



Lane Hallenbeck ANSI Vice President Accreditation Services

Welcome to ANSI's

World Accreditation Day Webinar

June 9, 2014

PLEASE NOTE:

Everyone is MUTED; please send questions via "Questions" option

Slides will be made available after today's session

Q & A follows the presentations

Thanks for Your Participation

All webinar participants are muted



- If you are participating via laptop, you may need to adjust the sound on your computer
- If you hear an echo, please hang up and dial in again
- If the webinar slides do not display, please check that you have installed the software correctly – you may need to reinstall



Webinar Protocol

Questions



- Will be answered as time allows at the end of all presentations
- Use the "Q&A" option and type a brief question
- All other questions may be sent to <u>kcalder@ansi.org</u>
- If anyone has a problem during the webinar, please send an e-mail to <u>kcalder@ansi.org</u>







The ANSI Federation represents more than 125,000 companies and organizations and 3.5 million professionals worldwide.

Members of the ANSI Federation include . . .

- Academia
- Individuals
- Government
- Manufacturing
- Trade Associations

- Professional Societies
- Service Organizations
- Standards Developers
- Consumer and Labor Interests
- and many more



ANSI Collaboratives and Workshops





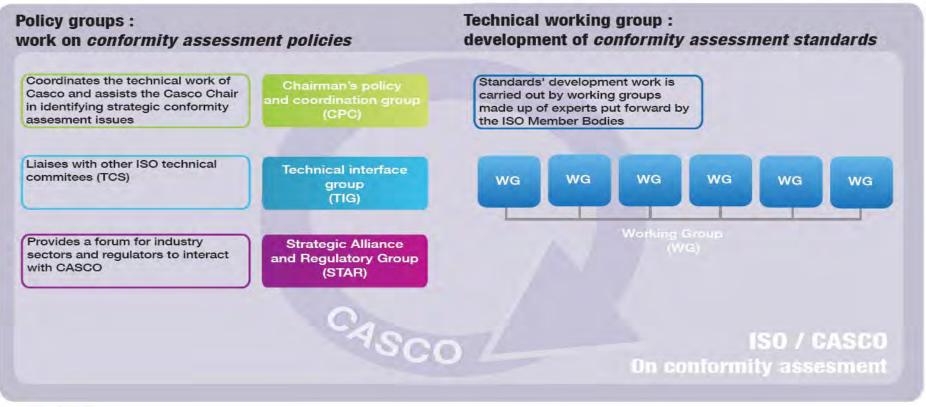
International Conformity Assessment Standards Development and Oversight

Lane Hallenbeck Chair - ISO CASCO (Conformity Assessment Committee)

Ihallenb@ansi.org



ISO CASCO Structure







Confidence? Trust? Cost? Risk?

SDoC

3rd Party



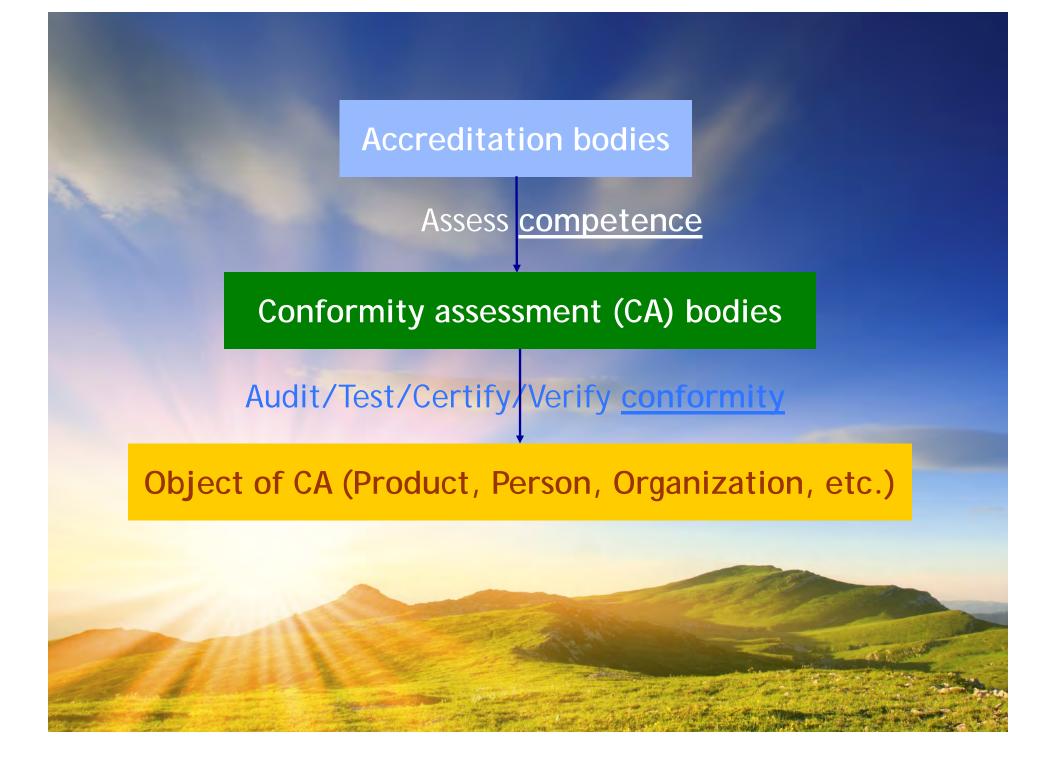
Slide 8

Value of Accreditation





O/IEC .7011





Oversight of Accreditation Bodies

The role of the International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC)

Keith Greenaway Vice President ANSI-ASQ National Accreditation Board

kgreenaway@anab-aclass.org

ANSI-ANAB-ACLASS-FQS Accreditation Programs



CARSING	Standards	Standards Developer	ANSI Essential Requirements
		U.S. Technical Advisory Group	ANSI International Procedures
	Conformity Assessment	Certificate Issuer	ASTM E2659
		Product Certification Body	ISO/IEC 17065
		Greenhouse Gas Verification Body	ISO/IEC 14065
		Personnel Certification Body	ISO/IEC 17024
ACCREDITED		Management System Certification Body	ISO/IEC 17021
		Laboratory	ISO/IEC 17025
		Inspection Body	ISO/IEC 17020
		Proficiency Test Provider	ISO/IEC 17043
		Reference Material Producer	ISO Guide 34
		Medical Laboratory	ISO 15189



