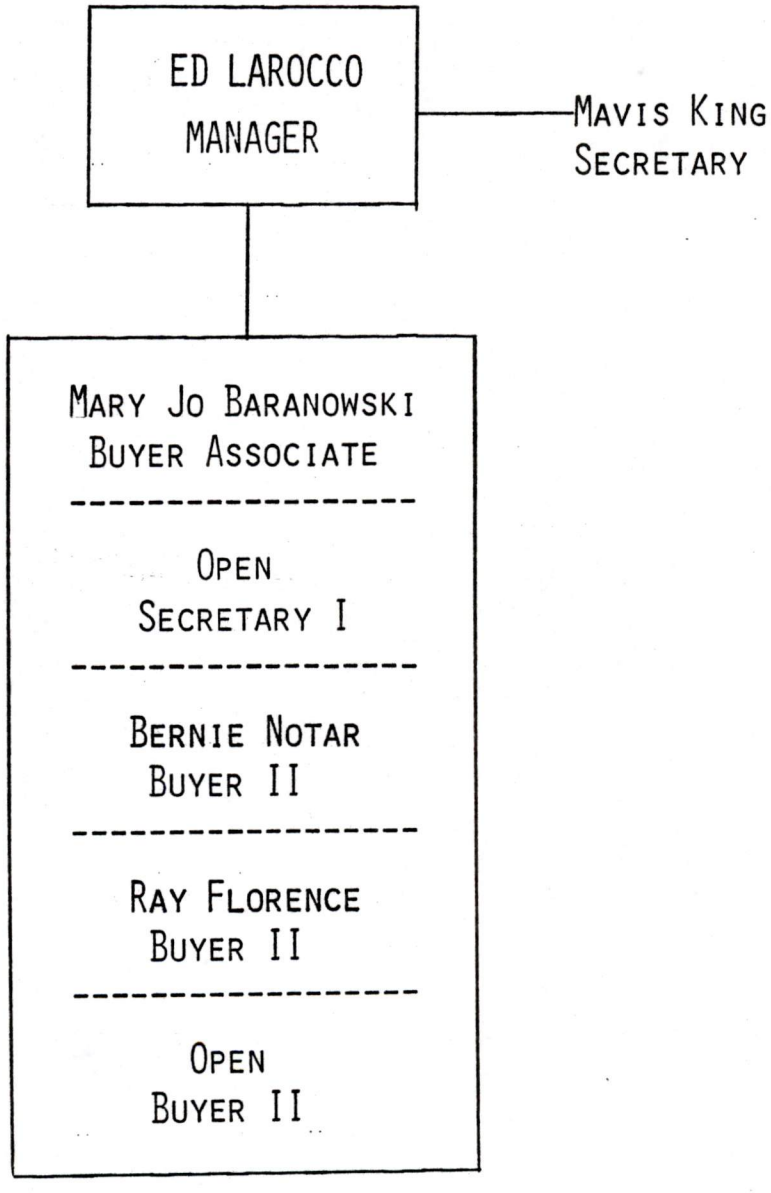


*MIKE COREY
CRAIG ADAMS
JEFF CERIA
RICK FELCH
JOHN GREENHALGH
TRACY WALKER

CHARLES ETHERIDGE
DAVE MICHEL

* = GROUP LEADER

PURCHASING


ED LAROCCO
MANAGER
MAVIS KING
SECRETARY
MARY JO BARANOWSKI
BUYER ASSOCIATE
OPEN
SECRETARY I
BERNIE NOTAR
BUYER II
RAY FLORENCE
BUYER II
OPEN
BUYER II

digital

Computer Special Systems

printed in U.S.A.


Z-Z-Z-Z BORING!
MORE CONTROL!
★ !! ★ ! @ # !
WHO CARES?
INVENTORY
IT'S NOT MY JOB
NOT ENOUGH!
TOO HIGH!
INVENTORY WEAK OR WEEK?
USE GUT FEEL!

DEC/CSS INVENTORY GROWTH

(MILLIONS OF DOLLARS)

	FY'76	FY'77	FY'78	FY'79	FY'80	Q1 FY'81
DEC	$219	$375	$428	$514	$820	$1,085
% GROWTH		71%	14%	20%	60%	32%
CSS	$ 7.5	$ 18.2	$ 23.0	$ 17.8	$ 26.4	$ 31.4
% GROWTH		143%	26%	(23%)	48%	19%

INVENTORY TURNS

$$\frac{\text{COST OF MANUFACTURING}}{\text{ENDING INVENTORY}}$$

backward looking

	FY'76		FY'77		FY'78		FY'79		FY'80
DIGITAL	1.94		1.59		1.87		1.97		1.61
% △		(18%)		18%		5%		(18%)	
CSS	1.80		0.99		1.01		1.78		1.32
% △		(45%)		2%		76%		(26%)	

	DEC		CSS	
	FY'80 ACT	GOAL	FY'80 ACT	GOAL
COST OF MANUFACTURING	$1,320		34.9	
INVENTORY TURNS	1.61	2.0	1.32	2.0
ENDING INVENTORY	820	660	26.4	17.5
COST OF CARRYING INVENTORY 30%	246	198	7.9	5.3
△ IN SPENDING	$48 MILLION		$2.6 MILLION	
ADDITIONAL PBT	2%		3.6%	

Model
Goal
actual

Timeless ∴ imperfect

– models change!

WHY MODEL INVENTORIES? – Model imperfect growth match to goal. } Don't

each group different

1. GETS YOU INTO INVENTORY DECISION PROCESS. (YOU HAVE GOT TO STAY INVOLVED.) If you own the problem it will get attention

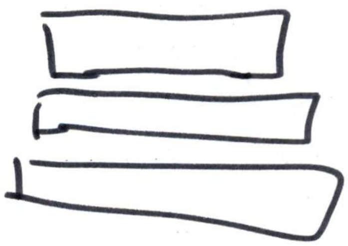
2. AVOIDS "GUT" FEEL AS INVENTORY MANAGEMENT TOOL. "– we've always had 22 weeks"
   confidence building "Gut" has meaning
   needs to be bumped against customer satisfaction level or (26 weeks) or (ROA 18 weeks

3. FORCES US TO LOOK AT ALL PIECES OF OUR INVENTORY.
   MIX F/G with WIP. INTransit

4. PROVIDES A DIRECTION FOR EACH BUSINESS REGARDING INVENTORY MANAGEMENT. – approaches elements "common form" as in LRP

5. QUICKER IDENTIFICATION OF PROBLEMS.
   L can see big bubbles

6. COMMON REPORTING TECHNIQUE.
   → not defined yet – reporting package coming



WHAT HAVE WE DONE SO FAR?

- APRIL — PRODUCT GROUP MODEL PREPARED.

- MAY — MODELING PRESENTATION BY KENN AT MONTREUX.
  BUSINESS MANAGERS TO PREPARE INDIVIDUAL MODELS.

- SEPTEMBER — AREA MANAGER STATUS REPORT. — Not good

- NOVEMBER — FINAL BUSINESS GROUP MODELS.

- Q3
  - UPDATE PRODUCT GROUP MODEL.
  - COMMON REPORTING AGAINST MODEL.

Method we should all be using for common language

8:10 start

PROCESS FOR TODAY

- CHAIRMEN BRIEFED LAST NIGHT.

- 8:30 - 12:00 GROUP SESSIONS
  12:00 - 1:00 LUNCH
  1:00 - 1:30 REPORTS
  1:30 - 1:40 WRAP UP

- 8:30 - 12:00 GROUP SESSIONS (KENN FARRELL = FACILITATOR) — last CNP task

  8:30 - 11:00 EACH GROUP PRESENT THEIR MODEL FOR CRITIQUE. (20 - 30 MINUTES EACH)
  - GIVE REASONING BEHIND EACH ELEMENT.
  - GIVE CURRENT STATUS TO MODEL. — end Q1 by element
  - MAJOR ASSUMPTIONS. — in transit — business assumptions — terminal speed of delivery
  - AREAS OF CONCERN. — ! APPROVAL TO BUY! — mix o/o

  11:00 - 12:00 PREPARE SUMMARY SLIDE. — 1/2 hour to prep
  - SHOW MODELED WEEKS BY GROUP. eg TCC 12.5, KA 22.5
  - LIST COMMON ASPECTS. — all have suppliers on hand FOR 2 MONTHS — all have to include F.C.
  - LIST KEY DIFFERENCES. — no safety stock, no speculation, uses volume, long lead items stocked
  - KEY CONTROL FACTORS. — FCST CYCLE — approval cycle !! — CNP

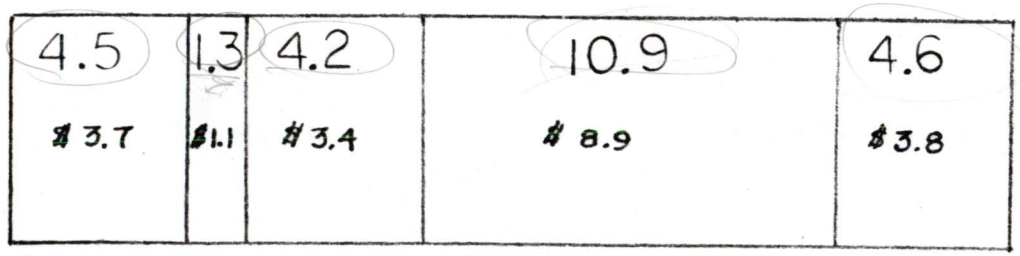
- 1:00 - 1:30 GROUPS REPORT RESULTS (10 MIN/EACH).

- 1:30 - 1:40 WRAP UP/ACTIONS.

P/L WEEKS OF INVENTORY MODEL

MODEL FY81

($000)

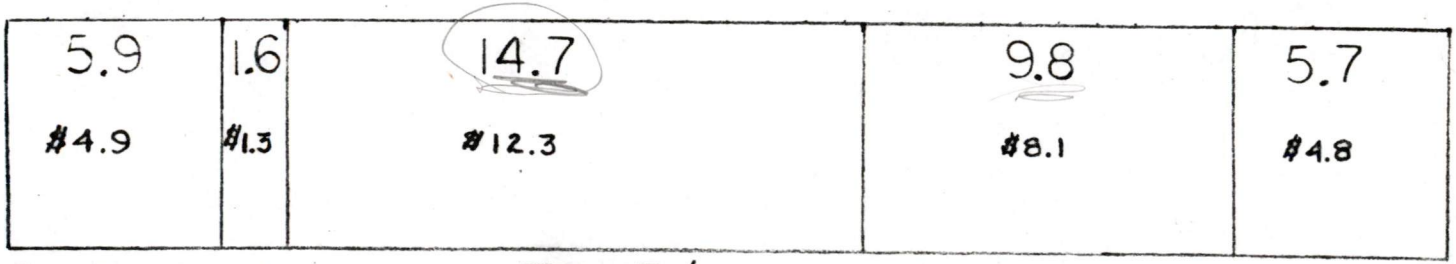


CMP INV. CONT. | I/T | SITE R/M | WIP | F/G

= 25.5
= $20.9

ACTUAL Q1

($000)

