



# Toray Composite Materials America, Inc.

(Tacoma)

TCMAN-Q-Q100 Quality and Environmental Manual (QEM), Rev. 35

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# COMPANY OVERVIEW

**Toray Composite Materials America, Inc. (CMA)** had begun producing advanced composite materials in 1992 as Toray Composites (America), Inc. – incorporated in Pierce County and located adjacent to Boeing’s Composite Manufacturing Center – to enable an efficient supply stream of Toray’s carbon fiber composite materials. First used on the Boeing 777, Toray’s Advanced Carbon Fiber composite materials are now incorporated into the 777 and 787 primary structures and will be used on the new 777X wing. CMA’s Tacoma plant supplies a diverse customer base both domestically and internationally and is a major exporter from Washington State. Today this site is called the CMA Tacoma Campus (19002 50th Avenue East, Tacoma, WA 98446).

In 1997, CMA’s Decatur plant was established, then known as Toray Carbon Fibers America, Inc. (CFA), – incorporated in Morgan County. The Decatur area has been known for its history in the chemical industry and offers attractive conditions for carbon fiber production. CMA Decatur operates production lines from precursor to carbon fiber and has a diverse base of customers in aerospace, defense, industrial, and automotive. They manufacture Standard Modulus [SM], Intermediate Modulus [IM] and Intermediate Modulus (+) [IM+] fibers for a global customer base.

CMA’s newest plant in Spartanburg, SC will be an integrated facility producing precursor, carbon fiber and prepreg in a single manufacturing facility. This plant is a cornerstone of Toray’s growth in North America and provides critical supply chain redundancy and diversification.

With a nationwide footprint, this allows us to build on our success by utilizing our collective knowledge and expertise, and becoming nimbler and responsive to our customers’ needs by centrally managing our combined production facilities. Gaining capability across product lines allows us to increase customer value, shorten time to market, and strengthen critical relationships.

# TORAY HQ PHILOSOPHY & MISSION

## ***Philosophy:***

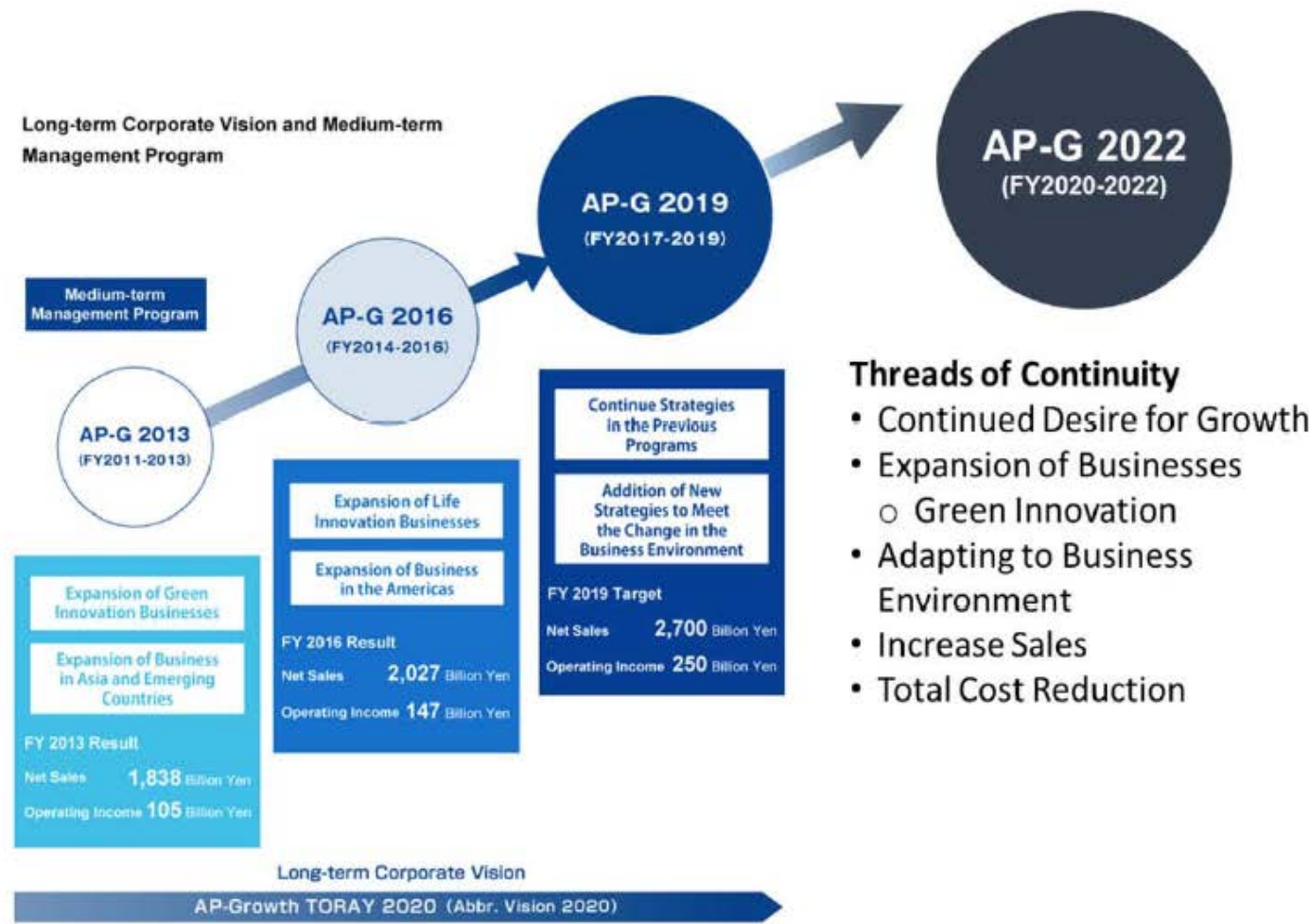
Contributing to society through the creation of new value with innovative ideas, technologies and products.