Certified Once... Accepted Everywhere



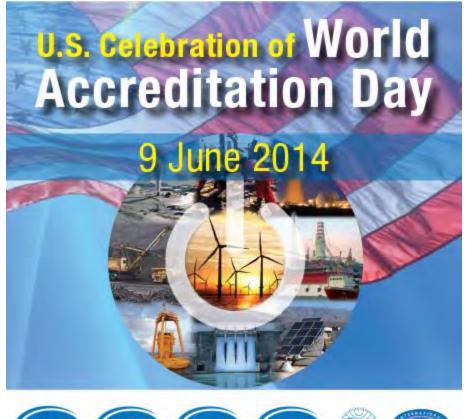
Slide 13



Tested Once... Accepted Everywhere



Slide 14



ANSI ANAB ACLASS FQS

Michael Violette Director American Certification Body

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A User's Experience:

The U.S. Testing and Certification Infrastructure and Importance of ISO Standards

Presentation Overview

U.S. Testing Infrastructure

- Types of Labs in the U.S.
- Capacity
- Management & ISO
- Finance Issues





Presentation Overview

- U.S. Testing Infrastructure
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Lab Infrastructure

Public-Sector Labs (U.S. Government)



Private-Sector Labs



Federal Activity in Laboratory Testing

NIST

- Commerce/NIST
- FDA
- FCC (TCB Council)
- DOL/OSHA
- DOD
- EPA
- CPSC
- DHS





Image: Second stateImage: Second stateOSHA®FCC



Private Sector: Classification of Laboratories (American Council of Independent Labs—ACIL)



- Conformity Assessment
- Environmental Sciences Section
- Food Sciences Section
- Construction Materials, Engineering, and Testing



CAS Projects

- Smart Grid Interoperability
- China Conformity Assessment System
 - TBT
 - Policies and Practices
 - Position statement
- Proficiency Testing Program
- Third Party Certifier Activities
- DOJ Offender Tracking Program



U.S. Celebration of Accreditatio



Made in USA



Public-Sector Labs

- NASA National Institutes of Health National Science Foundation
- National Institute of Standards and Technology
- Naval Research Laboratory Biometric Consortium



0.5. Colouration of World Accreditation Day

9 June 2014

- National Energy Research Scientific Computing (NERSC) Army Research Lab
- Topographic Engineering Center (TEC) Environmental Measurements Laboratory
- *National Renewable Energy Laboratory (NREL)
 *Oak Ridge National Laboratory
 *Lawrence Berkeley Laboratory
 *Los Alamos National Laboratory
 *Sandia National Laboratories
- *Brookhaven National Laboratory
 *Lawrence Livermore National Laboratory
 *Argonne National Laboratory
 - *Fermi National Accelerator Laboratory *Pacific Northwest National Laboratory

*Dept of Energy \$4.9B in Research





DEPARTMENT OF ENERGY NATIONAL LABORATORIES



Public-Sector Labs (non-research)

 Environmental Monitoring and Compliance Labs



- EPA
- Virginia
 - Division of Consolidated Laboratories Services
 - Analytical Sampling for local governments, federal agencies
 - 6 million tests per year
 - Accredits other laboratories





Private-Sector Labs

- Many (most) deal with compliance to regulatory requirements
- Protection of People and Services
- Health and Safety
 - Electrical and Mechanical
- Spectrum & Communications
- Environmental Protection
 Air & Water





Laboratory Business

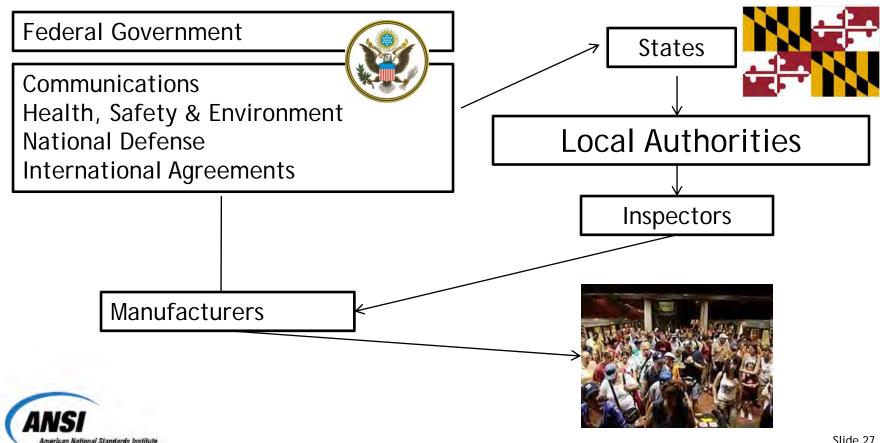


- Many private labs started as small businesses: engineers, chemists, scientists
- Develop niche capability
- Regional markets
- Many labs build capacity through acquisition
- Most labs generate \$120,000 per employee



Simplified Regulatory Structure in the U.S.





Slide 27

- U.S. Department of Agriculture (USDA)
 - Domestic and Imported
 - Meat
 - Poultry
 - Eggs
 - Establish Ingredient Standards and Approve Recipes and Labels for Processed Meat and Poultry Products













- Environmental Protection Agency
 - Water and Air Quality
 - Pesticide Approval and Registration
 - Establish Tolerances for Pesticides





FDA and USDA Enforces Pesticide Tolerances







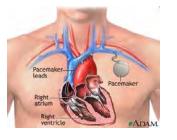


Food and Drug Administration

- Foods
- Drugs
- Cosmetics
- Medical Devices
- Veterinary Drugs and Feeds
- Biological Products
- Radiation Devices



rican National Standards Institute









Food Safety Concerns in the news





Food Safety Modernization Act signed into Law: 4 January 2011





- Federal Communications Commission (FCC)
 - Control use and protection of Radio Frequency Services for Public







