Basic Description of the Company

Spicer Driveshaft, an operating unit of Dana Corporation (NYSE: DCN), is a global leader in the design, production, assembly, and application of driveshafts and related components and services. It was Dana's founder and Spicer Driveshaft's namesake, Clarence Spicer, who introduced the first universal joint of practical value to the automotive industry in 1904. Today, Spicer Driveshaft (SD) is the largest independent supplier of driveshafts and related components to *Original Equipment Manufacturers* (OEM's) and aftermarket customers in North America. Our products are also manufactured and distributed around the world by a global network of Dana affiliates and subsidiaries. SD provides driveshafts and related components and services to OEM's in the following vehicular markets:

LIGHT VEHICLE

Passenger cars, light- and medium- duty trucks, vans, and sport utility vehicles

HEAVY VEHICLE

Class 6, 7, and 8 trucks, used for freight transportation

OFF-HIGHWAY/INDUSTRIAL

Construction and agricultural vehicles, and industrial equipment, such as material handling systems, hydraulic pumps, and power take-offs

In addition to original equipment, we also provide replacement parts for each market through our OEM customers' service organizations and through Dana's distribution networks -primarily Dana's Drivetrain Service Group.

We support our products with engineering services, including *Finite Element Analysis* (FEA), product testing, metallurgical analysis, prototype development, three dimensional design, and electronic transmission of drawings. We also provide *Advanced Shipping Notices* (ASN's) and *Electronic Data Interchange* (EDI) to support our customers' assembly logistics.

Corporate Structure

Dana Corporation is structured according to seven *Strategic Business Units* (SBU's). Within each SBU are several Product Groups that have responsibility for a particular product on a global basis. Within each Product Group are one or more operating units which function as subunits of the SBU. Each operating unit has a separate management staff consisting of a general manager, controller, and managers for each key discipline. For example, Spicer Driveshaft is a member of the Automotive Systems Group SBU, and is responsible for establishing its own business plan in line with the SBU's objectives, as well as for its own financial performance.

Global Councils in key disciplines (Purchasing, Manufacturing, Engineering, Sales & Marketing and Information Technology) facilitate information and resource sharing, and maximize efficiencies and economies of scale.

Spicer Driveshaft consists of 17 manufacturing, assembly and administrative facilities, including our *World Center* of Engineering and Technology (WCET).

Our sales/engineering offices and manufacturing/assembly plants are strategically located to ensure rapid, uninterrupted supply of product to our customers and sister facilities.

Our *Regional Driveshaft Centers* (RDC's) provide *Just-in-Time* (JIT) assembly, delivery and line-set service to



B U S I N E S S O V E R V I E W

customers. They operate under the direction of a single staff member and share common goals, processes, and QS-9000 procedures to assure consistency of quality.

Spicer Driveshaft's *Information Technology* (IT) systems are administered by our Information Technology Resource Center which supports real-time communication between our facilities and our customers.

As our customers expand globally, Spicer Driveshaft and Dana are prepared to support them.

Key People Approaches

Spicer Driveshaft employs more than 3,000 people, including representation by the United Autoworkers and by the Paper, Allied-Industrial, Chemical and Energy Workers.

Our culture and values are driven by "The Dana Style of Management," a philosophy whose primary tenets include a commitment to:

> GLOBAL MARKET LEADERSHIP AND CONTINUED GROWTH

- > DEVELOPMENT, EMPOWERMENT AND PARTICIPATION OF ALL EMPLOYEES
- > EMPLOYEE IDENTIFICATION WITH, AND PRIDE AND INVESTMENT IN, DANA
- > LEADERSHIP WITH URGENCY, INTEGRITY, AND RESPECT FOR ALL PEOPLE
- > MINIMIZATION OF COMPANY-WIDE PROCEDURES AND REPORTING LEVELS

- > A CROSS-DISCIPLINE WORK EXPERIENCE AND PROMOTION FROM WITHIN
- > CONTINUED, MEASURABLE IMPROVEMENT IN ALL ASPECTS OF QUALITY
- > GOOD GLOBAL CITIZENSHIP, DIVERSITY, AND RESPECT FOR THE ENVIRONMENT

Our dedication to our people is evident in the tenure of our employees and the low turnover rates. Our dedication to communication is evident in the commitment to utilize our document management system to share ideas, problems and solutions on real-time basis, allowing such useful tools as our:

- > CONSOLIDATED HUMAN RESOURCES ACTIVITIES REPORT DATABASE WHICH ALLOWS COLLECTION, AGGREGATION, AND ANALYSIS OF KEY HUMAN RESOURCE DATA
- > QS-9000 POLICIES, PROCEDURES AND WORK INSTRUCTIONS
- > SHARING OF MANAGEMENT REVIEW M EETING MINUTES
- > PROGRAM MANAGEMENT APPROACH
- > DEVELOPMENT OF INTERNET-BASED TECHNOLOGIES WHICH PROVIDE INFORMATION ACCESS TO OUR GLOBAL PARTNERS



Health & Safety

Dana Environmental Compliance Services (DECS) or other third-party assessments ensure that all Spicer Driveshaft facilities meet or exceed applicable health, safety and environmental requirements. Health and safety programs are evaluated through audits conducted by Dana's Risk Management Services. In addition, leadership has challenged all facilities to achieveISO-14001 registration by the end of 2001.

Customer and Market Requirements

Our customers expect continual improvement in product and performance characteristics in order to remain competitive. These include:

- > PRODUCT QUALITY
- > PRODUCT PERFORMANCE
- > ON-TIME DELIVERY
- > COMPETITIVE PRICING
- > SALES AND ENGINEERING SUPPORT

We also interact with our sister operating units to serve customer and/or market requirements that cannot be fully addressed by a single operating unit.

We support end-users' service parts requirements for our products through the OEM's aftermarket program or through Dana's Drivetrain Service Group's distribution network. Our *Customer Platform Teams* (CPT's) ensure that customers' needs are anticipated and addressed early by becoming a part of the customers' application development systems. By participating with customers in the *Advanced Product Quality Planning* (APQP) process as an integrated team, Spicer Driveshaft is able to facilitate rapid product development and launches. Our global resources enable us to serve as a single source of driveshaft products and services for many of our customers, and to support global development programs at worldwide locations. A robust information system allows us to interface with our global customers in their desired formats for drawings, order entry, document response and mail.

Our assembly facilities are located in close proximity to many customers' assembly plants, allowing us to provide them with world-class delivery and the capability of lineset sequencing of components from a variety of suppliers which may include competitors. As part of our JIT delivery service, we accept customer order changes within 24 hours of the requested delivery.

Supplier and Partner Relationships

Our primary processes center on the machining and assembly of components. We rely on a well-developed supply base for the raw materials required to manufacture driveshafts. Working together with our suppliers significantly expands our technology capabilities, resulting in improvements in quality, productivity, and cost control, as well as the implementation of new technologies.

In order to provide JIT delivery to our customers, we must work closely with our suppliers-whose raw material lead times are often weeks or months-while maintaining low inventory levels.

Competitive Situation

Pressures on OEM's to reduce costs and improve productivity through increased economies of scale have created an industry trend toward mergers and acquisitions. This trend continues to reduce the supplier base, while increasing the demand for price reductions, design and sub-assembly services from those suppliers that survive. In this increasingly complex marketplace, our direct competitors include several customer ventures, as well as global independent companies.

Business Directions

During the last year, Spicer Driveshaft has implemented changes in strategy, some of which include:

- > ESTABLISHING VALUE MANAGEMENT COORDINATORS TO MANAGE OUR PARTICIPATION IN CUSTOMER-DRIVEN VALUE ANALYSIS/VALUE ENGINEERING (VA/VE) PROGRAMS
- > INCREASING THE FREQUENCY OF OUR STRATEGIC BUSINESS COUNCIL MEETINGS TO INCREASE AGILITY
- > CONTINUED ENHANCEMENT OF OUR QUALITY SYSTEMS ACCORDING TO THE FORMAT AND REQUIREMENTS OF QS-9000

To further assist our customers in satisfying their customers, we offer many specialized services, including:

- > NVH ANALYSIS OF PROBLEMATIC VEHICLE PLATFORMS
- > JIT DELIVERY TO CUSTOMER ASSEMBLY FACILITIES
- > LINE-SET OF ASSEMBLIES AND COMPONENTS
- > ASSEMBLY PROCESS TRAINING
- > EVALUATION FOR CUSTOMER ASSEMBLY OPERATIONS

Customer-focused teams allow us to provide common products to a globally diverse customer base, setting the standards and maintaining our position as the industry leader for driveshafts and related components.

Organizational Leadership

Since 1992, Spicer Driveshaft has participated in the *Dana Quality Leadership Process* (DQLP)-an internal corporate program based on the Malcolm Baldrige National Quality Award criteria. Each year, every Dana operating unit is expected to submit an application to the Dana Board of Examiners. The applications are subjected to a rigorous review, and each operating unit is provided with written feedback to be used in its continuous improvement efforts. Cross-functional DQLP teams are a primary vehicle for analyzing and improving our business processes.