## ***Mission:***

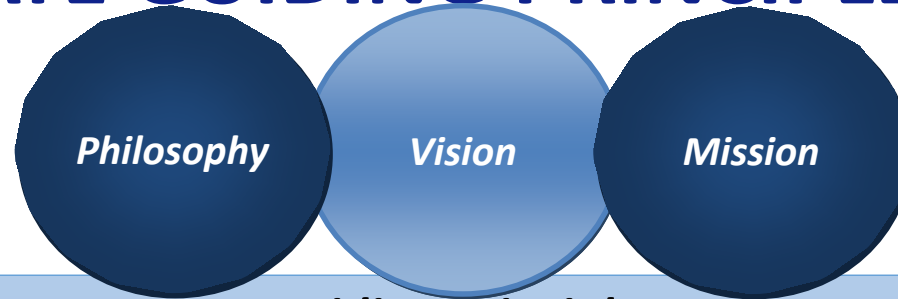
<b><i>For our customers</i></b>	To provide new value to our customers through high-quality products and superior services
<b><i>For our employees</i></b>	To provide our employees with opportunities for self development in challenging environment
<b><i>For our shareholders</i></b>	To provide our shareholders with dependable and trustworthy management
<b><i>For society</i></b>	To establish ties and develop mutual trust as a responsible corporate citizen

# TORAY HQ VISION

## Past Toray Industries Action Plan for Growth (AP-G)



# TORAY HQ CORPORATE GUIDING PRINCIPLES



## Guiding Principles

<i>Enhance Trust</i>	<i>Embrace Change</i>	<i>Sustain Progression</i>
<ul style="list-style-type: none"><li>• <b>Safety and Environment</b> Placing top priority on safety, accident prevention and environmental preservation, ensuring the safety and health of our employees, our customers and local communities, and actively promoting environmental preservation.</li><li>• <b>Ethics and Fairness</b> Obtaining the trust of society and meeting the expectation by acting fairly while maintaining high ethical standards and a strong sense of responsibility and maintaining transparency in management.</li><li>• <b>Emphasis on Human Resources</b> Providing an environment where employees find value in their work, and building positive, energetic relationships between people and the organization.</li></ul>	<ul style="list-style-type: none"><li>• <b>Customer Focus</b> Providing customers with new values and solutions, and achieving sustainable growth together.</li><li>• <b>Innovation</b> Achieving continuous innovation in all corporate activities, and aiming for dynamic evolution and growth.</li><li>• <b>Fieldwork and Initiative</b> Strengthening fieldwork abilities and initiative, the foundations of our corporate activities, through consistently learning from one another and constant self-driven efforts.</li></ul>	<ul style="list-style-type: none"><li>• <b>Global Competitiveness</b> Pursing competitiveness through global top quality standards and cost management, and achieving growth and expansion in the global marketplace.</li><li>• <b>Global Coalition</b> Developing global coalition through integrated internal linkages and strategic alliances with external parties.</li></ul>

Toray Composite Materials America, Inc. (CMA) Management System is aligned with Toray HQ's Philosophy, Vision, and Mission. CMA's Safety, Quality, and Environmental policies define our way of working.

# CMA SAFETY POLICY

Toray Composite Materials America, Inc. makes Safety a core value in all aspects of our business, with Accident Prevention as our number one priority. We are committed to providing and maintaining a safe and healthy culture for all employees, contractors, and visitors; leading to zero occupational accidents.

We will achieve these goals by:

- Providing a Safe and Healthy Workplace for all employees, by following all applicable laws, regulations, policies, and procedures.
- Establishing the Basics of Safety throughout the company and instilling safety consciousness toward all actions.
- Creating an accident free environment by detecting, understanding and mitigating hazards and risks that may exist within our facilities.
- Holding ourselves accountable and responsible for our actions and assisting others to do the same in a positive manner.
- Strengthening workplace discipline through communication, clear instruction, evaluation and follow-up.

**CMA integrates these beliefs throughout all divisions of our business.**

# CMA QUALITY POLICY

Toray Composite Materials America, Inc. will strive to provide the highest quality products with innovative technology that meet our customer, statutory, and regulatory requirements with emphasis on continuous process improvements.

## Principles of our Quality Policy:

<b><i>Safety:</i></b>	Provide safe products and work environment
<b><i>Commitment:</i></b>	Comply with customer, statutory, and regulatory requirements
<b><i>Innovation:</i></b>	Innovation in our customer service, products, and processes
<b><i>Integrity:</i></b>	Manifest in all aspects of our company activities
<b><i>Establish:</i></b>	Annually review quality objectives
<b><i>Continuous Improvement:</i></b>	Continually improve customer service, products, and processes
<b><i>Motivation:</i></b>	To encourage our employees to become involved and to proudly take ownership of their work



