Summary of Workshop on Inspection of Spent Fuel Dry Storage

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Outline

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- Workshop Agenda
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- TSC Fabrication Inspection
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Introduction

- AEC issued the Construction License of Chinshan ISFSI program on December 3, 2008.
- The cask of Chinshan ISFSI is the first domestically-built component using technology transfer.
- To ensure the quality of domestically-built cask, inspection is critical to Chinshan ISFSI project. NRC inspection experience shared at the workshop will be beneficial to building up our inspection system

Introduction

- Through the bridging of an AIT-TERCO meeting, the Workshop on Inspection of Spent Fuel Dry Storage was set up.
- AEC invited 2 NRC experts to be the lecturers at Workshop on Inspection of Spent Fuel Dry Storage on December 8-12, 2008.
  - Mr. James Pearson (NRC H.Q.) and Mr. Ray Kellar (Region 4) were assigned to conduct this workshop

Workshop Agenda

Date	Subject
December 8	Session 1: Spent Fuel Management in USA Session 2: ISFSI Inspection Program Structure and Procedures Session 3: NRC Regional ISFSI Inspections Session 4: Design Control Inspections
December 9	Session 5: NRC ISFSI Pad Construction Inspection Session 6: Component Fabrication Inspections Session 7: NRC Crane Inspections

Workshop Agenda

Date	Subject
December 10	Site Visit on Manufacture Plant
December 11	Session 8: NRC Preoperational and Loading ISFSI Inspections Session 9: Inspection Reports and Findings Session 10: NRC Enforcement Policy
December 12	Site Visit on Chinshan NPS

Key Issues of the Workshop

- NRC experts provided an abundance of information on
  - Inspection program and procedures
  - Inspection databases developed by NRC staff
  - Major inspection findings on component fabrication, pad construction, and preoperational program
  - NRC Enforcement Policy
- About 100 participants showed up at the workshop

Sharing Experience of the Site Visit

- 2 issues were brought up during visit to Canister manufacturer
  - NDT technical issue
  - Material storage issue
- 6 issues were brought up during visit to Chinshan NPS
  - Two regarding ISFSI pad stability issue
  - Two regarding heavy load issue
  - Two regarding fuel loading and transportation issues

TSC Fabrication Inspection

- CTCI Machinery Corporation (CTCIM) was contracted to fabricate 25 TSCs (transportable storage canister) for TPC
- Manufacture of first two TSCs was finished in late Feb. 2009.
- AEC conducted a TSC manufacturing inspection on Feb. 16-17, 2009 at CTCIM in Kaohsiung

TSC Fabrication Inspection

- The manufacture of TSCs was inspected to determine whether it was performed in accordance with the requirements of regulations and AEC-approved QA program.

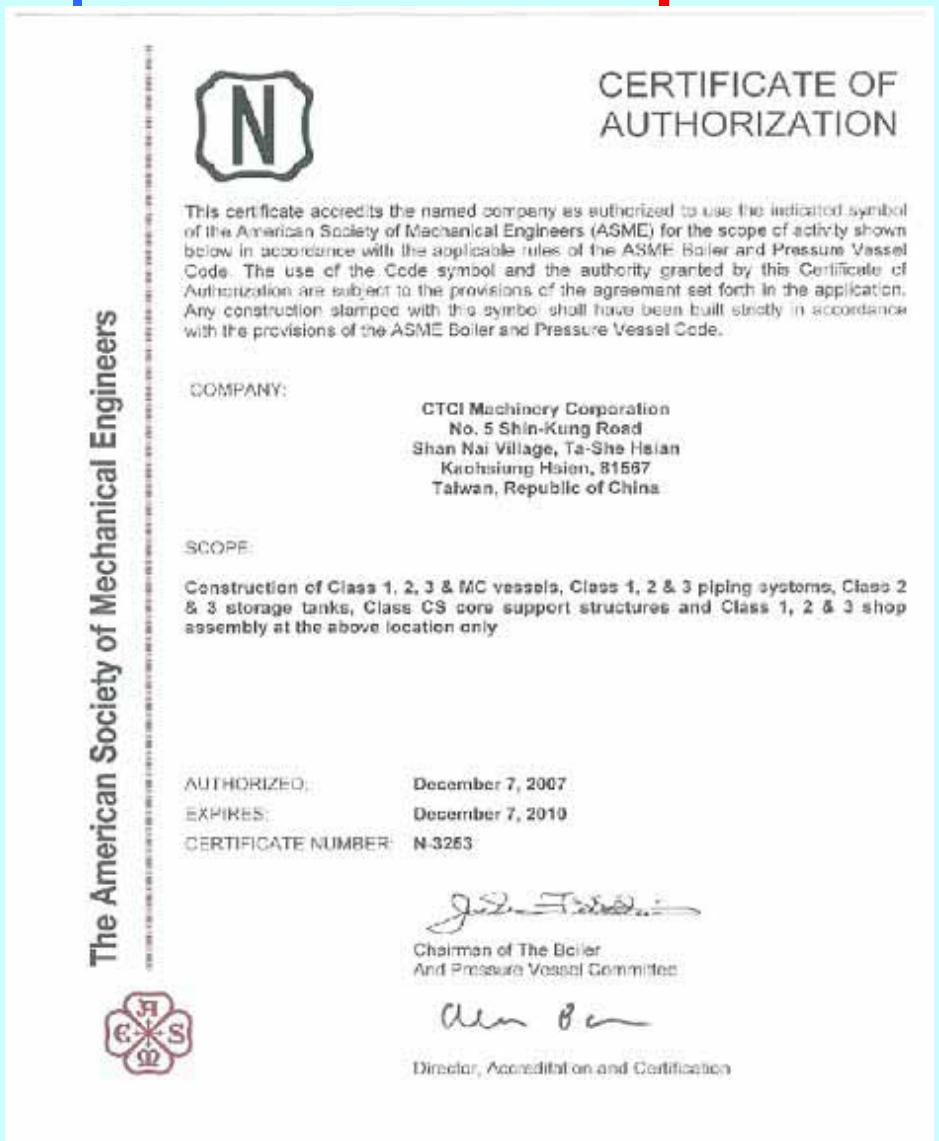
TSC Fabrication Inspection

- Scope of inspection
  - QA program implementation
  - TSC procurement process and documents
  - Dimensional check of TSC
  - Final acceptance check of cask assembly
  - Qualification of welders