Senior Leadership Direction

Spicer Driveshaft's senior leadership consists of the vicepresident and general manager of our company, and the SD staff. Together, these individuals make up the SD Quality Council, the core of SD's leadership system. The Quality Council is also supported by the Manufacturing Council and *Strategic Business Council* (SBC), which focus on operational and strategic issues respectively.

The Quality Council enumerates its goals, objectives and action plans in the Strategic Business Plan (SBP). This plan is translated into specific performance expectations that are reviewed regularly by the Quality Council, SBC,

> SD LEAST RUD ON OWNER THANKNOW DEVALUATE COVACULATION DEVALUATION DEVALUATION

Manufacturing Council, and at plant and functional discipline levels, and adjusted as necessary.

Our total quality policy, vision, and mission statement are communicated through facility postings and formal presentations by leadership. They are updated annually through the Strategic Planning Process. *Key Business Drivers* (KBD's) and strategic objectives are deployed through action plans and our performance management system, which provides measurable feedback for continuous improvement.

Spicer Driveshaft's vision and mission are translated into performance requirements through our Strategic Action Plan Development Process (Figure 2.2-1), KBD's, and associated *TQM Indicators. Our *TQM Indicators provide us with a common focus on quality and performance objectives. (See Figure 1.1-2)

Spicer Driveshaft leadership creates a consistent customer focus through the use of *Market Strategy Teams* (MST's) and *Customer Platform Teams* (CPT's), which are dedicated to specific markets and/or customers. Feedback from these teams to the Quality Council ensures continued emphasis on meeting customer expectations.





Our quality policy and mission statement are deployed through the *TQM Control Plan, which translates our values and expectations into performance requirements. Customer, quality, and performance data are communicated company-wide daily via e-mail. As a result, bulletin boards, *Corrective Action Reports* (CAR's), supplier information, and a variety of project information is available throughout the company.

Because leadership recognizes that Spicer Driveshaft's primary purpose is to positively affect the eight stakeholders, the company's performance is reviewed at monthly Quality Council meetings. Each council member submits an operations report to the chairman, outlining the activities in his or her operation relative to key areas of impact on stakeholders. This information is then communicated throughout the company via regular staff and facility meetings. (See Figure 1.1-3)

A Learning Environment

Our senior managers establish and reinforce an environment for empowerment, innovation, and

organizational and employee learning through a variety of approaches. Each is designed to encourage learning, and to improve quality, customer satisfaction, and performance levels. The successful implementation of ideas and projects are recognized in a variety of ways, including rewards of money, gift certificates, identity items, and facility-wide lunches.

Because we believe that continuous learning is essential to the achievement of performance objectives, education is a key indicator of our progress toward our KBD of deploying the Dana Style. Innovation comes from educated and empowered people, and is evident through the success of our ideas program, increased productivity, and technological advancements as reflected in such indicators as patents granted. Focus on these areas is assured through their inclusion in our *TQM measurements.

As a way of reinforcing Spicer Driveshaft's values and expectations, senior managers recognize teams and individuals for their contributions, either by mention in

| STAKEHOLDER | EXPECTATIONS SET BY | COMMUNICATION METHODS* | DEPLOYMENT METHODS* | PERFORMANCE EXPECTATIONS |
|----------------|---|---|---|--|
| Entermarts | Бана Валар от Венстика Росле Совантен | Ролат Вонсонал Амада: Вачин Уастал Качилаттан Баларан Е «сомозна стану | RELEWICE PLANNING MIN-YEARS GLUNA LEAGUER MYG. SBP | Иления Рын Сонг Сперании Талигиянския 2005 |
| Decisions inst | Quality Connen. | FACILITY BELLINGER PLANY FACILITY MESTINGS | Key Besidess Burdess *TQM Courses Plan | HALIMER OBJECTIVES SBP Descenses |
| Corrowan | Continuente & Continuent | Continues Platform Trans Exclusiv Continues Interaction | WCSS FERROACE REPORTS ACTORN PLANE | Courseons Increasing |
| Poinz | Exercances | Очен Доон Роласт Балите Параканалагия Рассонансе Астанала Гасалте Маттика | QCS FEEDBACK REPORT ACTORS PLANS | Correspond Inconvenient Survey Results |
| STOCEBOLDERS | DAMA BOARS OF DERECTORS MAILEET | SA. GLOBAL LEADERS MERTORS QUARTERST / ANNUAL REPORTS | WELLWEER PLAN CORPORATE ORDECTIVES | STOCK & DIVIDING GROWTH FINANCIAL PERFORMANCE |
| BuryLana | Q3-9000 SB Procession Considered | Survises Quality Manual Pusity Source Survises Rations | SUPPLIER INTERACTOR SD SUPPLIER CONTRIBUTION INTERNA AUDITE | BUPPLIER GROWTH & PERFORMANCE FAST RETURN FOR BERNIE |
| Counterry | Convention, Orenaring Unit in Connectory | COMMENTS MEETING ENTROPHENTAL POLICY | Bana Foundation Local Participation | SD FACILITIES |
| Panni | Gen/Bestatat Stanmaure (EPA, 05HA) Increme, Assor Syner Convenient Preserv | Gass Poult Brochar Newslatter Section Merrich Merrich Safet Brocssenterne Safet Brocssenterne | A.T.R.G. Dana Rim Manazzherat ISD 140000 Obiczywa Finanziai Azdris | Тегерал, Ва Алитт Баск Рилисски Кланителисск Риссисс Болат Полити |

SETTING, COMMUNICATING, AND DEPLOYING EXPECTATIONS BY STAKEHOLDER

*Communication and deployment methods listed are representative, not all inclusive

FIGURE 3.1-3

group meetings or newsletters, or with awards, such as Good Performance meals or gift certificates. These types of recognition are enhanced by more structured programs, such as a patent award program, stock options, gain sharing, bonuses, and service awards.

The Quality Council provides a blueprint for our direction, including future opportunities for growth; expectations of our eight stakeholders; and corporate values, goals and expectations through the Strategic Business Plan (SBP). The SBP outlines specific objectives-each of which is supported by strategic action plans.

The Strategic Business Council regularly reviews the SBP and related action items. This is both to ensure that the wants and needs of our customers are balanced with company and corporate objectives, and to explore new opportunities for growth. The resulting action items are championed by the appropriate disciplines within the Quality Council.

For example, the Engineering discipline ensures future growth opportunities with goal-oriented research and development activities that consider customer wants, technological innovations, and operating unit and corporate expectations.

Organizational Performance Review

The Quality Council reviews organizational performance according to KBD's, Performance Indicators, and *TQM indicators from our strategic business plan and other pertinent customer information. This information is then disseminated by the senior managers to their respective areas of responsibility, and action plans are established as required. This process ensures deployment throughout the company and its comprehensive nature keeps a focus on maintaining strong organizational health.

In addition, Manufacturing Council meetings, consisting of select Quality Council members and key operational personnel and lead by the Director of Manufacturing, are held to assess organizational needs, competitive performance, and operational issues on a facility-wide basis. When organizational performance requirements are not met, or operational data falls outside expectations, action plans are implemented by the Manufacturing Council and then reviewed for effectiveness at the next meeting.

Recently, a third council activity has been added. The Strategic Business Council (SBC) is a sub-committee of the Quality Council and is responsible for strategic planning, plan reviews, and business condition reviews as new opportunities are identified.

Through this review process, trends and current levels of performance are evaluated. Flat or unfavorable indicators are candidates for improvement actions, and priorities are set based on the impact on, and the expectations of, various stakeholders. Once priorities are established, a champion is assigned to oversee improvement and report on progress at each council meeting until the desired level of performance is achieved.

Opportunities for Innovation

Since improvement actions normally involve change, opportunities for innovation become a natural component of the improvement process. As part of this process, teams and individuals are encouraged to explore new technologies, alternative methods and processes, and to submit ideas. Employee innovation has yielded cost savings, enhanced efficiencies and other performance improvements.

The structure of these leadership councils ensures that all areas of Spicer Driveshaft's performance are subject to review. The Quality and Manufacturing Councils include representatives from all functional disciplines and Spicer Driveshaft facilities. The SD general manager leads the Quality Council meetings, and the Director of Global Manufacturing leads the Manufacturing Council meetings. The council members are responsible for communication and deployment of review findings, priorities for improvement, and opportunities for innovation to our people, our customers, and our suppliers through their respective areas of responsibility.

Improving Leadership

The Quality Council evaluates and improves the effectiveness of our leadership system by reviewing organizational performance and employee feedback, and by communicating findings and plans for improvement.

In addition, the Dana Quality Leadership Process (DQLP) is used annually to audit and provide specific feedback on the entire leadership system. Using the Baldrige criteria as a benchmark, our DQLP Advisors work with category teams to implement improvements as necessary.

As a result, we have made several recent improvements to the leadership system. The Strategic Business Council provides a consistent focus on direction and improved linkage to our Strategic Business Plan throughout the organization. A communications roadmap facilitates communication, and a new monthly operations report focuses attention equally on all eight stakeholders.

Public Responsibility and Citizenship

"The Philosophies and Policies of Dana" is a one-page document that addresses our responsibilities to all of our stakeholders, including the general public and the communities in which we operate. This document shapes our approach to public responsibility and provides each Dana operating unit with the core principles that guide its practices.