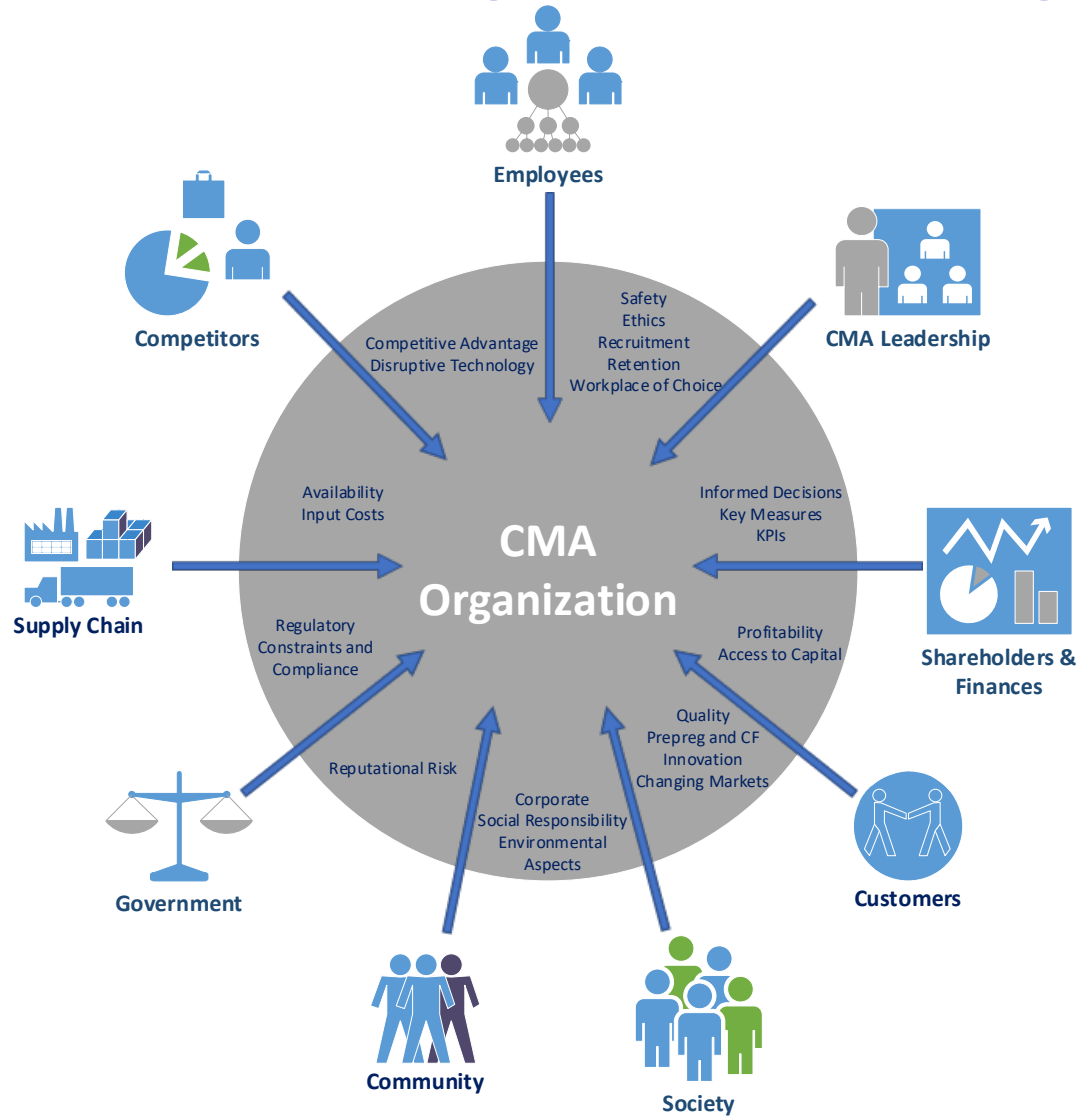
# CMA ENVIRONMENTAL POLICY

**Toray Composite Materials America, Inc. will conduct our operations in an environmentally responsible and sustainable manner with environmental preservation as the top priority. We are committed to maintain compliance with all applicable legal and other requirements, reducing our waste and use of resources, while continuing to promote continual improvement through the establishment of appropriate objectives and targets.**

**Environmental excellence shall be maintained through:**

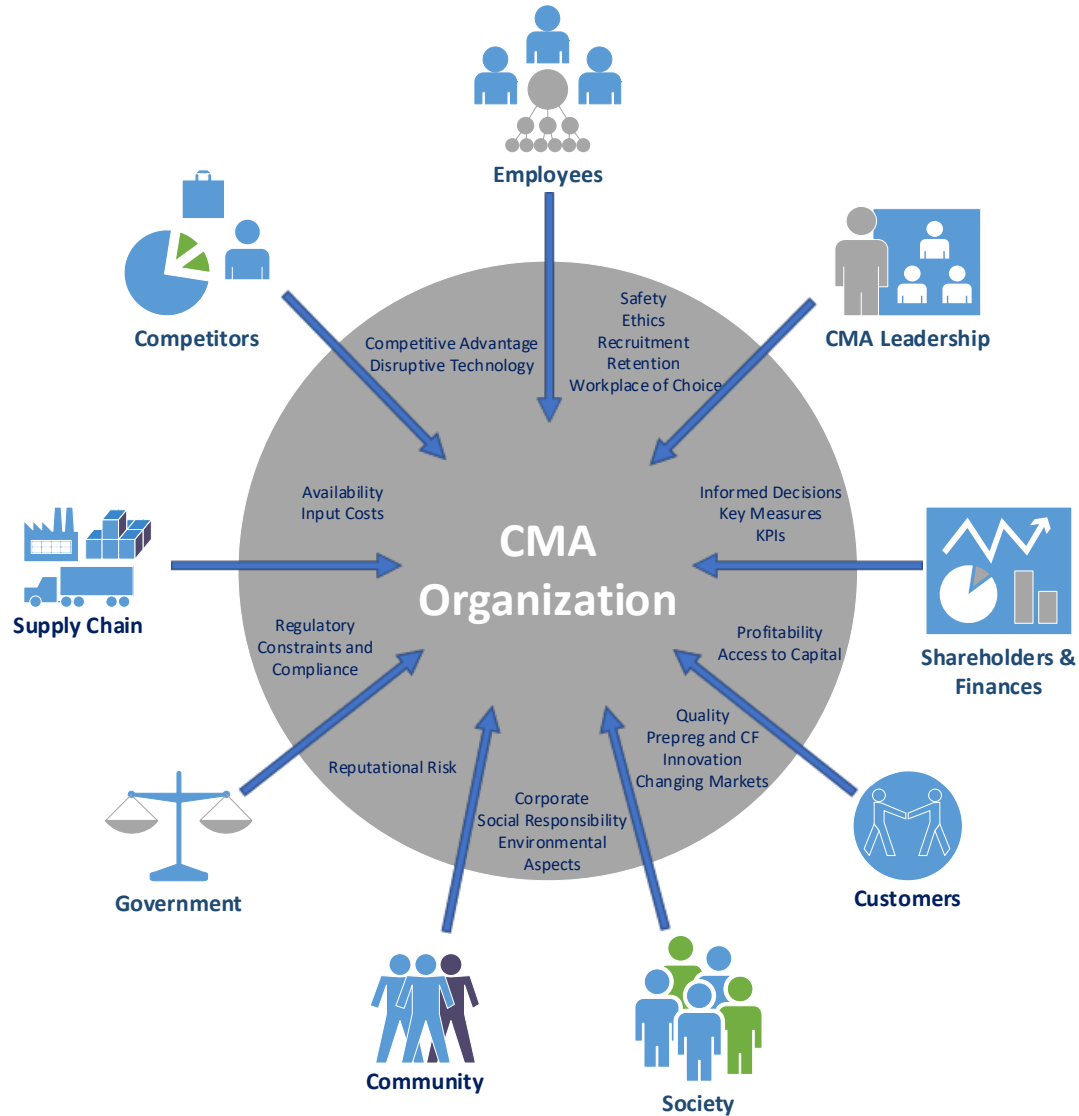
- The development of procedures and sustainability of all applicable legal and other requirements, while incorporating the industry's best practices.
- Periodic reviews of established objectives and targets focusing on incident prevention and environmental preservation with consideration given to employee involvement, our processes, and the community.
- Educating our employees, neighbors, and the community on steps taken to reduce our environmental impact and promotion of continual improvement.
- Assistance to our customers in providing environmentally friendly products, contributing an overall improvement to our environment.