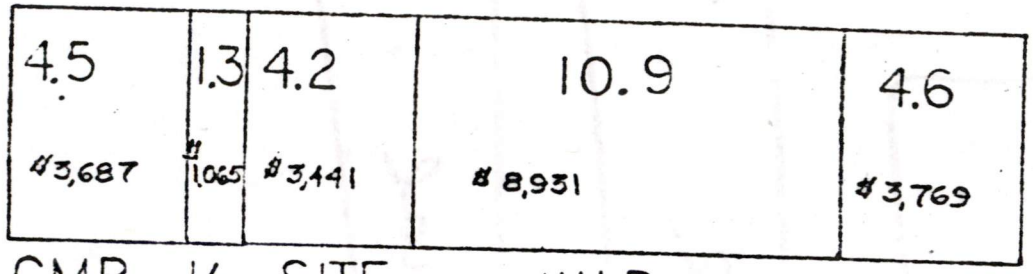


CMP INV. CONT. | I/T | SITE R/M | WIP | F/G

=37.7
= $31.4

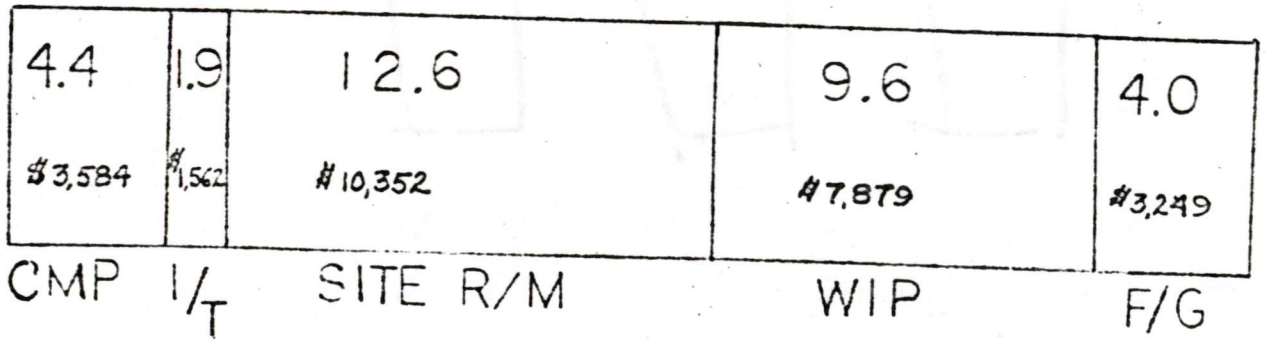
P/L WEEKS OF INVENTORY MODEL

MODEL
FY81



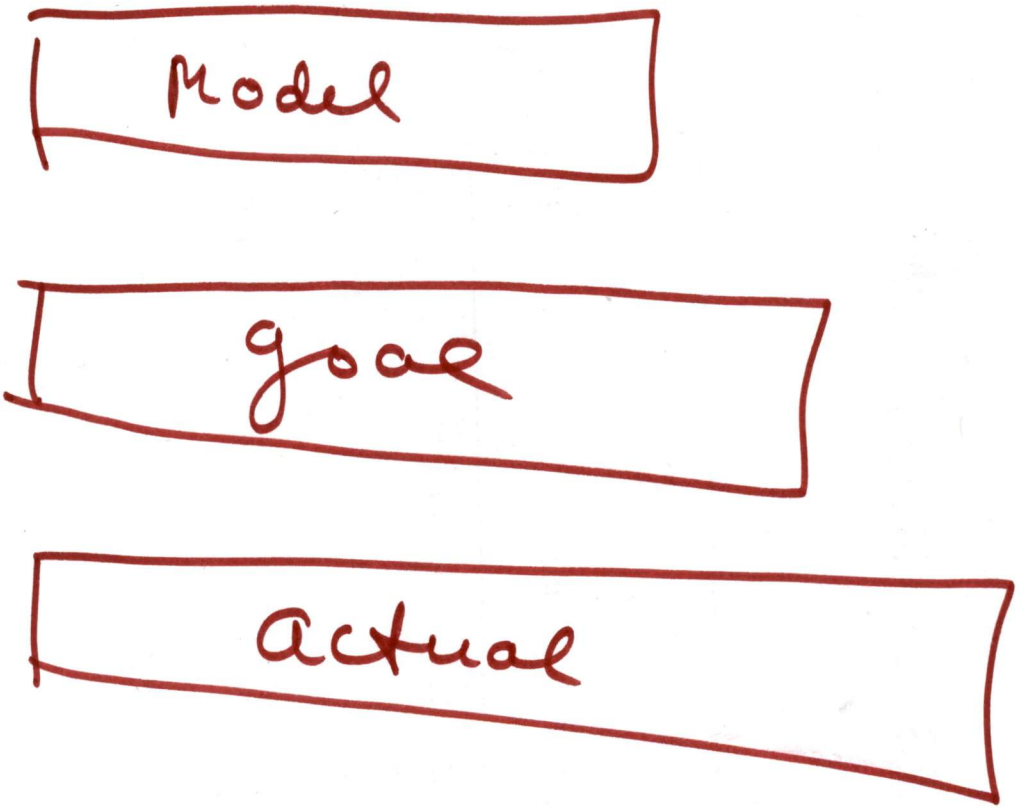
= 25.5
$20,893

ACTUAL
Q4



= 32.5
$26,626

AN 21.5
CML 22.4



Action Items

- Improve Forecasting
- Mtrl. Control Function
- Ensure Better CMP Commits
- Create F/G Stockroom
- Milestone Payments
- Redistr. of Exc. Inv.
- Use Eng. Pref. Parts List

COMMON

- Models broken down to similar product categories
- Total Inv. Model close
- Similar M/L - assumptions
- Inv. Aging not used
- Need to improve forecasting
- Driven to purchase locally
- CMP - commitments
- MIS needed to control elements.

DIFF.

- High F/G in Japan
- Subcontr. WIP treated as RM in JP/S
- No I/T in CAL
- SHIBNI Differs in size
- High custom delays in Japan

AUST / AE / PRO / CML

COMMON THREADS

- SIMILAR BUS MIX CONSIDERED EXCEPT PRO
- SUBCONTRACTING IN WIP
- EVALUATION ON HARD ENG

KEY DIFFERENCES

- SHIBNI DIFFENTLY ACCOUNTED
- HOLDING STOCKROOM
- IMPACT OF : F&T in US
  I/T in EUROPE / AUST
- DEFINITION OF F/G ELEMENTS

KEY CONTROL FACTORS

- ☐ MANAGE
  - BUSINESS MIX
  - PRODUCT F/CASTING
- ☐ ACTIVELY REDISTRIBUTE XS TO
  - CUSTOMERS
  - VENDORS
  - OTHER CSS
  - OTHER DEC
- ☐ TACTICAL PROMOTION/PRICING IN SHORT TERM
- ☐ TIMELY OBSOLETE WRITE-OFFS
- ☐ MINIMIZE MISORDERING IMPACT BY
  - DEMAND AWARENESS
  - T's & C's OF PURCHASE CONTRACTS (CANCEL/RESCHED/RETURN CLAUSES)
- ☐ USE MILESTONE PAYMENTS IN CSS T's & C's
- ☐ OPTIMIZE MANUFACTURING CYCLE
- ☐ DISTRIBUTE RESPONSIBILITY FOR INVENTORY ELEMENTS & MEASURE

INVENTORY MODELS

	I/T	R.M.	WIP	F/G	TOTAL
AUST	HSR 2.6 I/T 3.7 — 6.3 / 5.5	2.9 / 18.5	2.5 / 7.0	F/G 11.7 Shibni 0.8 12.5 / 2.5	24.3 / 34
AE	0.9	5.6	6.4	8.1	21
PRO	0.3 / 0.3	—	2.9 / 2.9	12.0 / 18.7	15.2 / 21.9
CML	—	3.0 (F.W 1.0) 1.5	8.5 (F.W 3.0) 5.1	2.5 (FW 6.0) 2.4	14.0 (FW 10.0) 9.0

— MODEL — ACTUAL

INVENTORY MODEL

IN WEEKS

	READING (– ATKINS)	KANATA	TECH. (NASHUA)	MÜNICH
I/T	1	1.5 (4.7)	=	1.6
R/M	2.9	3.3 (11.1)	1.6 (1) (5.0)	2.6
WIP	4.4	8.9 (10.7)	12.4 (12.3)	6.7
F/G	7.9 (2)	5.1 (3.7)	4.5 (6.4)	7.3 (2)
Σ	16.1 (*) (20.7)	18.8 (29.6)	18.5 (23.7)	18.2 (*) (36 ?)

(*) without NASHUA HOLDING STOCK

(1) smaller base of repeat products

(2) Invoicing takes a longer time thru european subs therefore → SHIBNI

ACTUALS

WRITTEN IN BLUE

INVENTORY MODEL

COMMON ASPECTS

- TOTAL VALUES VERY CLOSE ! (TOO CLOSE ?)
- AGREEMENT ON MAIN CYCLE TIMES (e.g. 9 MONTHS FOR A NEW S/W PROTECT)

MAIN DIFFERENCES

- INVOICING IN EUROPE CREATES AN "AUTOMATIC" SHIPBNI
- U.S. TAKES REVENUE ON PARTIALS (Both Products and new design)
- NORTH-AMERICAN CUSTOMERS ACCEPT PARTIALS (I.E. CSS EQUIPMENT BEFORE Standard)
- INTRANSIT : very reduced in North-America
- EXCEPT KANATA, WE DID NOT MODEL OUR EXPORTS

INVENTORY MODEL

CONTROL FACTORS

- A RELIABLE REPORTING SYSTEM ALLOWING US TO MONITOR, AT EACH POINT OF TIME, OUR LEVELS OF INVENTORY (R/M, I/T, ...)
- A DECENT FORECASTING SYSTEM

- MODEL EXPORTS ALSO
- ASSIGN OWNERSHIP OF VARIOUS PARTS OF INVENTORY TO WELL-DEFINED INDIVIDUALS (AS OPPOSED TO FUNCTIONS)

- REGULAR REVIEWS :

  GOAL VS. ACTUAL

- M.I.S. ∇ ?
  o o

INVENTORY WRAP UP

- 

  PROGRESS ! DON'T STOP !
  - NEED CML MODEL (TOM)
  - NEED READING MFG (GRAHAM)
  - NEED STATUS REPORTING
    AE
    MU
    ROG

- RECOMMENDATIONS TWX (RUSS)
  - HOLDING STOCKROOMS
  - INCLUSION OF EXPORT INUENTORY
  - ADD "OUT TRANSIT"
  - SUB CONTRACT TREATMENT
  - SHIBNI

- LEAVE ROLL UP SLIDES
  LEAVE MODELS
  - REFINE/CLARIFY BUS. GRP. MODELS (RUSS)
  - REFINE PROD. GRP. MODEL (RUSS)
  - DISCUSS AT NEXT B.M. MEETING.

- B.M'S
  - SET "ELEMENT" GOALS
  - ASSIGN AN OWNER TO EACH ELEMENT
  - MEASURE (AND BE MEASURED) ON PROGRESS

P/L WEEKS OF INVENTORY MODEL

MODEL FY81

($000)

CMP INV. CONT.	I/T	SITE R/M	WIP	F/G
4.5	1.3	4.2	10.9	4.6
$3.7	$1.1	$3.4	$8.9	$3.8

= 25.5
= $20.9

ACTUAL Q1

($000)

CMP INV. CONT.	I/T	SITE R/M	WIP	F/G
5.9	1.6	14.7	9.8	5.7
$4.9	$1.3	$12.3	$8.1	$4.8

=37.7
= $31.4

Phil Gorman — Bob Paul

CRIS COURTRAY -> CHRIS MICHAEL

le 14/11/80.

Affaire : General Motors en Belgique -

Suite d'interventions auprès de Russ et/ou Kenn pour que nous obtenions :

1/ la livraison en P1 de 3 x RT805-AA or AB

2/ un commitment pour 9 x RT83-BA (ou AA)

voir TWX joint

Note : nous avons 3 x 7123 (RT805-xc) à Annecy -

Cris

o/o :

LPR	24
FPR	25
EPR	10
BPR	5
EHW	15
ESW	18

DECCSS 385Q77F
DECCSS 385Q77F
11:QC Q6-NOV-8Q
WELCOME TO THE DCS SYSTEM.

READY FOR INPUT

AAAA
ANNB NSH3 BRUB
BBBB
TWX 1Q21
ANNECY, Q6 NOVEMBER 198Q

TO : BILL PLOURDE — CSS NASHUA
: MARC MAC DONALD — CSS NASHUA
FR : CRIS CUILLERY — CSS ANNECY
CC : BERNARD LERNOUT — CSS BRUXELLES
: GERARD LEMORT — CSS ANNECY
: BILL HADDAD — CSS NASHUA

SUB: RT'S TERMINALS - GENERAL MOTORS -

PLEASE DELIVER IMMEDIATELY
URGENT.....URGENT.....URGENT.....URGENT.....URGENT.....

SEVERAL MISUNDERSTANDINGS HAVE GENERATED A LOT OF PROBLEMS AND A REAL CRISIS WITH THE CUSTOMER.
NOW IT SEEMS THAT WE CAN SOLVE THEM.

1 - WE FOUND IN EUROPE 3 X M7123 MODULES : 2 QQQ12A DEC CHWILL BE THERE IN ANNECY THIS WEEK, ONE WILL COME LATER.

2 - ARE ASKING YOU TO SHIP IN P1 (OR PQ IF IT'S POSSIBLE) 3 X RT8Q5-AA OR AB. THANKS TO GIVE US ASAP ALL SHIPMENT DETAILS (SBA, AWB, NBR ETC....)

3 - PLEASE TAKE ALL NECESSARY ACTIONS FOR OTHER TERMINALS ON ORDER (9 X RT83-BA) AND ADVISE WHEN WE CAN EXPECT THEIR SHIPMENT.

THANKS FOR YOUR HELP.
BEST REGARDS,

CRIS.
NNNN
TTTT

DD
QQQ12A DEC CHW
DECCSS 385Q77F
311 1856

PROPOSAL

FOR IMPLEMENTATION OF ONCE/TWICE POWERED STRATEGY STATEMENT

Russ Gullotti

Charlie Bradshaw

Mary Couming

Bud Dill

Pete Koch

OBJECTIVES

1. GET YOUR APPROVAL ON OUR "SALEM BRANCH OF WM" PROPOSAL AND ITS IMPLEMENTATION TIMETABLE.... TODAY!

2. PROPOSE HOW TO BEST UTILIZE THE VACATED NI SPACE AND SIMULTANEOUSLY HELP SOLVE OUR EXCESS PEOPLE PROBLEM.

   3 ALTERNATIVES --- NEED APPROVAL IN 1 MONTH

SANITY TEST

OUR PROPOSAL MUST MEET THESE STRATEGIC "TESTS" .....

- MINIMIZE FA&T COSTS
- ALL TWICE-POWERED IN NI/WM EXCEPT 36-BIT IN MR
- ALL ONCE POWERED IN NON-FA&T PLANTS
- POLICY IS TO HAVE MULTIPLE SOURCE CAPABILITY
- WM LOADED TO CAPACITY/NI GETS REMAINDER
- OPTIMIZE PROCESS PRODUCTIVITY FIRST; THEN ADJUST RESOURCES
- DAVE THORPE OWNS ONCE-POWERED DEFINITION. NOT NEGOTIABLE
- RUSS IMPLEMENTS VIA COMMITTEE OF HIS CHOOSING
- USA STATEMENT ONLY

WHAT THE TASK ISN'T. . .

- NO CHANGES TO CURRENT EUROPE OR GIA LOAD STRATEGY. PROPOSALS TO DO SO WOULD BE A BRADLEY/NEUMAN ISSUE.