Key Responsibilities

As a manufacturing organization, providing a robust and durable product is a key public responsibility. Throughout the design phase, we use a variety of reliability tests designed to verify required performance characteristics, including the structural integrity of the product. Safety information is also included in our service manuals to ensure that service people have information available to properly service and maintain our products.

To ensure that Dana's high standards of ethical behavior and business practices are being met, our corporate audit staff performs an exhaustive financial systems audit of each facility each year.

Dana Environmental Compliance

Services (DECS) and other independent organizations review each facility's safety and environmental compliance on a regular basis. The general manager and SD environmental coordinator monitor environmental audit reports, review the results with the appropriate manager and address any areas that have fallen short of expectations. They also track audit results and follow up monthly with each manager to ensure all items are resolved. We participate in Dana's Corporate environmental recognition program with the goal of having each SD facility meet its award criteria. To further enhance our environmental management systems, we have challenged each SD facility to become ISO-14001 certified by December of 2001.

Anticipating Concerns

Each SD facility designates a representative to attend internal and external seminars and regulatory update meetings. Areas addressed at the facility level include applicable local environmental issues, hazardous material awareness and monitoring, and OSHA and EPA requirements. The facility manager is then responsible for integrating these activities into operational requirements and Hellweek planning.

To underscore the designer's responsibility to the public in terms of product safety, our product engineering managers attend product liability seminars sponsored by Dana's law department.

Tools such as Finite Element Analysis (FEA) are used to anticipate potential design problems and structural weaknesses, allowing engineering to make product improvements prior to production.

These approaches enable us to anticipate concerns when planning facility expansions, equipment purchases, product designs, or changes to work systems and to incorporate this information into the business unit's operational requirements.

Ethics Standards

All SD units are expected to perform business operations in a professional and ethical manner. Dana's "Standards of Business Conduct" brochure provides direction for ethical conduct in all areas of our business, and is inclusive of all stakeholders. This document has been distributed to SD employees and is included in new employee orientation. The "Dos and Don'ts" of ethics are posted in each SD facility to help guide behavior. Presentations on corporate ethics are conducted in facility meetings at various times throughout the year. SD managers further reinforce our values through:

> DISCUSSION OF ETHICS AT SD CONTROLLER'S MEETING

- > DISTRIBUTION OF CORPORATE "CODE OF CONDUCT" CARDS TO SENIOR MANAGEMENT
- > DISCUSSION OF SENIOR MANAGEMENT "STANDARDS OF CONDUCT" EXPECTATIONS DURING ANNUAL REVIEWS

Support of Key Communities

Key communities are those in which our facilities are located. Each facility is empowered to establish programs based on the needs of its surrounding communities.

The Spicer Driveshaft general manager and senior managers consider community involvement to be an important part of their job responsibilities.

In addition, SD encourages participation in, provides funding for, and allows time off for participation in civic and professional organizations at all levels of the company. Some of these include:

- > SOCIETY OF AUTOMOTIVE ENGINEERS
- > AMERICAN SOCIETY OF ENGINEERS
- > AMERICAN SOCIETY FOR QUALITY
- > SOCIETY OF MANUFACTURING ENGINEERS
- > INSTITUTE OF MANAGEMENT ACCOUNTANTS
- > SOCIETY OF HUMAN RESOURCE MANAGERS
- > UNITED WAY
- > JUNIOR ACHIEVEMENT
- > THE JAYCEES
- > CHAMBER OF COMMERCE

We encourage employees to become involved as officers and advisors to hospitals, colleges, and professional organizations; and as volunteers with community groups; and we provide funding for local charities, human services, the arts, and other organizations through the Dana Foundation. In addition, we support, through financial and in-kind contributions, the community activities of SD employees, such as volunteer fire departments, youth sports, scouting, food and blood drives, and other programs.

Dana provides Corporate direction for participation in United Way campaigns, Junior Achievement, and the Dana Foundation-a charitable foundation established by Charles Dana, which allows any facility to recommend allocation of corporate funds for local charitable organizations of its choice.

We also support the Dana community-our sister operating units and global partners-through the International Affiliate Symposium, corporate task committees, and presenting at Dana's Best Processes Day.

The following tools are used throughout the year to initiate improvements within the leadership system:

- > QUALITY CULTURE SURVEY (QCS) PROVIDES INPUT FROMALL EMPLOYEES AND MEASURES LEADERSHIP EFFECTIVENESS.
- > NATIONAL CUSTOMER SATISFACTION SURVEY (NCSS) – THIRD-PARTY SURVEY INDICATING SD'S EFFECTIVENESS IN FULFILLING CUSTOMERS' EXPECTATIONS.
- > HELLWEEK AND SBP'S ESTABLISH TARGETS AND OBJECTIVES FOR THE ORGANIZATION.
- > QS-9000 (MANAGEMENT REVIEW ELEMENT) USED TO EVALUATE AND IMPROVE SD'S LEADERSHIP SYSTEM AS IT RELATES TO QUALITY AND PERFORMANCE.
- > MANAGEMENT PERFORMANCE APPRAISALS USED TO DEVELOP PERSONAL PLANS AS NECESSARY.



Strategy Development Process

The strategic planning process is divided into two phases. First, the Strategic Business Plan, produced by the SBC, provides long-term direction: goals and objectives for the next three to five years. Then, during Dana's Hellweek process, we prepare a detailed, one-year business plan for making short-term progress in line with the long-term goals and objectives established by Dana and SD.

Hellweek plans are available within each business unit, allowing cross-functional planning with shop floor, supervisory, and unit staff personnel. This process also allows each of our business units to request and plan resources to support innovation and new technologies as identified through ongoing improvement efforts.

The long-term planning process is evaluated through objective measurements derived from sales, profit, and market position; from participation in the DQLP process; and via the cross-functional Category 2 team that now includes the SBC, which reviews the process and initiates improvements.

Incorporating Key Factors

Factors considered during planning include customer and market requirements, market expectations, future business trends, pricing considerations and new opportunities. Planning input concerning customers begins with the *Customer Platform Teams* (CPT's), which provide specific information relative to their customers' expectations and requirements; *Market Strategy Teams* (MST's) which develop a specific strategy for each of our designated markets; and our *National Customer Satisfaction Survey* (NCSS), which provides direct evaluations of SD and our competitors in several categories. In addition, risk and capability, required investment for new products or processes, and competitive pricing are all assessed. Financial risk factors, including program/ product development costs, profit margins, and corporate objectives are also evaluated. Societal risk factors are addressed in terms of environmental impact, recyclability, product liability, and safety.



As SD develops action plans to meet its long- term strategic objectives, each action plan "champion" is expected to complete a risk assessment. This information is then used to modify plans as necessary.

Human Resources

The HR Planning Process is designed to support our strategic planning efforts. A database aggregates key human resource capability data, while our annual *Quality Culture Survey* (QCS) provides direct input from SD employees. As strategic plans become more detailed, human resource capabilities are assessed in terms of skill levels, available personnel, recruitment, technological capability, education, well being, and satisfaction.

Suppliers

In order to entertain potential partnerships, suppliers are regularly evaluated on quality, delivery performance, QS-9000/ISO-9000 status, technical leadership, capacity, and capabilities.

In addition, we involve suppliers in certain stages of planning, product and process development, and exploring opportunities for alternative methods and cost reductions.

Strategic Objectives

The *Strategic Business Council* (SBC) identifies *Key Business Drivers* (KBD's) or goals, develops strategic objectives, and establishes action plans with timing and measurements designed to track progress.

After objectives are identified through a formal evaluation process, the SBC collectively identifies the basic actions required to meet the objectives, and assigns action plan champions. Each champion follows a documented process for action plan development. Resources for action plan accomplishment are allocated primarily through Dana's Hellweek process.

Action Plan Deployment

SD's strategic objectives, action plans and associated measures and indicators are communicated and deployed through the Strategic Planning Process (2.1-1). Progress is communicated through the Quality Council meetings where all business units are represented and plans can be presented and discussed. Managers are responsible for disseminating the information to their respective business units.

Performance Projection

We utilize public materials, statistical trends, and current or best available data to make performance projections. Our projections are compared to the competition, to benchmarks, and to past performance. For comparison and tracking, competition and benchmark projections are identified as Best-in-Class, Competitive, or within Dana Comparative data, as applicable.

STRATEGIC ACTION PLAN DEVELOPMENT PROCESS

GDALS/KBB'S

TACTICAL ACTION PLAN (HOW TO

THE WITH PRODUCT

DITAIL/RESOURCES/ACTIONS STAFE/TIMING & RESPONSIBILE

FIGURE 2.2-1

Business growth and financial performance projections are measured primarily in terms of improvement in various returns, increased market share, and in terms of indicators of improvement for cost control and profitability. Quality and operational projections include reduced waste, improved supplier performance, and value management activities. Customer satisfaction projections include continued improvement in customer ratings of our quality and delivery performance. "Dana Style" projections include improvements in education, development, and empowerment through participation in idea programs.

Customer and Market Knowledge

Each year, SD sales and marketing departments classify all potential and existing customers within each market segment. Dana Corporation's defined market (Strategic Business Unit) segments-light vehicular, heavy vehicular, off-highway, and aftermarket-directly correspond with industry standards for weight classification and vocation.