# CMA INTERESTED PARTIES



<i>Interested Parties</i>	<i>Possible Impact</i>	<i>Expectations from Interested Parties</i>	<i>Key Activities</i>
Employees	•	Safe work environment with access to benefits and career development	5S, Sail Program, Annual Wage and Benefit Survey, Ethics Policy, Employee Opinion Survey, Training
Leadership	•	Set vision for Toray CMA Prepreg production and achieve KPIs or develop action plans to meet KPIs and communicate company results	X- Matrix, Management Review, Key Measures and KPIs, All Hands Meetings, Daily dept. meetings
Shareholders & Finances	•	Profitable, Growth in the Market	Toray HQ, Financial Reports
Insurance	•	Profitable, Stable business , Low risk and minimum liabilities, fewer claims	Consistent policies, internal polices like safety, quality , and environmental polices and practices
Customers	•	Provide high quality, innovative products that meet or exceed customer expectations	Annual Customer Survey, OTD monthly tracking, Customer Complaint KPI, Maintain AS9100, NADCAP accreditation where applicable, Technical Transfer of new Technology, Customer Specification Registration, Changing Markets, Forecasting Demand, Expanding Markets (Aerospace, Defense, Sporting Good, Industrial and Automotive)

# CMA INTERESTED PARTIES (continued)



<i>Interested Parties</i>	<i>Possible Impact</i>	<i>Expectations from Interested Parties</i>	<i>Key Activities</i>
Society	•	Corporate Ethics	Corporate Social Responsibility, Environmental Aspects, Maintain ISO14001 certification
Community / Non-Governmental	•	Reputational Risks, Corporate Social Responsibility, Community Relations	United Way Campaign; FACES Christmas campaign; Local Food drives
Regulatory	•	Regulatory Constraints and Compliance	EHS Internal Audits and Report; Financial audits and reporting
Supply Chain	•	Availability, Forecasting	SIOF Meetings; Global Operations
Competitors	•	Competitive Advantage, Disruptive Technology	Technical Center Testing

# CMA INTERNAL FACTORS



<b>Internal Factors</b>	<b>Monitored by any of the following</b>
Safety	Leadership Commitment to Safety, Safety is First at CMA
Quality	QMS Quality Objectives and Key Measures
Ethics	Ethics Training, BEAR
Corporate Social Responsibility	Toray Group takes a comprehensive approach to practicing social responsibility and pursuing its management philosophy and management strategies, recognizing that fulfilling social responsibilities is integral to business growth.
Employer of Choice	Employee Opinion Survey
Benefits	Marketplace Evaluation, Annual Review
Incentives	Marketplace Evaluation, Annual Review
Employee Retention	Marketplace Evaluation, Annual Review
Management Stability	Vision, Mission and Objectives, Succession Planning
Organizational Structure	X-Matrix, CMA MTP, CMA Annual Budget, Business Roadmap
Environmental Aspects	Environmental Objectives, Targets and Programs, Policy, Emissions, Pollution, Local Ecology, Climate, Natural Disasters
Labor Costs	X-Matrix, CMA MTP, CMA Annual Budget, Business Roadmap
Profitability	Business Roadmap, Prioritization
Strategic Risk	X-Matrix, CMA MTP, CMA Annual Budget, Business Roadmap

