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Certification

2nd NRC Workshop on Vendor Oversight for New Reactor
Construction

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ASME Survey Process: NCA 3800 and NCA 4000

Topics

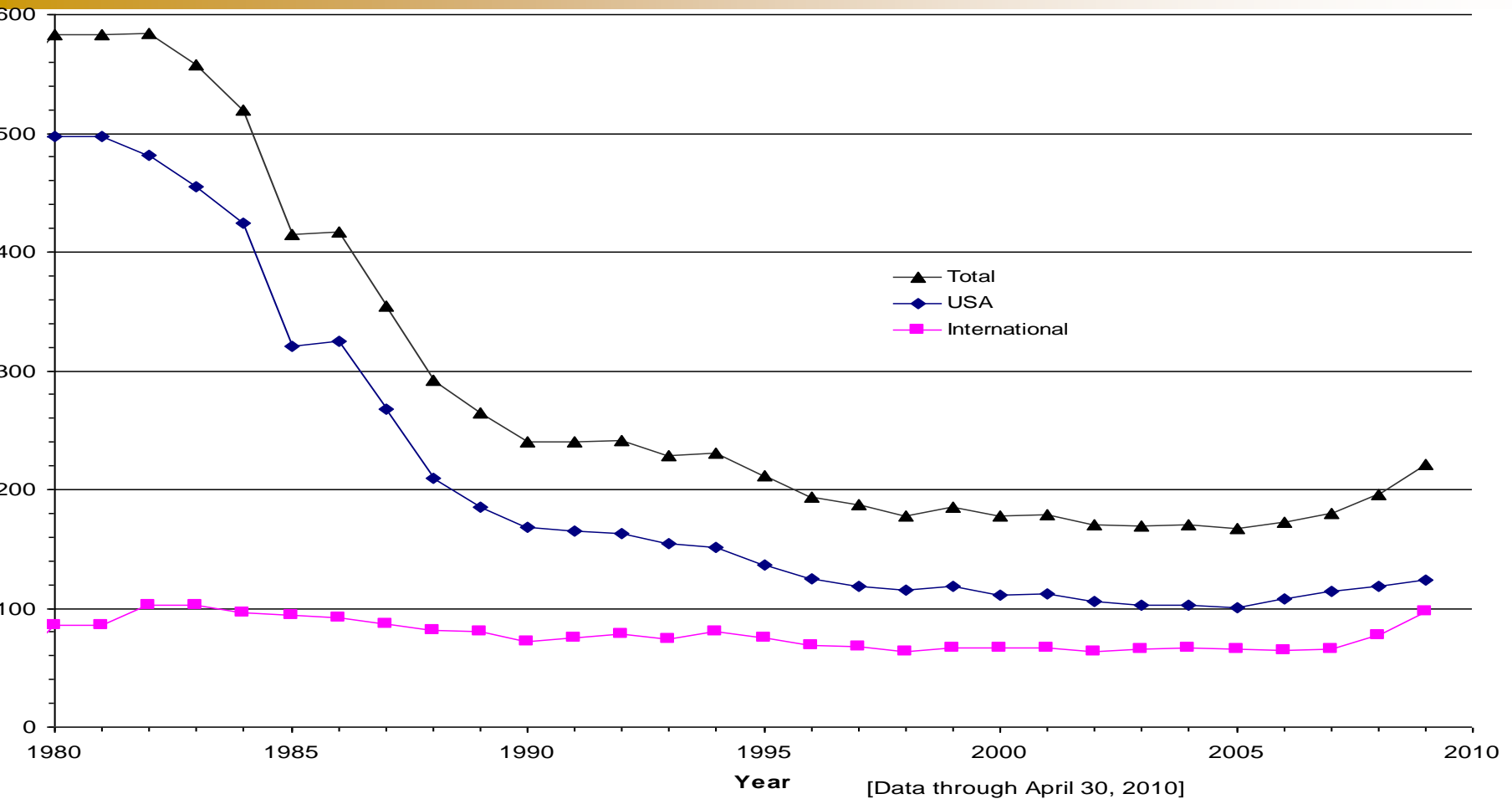
- 1) Status of ASME Certificate Holders
- 2) Nuclear Certifications issued by ASME
- 3) US Regulation/Code of Record
- 4) Program Requirements
- 5) Types of Certification
- 6) ASME Accreditation/Authorization Process