SD provides larger customers with the high volume production and custom-engineered products they require, while the Drivetrain Service Group helps customers with lower-volume, "off the shelf" needs.

The physical proximity of our facilities is just one way we are able to work closely with our customers to serve the needs of the highly dynamic and increasingly demanding automotive industry.



FIGURE 3.1-1

Listening and Learning

Within each of our markets, sales, manufacturing, quality, and engineering people are assigned to *Customer Platform Teams* (CPT's) and are members of a *Market Strategy Team* (MST). These groups employ a variety of listening and learning strategies (3.1-1) to understand key purchase decision drivers for existing, potential, and former customers.

The Listening & Learning Processes supply Engineering with information that is used to generate long-term Strategic Business Plans. Once these plans are in place, the Sales & Marketing Department uses this information to guide its future marketing strategies.

Our sales and engineering personnel gather input from customers, from other Dana operating units, and from professional associations and trade shows. Our understanding of our customers is further enhanced by dedicated CPT's, Dana's *Directors of Business Development* (DBD's), value management activities, customer training programs and frequent personal contact. A variety of indirect inputs offer additional perspectives on the needs and purchase decision drivers of current and potential customers.

Both the Customer Focus Process (3.1-2) and program management techniques, such as the APQP process (6.1-1) provide clear direction regarding customer expectations and current product planning development. Members of customer platform teams also use quality system requirements such as QS-9000, customer quality award criteria, feedback from customer, engineering and design meetings, Quality Council, and facilities to fully understand customers' expectations.



CUSTOMER FOCUS & IMPROVEMENT PROCESS

We obtain input from current customers and noncustomers (former, potential, and competitors' customers) through SD's annual National Customer Satisfaction Survey. This process assists business development and product planning by providing candid, unfiltered comments from customers about their experiences with SD, as well as key requirements they consider to be indicators of their satisfaction or dissatisfaction.

The Account Team Overview Process (ATOP) includes quarterly meetings for all major customers. The team, including CPT members and support personnel, reviews numerous aspects of the relationship, including customer requirements, trends, concerns, and gains or losses of business. With a direct focus on the customer, each group takes a personal interest not only in maintaining the quality of products and services customers receive, but also in improving our processes for all involved.

Our DQLP Category 3 team (3.1-2) evaluates listening and learning processes, and helps to implement suggestions for improvement.

Building Customer Relationships

Customer contact requirements include responsiveness and follow-up, ease of access, product knowledge, and knowledge of customer requirements and expectations. They are deployed in several ways, including staff meetings, job descriptions, work instructions, and employee performance reviews for customer contact personnel. The Sales Department uses a system of training new customer contact people, including visits

ENABLING CUSTOMER ACCESS

| ACCESS MECHANISM | How DETERMINED |
|--|---|
| REGIONAL OFFICES | CUSTOMER FEEDBACK |
| DEDICATED PERSONNES: DBDS, CPTS, ACCT. MGRS, FIELD REPS, TECH Support, etc. | BENCHMARKING CUSTOMER Organizations Customer Fredback Strategic Decision |
| Adventising, Promotions Tradeshows | MARKETING STRATEGY |
| PRINT & ELECTRONIC MEDIA | Available/Emerging Technology Customer Needs Ease of Rapid Access |
| 800 NUMBER/LIVE OPERATOR | CUSTOMER NEEDS MANAGEMENT PHILOSOPHY STRATEGIC DECISION |
| Voice Mail, E-mail, Fax, Pagers, Cell, Phones, etc. | AVAILABLE TECHNOLOGY |

FIGURE 3.2-1

with experienced customer contact people, to become familiar with each customers' own personnel, policies, procedures, and expectations. Contact management performance measures include response to problems, sales representation and engineering support.

THE CORRECTIVE ACTION PROCESS

A standardized *Corrective Action Report* (CAR) process communicates customer complaints throughout the operating unit and ensures prompt follow-up. Complaints are logged into the system, which automatically assigns due dates and monitors resolution time. A built-in escalation mechanism notifies the affected parties of outstanding CAR's, reassuring the customer that we are addressing the problem while incentivizing SD people to resolve the problem.

The CAR system is a closed loop corrective action system, meaning the person who initiates the CAR is the only person who can close it out. Whenever possible, the first contact person receiving the complaint resolves the problem and then communicates the complaint and resolution to pertinent parties. The system models customer-preferred problem-solving methods which place heavy emphasis on root cause analysis. Short- and longterm corrective and preventive actions are implemented and verified. CAR's are reviewed at quarterly ATOP meetings to ensure that they have been addressed appropriately.

Because the CAR process is database-driven, information and results are available electronically throughout Spicer Driveshaft for use by senior executives, sales, marketing, engineering, and manufacturing people in all facilities. Complaint data is then aggregated at the company level and monitored for adverse trends in terms of frequency, repetitiveness, PPM rejected, and external failure trends. The aggregated data are reviewed at monthly Quality Council meetings, enabling the Council to initiate overall improvements as necessary.

The CAR process itself is evaluated, improved and reviewed for effectiveness via management reviews as required by our Management Responsibility procedure.

ENSURING CUSTOMER ACCESS

SD's customer-focused platform structure provides an efficient vehicle for generating repeat business and positive referral. The MST's maintain focus on each of our key markets, while the CPT's within them maintain an even narrower focus on particular customers. This approach allows team members to develop a one-to-one business relationship with their counterparts at the customer's various locations.

This approach is augmented by SD manufacturing and assembly personnel who make periodic visits to customer assembly facilities, meeting the people who handle and install our products. These visits allow customers to express concerns, offer ideas for improvement, and have their issues (if any) addressed on site. A variety of other

CATEGORY 3.0: CUSTOMER & MARKET FOCUS

CUSTOMER CONTACT MANAGEMENT

| KEY CUSTOMER CONTACT REQUIREMENTS | CONTACT MANAGEMENT PERFORMANCE MEASURES |
|---|---|
| RESPONSIVENESS AND FOLLOW-UP EASE OF ACCESS PRODUCT KNOWLEDGE KNOWLEDGE OF CUSTOMER REQUIREMENTS AND EXPECTATIONS | RESPONSE TO PROBLEMS SALES REPRESENTATION ENGINEERING SUPPORT |

customer-focused activities help to promote goodwill and encourage positive business relationships by building loyalty, positive referral, and repeat business with our customers.

Our approaches to customer access and relationships are kept current with business needs and directions through the Customer Focus Process (Figure 3.1-2). The DQLP Category 3 Team meets throughout the year to review NCSS results, DQLP feedback, benchmarks, gains/losses of customers, and complaints relative to customer contacts.

Customer Satisfaction Determination

Our approaches for determining customer satisfaction and dissatisfaction (Figure 3.2-3) are determined by listening and responding to customer feedback (including complaint data), monitoring customer-generated ratings of our performance, studying both internal and external sales figures, as well as market share numbers, and surveys. These methods provide valid and reliable feedback on customer expectations and on satisfaction with products and services.

Our annual NCSS gathers data from a statistically significant sample of decision-makers involved in the specification, procurement, and quality certification of driveshaft products at existing and potential customers across all market segments. FIGURE 3.2-2

The survey questions are designed to meet the following objectives:

> IDENTIFY CUSTOMER SATISFACTION, ATTRIBUTE IMPORTANCE BY MARKET

- > PROVIDE HIGHLY RELIABLE DATA AND INFORMATION TO BE USED IN PLANNING AND DECISION MAKING
- > MEASURE CUSTOMER SATISFACTION AND DISSATISFACTION WITH SD PRODUCTS AND SERVICES
- > MEASURE CUSTOMER SATISFACTION AND DISSATISFACTION WITH COMPETITORS
- > IDENTIFY CUSTOMER RE-PURCHASE INTENTIONS FOR SD PRODUCTS AND SERVICES

Validity and reliability are ensured through strict confidentiality, as well as the use of a third party to conduct the survey and tabulate the results. Customers rate eight common attributes in terms of importance, our performance, and our competitors' performance.

The results are statistically analyzed to assess the need for improvement and to initiate the continuous improvement cycle. (*See Figure 3.1-2*)

An additional customer survey, the Bi-Annual Brand Survey, focuses on brand loyalty and satisfaction levels with the individuals responsible for specifying which driveshaft is used in a particular vehicle. It is segregated by market and provides additional information on customer satisfaction with SD and our competitors.

Many customers also employ their own performance rating systems. These Customer Ratings measure our performance according to various quality and delivery indices, as well as cost savings submissions, and other criteria. We carefully monitor each of these, as well as our delivery performance to our service customers, tracking performance and initiating improvement plans as necessary.

In addition to measuring customer satisfaction, we utilize several measurement tools that offer an early warning of potential dissatisfaction. These tools enable us to take a proactive approach to resolving customer complaints rather than waiting for them to surface through other channels.

THE IMPORTANCE OF DIRECT CONTACT

Due to the nature of our business, we are in frequent contact with our customers. We ship product to and communicate with our customers several times per day. This constant interaction occurs electronically, in person, and by phone, fax and other methods, facilitating customer access to SD people and providing them frequent feedback opportunities.

Our account managers and account application engineers work continually with their customers, providing a natural medium for follow-up and an almost uninterrupted flow of actionable customer feedback.