# CMA INTERNAL FACTORS

## (Continued)



<b>Internal Factors</b>	<b>Monitored by any of the following</b>
Organizational Culture / Behavior	Leadership Model
Innovation	X-Matrix, Retain, Sustain and Gain Strategy
Resource Management	Budgeting
Business Expansion	X-Matrix, CMA MTP, CMA Annual Budget, Business Roadmap
Capital Investment	X-Matrix, CMA MTP, CMA Annual Budget, Business Roadmap, CAPEX Planning
Aging Equipment Facilities	X-Matrix, CMA MTP, CMA Annual Budget, Business Roadmap
Branding and Marketing	Vision, Mission and Objectives, Internet Catalogs, Customer Surveys
Yield Improvement,	X-Matrix
Cost Down	X-Matrix
Capacity Utilization	X-Matrix, Business Roadmap, Retain, Sustain and Gain Strategy
CMA Integration	Integration of Tacoma, Decatur, Spartanburg
Systems and System Transparency	MES, ERP, CATSWeb, D365, Master Control, Infrastructure
Operational Knowledge	Succession Planning

# CMA EXTERNAL FACTORS



<i>External Factors</i>	<i>Monitored by any of the following</i>
Corporate Social Responsibility Toray HQ	Toray Group takes a comprehensive approach to practicing social responsibility and pursuing its management philosophy and management strategies, recognizing that fulfilling social responsibilities is integral to business growth.
Employee Healthcare Costs	Benefit Assessment, ACA, Regulations, HIPAA
Energy Costs	Cost Increases (Manufacturing, Raw Material PAN, Transportation)
Environmental Accidents	Prevention, Disaster Recovery, Business Continuity Planning
Environmental Compliance Obligations	ISO14001, Corporate Social Responsibility, Product Safety, PSCAA, Dept. of Ecology, etc.
New Competition	Market Disrupting Technology, Price/Performance Competition
New Technology	Market Disrupting Technology
Product-Related Regulation	ITAR, EAR, STC
Quality Escapement	Prevention, QMS Investment, AS9100
Customer Factors	Contract Review, Product Safety, Contractual Obligations
Public Health	Pandemic, Other Public Health involuntary closures

# CMA EXTERNAL FACTORS

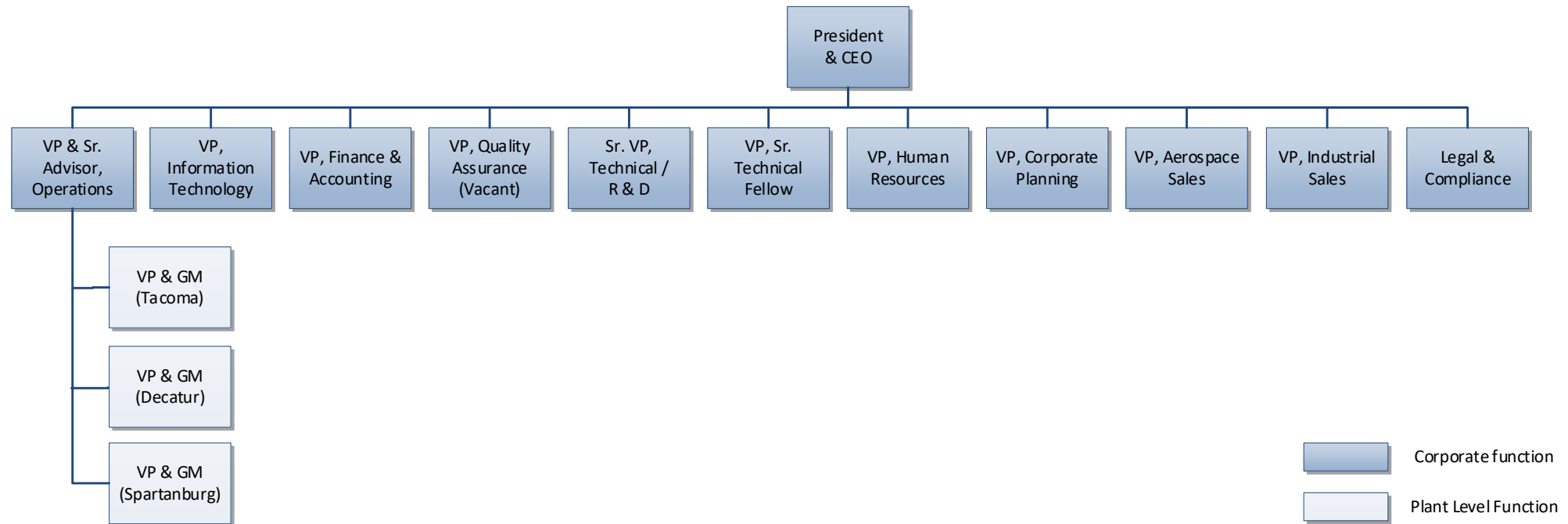
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<b>External Factors</b>	<b>Monitored by any of the following</b>
Market Factors	Competition, Market Share, Products or Services, Market Leader Trends, Customer Growth Trends, Market Stability, Supply Chain Relationships
Statutory and Regulatory Factors	Compliance, Ethics, BEAR, ITAR, EAR, STC, FAA, OSHA, L&I, WAC DOSH 296, Product Safety, HIPAA, DOT, Dept. Ecology/RCRA, CAA, TSCA, REACH
Economic Factors	Exchange Rates (Yen to Dollar), Economic Growth, Inflation Forecast, Export Tariffs, Interest Rates
Social Factors	Local Unemployment, Education Levels, Perception of Toray and Working Conditions
Political Factors	Political Stability, Public investments, Local Infrastructure, International Trade Agreements, International Political Tension
Supply Chain Management	Costs, Availability, Transportation, Scaling, Export Control, Risk Mitigation, Disaster Recovery
Vertically Integrated Suppliers	Dependency on Toray, Capacity Planning
Shipping Transportation	Disruption, Costing, Delivery