Nuclear Certificate Holders

Globally as of March 2010 there are 247 Companies that hold 645 Nuclear Certificates. This includes N-Type and QSC holders

Fifty-Two percent (52%) of the issued Nuclear Certificates or 334 are issued to 117 Companies who are located outside of North America.

30 Year Nuclear Certificate Holder Trend



Accreditation/Survey Process

Certifications

- **N Certificate** – Vessels, Components, Piping Systems, Pumps, Storage Tanks
- **NV Certificate** – Pressure Relief Valves
- **NPT Certificate** – Parts, Appurtenances, Welded Tubular Products, Piping Subassemblies
- **NA Certificate** – Assembly of all items
- **NS Certificate** – Supports
- **Quality Systems Certificate** – Materials (QSC)
- **Own Certificate**- Nuclear Plant Owner

10 CFR 50 Regulation Requirements

- Endorsement and application of Code editions and addenda are listed in 10CFR50.55 a
 - Currently Section III of the ASME Boiler and Pressure Vessel Code referred to is the 1963 Edition through 1973 Winter Addenda, and the 1974 Edition (Division 1) through the 2004 Edition (Division 1), subject to the limitations and modifications:
 - When applying editions and addenda later than the 1989 Edition of Section III, the requirements of NQA-1, "Quality Assurance Requirements for Nuclear Facilities," 1986 Edition through the 1992 Edition, are acceptable for use provided that the edition and addenda of NQA-1 specified in NCA-4000 is used in conjunction with the administrative, quality, and technical provisions contained in the edition and addenda of Section III being used.

Establish Code of Record

- ASME Code (NCA-1140) requires that In no case shall the Code Edition and Addenda dates established in the Design Specifications be earlier than:
 - (a) 3 years prior to the date that the nuclear power plant construction permit application is docketed;
or
 - (b) the latest edition and addenda endorsed by the regulatory authority having jurisdiction at the plant or site at the time the construction permit application is docketed;
or
 - (c) the edition and addenda endorsed for a design certified or licensed by the regulatory authority.

Requirement

- An ASME Certificate of Authorization is required for companies providing items in accordance with Section III.
 - Items are defined in Section III as: a product constructed under a Certificate of Authorization or Accreditation (supports) (NCA-3120), or material (NCA-1220)
- An Owners Certificate shall be obtained from ASME (NCA-3230)

Program

- **N-type Certificate Holders shall Comply with:**
ANSI/ASME NQA-1-1994 Edition,
“Quality Assurance Program requirements for Nuclear Facilities”,
except as modified and supplemented in NCA-4134 (Except for NS
(supports) Certificate Holders)
- **NS Certificate Holders (supports) shall comply with NCA-3680 and NCA-4110(b)**
 - No ANI Involvement and Code Stamping

Program

- **QSC Certificate Holders shall comply with the Quality System program requirements in NCA-3850**
 - Similar to NCA-4000 but self contained
- **OWN Certificate Holder shall comply with the requirements of NCA-3230**
 - An interview with the Applicant, the Applicant's Authorized Inspection Agency and the Enforcement Authority (when applicable) at the Applicant's office.

