INMM 35th Spent Fuel Management Seminar

Spent Fuel Management Activities: Operator and Manufacturer Perspectives

Joel Manship, Vice President Business Development

Where people make the Major difference.

1458 East 19th Street | Indianapolis, IN 46218-4289 | tel 317.636.6433 | fax 317.634.9420 | MajorTool.com
Where people make the Major difference.

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the Major Difference

Build-to-print Contract Manufacturer
- Founded in 1946
- Privately Owned
- ~400 Employees
- 600,000 sq. ft. manufacturing – environmentally controlled
- $100 million sales (annual)
- Non-Union
- Located in “Crossroads of America”
- Domestic / International customer base

World-Class Manufacturing Services
- Concurrent engineering during design / development
- Experienced Project & Program Management
- Precision Machining
  - Turning up-to 43’ in Diameter
  - 5-Axis Milling up-to 90’ continuous
- Welding & Fabrication (recognized by ASME)
  - Commercial, Pressure Vessels, Nuclear
- Finishing, Assembly & Testing
- Prototype through Production

Team Based Organization
- Customer Focused Teams (CFTs)
- Manufacturing & Continuous Improvement Teams
- Value-Added Support Teams

World-Wide Customer Base:
- Nuclear & Natl. Lab 23%
- Aerospace & Defense 46%
- Power Generation 18%
- Oil & Gas 13%

- Nuclear Emphasis since 2003
- Market Diversity Sustained and Essential
- Continuous Reinvestment in Facilities, Technology, People
Our Campus

Future Growth
- ~ 130,000 sq. ft. available for development

Plant 3
- Small Welding (< 5ft)
- Small Machining (< 5ft)
- ~ 80,000 sq. ft.

Plant 4U
- Human Resources
- Supply Chain
- Health Care Clinic
- Fitness Center
- Welding Training Center
- Machining Training Center
- ~ 110,000 sq. ft.

Plant 2
- Medium & Large Fabrication
- Medium & Large Machining
- Blast & Paint
- NDE
- ~ 160,000 sq. ft.

Plant 1
- Small / Medium Milling
- Small / Medium Turning
- ~ 60,000 sq. ft.

Building 20
- Dedicated Programs
- Material Processing
- Shipping & Receiving
- Assembly
- ~ 165,000 sq. ft.

Plant 1
- Administrative Offices
- Executive Management
- Engineering (CFT)
- Finance
- Sales & Marketing
- ~ 15,000 sq. ft.

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Market Diversity
Major Tool & Machine applies our combination of unique equipment, skilled personnel, and audited quality assurance accreditations to meet the growing demands of the nuclear industry.

Specifications and requirements for fabricating, machining, assembling and testing of nuclear hardware call for specialized manufacturing methods, equipment, facilities, and skill sets.

Our employee qualifications, facilities, and systems comply with the rigorous specifications of both nuclear customers and regulatory authorities and adhere to the most stringent quality assurance requirements in the industry.

MTM excels in the following areas:

- Spent Fuel & Nuclear Materials Packages
- Processing Equipment
- Propulsion and Power plant
- Sciences
- Research
Nuclear Customers Served
Nuclear Fuel Cycle Expertise
the Major Difference

BTSP (cutaway)

TEF Cask

JP Package

T-3/6 CVL Independent Fuel Canisters

9977 – General Purpose Fissile Package

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the Major Difference

Defense Waste Canisters
Horizontal Emplacement Machine
Shipping Container

MOX Gloveboxes
MOX Gloveboxes
MOX Gloveboxes
# Certifications

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<td><strong>Aerospace Industry:</strong></td>
<td>AS9100 Rev. D (Design Excluded)</td>
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<td>Nadcap for Welding</td>
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<td><strong>Pressure Vessels (ASME):</strong></td>
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<td>U2 Certification</td>
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<td><strong>Vessel Repair &amp; Registration:</strong></td>
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<td>NB Certification (N,N3,NA,NPT,NS)</td>
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NDT | NDE Capability

Complete NDT & NDE Capability

• Radiography (RT)
• Magnetic Particle (MT) | Wet Fluorescent & Dry Powder
• Penetrant (PT) (Types I & II) Fluorescent & Visible Liquid
• Visual Inspection (VT & CWI)
• Ultrasonic Testing (UT)
• Helium Leak Testing
  • 5-Large Volume mechanical and turbo molecular pumps. 2-Varian MR 15 VS Leak Detectors
• Pressure Change Leak Testing (PCLT)
• Pneumatic Load Testing (LT)
• Large CMM & Laser Trackers

*All NDE programs are supported by ASNT certified Level III inspectors and all in-house Level II certifications are conducted in accordance with SNT-TC-1A and NAS410.
Finishing, Assembly, Testing

Blast, Prime, Paint, Functional and Load Testing

Full Electro-Mechanical Assembly

Helium Leak Testing
Looking Toward Our Bright Future...

But challenges need to be addressed
Manufacturing Perspective

- Market conditions
  - Labor
  - Capacity
  - Competency
  - Risk Mitigation

- Place focus on front end
  - Investigate
  - Validate
  - Collaborate

- Assurance v. Insurance