Finally, reciprocal visits provide the invaluable input that can only face to face contact can produce. We conduct assembly line audits of customer facilities to ensure the proper installation of our products in their vehicles, assess potential problem areas, and identify improvement opportunities. In turn, our customers are encouraged to visit our facilities to share their ideas on product designs, handling, shipping, and packaging requirements.

MEASURING PERFORMANCE

SD collects reliable objective information on competitors through various market research channels. The NCSS is our principal source of this information, allowing us to compare first-hand data on our competitors' level of customer satisfaction relative to our own. We believe that the most critical measure is not a comparison to historical performance, but rather a gap in performance between our company and the competitor of focus. If we trail a competitor, we want to close the gap as much as possible. Conversely, if we are ahead, we want to widen the gap as much as we are able.

The Customer Focus Process keeps our approaches to satisfaction determination up to date. Each year the DQLP Category 3 Team reviews several inputs, including the feedback reports and data from both the NCSS and the DQLP process. The team then develops recommendations for improvement and presents them to the Quality Council.

The Quality Council periodically reviews customer satisfaction/dissatisfaction and performance trends, customer contact attribute measurements, and feedback from MST's, CPT's, and customers.

Using these inputs, the Quality Council reviews current processes and approves recommendations for improvements.

Performance Measurement

Two documents, "The Philosophy and Policies of Dana" and the Spicer Driveshaft Mission Statement, form the foundation for our business. The guiding principles they contain are deployed through our quality policy, Strategic Business Plan, and *Key Business Drivers* (KBD's). They also form the basis for the *TQM Selection Process (Figure 4.1-1).

TQM SELECTION, DEPLOYMENT



FIGURE 4.1-1

The *TQM process drives our activities, determines the indicators used to measure performance in our daily operations, and allows us to track organizational performance overall.

Our performance measurement system consists of the *TQM Control Plan (Figure 4.1-3), which identifies principal types of data and additional support measurement systems. Performance targets for key measurements are deployed through the Strategic Business Plan, Hellweek Plan, and *TQM Control Plan. Results and trends are deployed to users through a variety of reports, often electronically, for easy user access.

KEY PERFORMANCE INDICATORS

Measures and indicators for tracking overall organizational performance are determined using the process depicted in Figure 4.1-1, in conjunction with the Strategic Planning Process (SPP). Performance measurement data are integrated and aligned as illustrated in Figure 4.1-2, providing vertical linkage between performance data to the Strategic Business Plan (SBP) and Key Business Drivers (KBD's), as well as our vision and mission statements. The *TQM Control Plan allows us to effectively communicate and deploy the relationships between our mission statement, KBD's, and associated *TQM Indicators. It also aligns our operations with goals and priorities by assigning individual and/or facility responsibilities for each performance measurement. These key performance measurements are reviewed by the Quality Council and by each facility's management staff.

To ensure the completeness of the performance data, each business unit monitors numerous support measurements. These measurements are used by various departments and work areas within our business to support the achievement of our objectives in the critical performance areas (Figure 4.1-2). In addition, our measurement summit employs a cross-functional team review of all indicators to ensure the data are complete.



| MISSION ELEMENT | KBD's | *TQM INDICATOR | PERFORMANCE TARGET | FREQUENCY | AREA OF RESPONSIBILITY |
|--|-------------------------------------|---|--------------------|---|---|
| EXCRED OUR CUSTOMERS' EXPECTATIONS IN TOTAL VALUE. | IMPEOVE CUSTONER SATISFACTION | ON-TIME DELIVERY CUSTOMER RATINGS NCSS RESULTS AFTERMARKET ORDER FILL | Obiectives & Goals | MONTHLY QUARTERLY ANNUALLY MONTHLY | All All Business Unit H.Q. All |
| WE SEEK OPPORTUNITIES TO ENHANCE DANA'S INAGE IN THE MARKETPLACE. | QUALITY Improvement | EXTERNAL PPM REJECTED (Shafts/ Components) Waste | Objectives & Goals | Моятнах Моятнах | ALL |
| WE ENCOURAGE THE GENERATION OF INPROVEMENT IDEAS. | FURTHER DEPLOY THE DANA STYLE | Ideas / Person / Month Edu. Hrs / Person / Year | Objectives & Goals | MONTHLY MONTHLY | Att |
| GROWTH WILL OCCUR THEOLOGIE COST RESULTIONS, PRODUCTIVETY IMPROVEMENTS, AND TECHNOLOGICAL INNOVATIONS, | Financial Growth | INVENTORY INTERSETY WORKING CAPITAL PROFIT DOLLARS ROS ROSA COST SAVENUS | Objectives & Goals | MONTHLY MONTHLY MONTHLY MONTHLY MONTHLY | ALL ALL ALL ALL ALL ALL ALL |
| WE ARE COMMITTED TO GROWING OUR BUSINESS. | BOSINESS GROWTH | MARKET SHARE SALES GROWTH | Obiectives & Goars | ABNUALLY MONTHLY | BOSINESS UNIT H.Q. ALL |

"DEDICATED TO TOTAL QUALITY AND CONTINUOUS IMPROVEMENT" *TQM CONTROL PLAN

FIGURE 4.1-3 (SEE FIGS 6.1-2, 6.2-2 & 6.3-2 FOR ADDITIONAL MEASURES) ALL = ALL PLANTS & OFFICE LEVELS HEPOHTING. *Communication and deployment methoda listed are representativo, not all-inclusive

FIGURE 4.1-3

The Category 4 Team helps to align goals by distributing the "pyramid" to all facilities, and more recently, by implementing a mentoring process. Through this process, team members visit facilities to review the measurement system with management and to review local site measurements for alignment with senior-level management data.

USING COMPARATIVE DATA

Our needs and priorities for comparative information are determined primarily through the DQLP process and those in Figure 4.1-1. We use industry averages, best-inclass, and competitive data to establish our relative position, both within and outside the industry.

As outlined in Figure 4.1-4, SD includes comparative data on performance measurement charts (as appropriate) to ensure deployment. Stretch targets are established by using comparisons, corporate objectives, and business unit goals, while gap analysis identifies opportunities for improvement. These opportunities are prioritized to generate action plans for improvement and assigned to a cross-functional team, a single discipline, or an individual, as appropriate.

ALLOCATING RESOURCES FOR IMPROVEMENT

Each month, SD Quality and Manufacturing Councils review performance measurement data as reported by each business unit. These councils evaluate and compare the cost and financial aspects of improvement options as they relate to performance targets. The Strategic Business Council is also involved in similar activities throughout the year.

The primary vehicle for resource allocation for improvement projects is SD's annual Hellweek process. Each business unit prepares a capital plan, requesting monies for projects such as improving machine capability, production output, or reducing cycle time. Projects are

| DATA CLASSIFICATION | CRITERIA, SCOPE, AND USE OF DATA | ACRONYM (USED ON CHARTS) | SOURCE OF DATA |
|---------------------------|--|---|---|
| BENCHMARK | BENCHMARK OB WORLD-CLASS COMPARISON TO DETERMINE RELATIVE POSITION WITH REST-IN-CLASS | BEST-IN-CLASS (BIC) | BENCHMARKING FEBFORMANCE OF WORLD-CLASS COMPANIES |
| INDUSTRY AVERAGE | EVALUATE RELATIVE STATUS IN COMPARISON WITH SIMILAR INDUSTRIES AND IDENTIFY IMPROVEMENT AREAS | INDUSTRY AVERAGE (TA) | TRADE PUBLICATIONS, INTERNET, SURVEYS, AND SHARING ACTIVITIES |
| COMPETITIVE COMPARISON | EVALUATE STATUS IN COMPARISON WITH COMPETITORS, AND IDENTIFY INPROVEMENT AREAS | COMPETITION / BEST COMPETITIVE ANALYSES (BCA) | CURTOMER SATIRFACTION SCIEVEVS, TRADE PUBLICATIONS, CORPORATE REPORTS, SEARING ACTIVITIES, AND INTERNET |
| Best in Dana | EVALUATE STATUS IN COMPARISON WITH OTHER DANA OPERATIONS, AND IDENTIFY IMPROVEMENT AREAS | Dana Best (DB), Dana Average (DA), un Dana Gold | INTERNAL BEST PRACTICE SHARING ACTIVITIES AND CORPORATE COMMUNICATIONS |

CLASSIFICATION, CRITERIA, AND SOURCING OF COMPARATIVE DATA USED IN ANALYZING PERFORMANCE

FIGURE 4.1-4

then prioritized according to long-term strategy, customer or operational needs, payback, and available funding. Such items ultimately become part of SD's short- and/or long-term business plans.

A wide variety of data correlation and projection tools support the planning process and assist in measurement efforts.

The cross-functional DQLP Category 4 Team evaluates the performance measurement system through a quarterly measurement summit (Figure 4.1-1). Using DQLP feedback, performance trends, strategic business plan changes, annual survey results, customer requirements, the correlation of various indicators to *TQM's, and Quality Council inputs, the *TQM Control Plan and other measurement components are improved and adapted to meet current business needs. This process has already resulted in several positive changes to the performance measurement system.