- Occupational Health & Safety Administration (OSHA)
 - Workplace Safety
 - NRTL Program





Code of Federal Regulations (50 titles from Food to Nuclear Power)



http://www.gpoaccess.gov/CFR/





Presentation Overview

U.S. Testing Infrastructure

- Types of Labs in the U.S.
- Capacity
- Management & ISO
- Finance Issues





Spending: Department of Energy



- I7 Government Labs providing basic research in physics, chemistry and material sciences
- Budget: \$4.9B (40% of total is R&D)
- National Spending: \$12B



Market Size: Product Testing (not foods)



- 600+ (mostly) private providing testing services for equipment manufacturers
- Estimated market size: \$1.8B





Market Size: Conformity Assessment Labs

- 114 Accredited Labs on FCC Website
 - 31 in California
 - 6 in Massachusetts & Minnesota
 - 5 in New York
 - 4 in Maryland, Texas, Washington State & Illinois

Regionally distributed





Market Size: Environmental



- 1600 labs providing environmental analytical services
- Market size \$2.4B





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Processes



- Lab Management: Quality Systems
 - Accreditation requirements drive processes
- Quality Systems: ISO 17025, ISO 17065, and related



Accreditation

- ISO 17025 for Laboratory Operations
- ISO 17065 for Certification Bodies
- Accreditation by third-party accreditors





Accreditation Bodies: International Engagement



International Laboratory Accreditation Program (ILAC)

- Chartered in 1996 to develop international cooperation and mutual acceptance criteria
- 66 Accreditation Bodies have signed the ILAC Mutual Recognition Agreement



Accreditation Process

Audit

- Management System
- Records
- Calibration
- Incoming sample control
- Reports
- Methods
- Complaints and Corrective Actions





Laboratory Management Structure

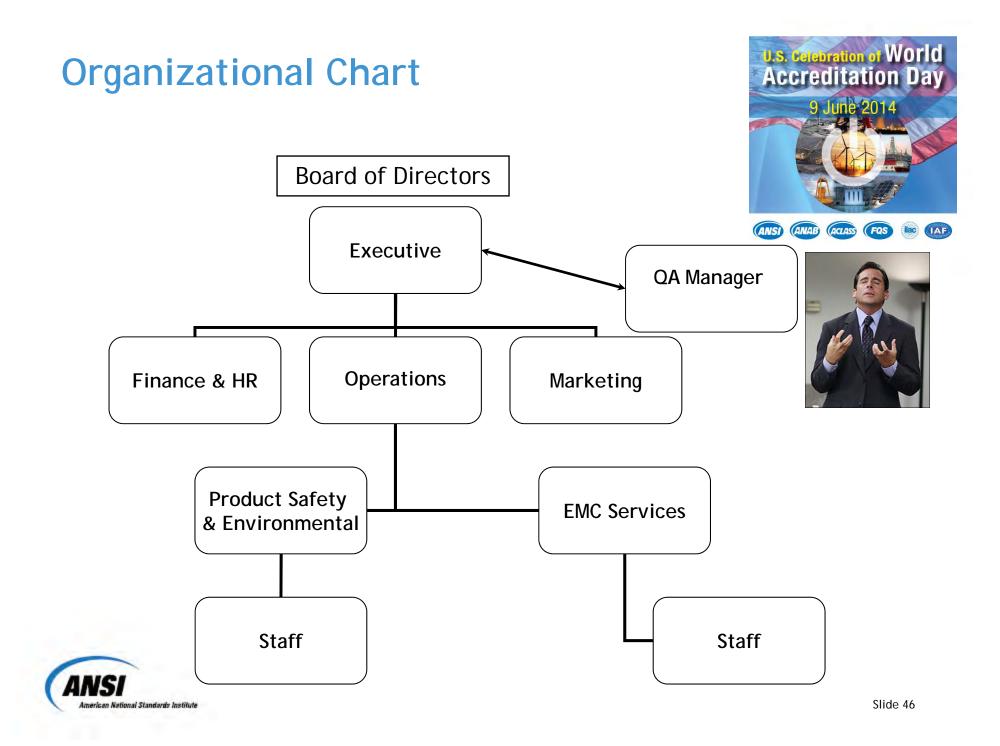


 Most management structures are dictated by Quality Systems

ISO/IEC/EN 17025

General Requirements for the Competence of Calibration and Testing Laboratories





ISO 17025 Elements

- Requirements
 - Legal Entity
 - Responsibility
 - Facilities
 - Conflicts of Interest
 - Staff Responsibility
 - Customer Confidentiality
 - Conflicting Activities





ISO 17025 Duties and Responsibilities

- Quality Manager
- Supervision is Clear
- Personnel Involvement is Encouraged
- Management System Communications
 - Transparent and frequent





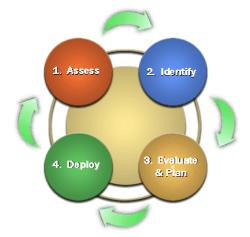
Procedures for all processes

Testing Procedures



- Internal Equipment Calibration Procedures
- Administrative Procedures
- Quality Procedures
- Engineering Procedures
- Documentation Procedures
- Business Procedures
- ...many more: Training, Complaints, Internal Audits





Records



- For most records (reports, customer correspondence, etc.) must keep on file for 10 years
- For work in the Nuclear Power Industry, must keep records for 30 years
- Data backup, physical and electronic security is required







Certificate and Scopes



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board/ACLASS 500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

Washington Laboratories, Ltd. 7560 Lindbergh Drive Gaithersburg, MD 20879

has been assessed by ACLASS and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the field(s) of

TESTING

Refer to the accompanying Scope(s) of Accreditation for information regarding the types of tests to which this accreditation applies.



Certificate Valid: 04/01/2012-06/30/2014 Version No. 004 Issued: 01/31/2013

 This organization maintains satellite organization(s) where no key activities are performed other than calibration and/or testing. Please refer to the accompanying scope of accreditation for more information.

This laboratory is accrediated in accordance with the recognized International Standard ISO/EC 17025:2005. This accrediation demonstrates technical competence for a defined acope and the operation of a laboratory quality management system (refer to joint ISO-LIAC-LF Communityed data data formary 2009).