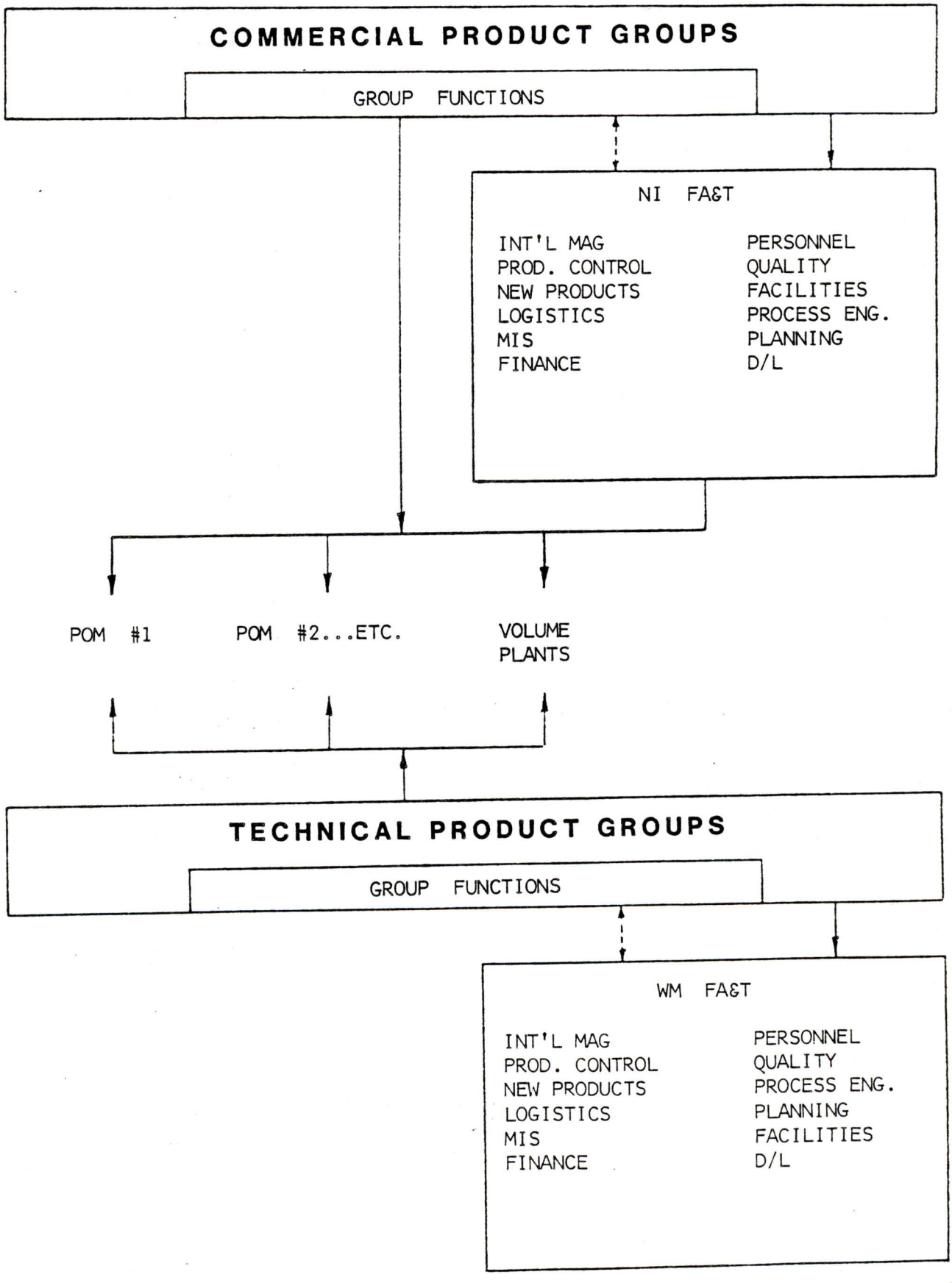
- CHANGES TO CURRENT MARKET GROUP STRUCTURE ARE IMPLIED, ARE NOT MEANT TO BE PART OF THIS PROPOSAL, BUT <u>MUST</u> BE ADDRESSED.

"SALEM BRANCH" PROPOSAL

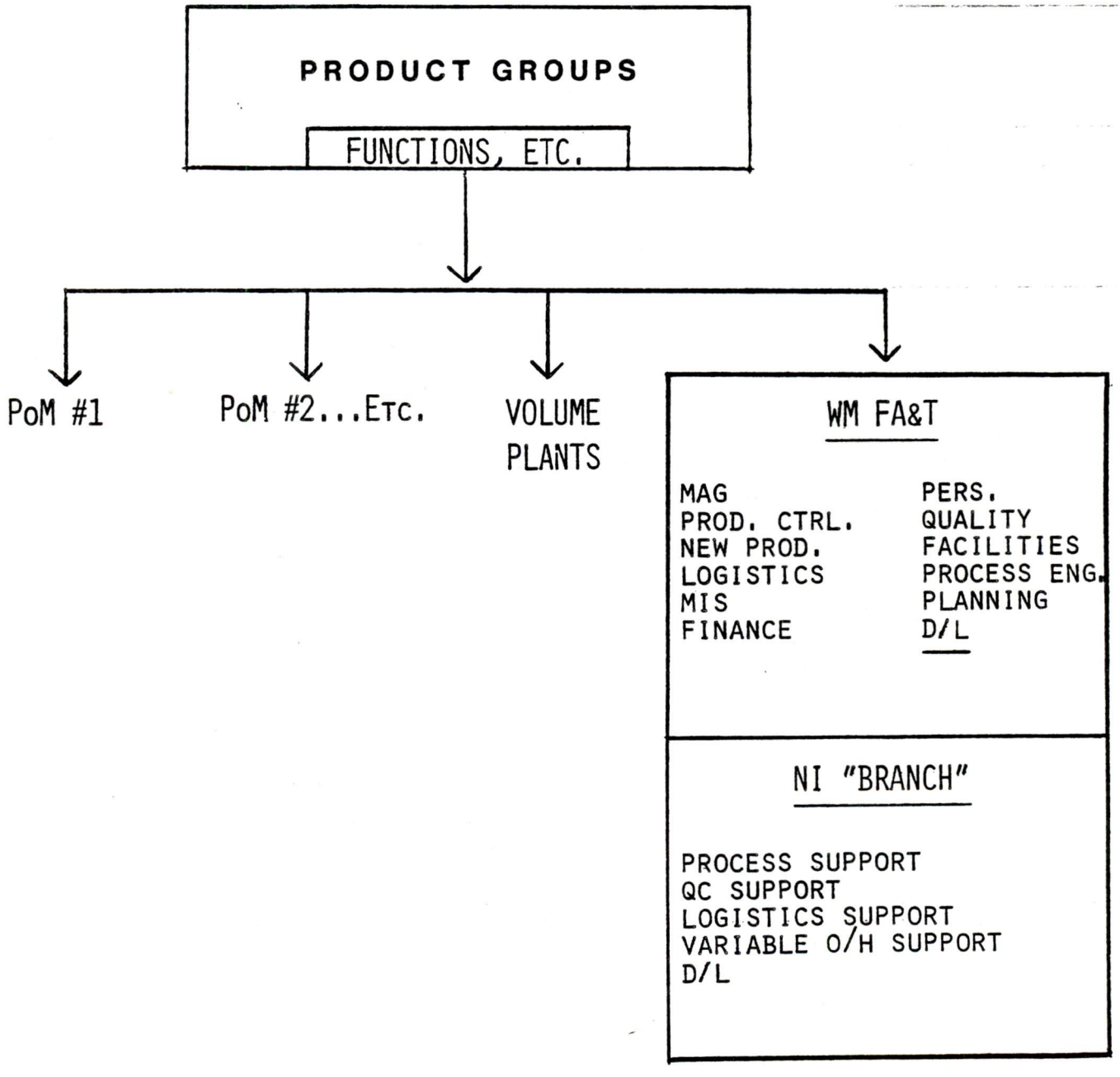
(NON 36-BIT FA&T)

- CREATE "ONE" FA&T PLANT IN WM USING NI AS A "BRANCH OFFICE"
- "BRANCH" EQUALS EXTENSION OF WM CAPACITY UNDER WM DIRECTION
- "BRANCH" IS INVISIBLE TO PRODUCT GROUPS
- "BRANCH" IS MANAGED BY AN OPERATIONS MANAGER WHO REPORTS TO PETE KOCH. OPERATIONS MANAGER WILL BE TRANSITION MANAGER FIRST.
- USE "BRANCH" CONCEPT UNTIL SALEM FA&T IS TOTALLY PHASED IN TO WESTMINSTER

TODAY


COMMERCIAL PRODUCT GROUPS
GROUP FUNCTIONS
NI FA&T
INT'L MAG
PROD. CONTROL
NEW PRODUCTS
LOGISTICS
MIS
FINANCE
PERSONNEL
QUALITY
FACILITIES
PROCESS ENG.
PLANNING
D/L
POM #1
POM #2...ETC.
VOLUME PLANTS
TECHNICAL PRODUCT GROUPS
GROUP FUNCTIONS
WM FA&T
INT'L MAG
PROD. CONTROL
NEW PRODUCTS
LOGISTICS
MIS
FINANCE
PERSONNEL
QUALITY
PROCESS ENG.
PLANNING
FACILITIES
D/L

USING "BRANCH" CONCEPT

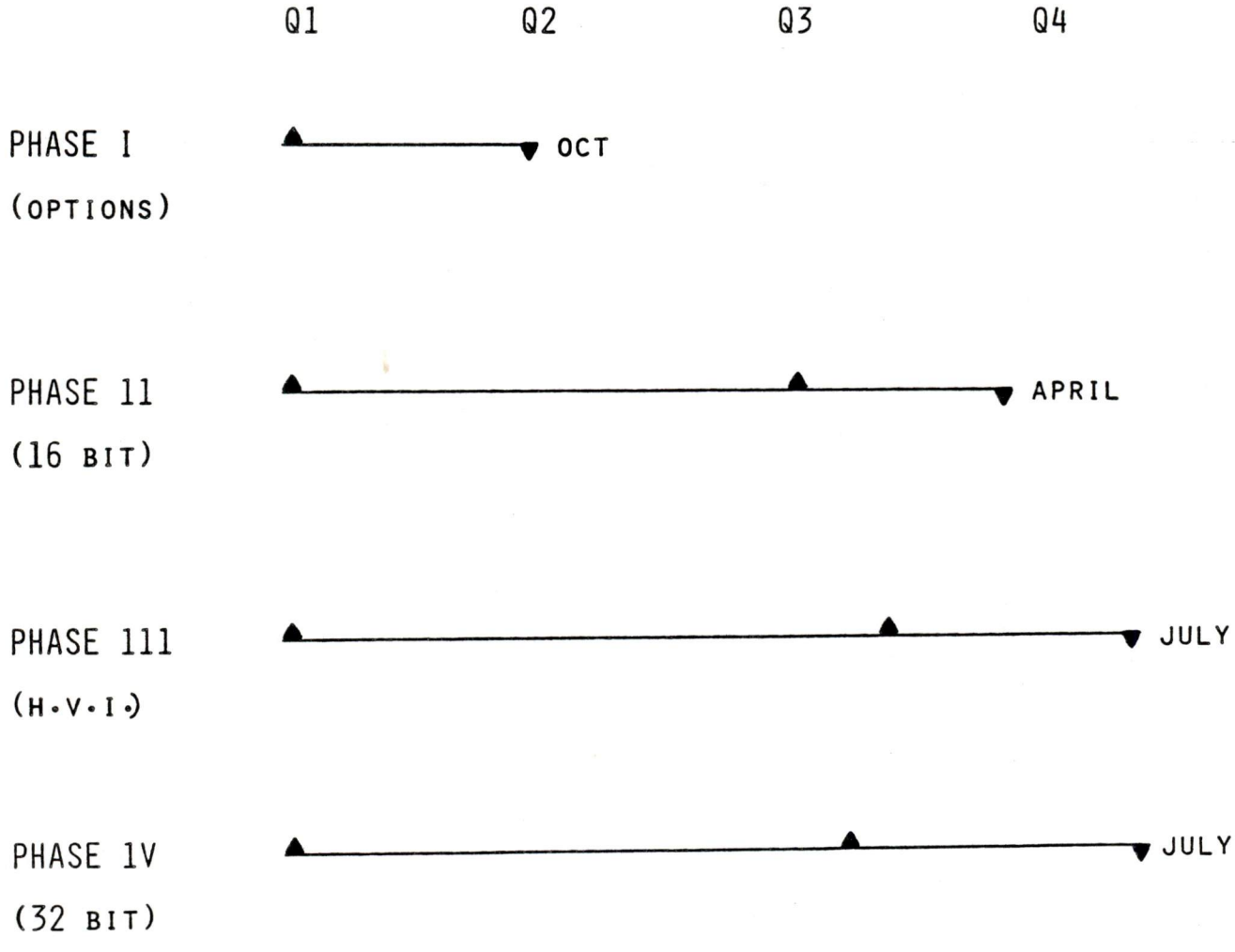


BENEFITS OF "BRANCH" OFFICE

- TRANSFER OF WORK IS PULLED TO WM, NOT PUSHED
- ELIMINATES NEED FOR NI/WM NEGOTIATION
  (I.E., ONE FINAL DECISION MAKER)
- ALLOWS FOR "ONE PLANT" IMMEDIATELY
  (I.E., "ONE-STOP-SHOPPING")
- ALLOWS FOR HIGH RESPONSIVENESS TO AN UPTURN IN DEMAND
- TRANSITION MANAGER BECOMES OPS MANAGER
- A "MODEL" FOR FUTURE PHASE OVERS
- ELIMINATES LARGE INDIRECT LABOR REDUNDANCIES THAT EXIST TODAY BETWEEN NI/WM

A.S.A.P. TIMING

FY 83

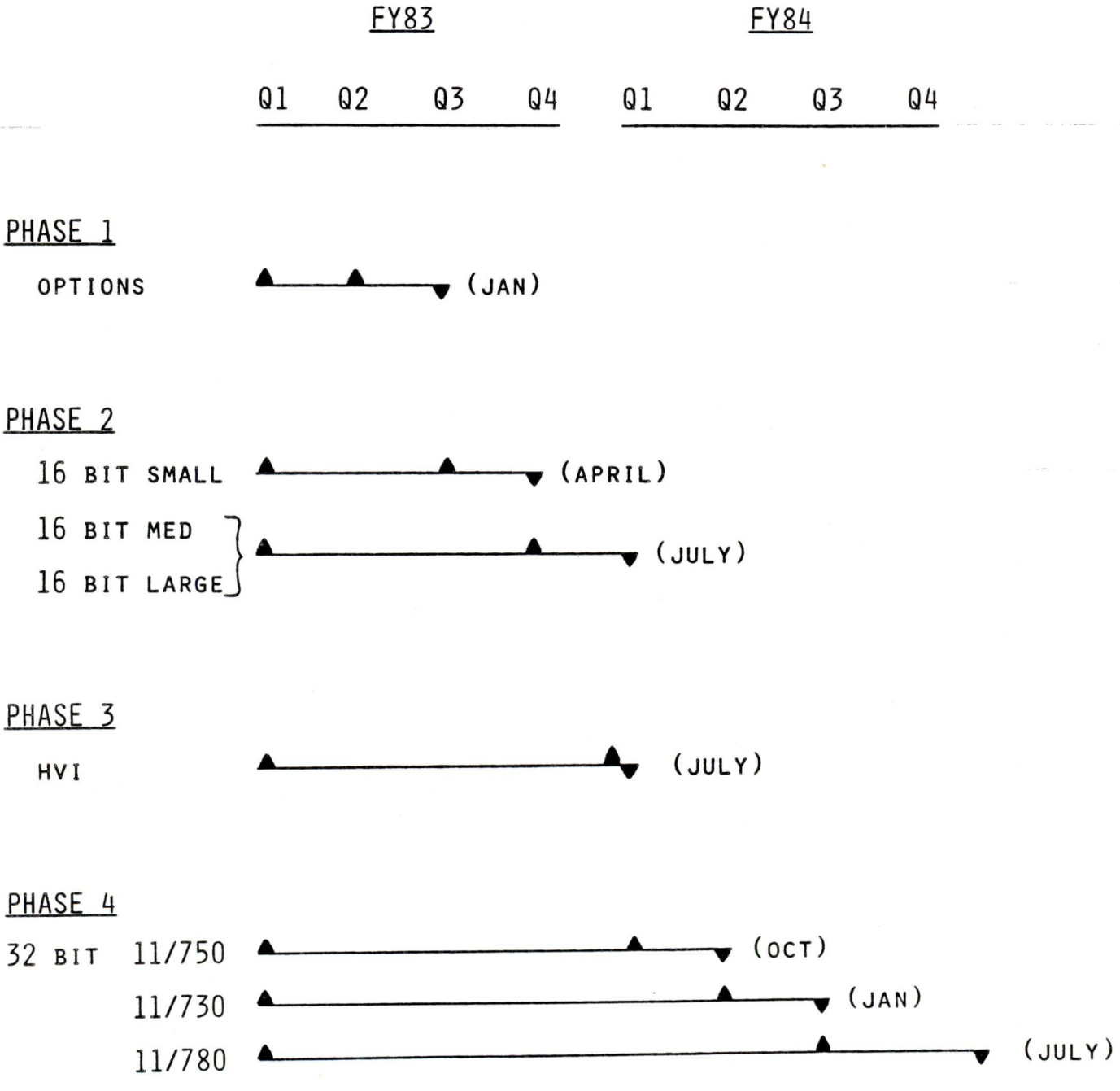


BUT. . .