Comparative information and data, including the deployment and effectiveness of this material, are also evaluated through the measurement summit process. Benchmarks and competitive comparisons are reviewed and updated as necessary, according to changes in key performance requirements. We monitor system reliability through unplanned downtime and response time, as well as through other methods not directly controlled by the Information Technology Resource Center.

Analysis Process Performance

Overall business unit performance is evaluated using the key measurements (*TQM's) identified in SD's *TQM Control Plan (Figure 4.1-3). These data are consolidated at the minimum frequencies specified in the plan, and are reviewed by senior management at monthly Quality Council and Manufacturing Council meetings.

Reports used for organizational performance review are typically prepared in advance for the Quality and Manufacturing Council meetings. While analysis methods vary, trend analysis is perhaps the most frequently employed. As data is consolidated at a specified frequency, year-to-date trends develop and can be compared with pre-established performance targets. Performance can also projected by using historical data in conjunction with knowledge of how upcoming events affect particular trends. Statistical methods are also used, including correlation analysis, Statistical Process Control limits and other analysis methods to evaluate performance data.

Analysis can accurately assess overall organizational health when used within a strategically aligned measurement system. At SD, we ensure that all measurement data are aligned with the strategic direction.

ALIGNING PERFORMANCE WITH VISION

Our Vision and Mission Statements give rise to five key KBD's, which are also the drivers of our Strategic Business Plan. *TQM's and other TQM's are aligned with each KBD (Figure 4.1-2). Local site and departmental indicators support each KBD. This structured method of aligning performance data with overall strategic direction ensures that analysis and review is available to the entire organization, as well as its various components. In addition, part of the measurement summit process is devoted to a review of work group or functional level measures to ensure alignment to our vision, mission, and KBD's.

As identified in Figure 4.1-2, various levels of SD's organization review and analyze certain types and levels of data. Data pertaining to work groups and/or functional-level operations is primarily analyzed and reviewed by plant or facility managers and departmental managers or supervisors. As illustrated in the pyramid, there is an overlap between those individuals involved at the middle level and the levels above or below. This overlap, coupled with the vertically integrated data structure, ensures that overall performance is directly linked to work group performance.

Because our total business unit data is aggregated from plant or department-level data, our measurement reporting structure can be linked to work group performance. This structure allows us to segregate and analyze customer data, quality and operational data, and employee data in a wide variety of combinations.

Designated personnel at each location report key performance data to SD to consolidate, analyze, and prepare it for review. Formal consolidated reports and charts are maintained for ongoing measurement of company performance. Many of these reports are communicated through the various electronic conferences available on our client server network.

Key senior-level performance measurements and supporting data are also analyzed annually for causal connections and those performance data with strong linear relationships are prioritized for further investigation. By analyzing data in this manner, SD is better able to understand the influence of certain indicators on key results, allowing us to further improve the usefulness of our measurement systems.

In addition to the measurements identified in Figure 4.1-3, we monitor numerous additional characteristics in support of our KBD's. For instance, plant-or facility-level performance tracking is aligned with the *TQM Control Plan and KBD's in support of overall performance. All data and associated action plans are consolidated, analyzed and reviewed by the individual, department, discipline or facility, as appropriate.

Additionally, analysis used at the work group level may also include other more specific techniques, including root cause analysis or 8D problem-solving, Pareto analysis, SPC or other statistical tools, measurement system analysis (Gage Repeatability & Reproducibility studies), and Weibull analysis - a statistical tool used to evaluate and predict useful life of new products during the development phase. These and other techniques are typically used in support of daily operations.

Typically, organizational-level and work group-level analysis will identify trends and conditions that require action at the operational level. For example, SD monitors all customer ratings as key indicators of customer satisfaction. If SD's overall delivery performance rating shows an unfavorable trend, additional analysis is required to understand the root cause. This will typically lead to a specific action plan required at the operational level of one or more locations to improve performance, ultimately resulting in improvement of the group's overall rating, as well as that of each facility.

Through the structure illustrated in Figure 4.1-2, SD is able to analyze performance data at any level within the organization, and by moving up or down the pyramid to the appropriate level, develop action plans to improve both organizational- and operational-level performance. Because our measurement system is aligned with our KBD's and strategic objectives, data analysis at any level remains aligned with our strategic action plans.



Work Systems

Our culture and values are driven by a management philosophy known as The Dana Style. "People are our most important asset" is one of the core values upon which this philosophy is based. Spicer Driveshaft's human resource focus is driven from this belief and philosophy.

Designing, organizing, and managing SD's work and jobs is a dynamic process, involving multiple disciplines and various levels of management and employees, with input from empowered employees who actually perform the work. (*See Figure 5.1-1*)

HR planning results in action plans and associated employee performance management indicators such as ideas per person per month, ideas implementation rate, Quality Culture Survey results (empowerment category), QCS overall results, and productivity. With the exception of the annual Quality Culture Survey, these items are compiled monthly as part of the HR Activity Report database that tracks all facilities in the organization and facilitates performance management. reward programs to reinforce high performance. Some of the various programs used include compensation, gainsharing and incentive plans, bonuses, promote-fromwithin, tuition reimbursement, and reward and recognition approaches.

Managers at each facility evaluate characteristics and skills needed by potential employees in accordance with departmental and organizational requirements that support the strategic plan. Inputs to the evaluation include the performance requirements of the job (i.e., job descriptions, educational levels, skill levels, etc.); customer needs; strategic planning; and regulatory requirements. We use many recruiting approaches to ensure that the diversity plan is deployed and that our hiring practices reflect the diversity of our communities.

Effective communication, cooperation, knowledge, and skills are shared to meet customer and/or operational requirements that are included in Figure 5.1-2. Effectiveness of these approaches is evaluated annually through the results of the Quality Culture Survey. *(See Figure 5.1-2)*

REWARDS AND INCENTIVES

We use both group and individual compensation and

| WORK/JOB TYPE | Who Designs | INPUTS | OBGANIZATION | MARAGEMENT | DEPROVEMENT |
|---------------|--|---|---|---|---|
| Маснонно | Process Esconcess Supervisions Operations | STRATELIC/HR PLANS CUNTOMES REQ'S TECHNOLOUP CHANGES | PRODUCT LINE INCOMENTION, WOOK AND CELL LANGETS CARNETTY USE | QS-gobo Procedures And Wore Instructions SPC FMEA's | ENFLORED INFAS, TEAME BETTER WAY BLITZ SPC |
| Associaty | | Decounting Parcines Decounting Parcines QS-poole Rag's KBD's TQM's | Q5-9000 HEU's | Contrast, PLAN | Actors Process Rectors Process |
| DULNER | CAREERS CORTONEN SERVICE REPS CONTONENS PACKAGINE CONTONETS SHIPPING/RECEIVING PERSONN, | Силлина Вод'я Q59000 Вло'я Влоплитен Сомуцинся ISO14000 Растоля Раскалова Вла'я Еволювии: Растоля | Contonion Panoleta Deltanter Rog's JET | MB-8 Woss Deteocrases & Poccases EDI EDI EDI SPIN | NCSS, Агтермалагт Олиск Раз. 5. Созтанев Ватика КВФ/ТОМ Реметикала |

SD WORK & Jos Design

FIGURE 5.1-1

| COOPERATION | KNOWLEDGE & SKILL SHARING |
|------------------------|---|
| TEAMS | Теама |
| IDEAS PROGRAM | IDEAS PROCESS |
| CROSS-FUNCTIONAL TEAMS | CROSS-FUNCTIONAL TEAMS |
| DANA STYLE | PROBLEM SOLVING TECHNIQUES |
| DANA POLICY | CROSS TRAINING |
| BUTTES | Butzes |
| TASK FORCES | TASK FORCES |
| SAFETY COMMITTEE | APQP MEETINGS |
| ERCONOMICS | BEST PROCESS |
| | Best Process Day |
| | |
| | TEAMS IDEAS PROCEAM CERSS-FUNCTIONAL TEAMS DANA STYLE DANA POLICY BLITTES TASK FORCES SAFETY COMMITTEE ERCONOMICS |

INFORMATION & SKILL SHARING PROCESSES

Employee Education, Training and Development

Corporate office and plant human resource managers, in conjunction with the *Training and Education Council* (TEC), are responsible for the assessment of our education and training needs. We use inputs from individual, departmental, and organizational assessments, performance appraisal feedback, the QCS, and strategic objectives to design and implement our training and education plans.

A diversity awareness program was conducted with an outside source as a pilot program for our Strategic FIGURE 5.1-2

Business Council and office supervisory staff. A diversity plan has been approved that includes a diversity training program, which will be deployed to all Spicer Driveshaft people by the end of the second quarter of 2002.

Our annual education and training process is depicted in Figure 5.1-1.

EDUCATION AND TRAINING PROCESS

The Spicer Driveshaft training approach also supports employee development, learning and career progression. Figure 5.2-2 on the following page details programs and processes in these areas.



LEARNING & CAREER PROGRESSION APPROACHES

FIGURE 5.2-2

We use several approaches to address performance excellence in education and training in the areas of performance and skill standards, quality control and benchmarking as depicted in Figure 5.2-4 on the following page.

Figure 5.2-3 represents our approaches reinforcing knowledge and skills on the job.