# LEADERSHIP RESPONSIBILITIES

## CMA Organization Chart

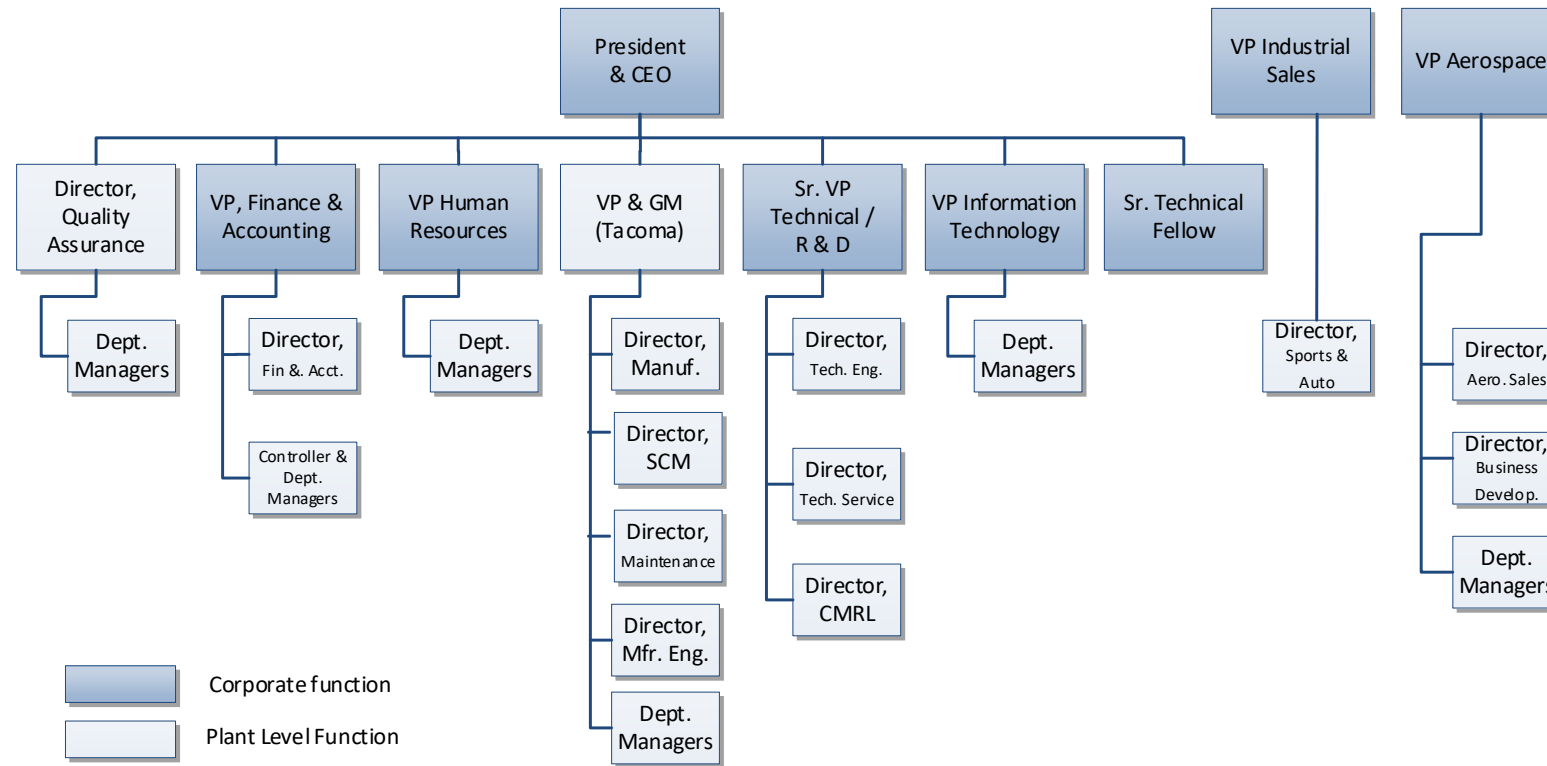


CMA Leadership is responsible for implementing the Management System consistently throughout their site location.  
CMA Associates are responsible for working in accordance with the Management System processes and requirements within their site.  
Responsibilities for specific activities are detailed within the site specific Management System documentation.



# LEADERSHIP RESPONSIBILITIES

## Tacoma Campus Organization Chart



*The CMA (Tacoma) Management Representative for Quality is the Director of Quality.  
 The CMA (Tacoma) Environmental Representative is the Environmental Manager.*

# SCOPE OF CMA TACOMA CAMPUS

Toray Composite Materials America, Inc. (CMA) Management System is aligned with HQ's:

[ PHILOSOPHY                      VISION                      MISSION ]

CMA's company mission and policies define our way of working, both internally for our site employees and externally for our customers, shareholders, and society. It is based on the following activities and international standards in their latest editions:

Safer	Smarter	Greener
<p>'Safer' means 'improving health and safety'</p> <p><b>WAC DOSH 296</b> for Safety</p>	<p>'Smarter' means 'improving our processes for achieving quality'</p> <p><b>AS9100</b> <b>Nadcap</b> for Quality Management</p>	<p>'Greener' means 'improving our environmental performance'</p> <p><b>ISO14001</b> for Environmental Management</p>

**Scope of our QMS:**

*The design, development, sale (including fiber) and manufacture of Prepreg (composite material), to customer specifications for aviation, space, sports, and industrial applications.*

**Scope of our EMS:**

*The manufacture of Prepreg comprising processes such as resin mixing, filming, Prepreg, finishing, and support operations including design, development and testing.*

# EXCEPTIONS

During the course of manufacturing Prepreg Material, some elements of the ISO 14001 and AS9100 standards are not applicable to our business case. The exceptions that Toray CMA Prepreg manufacturing at Tacoma site have identified are as follows:

- Toray CMA Tacoma does not provide post-delivery activities (AS9100 sect. 8.5.5,8.2.3.1 a) pertaining to:
  - Collection and analysis of in-service data
  - Control, updating, and provision of technical documentation relating to product use, maintenance, repair, and overhaul
  - Controls required for work undertaken external to the organization
  - Product/customer support pertaining to training, warranties, maintenance, resources and obsolescence.
- Toray CMA Tacoma does not provide any special processes pertaining to AS 9100 sect. 8.5.1.2.
- Customers do not provide their property for use or storage at Toray CMA.
- Employee owned measuring devices, for the acceptance of products, are not used in our facilities.
- *First Article Inspection (FAI) is not performed at Tacoma site (AS 9100, section, 8.5.1.3).*
- Toray CMA Tacoma does not provide digital product definition, and drawing (AS 9100, sect.8.5.1, Note 1).