HERE'S WHAT HAPPENS TO PEOPLE WITH A.S.A.P. IMPLEMENTATION

	FY83	FY84	FY85	FY86	FY87
STARTING COMBINED POPULATION	2413	1930	1544	1235	988
LESS 20% ATTRITION	1930	1544	1235	988	791
YEAR END REQUIRED	1461	1038	804	652	639
EXCESS BEYOND ATTRITION	469	506	431	336	152
EXCESS WITH CONTINGENCY (30% FY83) (20% FY84)	198	372	431	336	152

HERE'S 2-YEAR PHASING

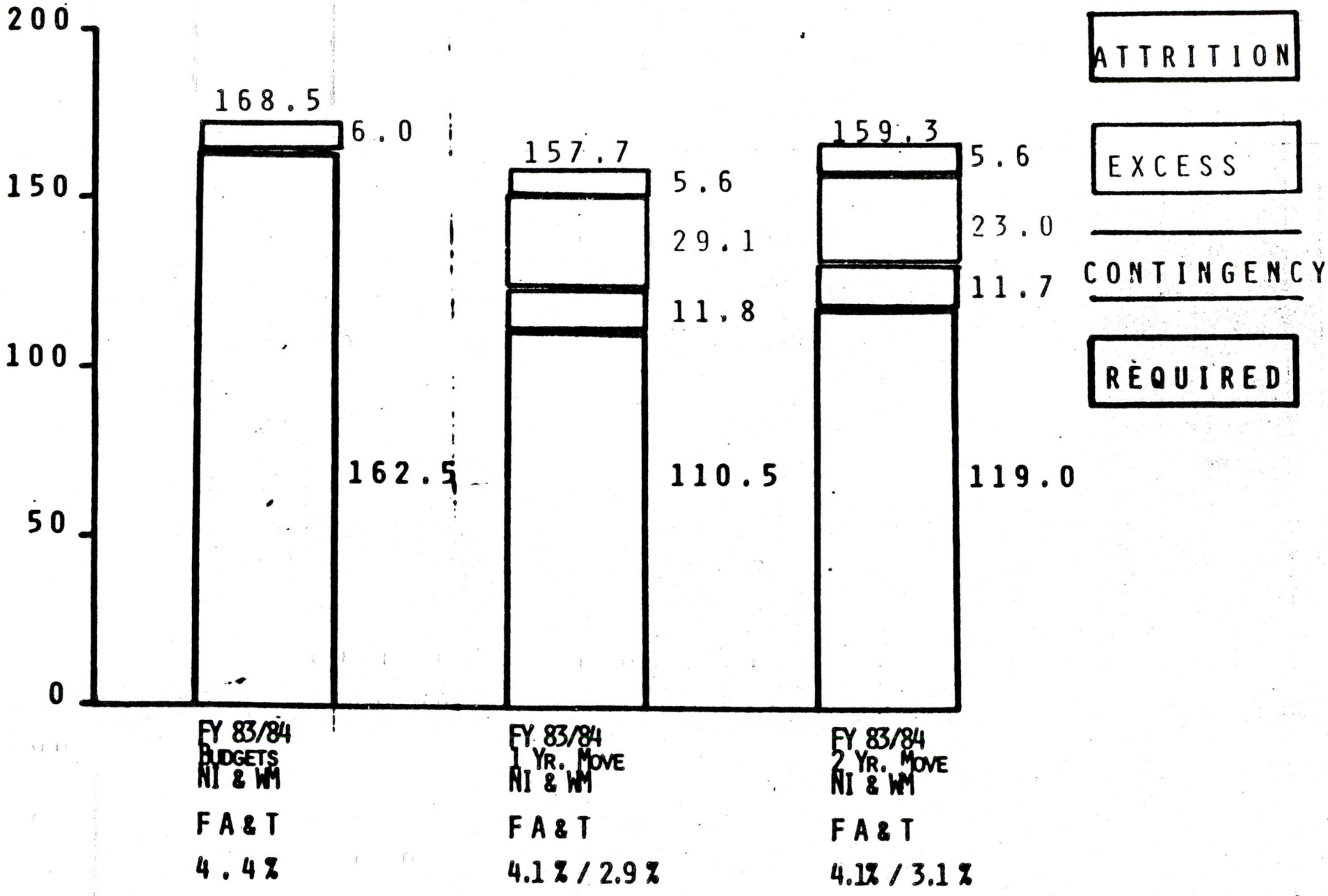


PEOPLE EXCESSES WITH 2-YEAR (OR LESS) MOVE

	FY83	FY84	FY85	FY86	FY87
STARTING COMBINED POPULATION	2413	1930	1544	1235	988
LESS 20% ATTRITION	1930	1544	1235	988	791
REQUIRED	1674	1079	804	652	639
EXCESS BEYOND 20% ATTRITION	256	465	431	336	152
EXCESS WITH CONTINGENCY (30% FY83) (20% FY84)	(12)	333	431	336	152

COST COMPARISONS FY83/84

THROUGHPUT $3,861.6M



OUR SPECIFIC RECOMMENDATIONS FOR THE BRANCH OFFICE PROPOSAL

- APPROVE BRANCH OFFICE CONCEPT
- IMPLEMENT USING 2 YEAR (OR SOONER) PHASE OVER
- PLAN ON 30% FY83, 20% FY84 CONTINGENCY BEYOND CURRENT LOAD.
- MEASURE NI/WM ON 20% P.A. ATTRITION

WHAT HAPPENS TO SALEM FACILITY?

HOW CAN WE DEAL WITH EXCESS BEYOND 20% ATTRITION?

ALTERNATIVE #1

* MOVE SALEM VOLUME INTO NI FACILITY

  - SV BECOMES HOST TO SALEM "BRANCH" OF WM
    - PERSONNEL
    - FINANCE
    - SECURITY
    - SAFETY
    - ETC.

  - MOVE CAN BE COMPLETED IN Q3, FY83!
  - CONSUMES MORE THAN ONE CORE

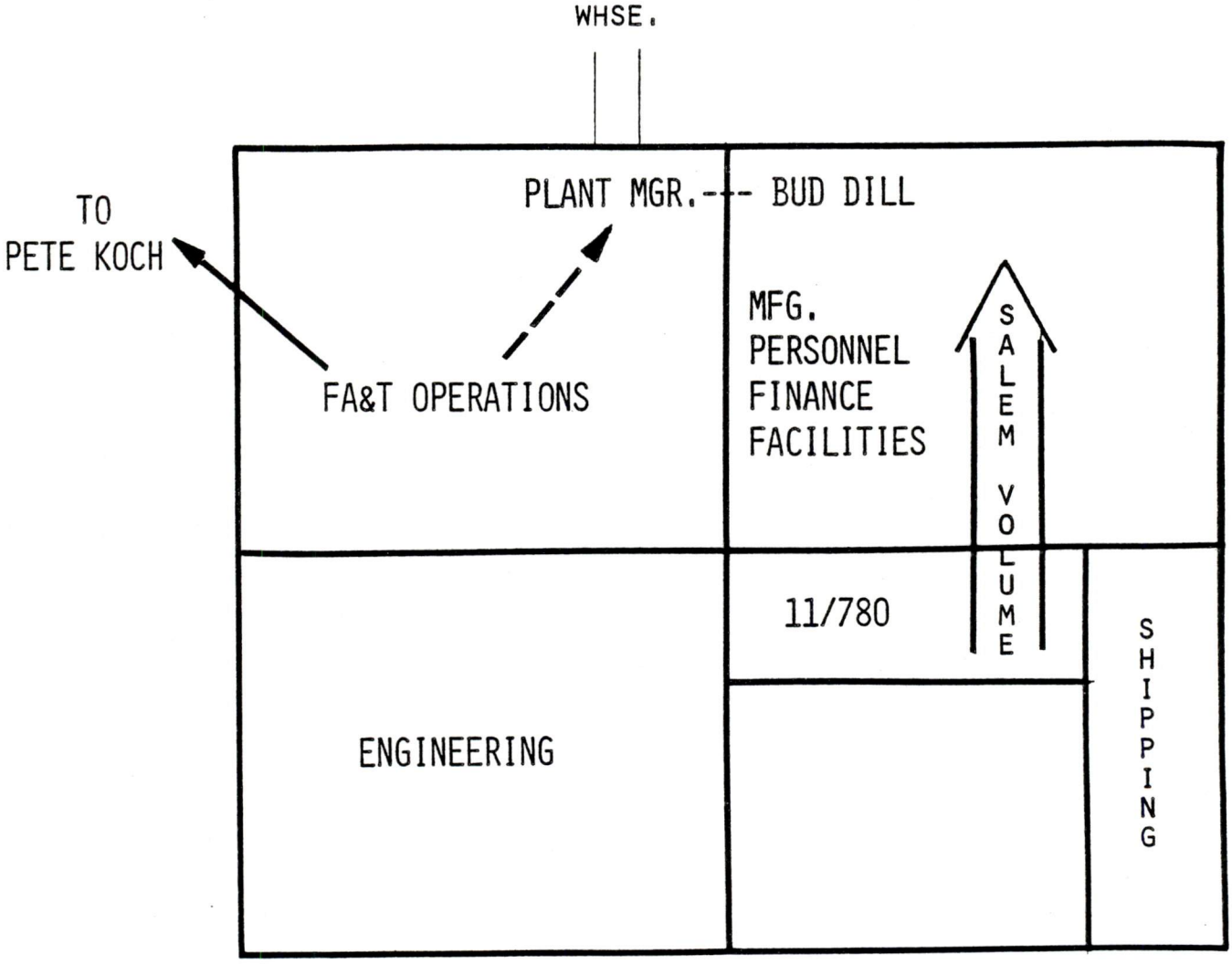
* (IDEALLY) GET ENGINEERING TO MOVE IN WITH SV

  - CONSUMES ONE CORE

* DELAY/REASSIGN FRANKLIN PLANT
  - DO 11/780 IN SV
  - CREATES $\approx$ 225 JOBS IN NI
  - CONSUMES $\approx$ 35K $\not\square$ INCREMENTAL SPACE

ALTERNATIVE #1 (continued)

INSIDE NI



WHAT HAPPENS TO SALEM FACILITY?

HOW CAN WE DEAL WITH EXCESS BEYOND 20% ATTRITION?

ALTERNATIVE #2

* MOVE SALEM VOLUME INTO NI FACILITY

  - SV HOST
    ETC.

* ENGINEERING MOVES IN WITH SV

* LOAD SV WITH ADDITIONAL WORK FROM THORPE WORLD OR ELSEWHERE IN DEC (AUGUSTA?)

  - THIS SHOULD BE AIMED AT CREATING 200 - 400 JOBS IN NI

  - CREATES EXCESS ELSEWHERE

WHAT HAPPENS TO SALEM FACILITY?

HOW CAN WE DEAL WITH EXCESS BEYOND 20% ATTRITION?

ALTERNATIVE #3

* MOVE FIELD SERVICE MANUFACTURING TO NI
  - FSM IS HOST TO SALEM BRANCH OF WM

* WHEN NI IS GONE GIVE UP TOTAL BUILDING TO ROCHE/LOGISTICS WORLD
  - CONSUMES ≈ 600K ☐/
  - BRINGS IN ≈ 2000 PEOPLE
  - DOES NOT SOLVE EXCESS PROBLEM OTHER THAN THROUGH ATTRITION REPLACEMENT
    (I.E., FLAT HEADCOUNT PROJECTION)

* DO NOT BUILD ANDOVER

NEXT STEPS

o	SAY YES TO BRANCH PROPOSAL	5/10
o	SELECT TRANSITION MANAGER	5/20
o	SELECT TRANSITION TEAMS	5/28
o	GET HANSON STAFF OK ON SV PROPOSAL AND FRANKLIN PROPOSAL (OR ALTERNATIVE)	6/15
o	NOTIFY NI/WM EMPLOYEES	7/9
o	APPROVE TRANSITION TEAM PLANS	END Q1
o	IMPLEMENT "BRANCH"	END Q1?