*CLAS

ac-ME



TESTING

Valid to: June 30, 2014 Certificate Number: AT-1448

	ect		

FIELD OF TEST	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED		
Emissions Standards	Radiated and Conducted Emissions (40 Hz to 30 GHz)	FCC Part 15 B/C/D/E using ANS1 C63.4 (2003) & ANS1 C63.17; FCC Part 18 using FCC OST/MP-05 (1986); FCC Report and Order ET Docket 98-153 (FCC 02-48); Procedures IDB 20021108-001 with FCC Method 47 CFR Part 15, Subpart F: DA 00-705 (March 30, 2000) and KDB Pub. No.558074, KDB Pub. No. 200433; DA 02-2138; CISPR 16-1-4 2007 +A1 2007; CISPR 22 (1997)+A1, (2000)+A2, (2002), CISPF 22 (2005); EN 55022 (1998)+A1, (2000)+A2, (2002), CISPF 22 (2005); EN 55022 (2006)+A1 (2007); AS/NZS CISPR 22; CAN/CSA-CELIFE CISPR 23; CNS 13438(up to 6GHz); KN 22 with (RRA Announcement 2010-5, Dec 24, 2010); CISPR 11: 2009/A1:2010 EN 55011 (1998)+A2, (2002); EN 55011 (1988)+A2, (2002); EN 5501 (1988)+A2, (2002); EN 5501		

Amstandards Institute

Slide 51

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Financial Measurements



- Private-sector labs are mix of publicly traded and privately held laboratories
 - Publicly-traded (stock corporation) labs must report details to the public (SEC requirements)
 - Private labs <u>may</u> have boards of directors and private investors to account



Profit And Loss Statement: The Key Indicator



- Revenue Cost of Good Sold = Gross Profit
- Gross Profit Overhead = Earnings*
 - "EBITDA"
- Earnings Interest, Taxes & Deprec = NET PROFIT



Private Lab Profitability



ACLASS FQS lac
S
3

1 Month Ended



Publicly Traded Lab

NATIONAL TECHNICAL SYSTEMS, INC. AND SUBSIDIARIES Unaudited Consolidated Statements of Income for Nine Months Ended October 31, 2009 and 2008

		2009		2009 2008		2008
Netrevenues		90,229,000	•	89,576,000		
Cost of sales	P	65,357,000	•	64,829,000		
Gross punfit.		24,872,000	-	24,747,000		
Cross Junit		21,072,000		AT.(TT.000		
Selling, general and administrative expense		19,546,000	I	18,318,000		
Equity loss (income) from non-consolidated subsidiary		51,000		(7,000		
Operating income		5,275,000	1	6,436,000		
Other income (expense):			1			
Interest expense, net		(1,020,000)		(1,671,000		
Other income, net		156,000		51,000		
Total other expense, net		(864,000)		(1,620,000		
Income before income taxes and noncontrolling interests		4,411,000		4,816,000		
Income taxes		1,796,000		2,004,000		
Income before noncontrolling interests		2,615,000		2,812,000		
Net income attributable to noncontrolling interests		(98,000)		(50,000		
Income from continuing operations		2,517,000		2,762,000		
Income from discortinued operations, net of tax				271,000		
Net income	5	2,517,000	\$	3,033,000		
Basic earnings per common share			-			
Income from continuing operations	\$	0.27	\$	0.30		
Income from discontinued operations		-		0.03		
Net income	\$	0.27	\$	0.33		
Dibited earnings per common share						
Income from continuing operations	\$	0.26	\$	0.29		
Income from discontinued operations		-	1	0.03		
Net income	\$	0.26	\$	0.32		
Weighted average common shares outstanding		9,307,000		9,086,000		
Dilutive effect of stock options and nonvested shares		387,000	1	480,000		
Weighted average common shares outstanding, assuming dilution		9,694,000		9,566,000		
Cash dividends per common share	s	0.06	•	0.02		





Slide 56

Critical Financial Factors

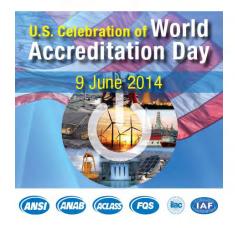
- Labor is biggest cost (~50%)
 - Engineers average salary \$75K
- Health insurance is second-biggest
- Equipment, Repair & Calibration Marketing
- Rent
- Debt service
- Cost of Quality System

WL: ~50 Expense Categories





Impact of ISO Standards on Lab Operations



- Dictates our processes (ISO 17025/17065)
- Requires us to develop and maintain procedures
- Creates a self-reporting system
- Enhances our quality
- Allows us to compete in the marketplace



Summary



- Independent Labs are critical part of Testing Infrastructure
- Competitive environment
- Regionally-served market
- Accreditation and Quality Systems are a necessary part of operations





ANSI ANAB ACLASS FQS

FCC Conformity Assessment Programs

Reliance on Accreditation

William Hurst FCC, Chief Technical Research Branch

william.hurst@fcc.gov

When Was It Started?

• 1934: Communications Act of 1934, as amended



- created the Federal Communications Commission to regulate private-sector telecommunications in the public interest
- 1938: Company wanting to sell a wireless phonograph resulted in the adoption of Part 15
- 1985 2002: Spread Spectrum/ Frequency Hopping Spread Spectrum Devices
- 1989: Major review and revision of Part 15
- 1997: DoC for Digital Devices
- 1998: Streamline Conformity Assessment Requirements
 - EA procedures had continued to evolve with greater reliance on accreditation programs
- 2013: Initiated review of conformity assessment programs



General Equipment Types

License Exempt Devices (Parts 15 & 18)



- Incidental Radiator (Parts 15.13 & 15.5(b))
 - DC Motors & mechanical light switches
- Unintentional Radiator (Part 15 Subpart B)
- Intentional Radiator (Part 15 Subparts C thru H)
- Industrial, Scientific and Medical equipment (Part 18)
- Licensed Transmitters (Various Rule Parts)
- Telephone Terminal Equipment (Part 68)



Why Use the Private Sector?