LEARNING AND CAREER PROGRESSION APPROACHES

Spicer Driveshaft is proactive in maintaining a safe and healthy environment. All plants have safety and ergonomic teams with cross-functional and varied organizational levels of membership. Members of those teams provide inputs and identify factors for improving workplace health, safety, and ergonomics. Also, the annual Quality Culture Survey provides feedback pertaining to workplace health, safety, and ergonomics. Safety and ergonomic improvements are also considered during Process Improvement Team and Blitz activities.

Employee Well-Being and Satisfaction

Human resource and facility management are responsible for determining the key factors that affect employee wellbeing, satisfaction and motivation. These are primarily determined through use of our *Quality Culture Survey* (QCS), which is conducted regularly at each SD facility. The QCS consists of 57 specific questions that are grouped into 18 categories. These categories are:

> PRODUCTIVITY

> COMPANY SATISFACTION
 > SAFETY & WORKING CONDITIONS
 > CUSTOMER SATISFACTION
 > COMMUNICATION
 > PERSON REPORTING TO

- > DANA STYLE DEPLOYMENT
- > EMPOWERMENT
- > LEADERSHIP / MANAGEMENT
- > GROWTH / DEVELOPMENT
- > FAIR TREATMENT
- > PAY AND BENEFITS
- > QUALITY
- > TRAINING & EDUCATION
- > JOB SECURITY
- > TEAMWORK
- > RECOGNITION
- > INVOLVEMENT

The QCS results are used annually to identify those factors that affect employee well-being, satisfaction, and motivation, as well as provide a forum for anonymous comments. Additional inputs include ideas programs, open door policy, grievances, and inputs from various teams and committees at each facility. Results are compared (via a third-party source) to worldwide norms and best-in-class values for the survey categories. To assess satisfaction levels within our workforce, the survey results are segmented by facility, years of service, payroll type, department, and shift. Plant managers and staff must form action plans to address areas for improvement within six weeks after receiving the results.

Human Resource managers review the findings and initiate action plans, while cross-functional task forces redirect efforts for employee well-being and satisfaction. We measure action plan effectiveness through the annual survey and continuous monitoring of human resource TQM data. Statistical analyses of TQM indicators such as education hours, ideas, and QCS results are reviewed annually for correlation with certain key business performance measurements, enabling us to focus on areas that impact overall company performance.

| Type of Education / Training | REINFORCEMENT METHOD | RESPONSIBILITY | MEASUREMENT |
|------------------------------|---|---|--|
| DANA UNIVERSITY | ION REQUIREMENTS / RESPONSIBILITIES | Emmediate supervisor / manager | PERFORMANCE APPRAISALS, QCS RESULTS, DANA STYLE |
| Job Specific / OJT | TOB / PROCESS REQUIREMENTS | IMMEDIATE SUPERVISOR | APPRAISALS, SCRAP, PRODUCTIVITY, AND QUALITY PERFORMANCE |
| SAFETT | INTERNAL AUBITS, PROCEDURES, JSA'S, RECOGNITION, SAFETY TEAMS, PLANT SPECIFIC RULES | SAFETY COORDINATORS, SAFETY TEAMS, SUPERVISORS, MANAGEMENT | QCS RESULTS, ACCIDENT PREQUENCY BATES |
| ERCONOMICS | TOB / PROCESS REQUIREMENTS, LIPESTYLE ENHANCEMENTS, ISA'S | SAFETY COORDINATORS, ERCONOMIC TEAMS, HR REPS | QCS RESULTS, ACCIDENT PREQUENCY BATES |
| TEAM DYNAMICS | BLITE, EI TEAMS | EI FACILITATURS, TEAM LEADERS, Supervisors | TQM'S ,COST SAVINGS ANALYSIS, productivity, quality, serap, QCS |
| QS-9000 / ISO-14000 / DQLP | INTERNAL AUDITS, ANNUAL DQLP PROCESS AND SITE VISITS, PROCEDURES, WORK INSTRUCTIONS | MANAGEMENT, SUPERVISION, OPERATORS | AURT RESULTS, DQLP PEEDBACK |
| SPC | PROCESS CONTROL PLANS, FMEA'S, WORK INSTRUCTIONS, SPC CRARTS | SUPERVISORS, OPERATORS, QUALITY, ENGINEERING | CPK VALUES, PPM, SCRAP, CUSTOMER COMPLAINTS |
| ORIENTATION | JOB REQUIREMENTS, PLANT MEETINGS, POSTINGS, COMMUNICATION, DANA STILE DEPLOYMENT | HR, SUPERVISION, MANAGEMENT | PERFORMANCE APPRAISALS, QCS, TURNOVER RATES, KBD'S / TQM'S |

SD KNOWLEDGE & SKILLS REINFORCEMENT

FIGURE 5.2-3

| PERFORMANCE MEASUREMENTS | QUALITY CONTROL |
|---|---|
| > ORIENTATION > EMAIL / QSI > DQLP > COMMUNICATION KBD'S / TQM'S / LSI'S > PERFORMANCE APPRAISAL > QS 9000 REQUIREMENTS / AUDITS > ASQ CERTIFICATIONS > SPC / PROBLEM-SOLVING > CUSTOMER RATINGS | ASQ CERTIFICATIONS DQLP / BALDRIGE SPC/PROBLEM-SOLVING QS-9000/Quality Standards BENCHMARKING EDI |
| SKILL STANDARDS | PERFORMANCE IMPROVEMENTS |
| PROCESS-SPECIFIC TRAINING ON-THE-IOB CROSS-TRAINING /JOB ROTATION DANA UNIVERSITY BUSINESS AND TECHNICAL SCHOOL COURSES | > EIM projects / Blitz > Team Building / Dynamics > Dana University Business and Technical School Courses > Benchmarking |





Work Product & Service Processes

The *Advanced Product Quality Planning* (APQP) process ensures that all products and services and related production and delivery processes are aligned with the needs of the markets we serve.

DESIGN PROCESSES

Product design begins early in the process and produces engineering drawings, specifications, and any special processing or customer requirements. Production and delivery process design begin only slightly later, allowing us to simultaneously develop or modify production process flowcharts, work instructions, process control plans, and delivery requirements and standards, including packaging, labeling, and shipping instructions.

Customers and selected suppliers are an integral part of the APQP process. Customer-driven product development programs are based on a customer's particular needs for a vehicle or platform, and customers typically participate as active team members. We employ a variety of other methods to solicit customer input and communicate requirements to the APQP team.

We track supplier activities as part of our overall project plan to assure timely delivery of newly developed products. We also review and respond to changing customer and market requirements at specific steps in the process, although they can also be addressed at any time. Changes are implemented through specific engineering change procedures, and result in drawing and specification updates. Changes in production or delivery requirements are implemented through modifications to purchase orders, process control plans, SOP's, work instructions, and packaging and shipping instructions. New technology is continually incorporated into products, services, and production/delivery systems. Inputs include trade shows, benchmarking, competitive product analysis, customer and supplier inputs and developmental programs with universities. Outputs include improved products and processes, as well as production and delivery requirements. Specific groups and task forces present and recommend implementation yearly in Hellweek plans and on an ongoing basis to the Strategic Business Council for approval.

Production and Delivery Processes

QUALITY AND PRODUCT PERFORMANCE REQUIREMENTS

We employ *Design Failure Modes and Effects Analysis* (DFMEA) and *Process Failure Mode and Effects Analysis* (PFMEA), to ensure that all appropriate specifications and performance requirements are incorporated into the manufacturing, production and assembly processes. *Significant Characteristics* (SC) identify special processing requirements or controls where required. These requirements are deployed through procedures, work instructions, FMEA's, control plans, inspection instructions, process control sheets, and similar methods.

Delivery Performance Requirements

Delivery performance requirements and expectations are communicated to our production facilities through direct customer contact, contract review procedures, APQP team meetings, and/or our sales personnel. Requirements are deployed through purchase orders or contracts, customer packaging and shipping specifications, written or electronic work instructions, and other media based upon customer needs.

PERFORMANCE REQUIREMENTS

Our sales personnel and direct customer input provide projected volumes, daily scheduling requirements, target costs, and other related information that our production facilities use to establish productivity and other efficiency-related requirements. These inputs are balanced with capacity and production capabilities, desired profit margins, and manufacturing costs. Facility management then establishes performance standards and associated measurements necessary to meet performance targets.

COORDINATION AND TESTING

Our Design Verification Plan and Report process helps to coordinate and document testing activity and ensure timely, trouble-free introduction of products. The APQP team also develops a test plan that includes design and production process validation testing.

Once *Design Validation* (DV) testing verifies the integrity of the product design, Engineering releases the details needed for prototype parts to be built. Parts are evaluated using applicable industry, or regulatory required tests, as well as internal lab testing according to our Joint Testing Specifications and Joint Testing Procedures. DV testing is performed on lab samples, as well as pre-production prototypes, and is often followed by field-testing the product in the intended application.

Production Trial Runs (PTR's) assure that product designs can be produced at the required volumes and to the required level of process capability. Customers are often involved in PTR planning and are present on site during the actual process.

During the PTR, production-ready processes are used to produce a predetermined quantity of parts, and process capability is assessed, including packaging and labeling requirements. Parts are measured for conformance to all specifications as part of the Production Part Approval Process, and samples are sent to our engineering lab for *Production Validation* (PV) testing.