MAJOR RISKS
2-YEAR MOVE

1. IMPACT OF PHASE DOWN ON NI's ABILITY TO SHIP, ON TIME, HIGH QUALITY, PREDICTABLE COST PRODUCTS.

2. THE WRONG PEOPLE STAY; THE RIGHT PEOPLE LEAVE AT THE WRONG TIME (I.E., SKILLS MIX).

3. EMPLOYEE MORALE (INCLUDING MGMT) WILL BE A "BEAR" TO MANAGE

   - SOME DEEP BITTERNESS
   - UNREST TO WHAT EXTREME?
   - SOME FEEL DEC IS CHANGING FOR THE WORSE

4. BREAKDOWN OF INFORMAL NETWORKS AT NI, WM MAY IMPACT SYSTEMS, MOMENTUM, SHIPMENTS, ETC.

5. WILL PEOPLE FROM NI GO TO WM?

6. IF DEMAND TURNS UP AFTER "BRANCH" IS GONE, WILL WM BE ABLE TO STAFF SECOND SHIFT QUICKLY ENOUGH?

RISKS (continued)

7. WILL WE LOSE SEVERAL KEY MANAGERS TO COMPETITION?

8. SEVERAL OPERATIONAL ISSUES NEED RESOLUTION IN THE FOLLOWING FUNCTIONS:

   - ENGINEERING
   - MATERIALS
   - MIS
   - MFG OPERATIONS

9. WHAT WILL THE GROUP INTERFACE LOOK LIKE?

10. THIS MOVE REQUIRES CAREFUL PLANNING.

    WILL THE PLANNERS STAY? WILL THE IMPLEMENTERS STAY?

11. 30% CONTINGENCY IS NOT ENOUGH

EXCESS EMPLOYEES BY PLANT

WITH 20% ATTRITION

	FY83	FY84	FY85	FY86	FY87
ONE YR MOVE					
NI	900	720	576	461	369
WM	(431)	(214)	(145)	(125)	(217)
TOTAL	469	506	431	336	152
ONE YR MOVE WITH CONTINGENCY					
NI	900	720	576	461	369
WM	(702)	(348)	(145)	(125)	(217)
TOTAL	198	372	431	336	152
2 YR MOVE					
NI	396	647	576	461	369
WM	(140)	(182)	(145)	(125)	(217)
TOTAL	256	465	431	336	152
2 YR MOVE WITH CONTINGENCY					
NI	314	636	576	461	369
WM	(326)	(303)	(145)	(125)	(217)
TOTAL	(12)	333	431	336	152

SOME (CERTAINLY NOT ALL!) REDUNDANCIES

	WM ON BOARD	NI ON BOARD	TOTAL	"ROUGH" ESTIMATE OF TOTAL REQ'D	△
INTERNAL MAG.....	33	37	70	44	26
PRODUCTION CONTROL.....	156	110	266	207	59
LOGISTICS EXT DISTRIBUTION & PLANNING.....	12	7	19	16	3
WAREHOUSE CONTROL & SYSTEMS...	127	125	252	169	83
TECHNICAL TRAINING.....	7	7	14	9	5
LOAD BALANCING.....	2	1	3	3	-
BOM STRUCTURE.....	7	6	13	9	4
MERGE.....	5	4	9	7	2
ECO ADMIN.....	1	4	5	1	4
TECH EDIT.....	6	6	12	8	4

HOW CAN WE GET 20%+ ATTRITION?

* MARGINALS SHAPE UP OR GO
* "ADVANCED HIRING" BY OTHER LOCATIONS IN DEC
* VOLUNTARY "LAYOFF"
* 4 DAY WEEK
* EARLY RETIREMENT
* BUY MFG LICENSES FOR BUYOUTS. BUILD IN NI
* BRING SUBCONTRACT WORK IN HOUSE.
  HIRE NI PEOPLE TO DO IT.
* UNPAID LOA
* RETRAINING PROGRAMS (USE NI AS "MODEL"?)
* COLLEGE SABBATICALS
* "HIRE FROM NI" CAMPAIGN
* PROVIDE MFG RESOURCES FOR CSS/TPL
* SELL CAPACITY TO OEM's
* ?
* ?

RATIONALE FOR PHASE OVER

PHASE I — OPTIONS

- FREES CORE D FOR SV
- MOST TRANSPORTABLE PROCESS
- LEAST IMPACT ON DOLLARS
- QUICKEST REACTION TIME
- MOST ADMIN VOLUME
- EXCESSES 97 NI PEOPLE 31K ☑

PHASE II — 16 BIT

- ALLOWS SV SPILLOVER SPACE
- PDP8's TO TPL
- HIGH DOLLARS
- END USER/OEM DIFFERENCES SUBSTANTIAL
- TRANSFERABLE TO WM SKILLS
- EXCESSES 329 NI PEOPLE 72K ☑

PHASE III — H.V.I.

- ALLOWS SV TIME TO INCORPORATE ANY POSSIBLE HVI PROCESS INTO ITS OWN OR OTHER THORPE PLANTS
- EXCESSES 22 NI PEOPLE 24K ☑

PHASE IV — 32 BIT

- KEEPS SENIOR TECHS IN NI/FLEXIBILITY
- ALLOWS TRAINING TIME FOR WM 32 BIT TECHS
- EXCESSES 386 NI PEOPLE 27K ☑

WM FY 83 CAPACITIES

THROUGHPUT	$963M	$1300M	$1800M	$2000M	$3000M
AVG PEOPLE	1026	1026	1106	1136	1596
TOTAL EXPENSE	41.8	44.6	51.0	54.1	77.9
FA&T %	3.7%	3.4%	2.8%	2.7%	2.6%
INCREMENTAL PEOPLE	---	---	80	30	230
INCREMENTAL $	---	$2.8M	$6.4M	$3.7M	$11.9M
SHIFTING REQUIRED			PARTIAL SECOND	SECOND	SECOND PARTIAL THIRD

DOES IT ALL FIT?

(BUSINESS AS USUAL)

PRODUCTION SPACE	FY83	FY84
NI AVAILABLE	302	302
NI REQUIRED	184	169
NI EXCESS	118	133
WM AVAILABLE	189	189
WM REQUIRED	136	93
WM EXCESS	53	96
TOTAL AVAILABLE	491	491
TOTAL REQUIRED	320	262
TOTAL EXCESS	171	229

(COMBINING PLANTS)

WM AVAILABLE	189	189
WM REQUIRED	136	93
NI 16 BIT SYSTEM	40	40
NI 32 BIT SYSTEM	--	30
	176	163
WM EXCESS	13	26

* NOTE: 1. DOES NOT INCLUDE IMPACT OF SHIFTING
2. DOES NOT INCLUDE ADDITIONAL SPACE MADE AVAILABLE FROM RELOCATION OF PRODUCT GROUP MFG. STAFFS.

DOES IT ALL FIT?

1. PHASE I OPTIONS TRANSFER IN Q2/FY83 WILL NOT REQUIRE ADDITIONAL WM FLOOR SPACE USEAGE DUE TO SHORT CYCLE TIME AND SHIFTING.

2. PHASE II (16-BIT SYSTEMS) TRANSFER IN Q3 AND Q4 FY83 REQUIRES 40K SQ FT WHICH IS ACCOMODATED BY THE 53K EXCESS SPACE IN WM.

3. PHASE II (HVI) TRANSFER IN Q1 FY84 WILL NOT REQUIRE ADDITIONAL WM FLOOR SPACE USEAGE BECAUSE IT CAN BE ABSORBED BY WM'S PRESENT (VSI) OPERATION. THIS ALSO ASSUMES THAT NI'S PHYSICAL HVI LINE (EQUIPMENT) DOES NOT TRANSFER TO WM.

4. PHASE IV (32-BIT SYSTEMS) TRANSFER IN FY84 AND WILL REQUIRE 30K SQ FT AND THERE WILL 56K SQ FT EXCESS IN WM IN FY84.

5. THERE WILL STILL BE 26K SQ FT EXCESS FLOOR SPACE IN WM (WITH MINIMAL SECOND SHIFTING).

CSS REVIEW

Gene Nelson

July 29, 1994

CSS REVIEW MEETING

Objective: Summarize CSS status and direction

TOPICS

9:00 - 9:45 — G. Nelson

- CSS Role
- Technical Competencies
- Key Messages
  - Operational
    - Financial Performance (historic & projected)
    - Engineering Investments
    - Area/Territory Interdependencies
    - Headcount Summary
    - Selling/Distribution Model
  - CSD Implementation
    - Inter-division & intra-division dependencies

9:50 - 10:00 Break

10:00 - 10:45 - Area Summaries

Europe	R. Viout
Asia Pacific	M. Wasylak
Americas	S. Whitney

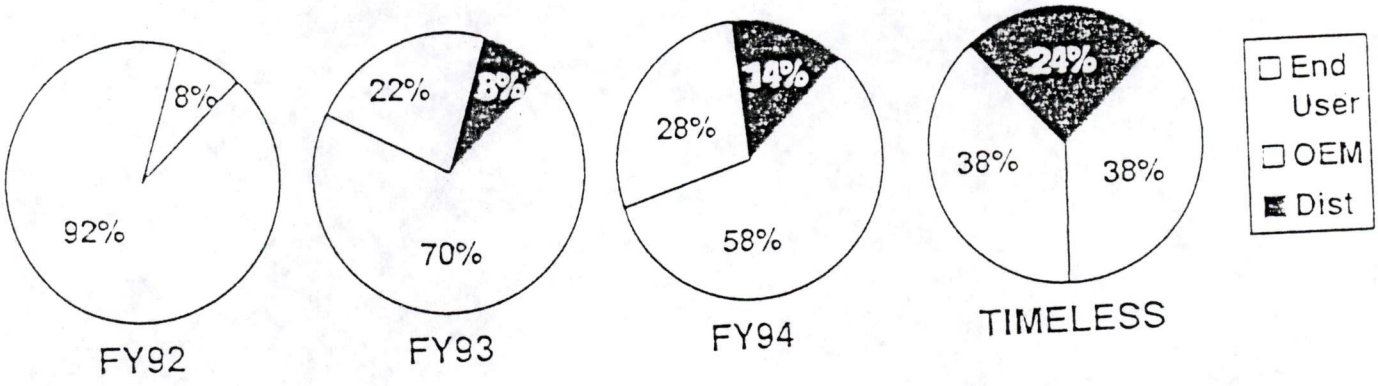
- Financial Performance
- FY95 Outlook
- Key Areas of Focus

10:45 - 11:00 Wrap-Up — All

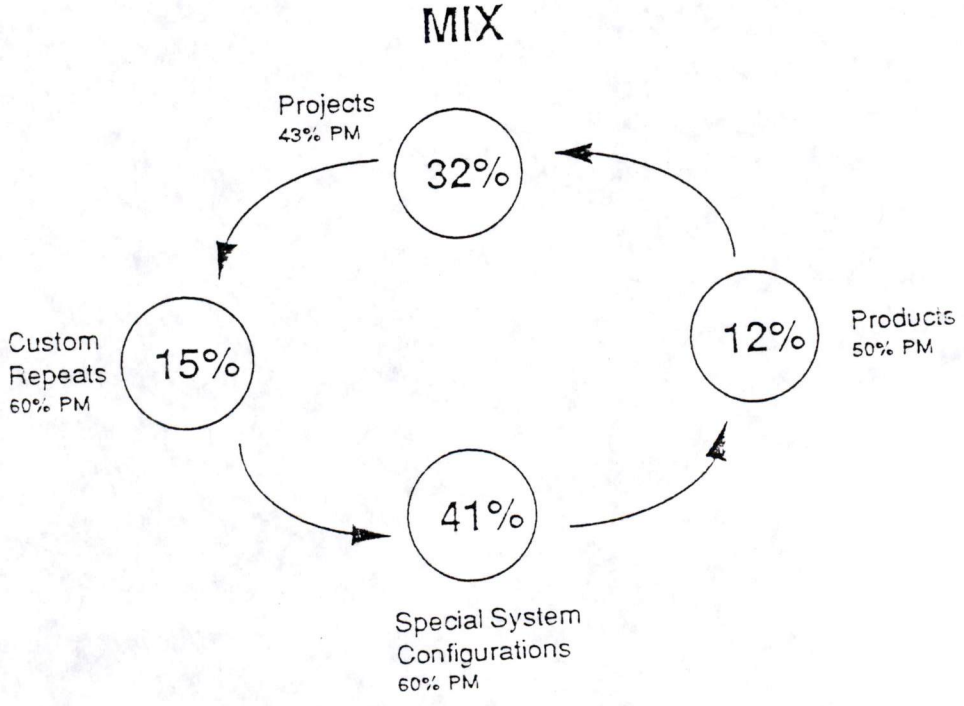
DESCRIPTION OF THE BUSINESS

CUSTOM SYSTEMS:

- provides custom projects and products that extend Digital's technologies to key accounts.
- is an integrated (sales, custom bidding, engineering, manufacturing) worldwide business.
- uses direct and indirect sales channels (direct channels for top, named accounts for mission critical, complex or global requirements; VARs/distributors for non-complex, second-tier accounts).



- is profitable because only those projects with repeat potential are bid.



CURRENT CAPABILITIES

* TECHNICAL CAPABILITIES	BUSINESS PROBLEM SOLVED	CUSTOMER EXAMPLES
1. Environmental/Custom Packaging Solutions $100M	1. - Harsh conditions-NEMA-12 (shock/vib, extreme temps) - Space-19" rackmount	U.S. Navy Toshiba Rueters Martin Marietta Ford Motor Lockheed
2. Realtime Response Systems $40M	2. - Preserve customer's investments in their I/O devices based on industry standards - VME (industry standard interface) to compete with H/P, SUN and SGI workstations	Martin Marietta Raytheon Westinghouse Dow Chemical GTE Asea-Brown-Boveri
3. Storage Management Solutions $60M	3. - Automated backup and recovery - High speed data access - Hierarchical Storage - High-speed Broadcast Video - Medical imaging	British Aerospace SAAB Airbus Elly Lilly Rome Labs Healthnet Dow-Jones
4. Networking & Telecommunications $100M	4.- Connectivity to public and private networks - Client/Server solutions on AXP and VAX platforms for intelligent network services and Operations Support Services	MCI International U.S. West NYNEX SNET SW Bell GTE G-Tech Telesoft/Italtel
5. Voice 40M	5.- Integrated voice response and voice recognition on DECvoice and AXP platforms	Detroit Edison Cellular 1 Wyatt Assets Kaiser Permanente U.S. Postal M-Tel CabelTel - UK Dutch Bundepost

*NOTE: These custom capabilties leverage the following Digital technologies/products: Alpha-based servers & Workstations, intel-based PC's, and network products (multi-protocol routers, ATM, FDDI, TCPIP, Netview).