- Speed at which technology is changing
- Technical expertise



- Increase the resources performing conformity assessment
- Shorter product life cycles
- Designed and approved in the same geographic location
- Reduce uncertainty and delay in obtaining certification



Streamline Equipment Authorization Program

- Streamline Conformity Assessment types
 - Eliminated the following:
 - Type Acceptance
 - Notification
 - Kept the following:
 - Certification
 - Declaration of Conformity
 - Verification





Conformity Assessment

- Accreditation Bodies
 - Reliance on peer-to-peer agreements
 - ISO/IEC 17011
- Testing Laboratories
 - Listing of test laboratories
 - Accreditation of test laboratories
 - ISO/IEC 17025
- Certification Bodies
 - Telecommunication Certification Bodies (TCB)
 - ISO/IEC 17065





For TCBs Located in the U.S.



NVCASE

Accreditation Body ISO/IEC 17011

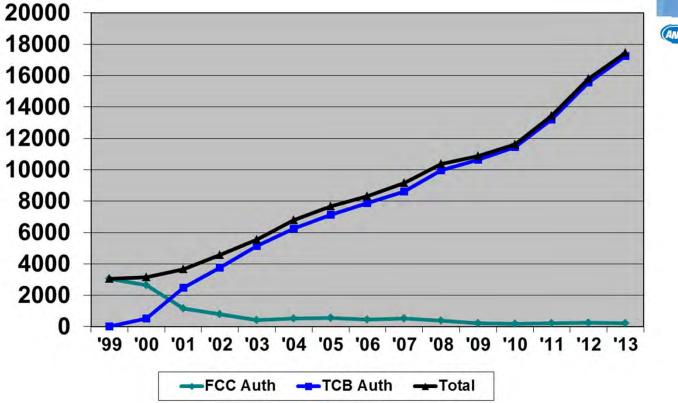
Accredited Testing Laboratory ISO/IEC 17025

> Certification Body ISO/IEC 17065

Telecommunictions Requirements 47 CFR



Certification Trends (1999 - 2013)



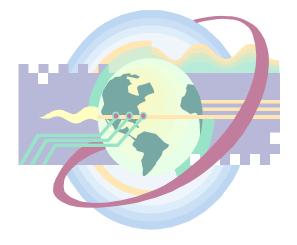




Mutual Recognition Agreements

- Purpose of MRA -- To facilitate trade by allowing Conformity Assessment Bodies (CAB) in one economy to test (Phase I) and/or certify (Phase II) products to the Technical Regulations of another economy.
- Participation in a MRA is voluntary -however, if a economy agrees to participate in either Phase I and/or Phase II certain rights and obligations in accordance with the terms of the MRA apply.







Mutual Recognition Agreements



- FCC Participates in Six MRAs
 - U.S.-EU and EEA EFTA Mutual Recognition Agreement
 - Asia Pacific Economic Co-operation (APEC) Mutual Recognition Arrangement
 - Inter-American Telecommunication Commission (CITEL)
 Mutual Recognition Agreement
 - U.S.-Japan MRA
 - U.S.-Mexico MRA
 - U.S.-Israel MRA

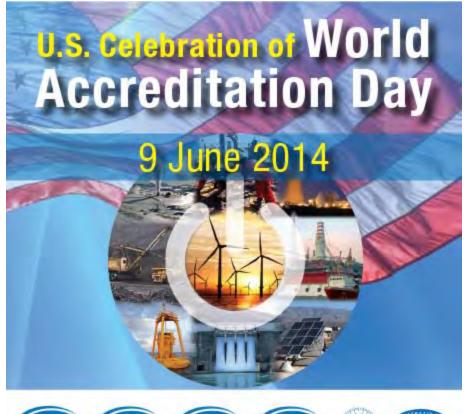


Summary



- Rapid growth of devices using radio frequency spectrum
- Consumer demand for constant innovation and fast introduction of new capabilities have led to short product introduction times
- FCC approach of a balance between specific technical standards and allowing appropriately qualified Conformity Assessment Bodies has led to a successful model



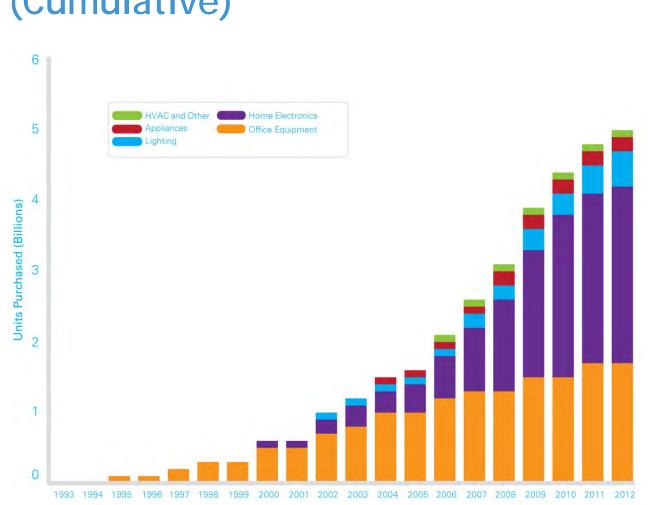


ANSI ANAB ACLASS FQS

ENERGY STAR Certified Products

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ENERGY STAR Products Sold (Cumulative)*

*The lighting data do not include CFL sales. Products sales may not appear in every year a category was included in the program due to scale.