# KEY PROCESSES

<p><b>Strategic Planning:</b></p> <ul style="list-style-type: none"> <li>- Determining internal and external relevant interested parties</li> <li>- Demonstrate leadership and commitment</li> <li>- Communicating the Quality Policy</li> <li>- Assigning and communicating relevant responsibilities and authorities</li> </ul>	<p><b>Purchasing:</b></p> <ul style="list-style-type: none"> <li>- Ensuring purchases, where appropriate, are from the Approved Suppliers List</li> <li>- Communicating effectively the requirements for the purchases</li> <li>- Flowing down relevant requirements as identified by product and/or contractually to ensure acceptable/non-counterfeit material is procured</li> </ul>
<p><b>Manufacturing:</b></p> <ul style="list-style-type: none"> <li>- Managing the production lines to ensure high production yield</li> <li>- Monitoring and minimizing production risks during production runs</li> </ul> <p><b>Maintenance:</b></p> <ul style="list-style-type: none"> <li>- Calibration and maintenance of items identified as having effect on product quality</li> <li>- Maintaining a preventive maintenance program that is effective</li> <li>- Ensuring any production equipment that is stored is protected</li> </ul> <p><b>Quality:</b></p> <ul style="list-style-type: none"> <li>- Inspection, testing and release of acceptable product</li> <li>- Compliance to necessary standards and customer specifications</li> <li>- Compliance to customer approved Process Control Documents</li> </ul>	<p><b>Sales:</b></p> <ul style="list-style-type: none"> <li>- Monitoring customer satisfaction and on-time delivery</li> <li>- Sales Order fulfilment</li> <li>- Purchasing imported TORAYCA® fibers</li> <li>- Managing product inventory as necessary for domestic or imported products</li> <li>- Coordination of customer’s returned material</li> </ul> <p><b>Product Design, Development, and Changes:</b></p> <ul style="list-style-type: none"> <li>- Change Management</li> <li>- Design and Development Planning and Reviews</li> <li>- Design inputs and Outputs</li> </ul>

## Support Activities



**Continuous Improvement:**

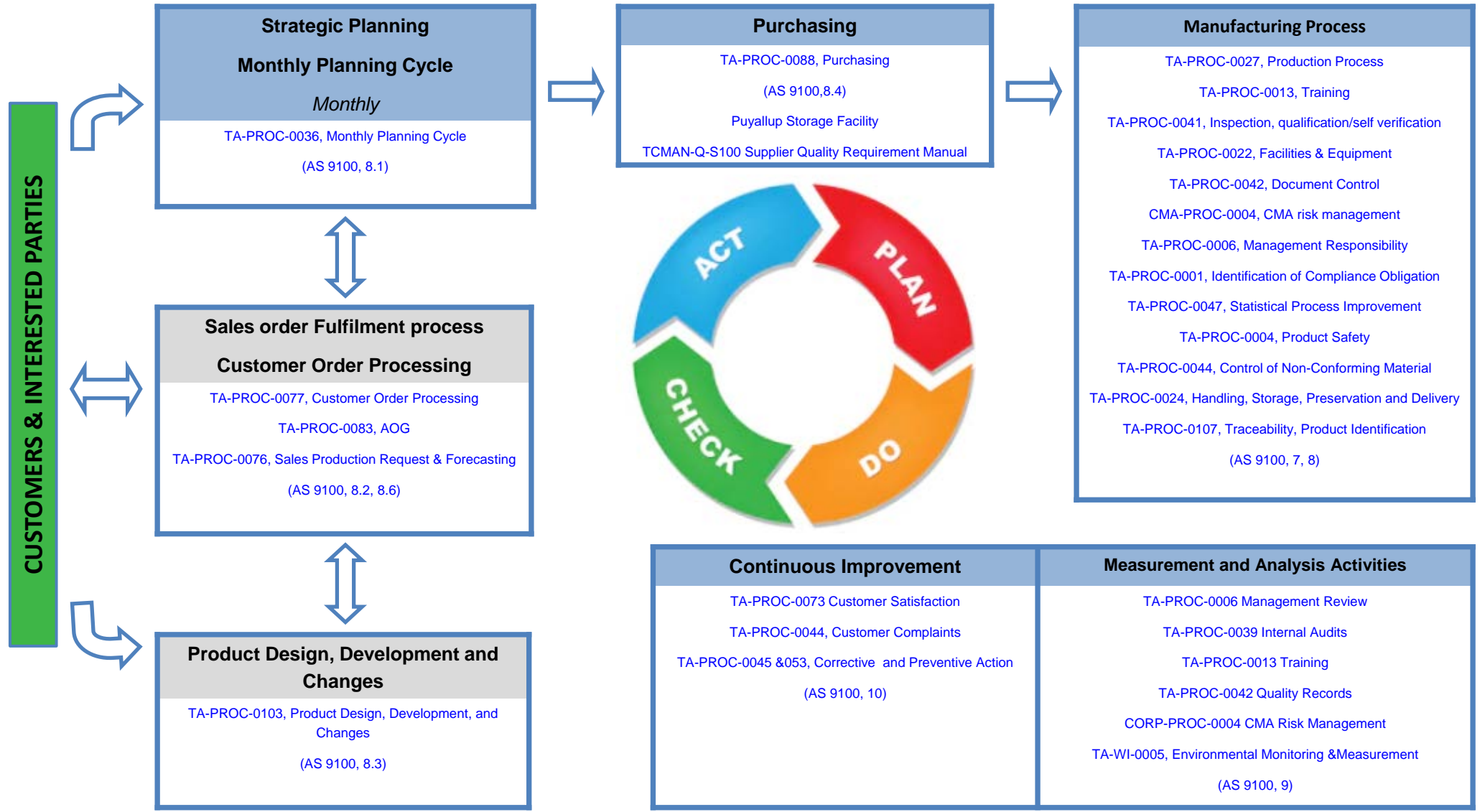
- Preventive maintenance for process Equip.
- Customer Satisfaction
- Statistical Process Control
- Corrective and Preventive Actions
- 5S programs, FOD programs