WORLDWIDE CSS

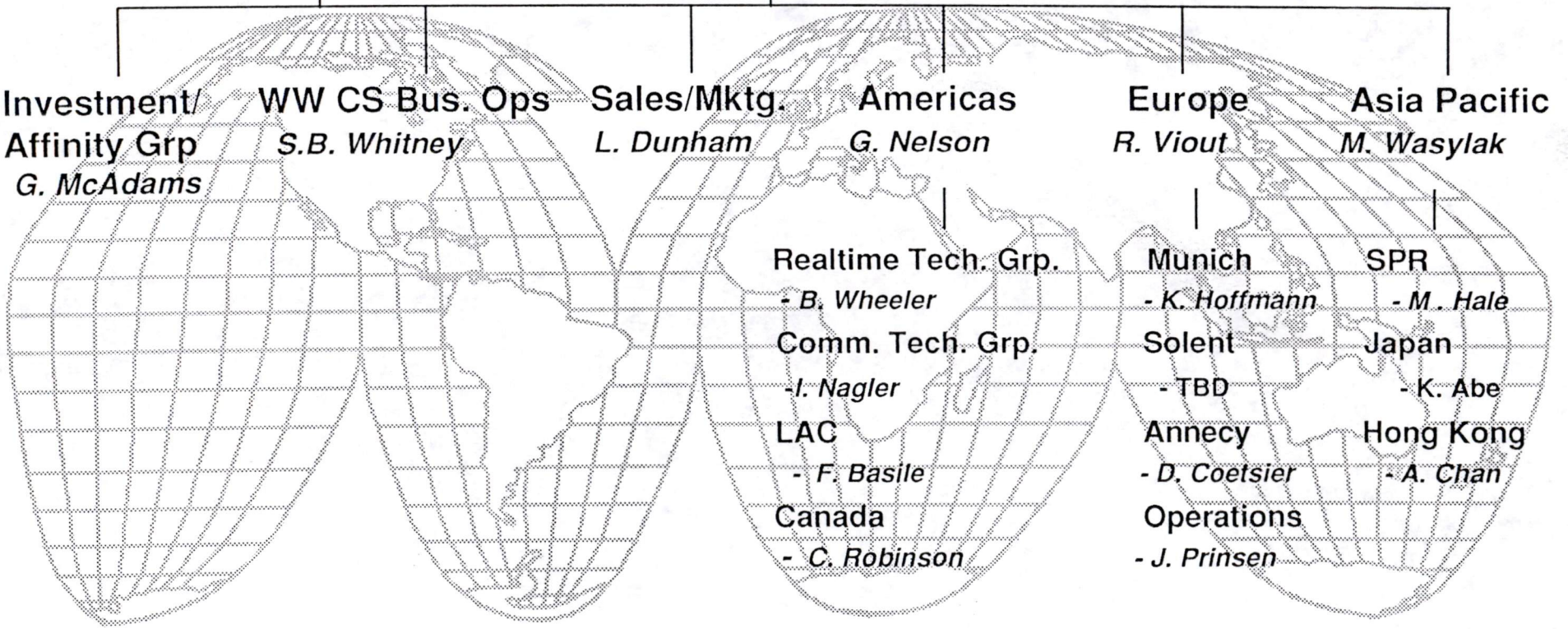
Finance
B. Sullivan

Human Resource
M. Berner

Manufacturing
B. Mulcahy

Custom Systems & Solutions
Gene Nelson

Administrator - *Cynthia Boger*



Investment/ Affinity Grp
G. McAdams

WW CS Bus. Ops
S.B. Whitney

Sales/Mktg.
L. Dunham

Americas
G. Nelson

- Realtime Tech. Grp. - *B. Wheeler*
- Comm. Tech. Grp. - *I. Nagler*
- LAC - *F. Basile*
- Canada - *C. Robinson*

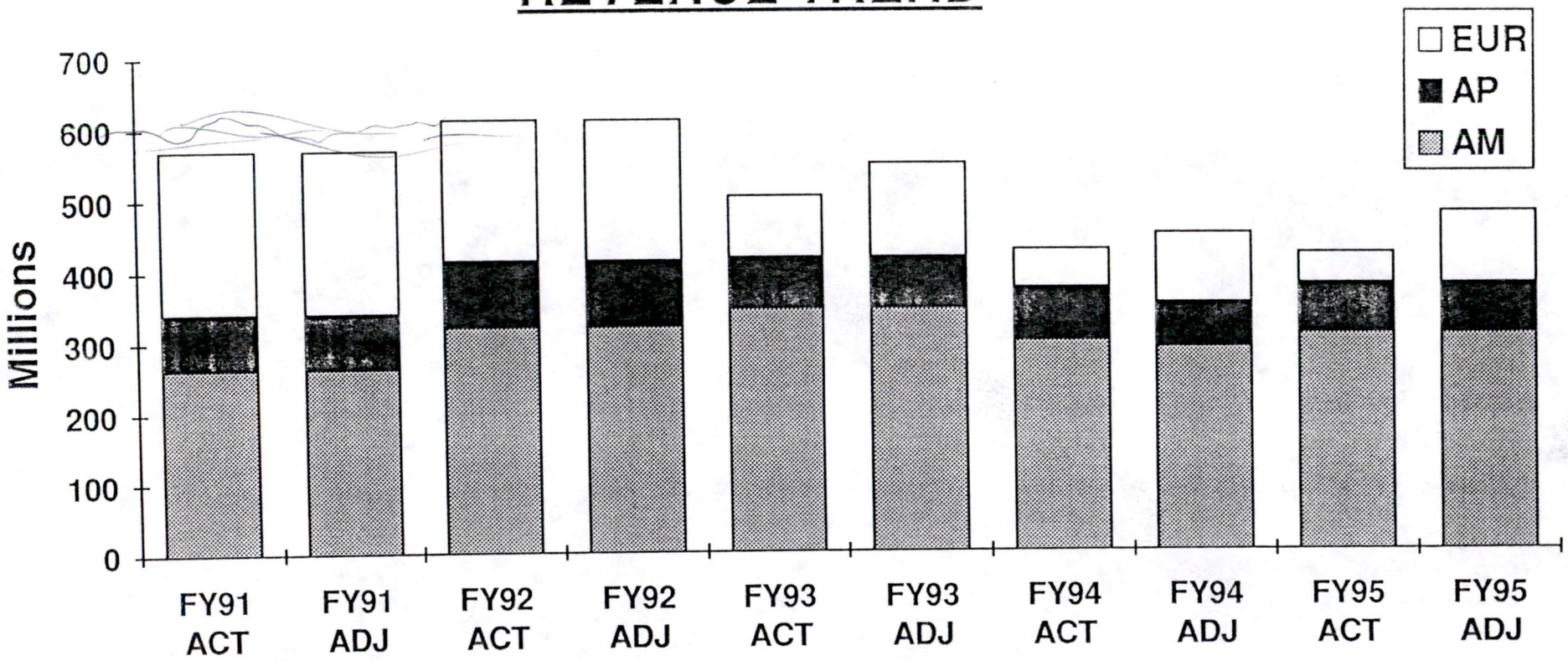
Europe
R. Viout

- Munich - *K. Hoffmann*
- Solent - TBD
- Annecy - *D. Coetsier*
- Operations - *J. Prinsen*

Asia Pacific
M. Wasylak

- SPR - *M. Hale*
- Japan - K. Abe
- Hong Kong - *A. Chan*

CSS
REVENUE TREND

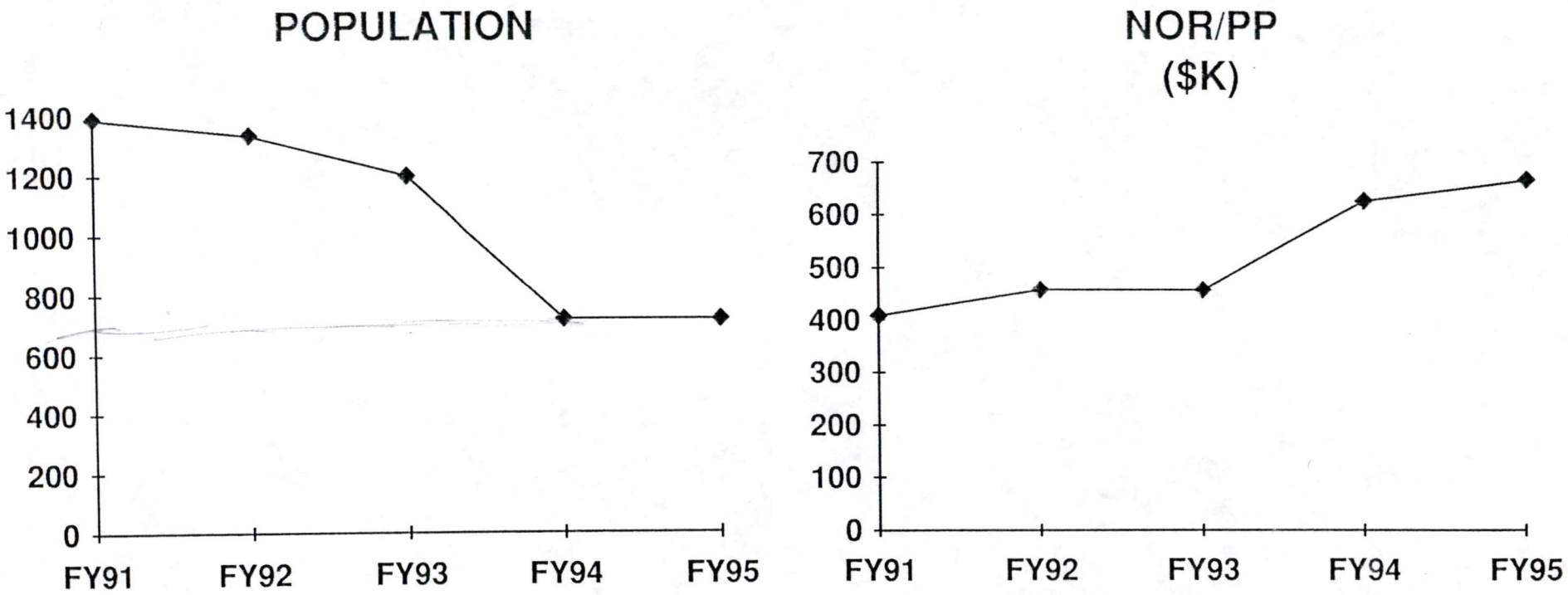


NOTE: FY91/92 AM = U.S.

- FY91 Europe eliminated CS4's; FY92 Canada eliminated CS4's.
- FY92 - diminished WW focus began with EIS implementation.
- FY93 - Europe defocused CSS as it was integrated into DC; CSS projects reported as part of DC projects.
- FY93/94 VAX-based projects declined more than 50% without Alpha making up the difference.
- Q4FY94 and beyond: WW integration focus re-established; Alpha significantly surging, PC-based projects ramping up and indirect Sales Channels becoming significant.

200 mfg

CSS POPULATION (W/O MFG)



- FY93: U.S. consolidated EICs (business units) and divested marginal business'; downsized 15%.
- FY94: WW and AREA HQTR's reduced significantly, U.S. eliminated management layers, re-engineered the work and divested remaining marginal business'; U.S. cut a total of 30%.
- FY95: reshape AP population.

CSS
FY94

($M)

		FY94 ACT	FY94 FCST	B(W) FCST	B(W) BOD	Y/Y % CNG
NOR						
	AM	300.0	287.4	12.6	(85.5)	(13.5%)
	EUR	53.8	55.2	(1.4)	(31.3)	(37.3%)
	AP	74.6	73.2	1.4	(2.5)	2.8%
	TOTAL	**428.4**	**415.8**	**12.6**	**(119.3)**	**(15.7%)**
GI..						
	AM	138.0	135.3	2.7	(81.0)	(29.6%)
	EUR	34.7	34.2	.5	(16.9)	(40.5%)
	AP	44.2	42.4	1.8	1.9	9.7%
	TOTAL	**216.9**	**211.9**	**5.0**	**(96.0)**	**(26.4%)**
GI..%						
	AM	46.0%	47.0%	(1.0)	(10.8)	(10.5 pts)
	EUR	64.5%	62.0%	2.5	3.9	(3.5 pts)
	AP	59.2%	57.9%	1.3	4.3	(3.7 pts)
	TOTAL	**50.6%**	**51.0%**	**(.4)**	**(6.5)**	**(7.7 pts)**

CSS
FY95 BUDGET

NOR/GM%

(U.S. M$)

	FY94 ACT	FY95 BUDGET	GROWTH YR/YR
AM			
NOR	290.0	310.0	7.0%
GM	133.0	142.6	7.0%
GM %	45.9%	46.0%	.1 pts
EUR			
NOR	99.0	102.0	3.0%
GM	55.0	51.0	(7.0%)
GM %	55.5%	50.0%	(5 .5 pts)
AP			
NOR	63.0	70.0	11.1%
GM	37.0	39.5	6.8%
GM %	58.7%	56.4%	(2.3 pts)
WORLDWIDE			
NOR	452.0	482.0	6.6%
GM	225.0	233.1	3.6%
GM %	49.8%	48.3%	(1.5 pts)

CUSTOM SYSTEMS
ENGINEERING INVESTMENTS

CSS provides repeatable platforms and custom projects. WW platforms are developed for horizontal markets and vertical/industry specific markets. Area specific platforms are developed in response to local customer needs which may evolve to WW platforms. In addition, CSS crafts solutions to individual customer business problems via custom projects.

CSS has accounted for Engineering spending as follows:

CATEGORY	P&L
Customer Projects	COGS
Area/Local Platforms	Engr/R&E - Brown Book Line 84 (Territory)
WW Platforms	Engr/R&E - Brown Book Line 84 (WW)
Industry Platforms	Cross-Charge to CBU/SBU

The CSS approval process initiates with the Budget which allocates investment spending by AREA and major program; APPROVALS are granted based on Business Plans presented by the respective Product Managers.