American National Standards Institute

u.s. colouration of World Accreditation Day

9 June 2014

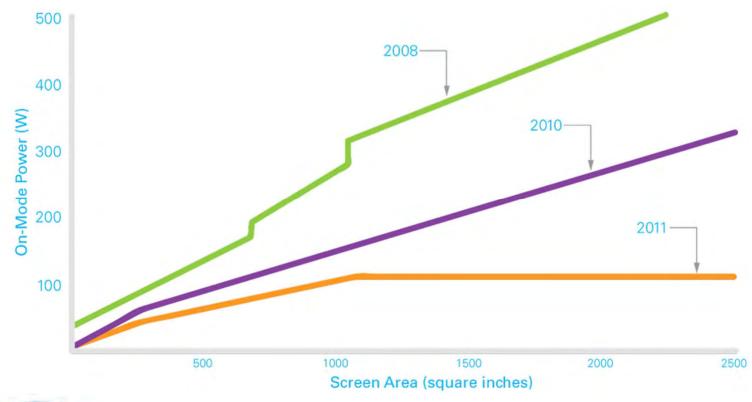
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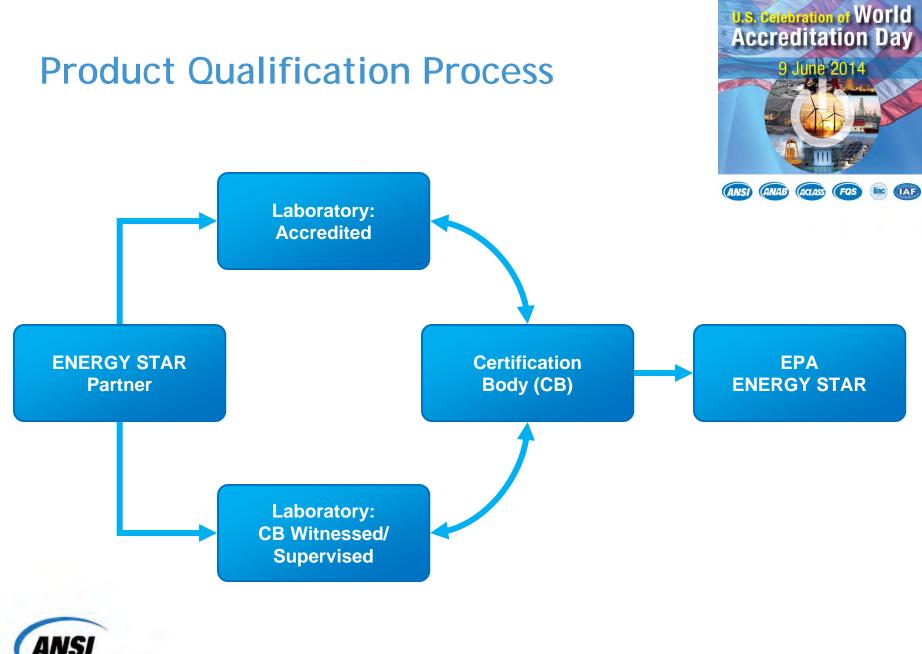
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The ENERGY STAR Difference: Televisions









American National Standards Institute

Slide 74

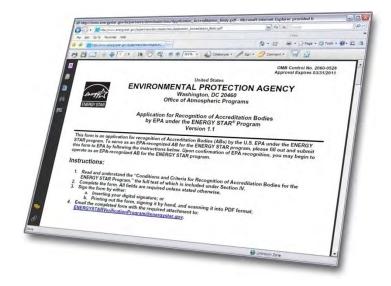


IAF

EPA Recognition

- EPA accepts and reviews applications for recognition on an ongoing basis
- All ABs, CBs, and Labs require EPA recognition







EPA-Recognized accreditation bodies, laboratories, and certification bodies (May 2014)

Laboratories by Location						
Country	Accredited Laboratories	SMTLs	WMTLs	Totals		
Australia	1	0	0	1		
Austria	0	1	0	1		
Brazil	2	0	0	2		
Canada	12	9	6	27		
China	71	42	18	131		
Denmark	0	0	1	1		
Germany	8	3	2	13		
Guatemala	1	0	1	2		
Hong Kong	3	0	0	3		
Hungary	1	0	0	1		
India	1	0		1		
Italy	3	1	2	6		
Japan	20	13	5	38		
Malaysia	1	2	0	3		
Mexico	0	10	1	11		
Netherlands	2	1	1	4		
New Zealand	0	1	1	2		
Singapore	2	0	0	2		
South Korea	15	12	1	28		
Spain	2	0	0	2		
Sweden	1	1	0	2		
Taiwan	39	2	15	56		
Turkey	urkey 0		0	4		
United Kingdom	3	2	0	5		
United States	94	102	45	241		
Subtotals	Subtotals 282 206 99 58					



Recoanized	Organizations
	••••••••••••••••••••••••••••••••••••••

Туре	Total
Accreditation Bodies	27
Certification Bodies	24
Laboratories (Accredited	587
and W/SMTLs)	700
Accredited	282
SMTL	206
WMTL	99



2013 Verification Testing



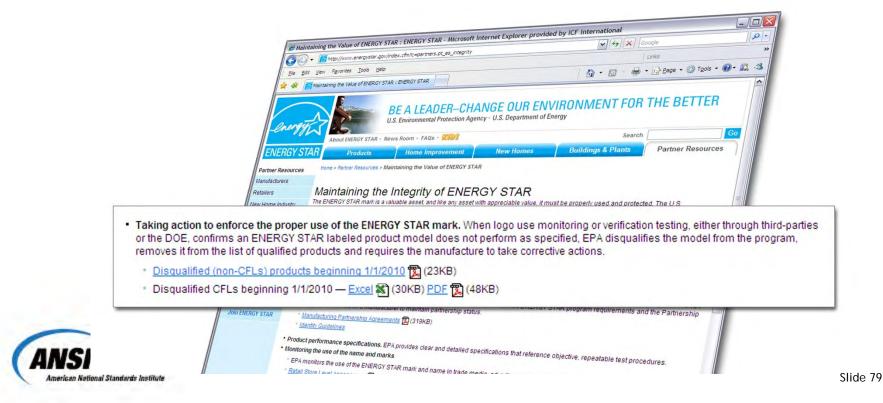
- 1109 Products Tested
 - 181 Appliances
 - 118 CFLs
 - 51 Lighting (luminaires, integral LED lamps)
 - 249 HVAC
 - 241 Consumer Electronics/ Information Technology
 - 68 Commercial food service
 - 201 Other (windows, roofs, vending machines, water coolers)



Evaluation



EPA tracks all non-compliance issues, and posts lists of disqualified models online at <u>www.energystar.gov/integrity</u>





(ANSI (ANAB) (ACLASS (FQS) (IAF)