**Measurement and Analysis Activities:**

- Management Review and Responsibility
- Internal Audits
- Risk Analysis
- Quality data and records
- Training
- Inspection Qualification and Self Verification

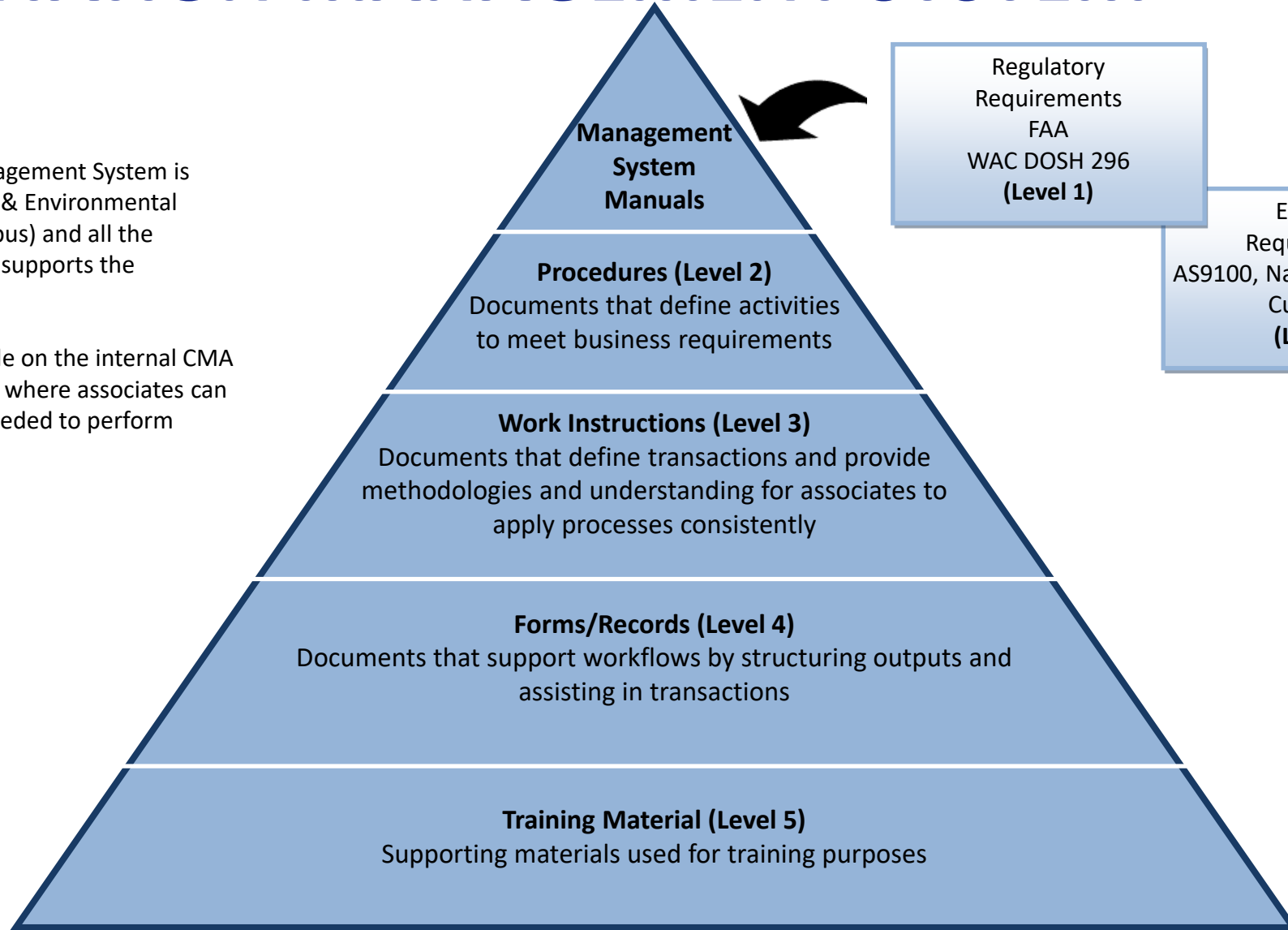
# PROCESS INTERACTION



# DOCUMENTATION MANAGEMENT SYSTEM

The Documentation Management System is comprised of this Quality & Environmental Manual (for Tacoma campus) and all the material that defines and supports the processes.

Documentation is available on the internal CMA Quality Document Center where associates can easily access materials needed to perform activities.



Regulatory Requirements  
FAA  
WAC DOSH 296  
**(Level 1)**

External Requirements  
AS9100, Nadcap, ISO14001,  
Customer  
**(Level 1)**