WW P&L:

	FY94	FY95
Revenue	**100.0%**	**100%**
GM	**51.0%**	**50%**
Direct SG&A	10.1%	10%
Area/Local Engr	.7%	.7%
Terr Contr Margin	**40.2%**	**39.3%**
WW Engr	2.4%	2.2%
Direct Contr Margin	**37.8%**	**37.1%**
Allocations:		
ENGR	5.0%	5.1%
SG&A	19.9%	20.0%
Other	2.2%	2.2%
PBT	**10.7%**	**9.8%**

CUSTOM SYSTEMS WORLDWIDE HEADCOUNT

	FY'95	*NOR*	*NOR/PP*
Americas			
U.S.	355	$290M	$ .8M
Canada	14	13M	.9M
LAC	2	7M	3.5M
	---	---	---
Sub-Total	*371*	*$310M*	*$ .8M*
Asia Pacific			
Australia	51	25M	.5M
Asia	10	13M	1.3M
Japan	52	32M	.6M
	---	---	---
Sub-Total	*113*	*$70M*	*$ .6M*
Europe			
Solent	74		
Annecy	110		
Munich	52		
	---	---	---
Sub-Total	*236*	*$102M*	*$ .4M*
Total CSS Pop (exludes Mfg.)	**720**	**$482M**	**$ .7M**

AREAS OF FOCUS

- Clarify CSS role relative to the other Business Units and establish appropriate relationships

- Optimize Custom Systems revenue and margins worldwide
  - re-establish worldwide operational business metrics and reporting
  - implement European turnaround (re-establish direct sales channels and establish indirect channels)
  - establish mechanisms to drive resources and delivery sharing within and across geographic areas
  - increase the use of repeatable platforms/projects across the three areas
  - drive to the timeless model for distribution channels
  - confirm FY95 investment decision process

I. FINANCIALS & FY'95 OUTLOOK

AREA: Europe

	FY'94 Actuals	FY'95 BOD Q1	Q2	Q3	Q4	FY'95 Total	'94-'95 % Growth
CERTS	112.3	15.9	31.5	32.7	39.9	120.0	6.8%
NOR	99.4	21.4	22.6	24.5	33.5	102.0	3.6%
GM$	55.8	11.9	10.6	13.3	15.2	51.0	(5.2%)
GM%	55%	55%	47%	54%	45%	50%	(4.0%)
Population		236	236	236	236	236	

Outlook:

- *Total frontlog $37M (14.2M weighted)*
- *Q1 frontlog $4.1M (2.7M weighted)*
- *Q1 backlog $18.1M (86% loaded)*
- *Large Opportunities:*
  -Alcatel SESA - $4M CSS $9M Digital
  -Airforce Germany $6.1M CSS

Area: Europe

II. FOCUS AREAS

- ***Establish a European CSS organization***
- ***Deployment of CS4***
- ***Restore morale and motivation***
- ***Establish, train and support indirect channels of distribution.***

I. FINANCIALS & FY'95 OUTLOOK

AREA: AP

	FY'94 Actuals	FY'95 BOD Q1	Q2	Q3	Q4	FY'95 Total	'94-'95 % Growth
CERTS	70.6	16.2	17.3	18.6	23.7	75.8	7%
NOR	63	15	16.2	16.9	21.5	70.1	11%
GM$	37	8.7	9.4	9.8	12.1	40	8%
GM%	59	58	58	58	56	57	2 pts.
Population	113	113	113	113	113	113	0%

Outlook:

- *Frontlog: Asia strong, SPT strong, Japan weak*
- *Backlog:*
  -Q1 Project = $7.0M Asia & SPT good backlog
  -Q1 Platform = $4.5M Japan is on the low side
- *Assumed mix of projects and platforms*
  -Projects = 60%
  -Platforms = 40%

Area: AP

II. FOCUS AREAS

- ***Reshaping of our AP workforce:***
  - Three (3) CS4's in Asia (Malaysia, Thailand and PRC)
  - One (1) Business Segment Manager -- Asia
  - Two (2) CS4's in SPT
- ***Establish, train and support indirect channels of distribution.***
- **Growth and delivery in Asia**

I. FINANCIALS & FY'95 OUTLOOK

AREA: Americas

	FY'94 Actuals	FY'95 BOD Q1	Q2	Q3	Q4	FY'95 Total	'94-'95 % Growth
CERTS	299	65.3	81.0	80.2	97.5	324	8%
NOR	290	59.5	78.5	69.4	102.6	310 (320)	7%
GM$	133	26.7	36.3	31.5	48.1	142.6	7%
GM%	46%	45%	46%	45%	47%	46%	---
Population	371	371	371	371	371	371	---

Outlook:

U.S.:
**Certs to date $12.5M (ahead of last yr.)*
**Frontlog $156M (60M weighted)*
**Q1 frontlog $116M (43M weighted)*
**75/25 Project/Platform mix*
**Strong load position Q1 $43M (77%)*
**Large Opportunities-*
-Raytheon E2C $2.9M
-TAC-4
-U.S.West $1.4M (INSP)

LAC:
**Certs to date $.5M*
**Frontlog $6M (2.5M weighted)*
**80% loaded for quarter*
**60/40 Project/Platform mix*
**Large Opportunities-*
-Puerto Rico Telephone Co. (SCP)

Canada:
**50% loaded for Q 1*
**60/40 Project/Platform mix*
**Alphas selling strong*
**Large Opportunities-*
-Lottery Systems & ATM's

II. FOCUS AREAS

- ***Add one (1) CS4 in LAC and re-establish CS4's in Canada while keeping Americas population flat.***
- ***Align direct sales to the ABU and drive increased volumes through distributors, VAR's and OEM's.***
- ***Integrate Americas Business Operations (LAC, Canada, U.S.)***
- ***Manage human resources:***

  -Minimize further attrition of key skills &/or quickly replace.

  -Address design & delivery constraints with more contractors (10% now - going no higher than 15%, otherwise add against established long-term backlog).

Andrea
FAX TO
Vincenzo Damiani
these numbers show
just how far
"CSS" has fallen
in Europe. I hope
you will help
me restore it
to its
proper place
Ron Gulotta
7/4/94

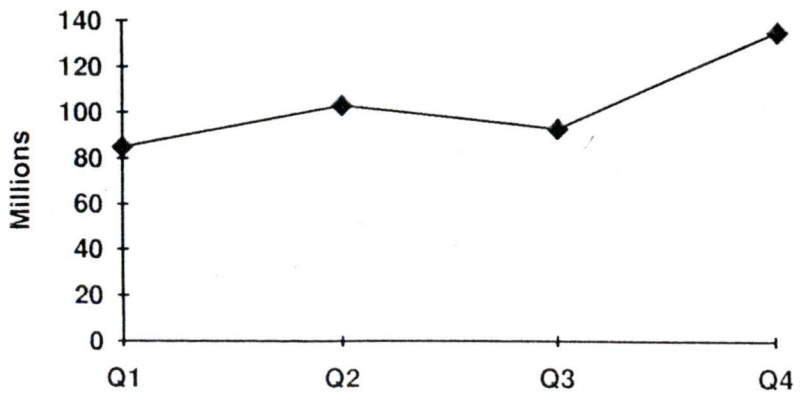
WW CUSTOM SYSTEMS
FINANCIAL PERFORMANCE

($M)

		FY94 FORECAST	B(W) BOD	Y/Y % CNG
NOR				
	AM	287.4	-98.1	-17.1%
	EUR	55.2	-29.9	-35.6%
	APA	73.2	-3.9	0.8%
	TOTAL CSS	415.8	-131.9	-17.7%
GM				
	AM	135.3	-83.7	-31.0%
	EUR	34.2	-17.4	-41.3%
	APA	42.4	0.0	5.2%
	TOTAL CSS	211.9	-101.0	-28.1%
GM%				
	TOTAL CSS	51.0%	-6.2	-7.4

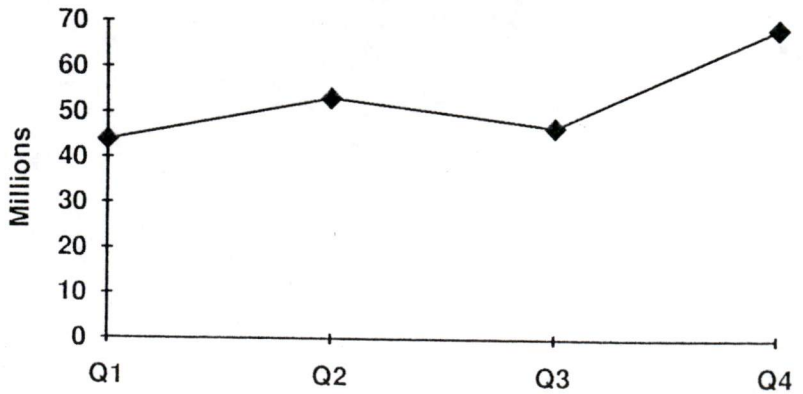
a - return

NOR

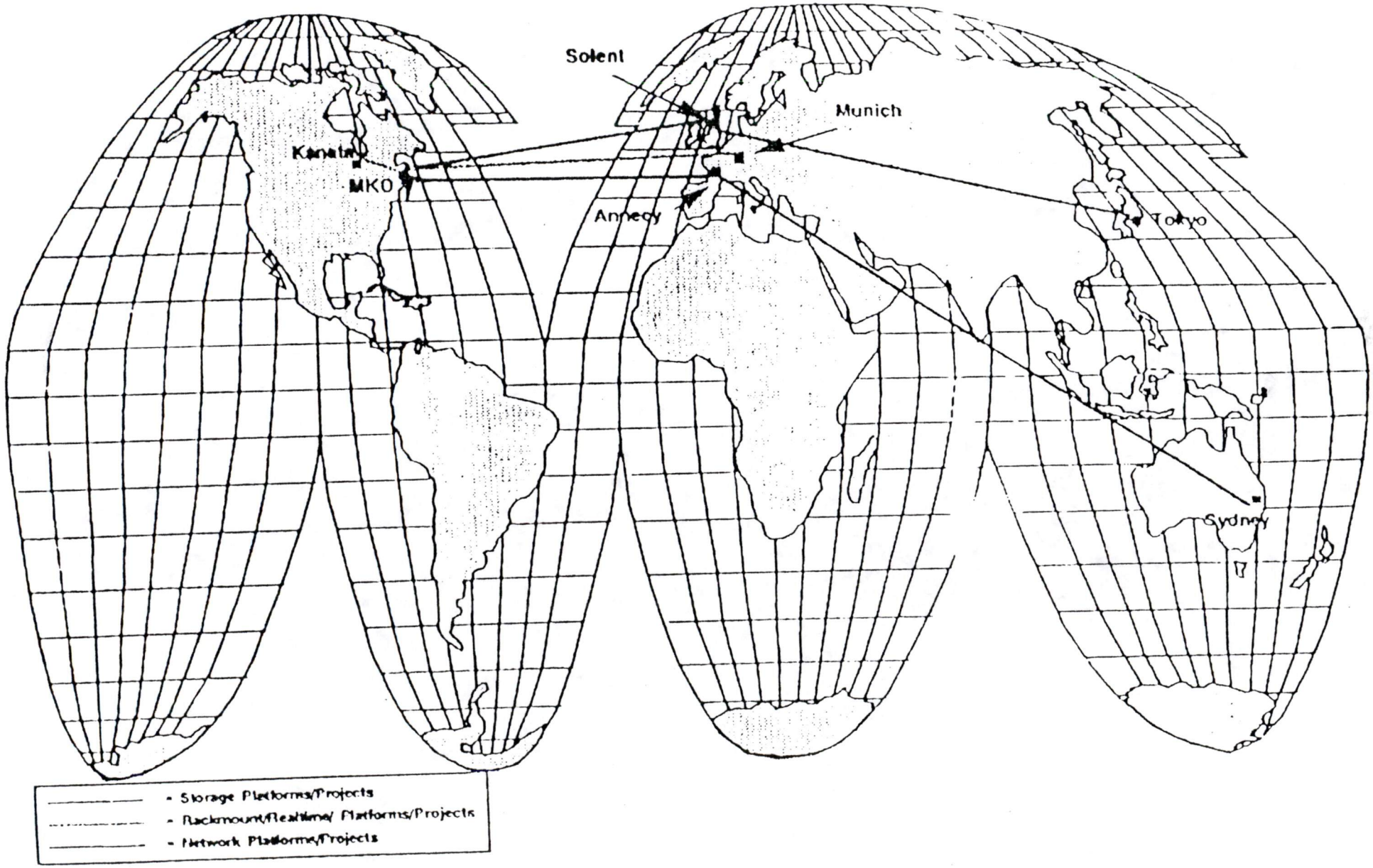


full CSS

GM



CS AFFINITY GROUPS



CUSTOM SYSTEMS WW HEADCOUNT

FY94

	Q3	Q4	Δ
AMERICA'S			
US	423	355	68
CANADA	14	14	--
LAC	2	2	--
SUBTOTAL	439	371	68
EUROPE			
SOLENT	34*	34*	--
ANNECY	110	110	--
MUNICH	52	52	--
SUBTOTAL	196*	196*	
ASIA PACIFIC			
HQ	1	1	--
AUSTRALIA	63	51	12
ASIA	9	9	--
JAPAN	52	51	1
SUBTOTAL	125	112	13
TOTAL CSS	760	679	81

* SOLENT HAS 74 CUSTOM SYSTEMS EMPLOYEES WHICH WOULD PUT EUROPE AT A POPULATION OF 236. HOWEVER, DUE TO RECONCILING CUSTOM SYSTEMS PROJECTS BUSINESS IN EUROPE WITH DIGITAL CONSULTING ONLY 34 EMPLOYEES ARE TRANSFERRING INTO THE SBU IN JULY.

d i g i t a l

INTEROFFICE MEMORANDUM

TO: Ron Bohlin

CC: Tony Wallace

DATE: 23 June 1994
FROM: Gene Nelson
DEPT: VP Custom Systems
DTN: 264-7895
LOC/MS: MKO1-2/H03

SUBJ: CUSTOM SYSTEMS IN EUROPE

Ron,

Digital needs to maintain a Custom Systems project capability in Europe. As Digital Consulting identifies the type of work and employees required to support the various practices, I want to participate in separating Custom Systems project work and associated personnel.

There may be some gray areas, but for the most part, I think we can readily agree on what constitutes custom hardware projects and the required skills. I could deliver the types of projects and list the people by name, or review a recommendation you may have. In either case it is important for the company, and the people involved, that we work together on this.