John F. Schulz Senior Director of Business Operations – SQFI

jschulz@fmi.org

How Accreditation Helps the Safe Quality Food Institute Maintain its Integrity

Global Food Safety Initiative

- GFSI launched at the CIES Annual Congress in 2000, following a directive from the food business CEOs
- Managed by The Consumer Goods Forum





- Benchmarks food safety schemes against the GFSI Guidance Document
- Determines whether a scheme is equivalent to the Guidance Document requirements
- Helps and encourages food safety stakeholders to share knowledge and strategy for food safety and to develop best food safety practice in a common global framework



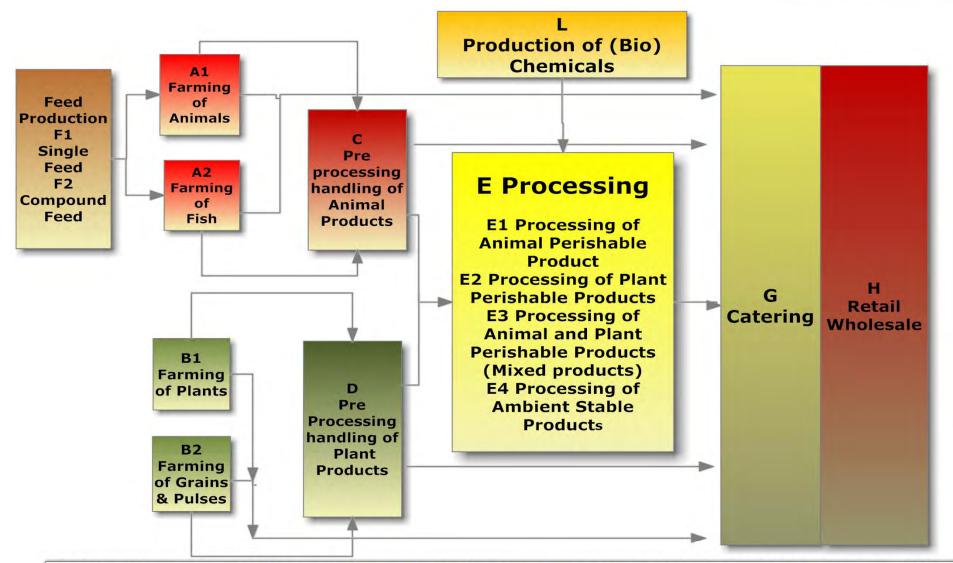
Value of GFSI

- Walmart: University of Arkansas Study shows safer food for consumers
- Walmart: 31% reduction in product recalls
- Metro: 90% decrease of recalls in Germany
- Migros: reduction of audits by 50%



- Cargill: \$5m/year in reduced redundant audit costs, estimated \$15m/year savings once fully implemented
- Danone: € 4 million in reduced redundant audits costs the first year, further cost saving when fully implemented





J The Pro	vision of Transport and Distribution Services (Perishable J1 & Ambient J2)
	I The Provision of Food Safety Services
	K Processing Equipment Manufacture
	M Production of Food Packaging
	N Food Broker/ Agent

The SQF Program





- Modularized to provide a farm to fork solution
- Designed around the GFSI Industry Scopes
- Includes 35 different food sector categories to meet the needs of all suppliers
- Auditors are credentialed in specific food sector categories
- 3-levels of certification with a unique approach to food quality



Who is SQF?

can National Standards Institute



- SQF Program is owned by Food Marketing Institute (FMI) and operated by the SQF Institute, a division of FMI
- The program undergoes review by stakeholder input and oversight
 - GFSI Benchmarking Process



- Technical Advisory Council (TAC) Review- made up of segments from all stakeholders in industry (retailers, foodservice, suppliers, service providers)
 - Public Comment and feedback

SQF is a Global Program

Certificates in over 30 Countries



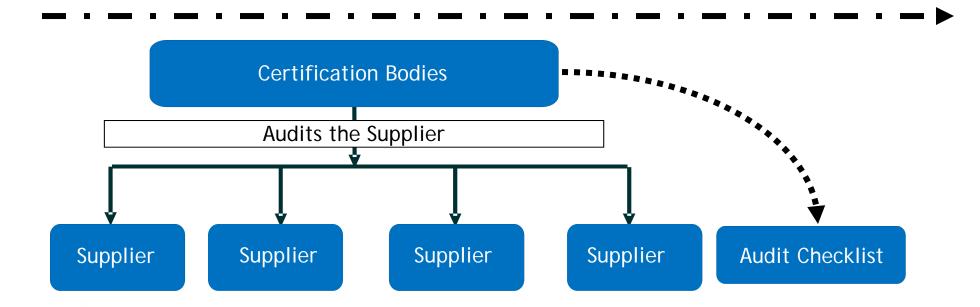
- Key countries include U.S., Australia, Canada, Japan and Mexico
- SQF representatives in Australia and Mexico
- Goal: Food Safety Along the Supply Chain