TSC Fabrication Inspection

- Inspection results
  - CTCIM got the N certificate of ASME before manufacturing.
  - Based on a review of QA documents, the team concluded that CTCIM provided adequate quality controls which fit QA requirements.

TSC Fabrication Inspection



The American Society of Mechanical Engineers

CERTIFICATE OF AUTHORIZATION

This certificate accredits the named company as authorized to use the indicated symbol of the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the Code symbol and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with the symbol shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

CTCI Machinery Corporation
No. 5 Shin-Kung Road
Shan Nai Village, Ta-She Hsian
Kaohsiung Hsien, 81567
Taiwan, Republic of China

SCOPE:

Construction of Class 1, 2, 3 & MC vessels, Class 1, 2 & 3 piping systems, Class 2 & 3 storage tanks, Class CS core support structures and Class 1, 2 & 3 shop assembly at the above location only

AUTHORIZED: **December 7, 2007**
EXPIRES: **December 7, 2010**
CERTIFICATE NUMBER: **N-3263**

Chairman of The Boiler
And Pressure Vessel Committee

Director, Accreditation and Certification

N certificate for CTCIM

TSC Fabrication Inspection

- The inspection team verified that Class A materials (support disk, heat transfer disk and fillet) were procured appropriately.
- The assembly was found to be successfully accomplished by qualified personnel.

TSC Fabrication Inspection

- Two "*Notices for Correction*" were issued
  - An impact dent was found at the edge of one shielding lid. An assessment of the cause and corrective actions was requested.
  - The supplier who issued the welding material CMTR failed to follow the QA program. A nonconformance report is required.
- TPC's corrective action plan for these two *Notices for Correction* was reviewed and accepted by AEC.

TSC Fabrication Inspection

First completed TSC manufactured by CTCIM

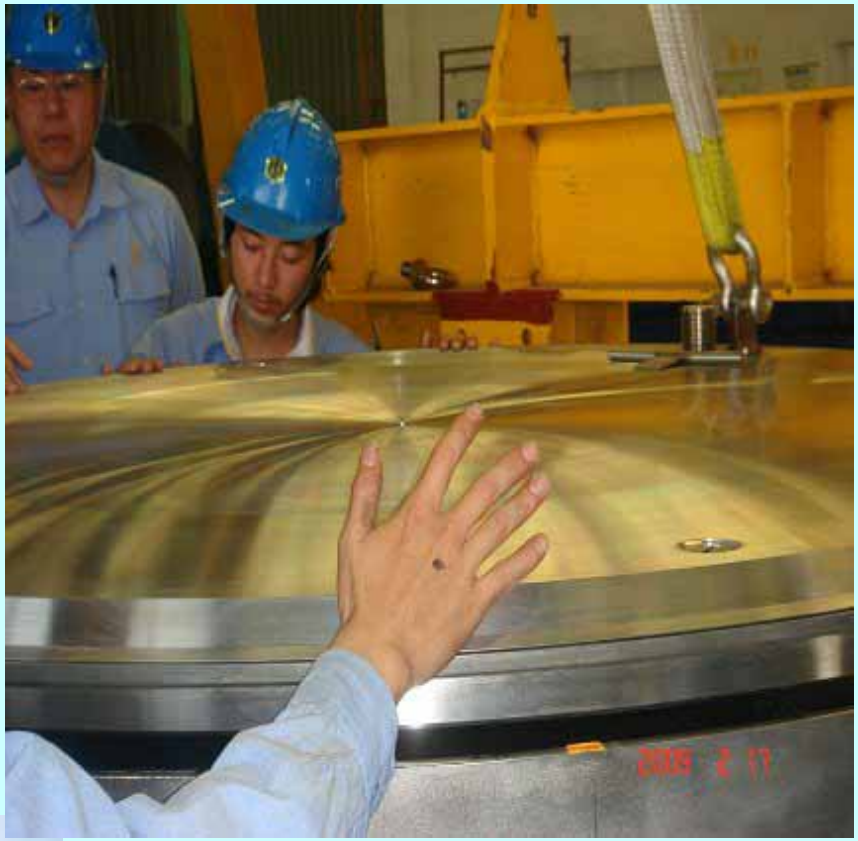
TSC Fabrication Inspection

Dummy fuel plug in test during final acceptance check

TSC Fabrication Inspection

Shielding lid assembly test during final acceptance check

TSC Fabrication Inspection



Structure lid assembly test and dimension check

Concluding Remarks

- AEC has built up the inspection system on ISFSI program
- NRC experts provided abundant of informative lecture
- Thanks for NRC experience sharing, AEC inspection work on cask fabrication is being well
- AEC is expected to get the necessary assistance from USNRC on other important ISFSI issues, such as inspection experience on preoperational test.

Thanks for your attention