Regards,

Gene

/clb

Printed by Susan M Foley @MLO

I N T E R O F F I C E M E M O R A N D U M

Doc. No: 020083
Date: 27-May-1994 07:56am E
From: Susan M Foley @MLO
FOLEY.SUSAN
Dept: WW Sales & Marketing
Tel No: 223-3479

TO: Tony Wallace (PAPER MAIL)
TO: Enrico Pesatori (PAPER MAIL)

CC: Gene Nelson (PAPER MAIL)
CC: Terri Steingrebe (PAPER MAIL)
CC: Chris Sullivan (PAPER MAIL)

Subject: CSS

****
** THIS MEMO IS FROM SUE FOLEY AND CHRIS SULLIVAN **
****

We have reviewed the CSS business and recommend that the SBU assume the management responsibility of the business as it is a viable and profitable business for Digital.

The overall CSS business fits the strategic direction of the modeling work being done by Dick Fishburn. The individual business segments within CSS may be adjusted after the final modeling work is complete.

We also reviewed the expense structure and have concluded that the operating profit of 11% is about right - there may be some under-absorption of "Corporate Allocations", however, it is in the 3 point range. Overall, however, the business is producing strong gross margins.

Regards,

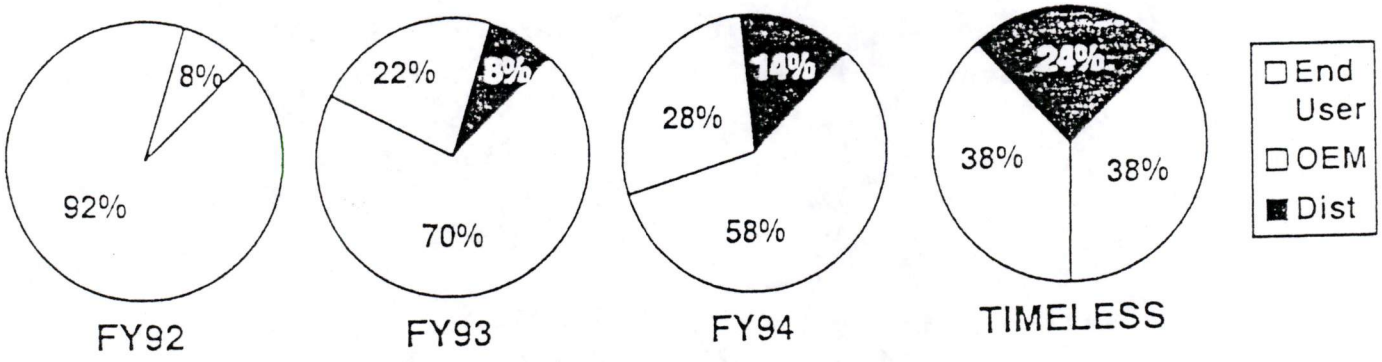
/ll

file CSS

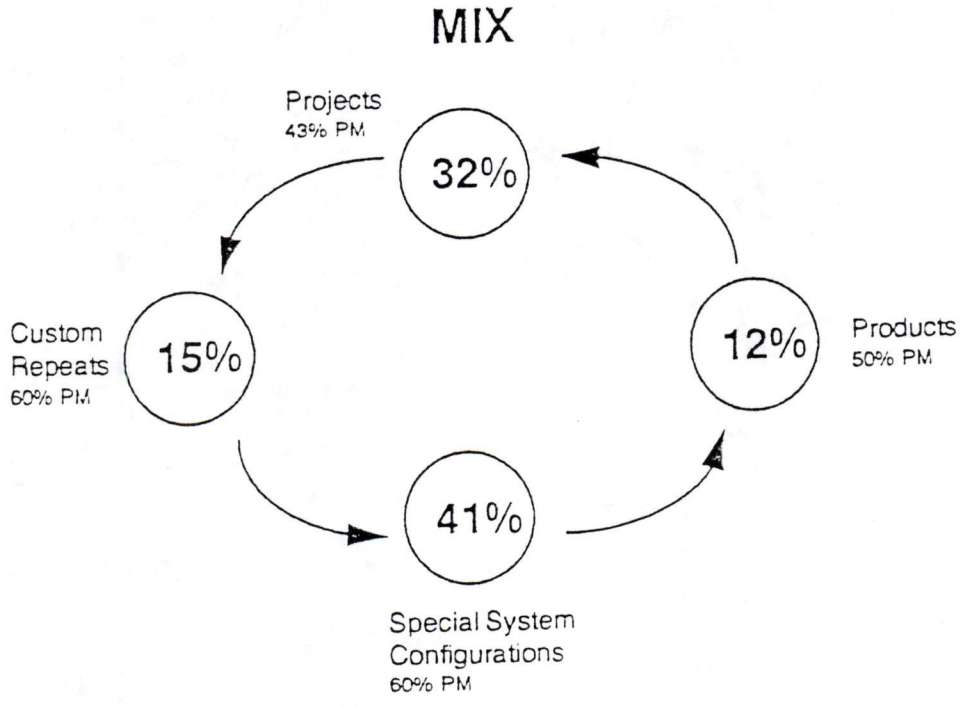
DESCRIPTION OF THE BUSINESS

CUSTOM SYSTEMS:

- provides custom projects and products that extend Digital's technologies to key accounts.
- is an integrated (sales, custom bidding, engineering, manufacturing) worldwide business.
- uses direct and indirect sales channels (direct channels for top, named accounts for mission critical, complex or global requirements; VARs/distributors for non-complex, second-tier accounts).



- is profitable because only those projects with repeat potential are bid.



CURRENT CAPABILITIES

* TECHNICAL CAPABILITIES	BUSINESS PROBLEM SOLVED	CUSTOMER EXAMPLES
1. Environmental/Custom Packaging Solutions	1. - Harsh conditions-NEMA-12 (shock/vib, extreme temps) - Space-19" rackmount	U.S. Navy Toshiba Rueters Martin Marietta Ford Motor Lockheed
2. Realtime Response Systems	2. - Preserve customer's investments in their I/O devices based on industry standards - VME (industry standard interface) to compete with H/P, SUN and SGI workstations	Martin Marietta Raytheon Westinghouse Dow Chemical GTE Asea-Brown-Boveri
3. Storage Management Solutions	3. - Automated backup and recovery - High speed data access - Hierarchical Storage - High-speed Broadcast Video - Medical imaging	British Aerospace SAAB Airbus Elly Lilly Rome Labs Healthnet Dow-Jones
4. Networking & Telecommunications	4.- Connectivity to public and private networks - Client/Server solutions on AXP and VAX platforms for intelligent network services and Operations Support Services	MCI International U.S. West NYNEX SNET SW Bell GTE G-Tech Telesoft/Italtel
5. Voice	5.- Integrated voice response and voice recognition on DECvoice and AXP platforms	Detroit Edison Cellular 1 Wyatt Assets Kaiser Permanente U.S. Postal M-Tel CabelTel - UK Dutch Bundepost

*NOTE: These custom capabilties leverage the following Digital technologies/products: Alpha-based servers & Workstations, intel-based PC's, and network products (multi-protocol routers, ATM, FDDI, TCPIP, Netview).

CUSTOM SYSTEMS

WORLDWIDE FINANCIALS

($M)

	FY91	FY92	FY93	FY94	FY95	FY96
REVENUE	569	612	505	417	450	495
GM $	316	347	295	212	225	242
%	56%	57%	58%	51%	50%	49%
DIRECT SG&A	53	56	56	42	44	46
DIRECT ENGR	24	20	22	13	13	14
DIRECT CONT MARGIN	239	271	218	157	168	182
%	42%	44%	43%	38%	37%	37%
ALLOCATIONS:						
CORP ENGR	33	35	28	21	23	25
CORP SG&A	132	138	111	83	90	99
OTHER	15	16	12	9	10	11
PBT $	59	82	67	43	45	47
%	10%	13%	13%	10%	10%	9%
POPULATION	1390	1335	1200	815	848	890
NOR PER PERSON ($k)	409	458	421	512	531	556
CM PER PERSON ($k)	172	203	181	193	198	204

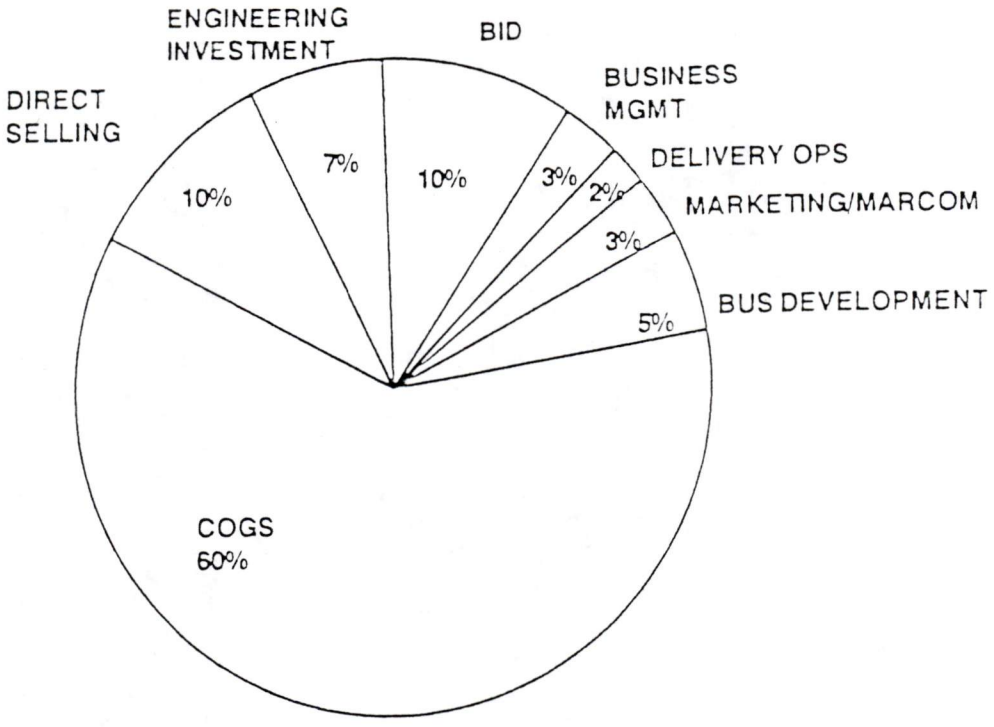
NOTE: In FY93 Europe began reporting the Custom Systems Projects Business in Digital Consulting. This is estimated to be $40-50m in FY94.

- Revenue decline due to rapid decline of VAX, and slower ramp up of Alpha, and defocus in Europe.
- The US represents 65% of the FY94 revenue. Q3 Certs in the US were 44% greater than Q2 and were 13% over Q3 last year. Q4 appears to be 20 - 25% over Q3 due to increased Alpha and PC based projects.
- Gross Margin decline due to the 8-12 point difference in product margins between VAX and Alpha.
- A cash flow statement shows FY94 at $49M positive cash, moving to $95M in FY95 and $139M in FY96.

FY94 COST STRUCTURE DISTRIBUTION:

The preponderance of the cost structure is directly associated with bidding (selling) and delivery of the custom project business.

Below is shown the components of all direct cost (total cost less transfer cost of products). It is shown as a % of total cost (data is US based).



COGS: Sustaining and non-recurring (Design) engineering, Mfg ODC and NPSU.

Direct Selling: CS4's (technical direct sales) & teleselling.

Engineering: Worldwide and local platform development

Bid: Cost of crafting solutions for customers - including engineering costs to bid.

Business Mgmt: Finance, Admin, personnel allocations and Business Management Staff.

Delivery Operations: Product/Project planning and manufacturing delivery cost estimations from Salem Mfg.

Mktg/Marcom: Tactical Mktg (i.e.) success stories, trade show support, capabilities communication. Training for distribution channels and channels development.

Business Development: Worldwide Investment strategies, drive segment integration with Digital's product strategies, and responsible for segment operational results.

CUSTOM SYSTEMS WORLDWIDE
P&L BY SEGMENT - FY94

	ENVIRON. CUSTOM PKG. SOL.	REALTIME RESPONSE SYSTEMS	STORAGE MGMT SOLUTIONS	NETWKING & TELECOMM	VOICE	TOTAL
Revenue	170	35	102	93	17	417
GM $	95	19	43	49	6	212
%	56%	54%	42%	53%	35%	51%
SG&A	17	5	10	9	1	42
Engineering [1]	5	1	2	4	1	13
Direct CM $	73	13	31	36	4	157
%	43%	37%	30%	39%	24%	38%
Population *	250	118	202	196	49	815
94:95 Revenue Growth Expectations	6%	14%	5%	9%	29%	8%
95:95 Revenue Growth Expectations	10%	25%	5%	8%	18%	10%
FY95 Investments						
WW Engr	4.4	1.3	2.0	1.3	1.0	10.0
Local Engr	.9	.3	.7	.6	.5	3.0

*Segment P&L's and Population are 75 - 80% accurate - and are analytically derived based upon best available actual data.

[1] Other Digital Organizations (SBU, C&P, Storage) are also funding engineering investments for the Company. This is an additional $6m in FY94. Custom Systems builds off this investment for custom projects.

CUSTOM SYSTEMS MANUFACTURING

Custom Systems Manufacturing is done out of Salem for the US and some international shipments. Some manufacturing is also done out of AYR and Sydney.

Salem Plant Data

Hours	90,000 hrs out of 515,000 hrs of capacity	17%
Headcount	327 out of 931	35%
Square Footage	209,000 sq. ft. out of 476,000 sq. ft.	44%

Custom Systems could not afford any Salem plant variances if the plant capacity were not fully utilized.

If this becomes an issue, the following alternatives would be pursued:

- Move capital & resources to a facility correctly sized for this business

or

- Outsource a portion of manufacturing and move the remainder into another Digital Plant.

DECISIONS AND ACTIONS

- Confirm, communicate and implement operational management of Custom Systems to the "SBU".
- Operationally separate Custom Systems from Digital Consulting and connect to the appropriate "SBU" structure.
- Confirm the fit of current Custom Systems capabilities with Corporate decisions on core technologies.
- Optimize Custom Systems revenue and margins worldwide.
  - implement European turnaround (re-establish direct sales channels and establish indirect channels)
  - re-establish worldwide operational business metrics and reporting
  - increase the use of repeatable projects across the three areas
  - drive to the timeless model for distribution channels
  - grow, downsize or consolidate business segments and resources based on corporate decisions on core technologies for Digital