Certificate of Authorization

- **Certificate of Authorization**
 - Authorization granted by the Society for a three (3) year period
 - The Certificate identifies either shop or field fabrication and each different Code class
 - Certification is for the use of Code Symbol Stamp, certifying a Certificate Holder's Data Report, and performing welding
 - Certificate Holder assumes responsibility for pressure test which is witnessed by the Authorized Nuclear Inspector (ANI)

Certificate of Accreditation

- **Certificate of Accreditation**
 - Accreditation is granted by the Society for a three (3) year period
 - Issued to an organization that has a documented Quality Assurance Program and whose ability to staff, equip, or otherwise implement the program has been evaluated by the Society
 - Implementation of the program is not necessary
 - No Code Symbol Stamp is issued

Quality Systems Certificate

- **Quality Systems Certificate**
 - Accreditation granted by the Society for a three (3) year period
 - The Certificate scope identifies manufacturing or supplying ferrous & non-ferrous (may be both)
 - Certification is for the performing material manufacturing or supplying - no Code symbol stamp
 - Authorized to include Certificate Number and expiration date on documents issued
 - Annual audits are required by ASME

Evaluation for obtaining a Certificate

- A Survey by ASME is required to evaluate the Quality Assurance Program of the applicant and the implementation thereof
- Authorization to apply the Code stamp will be granted only after a satisfactory Survey by ASME. This activity is for the applicant to demonstrate the implementation of the Quality program

ASME Accreditation Process

- The applicant contacts an Accredited Authorized Inspection Agency (AIA) and obtains a contract with them.
- The Accredited Authorized Inspection Agency will work with the applicant in preparation of the ASME Nuclear Survey

ASME Accreditation Process

- ASME and the Applicant will agree on mutually acceptable dates for the Survey to be conducted. The ASME Team will be assigned only after the following is received by ASME:
 - A completed application from the applicant identifying the requested Certificates of Authorization & Stamps
 - The required monetary deposit
 - Verification from the Accredited AIA that they have a contract with the applicant and the applicant is ready for Survey.

Take Note: Scheduling reviews can take up to 8 months

ASME Accreditation Process

- The Applicant is responsible for obtaining concurrence of the Accredited AIA and Enforcement Agency (where applicable) for the review dates
- Depending on the ASME Survey scope, the activity could take up to 5 days

Function
— Nuclear Survey

Normal schedule
3/4 days

Process

- A Certificate of Authorization or Accreditation will be granted by the Society only after satisfactorily demonstrating and implementing the program to the Society
- ASME Survey Team (N-Type) consists of:
 - ASME Team Leader
 - ASME Team Member (2 if international)
 - Authorized Nuclear Inspector Supervisor
 - Authorized Nuclear Inspector
- ASME Survey Team (QSC) – No AIA personnel

Process

- Survey will be 3-5 days depending on number of locations
- The first day is usually offsite reviewing QA manual and completed ASME “Guide” questionnaire.
- The Team will arrive on-site the second day and should have a dedicated conference room for their work.
 - Entrance Meeting
 - Introduction of Management
 - Possible Orientation Tour of the Shop

Process

- The Team will normally split into two groups
 - One will proceed with a review of the QA manual
 - One will proceed with a audit of the implementation of the QA program and ASME requirements

ASME Accreditation Process

- At the conclusion of the Survey the Team makes a recommendation to the ASME Committee on Nuclear Certification
- The recommendations will be one of the following:
 - To issue the Certificates of Authorization as requested
 - To issue the Certificates of Authorization as requested after verification from the AIA is received on deficiencies noted during the ASME Survey
 - To require re-survey of the applicant after the required corrections to the program have been made

Owners Certificate

- ASME will arrange for an interview with the Applicant, the Applicant's Accredited Authorized Inspection Agency and the Enforcement Authority (when applicable) at the Applicant's office to discuss the Applicant's Code related responsibilities as outlined in NCA-3200. The Applicant is expected to document their recognition and agreement to abide by these responsibilities in a letter or procedure.

- This letter or procedure would be either part of or a supplement to the Applicant's Quality Assurance Program required to satisfy NCA-8140. The applicant's Quality Assurance Program will be evaluated by the ASME Team for the controls necessary for the Applicant's scope of activities to be performed by the Applicant.
- After the interview, the ASME Team Leader will submit a written report to ASME.

Owners Certificate

- This report will be reviewed in accordance with the ASME Committee on Nuclear Certification procedures to determine whether the Owner's Certificate shall be issued by ASME. The ASME Conformity Assessment Department will inform the Applicant of final action taken.

Thank You