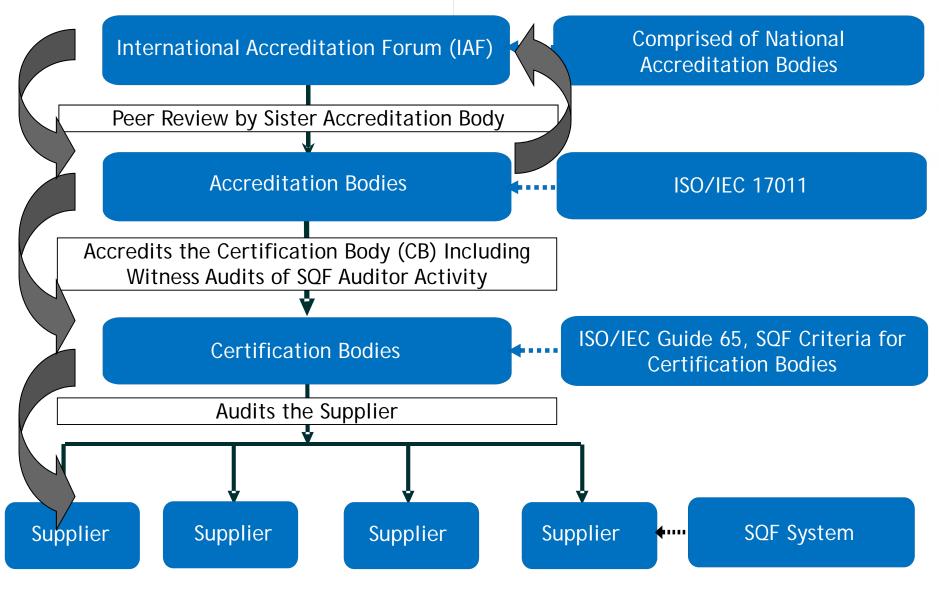


3rd Party Supplier Audit System





Accredited Certification



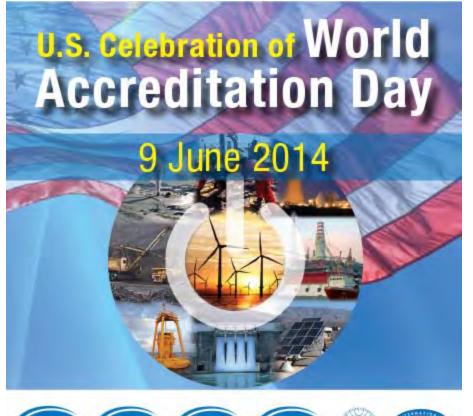
Accreditation License FMI / SQF Institute Body Accredits Register Trains SQF Certification **Auditor** License Body Audits & Certifies SQF **SQF** Training Consultant Centre Implements & Trains **SQF** Certified & Maintains Regional **Supplier** SQF **SQF** System Representative **Practitioner**

Managing the SQF Program

ans

American National Standards Institute





ANSI ANAB ACLASS FQS INC TAF

Workforce Conformity Assessment: Better Buildings Workforce Guidelines

Benjamin Goldstein U.S. Department of Energy Project Manager Better Buildings Workforce

benjamin.goldstein@ee.doe.gov

Department of Energy Better Buildings Workforce Framework



Technical Standards	Skills Standards	Curricula & Training	Industry- Recognized Certifications	Third-Party Accreditation	Driving Market Demand
Standards, codes, and specifications defining safe, durable, high- quality work	Define the job tasks and the knowledge, skills and abilities workers need to perform them	Built on clear learning objectives and aligned with technical and skills standards	National, industry & government recognized certifications built on common blueprints when appropriate	Evaluation of program quality and alignment with industry- recognized content	Policy mechanisms and recognition of accredited workforce credentialing programs



Assessing the Competency of the Commercial Buildings Energy Efficiency Workforce



Define Competency

Voluntary Better Buildings Workforce Guidelines, defined by industry

Verify

Third-party accreditation of certificate or certification programs

Recognize

DOE recognition of accredited programs= consumer trust in program quality and workforce performance

CONFUSION ------ CONFIDENCE

Job Titles	Draft Job Descriptions (will be further revised)
Building Energy Auditor	Assesses building systems and site conditions; analyzes and evaluates equipment and energy usage; and recommends strategies to optimize building resource utilization.
Building Commissioning Professional	Leads, plans, coordinates and manages a commissioning team to implement commissioning processes in new and existing buildings.
Energy Manager	Manages energy consumption in buildings or across facilities; performs continuous site evaluations and analyses; identifies opportunities to increase building efficiency promote renewable resources, reduce costs and increase building or facility performance.
Building Operations Professional	Manages the maintenance and operation of building systems and installed equipment, and performs general building maintenance to optimize performance, maintain the building's operability and ensure the comfort and safety of building occupants.
Facility Manager (Government and FBPTA focus)	A federal, state, or local government official who manages, monitors and coordinate facility operations and supervises and communicates with staff to ensure efficient, sustainable operations and the satisfaction of the facility occupants.

A Government and Industry Partnership to Advance Commercial Buildings Workforce Quality



*National Institute of Building Sciences **Commercial Workforce Credentialing Council *** Building Energy Auditor; Building Commissioning Professional; Energy Manager; Building Operations Professional; Facility Manager (Government and FBPTA focus)



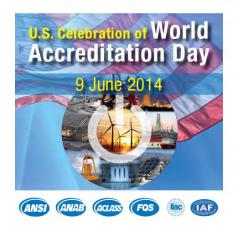
Path to Better Buildings Workforce Guidelines

INITIAL JOB TITLES

Building Energy Auditor • Building Commissioning Professional Energy Manager • Building Operations Professional • Facility Manager

Department Engages I	vision, funding, and technical support for the Bett Federal agencies and industry stakeholders to par e National Institute of Building Sciences (NIBS) to	ticipate in the guidelines project	Recognizes accredited programs that meet the guidelines		
National ► N Institute of Building Sciences	NIBS charters the Commercial Workforce Credentia CWCC establishes the scope and compose Expert (SME) committees SME committees completed				
Credentialing Program Providers	prof	 Develop training/certificate programs or professional certifications based on the guidelines Submit programs for third-party accreditation 			
Accreditation Bodies		 Evaluate whether programs meeting the guidelines 			
Commercial Buildings Professionals		 Obtain high-qua recognized creat 			
Building Owners/ Managers		 Hire skilled and qualified worke 			
AUG SEPT 2013 2013	JAN DEC 2015 2014 2014	2015 ► ONGOING			





- Use the "Q&A" option and type a brief question
- All other questions may be sent to <u>kcalder@ansi.org</u>



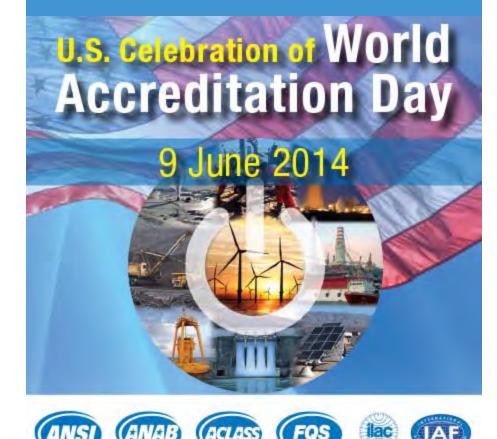


Thanks for joining...



For More Information:

www.ansi.org/accreditation



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