EVALUATING AND IMPROVING PROCESSES

The overall APQP process is evaluated during annual internal audits and formal third-party assessments of our quality systems. At the end of a major program launch, we hold "lessons learned" sessions with our customers and APQP teams. Any ideas for improvement are then shared at Dana's Best Processes Day, Technology Roundtable sessions, corporate quality councils, and various methods of sharing with team members, including our program management database.

To monitor and maintain process integrity, our facilities develop process control plans, *Standard Operating Procedures* (SOP's), work instructions, inspection instructions, and packaging/shipping instructions. Control plans indicate those characteristics that contribute to form, function, and fit and are derived from FMEA's. Where appropriate, engineering identifies potential *Key Control Characteristics* (KCC's) or SC's for products.

Measurement system reliability is ensured through traceability to recognized international standards, and through the performance of measurement system variation studies (GR&R's). SPC or other approved control methods are used in facilities to monitor quality characteristics. Operators and cell technicians are empowered to correct out of control conditions or to shut down an operation if necessary. In addition, our production planning system is available in all production locations to address scheduling and inventory management.

INCORPORATING FEEDBACK AND IMPROVEMENTS

Customer input is continually solicited from all customer disciplines in the form of verbal requests, CAR's, performance ratings, or, more commonly now, through APQP meetings. Our customers' performance requirement rating feedback is tracked locally and reported monthly. Every quarter, each operating unit's performance is reviewed in corporate Continuous Improvement Meetings where general managers are held accountable for customers' perceptions of their operating unit's performance.

In addition, QS-9000 registration and semi-annual surveillance audits have also proven to be beneficial in the evaluation and improvement of Spicer Driveshaft product and service processes.

Part of the process improvement cycle is evaluating the effectiveness of our business process implementation. We receive this information through various means, including customer feedback and customer satisfaction surveys (primarily the NCSS).

On a regular basis, an SC task force evaluates process capabilities for significant characteristics comparing performances at different plants and processes. Best practices are exchanged and future processes are determined. Management review meetings are held at both company and facility levels. Quality and operational performance are reviewed, and corrective actions are initiated per defined procedures.

Our processes are systematically evaluated and improved to achieve better performance. Evaluation is accomplished through TQM and other measurements previously discussed. Improvement is accomplished through a variety of activities. Some of these include Process Improvement team and Blitz team activities, benchmarking, alternative technology, process analysis, and information sharing. Teams are active in process simplification, waste reduction, research and development, and exploration of alternative materials and technologies.

Support Processes

Key support process requirements are determined by their process owners and in accordance with the following:

> KBD'S & SD OBJECTIVES

- > GOVERNMENT REQUIREMENTS
- > CUSTOMER REQUIREMENTS (INTERNAL AND EXTERNAL)
- > CORPORATE, STRATEGIC BUSINESS UNIT, AND COMPANY POLICY
- > COMPANY BELIEFS AND VALUES

MEETING KEY REQUIREMENTS

We employ in-process and end-of-process measurements to maintain support process performance, thus ensuring results that will meet operational and customer requirements. These measurements are reviewed at staff and departmental meetings, and to ensure effectiveness, they are analyzed relative to an expected performance level. Areas of concern and negative deviations are addressed and improved by the process owners and department teams through the corrective action process as required. Support Process owners and cross-functional process improvement teams use the Process Evaluation and Improvement Process (Figure 6.2-3) to evaluate and improve performance. Inputs to the evaluation include:

- > PERFORMANCE TRENDS IN KEY MEASURES
- > PROCESS ANALYSIS AND RESEARCH-INCLUDING MAPPING AND FLOWCHARTING
- > BENCHMARKING
- > DQLP/BALDRIGE FEEDBACK
- > EMPLOYEE INPUT (IDEAS, TEAMS, OPEN-DOOR POLICY)
- > GOVERNMENT REGULATIONS
- > CHANGES IN BUSINESS NEEDS AND DIRECTIONS
- > EXTERNAL AND INTERNAL CUSTOMER INFORMATION GATHERED THROUGH CUSTOMER RATINGS, SURVEYS, CAR'S AND EMPLOYEE IDEA PROGRAMS
- > ALTERNATIVE TECHNOLOGY, INCLUDING COMPUTER AIDED ENGINEERING (CAE) AND COMPUTER INTEGRATED MANUFACTURING (CIM), WHICH IS CONSIDERED INDIVIDUALLY AND ON AN AS-NEEDED BASIS

(See Figure 6.2-3)

Supplier and Partnering Processes

Our key purchased products are productive materials such as steel, steel forgings and castings, and aluminum. Other high volume purchased products include bearings, seals, rubber cushions and tubing, and productive support services such as heat treating and grinding. SD Purchasing maintains an approved supplier list on our computer system so that all required personnel in each SD facility have access.

Internal procedures outline SD responsibilities such as negotiating supply contracts, pricing, additions/deletions to our supplier base, and maintenance of the supplier base.



In addition to these activities, a decentralized purchasing philosophy encourages direct personal contact with our suppliers and has led to improved JIT performance, reduced inventory levels, and lowered costs.

"The Dana Corporation Supplier Quality Manual" provides quality and performance requirements to our suppliers. The manuals are distributed to suppliers by SD Purchasing and are an extension of the purchase order.

Supplier capabilities are addressed in our APQP process. Through this process, future requirements, both short- and long-term, are evaluated and determined relative to supplier capabilities. The SD Purchasing Supplier Development Coordinator provides training to our suppliers on the supplier rating system and its requirements. Business assistance and incentives are provided to suppliers through achieving the Preferred Supplier Status, which was implemented in 2000 as an enhancement to our supplier rating process. Preferred Supplier Status is based upon our suppliers' rating performance and benefits them in ways such as long-term contracts, volume buying and preference for new or additional business. Another approach to supplier assistance is the availability of VA/VE assistance in cost savings proposals, along with engineering support with design and rapid prototyping. Also, beginning in 2000, our suppliers are eligible to participate in the Dana University Supplier Development Program.

We evaluate our key suppliers in a variety of areas, as outlined by internal operating procedures. These elements are scored by all locations purchasing from the top 50 suppliers to the company. Evaluations are reviewed each quarter by plant and company purchasing personnel, as well as supplier development, for unacceptable trends or patterns. ISO/QS-9000 Registrations and SD cost index vs. producer price index measurements provide additional evaluation and improvement of supplier performance. In addition, SD Purchasing employs a computer system to track material costs and provide a report on this information.

Suppliers receive a performance report each quarter and are expected to initiate corrective actions when performance objectives are not met or are trending in the wrong direction.

MINIMIZING COSTS

Our Supplier Quality Manual requires suppliers to work toward QS-9000 requirements. (Currently 41 of our top 50 key suppliers are QS-9000 or ISO-9000 registered.) The third-party audits associated with QS-9000/ISO-9000 registration reduce or eliminate the need for our facilities to perform incoming product inspections and supplier site verification audits, thus reducing cost. Material certification requirements, SPC, and supplier self-audit surveys reduce incoming inspection at SD facilities, and various Just-In-Time delivery methods throughout the company help keep inventory to a minimum.

IMPROVING SUPPORT PROCESSES

Purchasing managers at each facility support a core SD purchasing group. This cross-functional team is responsible for the continuous improvement of our supplier processes. Our purchasing managers, led by the SD Purchasing Department, meet to review and validate our supplier system. The group analyzes survey feedback along with supplier performance ratings, current business needs and directions, DQLP feedback reports, industry publications and input from supplier conferences. Based on their analysis, the group identifies opportunities for improvement and submits its suggestions to the Quality Council or the SD Supplier Development Coordinator. The appropriate supplier management manual, procedures and processes are then revised and implemented throughout the company.

Our annual key supplier conference allows us to communicate changes, including updated supplier requirements, performance reviews, technology changes, and future business directions, as well as customer concerns, plans and feedback. Cross-functional quality improvement teams review current programs and processes, identifying opportunities for improvement, and the SD Purchasing Department uses an annual supplier survey to solicit input for improving our procurement process. FINANCIAL SALES (000 OMITTED) FIGURE 7.2-1



RETURN ON NET ASSETS (RONA) FIGURE 7.2-6



LD BCA

Environmental Audit Scores Figure 7-5-13





FINANCIAL PROFIT (OOO OMITTED) FIGURE 7-2-2



- SD — HW ★ LD BCA
- HD BCA







CUSTOMER LOYALTY FIGURE 7.1-8



CUSTOMER RATINGS/ OVERALL SUPPLIER RATING FIGURE 7.1-13



NCSS-PRODUCT QUALITY / TOTAL DIVISION FIGURE 7.1-2





GLM 1999 SURVEY-CUSTOMER LOYALTY/VALUE Brand Preferred by Driveline Specifiers (Compared to Market Specific Primary Competitors) FIGURE 7.1-9





SD PATENTS GRANTED (vs. Best Competitor Trend) Figure 7.5-2



BCA

SD KEY SUPPLIERS PERCENT QS/ISO-9000 REGISTERED FIGURE 7.4.4





DANA SPICER DRIVESHAFT -