Valve Trim Machine Services

BEFORE

AFTER
MegaWatt Machine Services (MMS), an integral entity of Anvil’s Power and Process group, specializes in providing complete project support for severe-service valve repair, replacement parts, and field services to safety related requirements. Utilizing Nuclear Regulatory Commission (USNRC) and/or industry Electric Power Research Institute (EPRI) methods we can provide aftermarket “like for like” replacements of ferrous and non-ferrous metal parts. Our team of highly skilled engineers, machinists, field service technicians, and quality personnel are industry experts in reverse engineering and the remanufacturing of large cross sections of parts and assemblies critical in all areas of a Nuclear Plant.

Our 10 CFR Part 50 Appendix B quality program, high tech 3D scanning and reverse engineering technology in conjunction with our exceptional machining capabilities and surfacing technologies, ensures that your parts will meet or exceed their original specifications and services for a fraction of the Original Equipment Manufacturer (OEM) price.

MMS can manufacture high quality replacement parts saving you time and money, with faster delivery times and longer usage-life.

MMS stands by their craftsmanship and warrants the quality and dimensional accuracy of all our fabricated components.

MMS stocks a wide range of mill-certified metals and alloys such as multiple varieties of stainless steel, Inconel®, Hastelloy® and tungsten-carbide. In addition to our state of the art CNC machining and precision grinding, we specialize in microscopic-welding, hard surfacing, heat treating and various coatings.

MMS offers 24 hour, 7 day service as well as on-site inspection and repair. We specialize in forced outage situations and understand the criticality of delivering exceptional quality on time. By providing a used or sample part for reverse engineering, MMS can work with you to recover the original item’s design characteristics to create and stock new spares or quote your parts.
With over 250 years of combined engineering, quality and field service experience working directly with Nuclear utilities, the Anvil & MMS team has the depth of knowledge needed to provide aftermarket ferrous and non-ferrous metal parts. Using the industry developed guidance outlined in EPRI TR-107372, MMS will work with you to accurately recover the original design intent and provide like for like replacements for hard to find and obsolete items.

Through the application of state-of-the-art technology, MMS personnel can utilize a used part to create a highly accurate 3D surface drawing or solid model. Data is verified utilizing multiple methods with no part being too complex or intricate for our process. In addition, MMS can in some cases improve the parts and assemblies beyond the OEM specifications increasing performance and extending the longevity of the components.

Our ASME NQA-1 QA program ensures that the parts are made to the highest quality standards and with complete traceability when required.
Superior Performance & Wear

MegaWatt Machine Services continually strives to find ways to improve the performance and extend the life of your parts. Our extensive knowledge allows us to refine part performance by tightening critical dimensions, using superior base materials, and/or applying hard-surfacing on critical areas and wear locations. Our hard-surfacing provides protection against cavitation, flashing/erosion, vibration/noise, turbulence, corrosion and abrasion. We also offer coatings such as Stellite® overlay, ion-Nitride, heat-treating and HVOF.

Plasma Transferred Arc System (PTA) via Stellite® Coatings

PTA is a high energy, inert gas welding process that produces a very high quality deposit. This deposit offers optimal protection with minimal dilution or deformation of the base material. PTA is ideal for perfectly applying very precise coatings of controlled alloys on mechanical parts that are subject to intense wear, significantly extending their service life. PTA coatings are particularly effective in protection against corrosion, thermal shock and abrasion. With a wide variety of overlay alloys available, MMS experts can select the correct alloy for the part.
Severe Service Valve Parts, Repair, Replacement & Upgrades

Through our years of experience, MMS has developed industry leading expertise in severe-service valve repair, replacement parts and field service. Specializing in complete project support, we guarantee the dependability of all our valve repairs and new valve parts. MMS is your most comprehensive source for OEM replacement severe-service control-valve trim parts including: disc stacks, plugs, stems, cages, seats, bonnets and guide bushings.

With experience in power generation, oil & gas, paper, chemical and food/beverage industry valves, we have hands-on expertise with all brands of air-operated valves (AOV) and motor operated valves (MOV) and trim parts.

Below is a partial list of valve OEM’s that MMS repairs and manufactures new replacement parts for including obsolete and discontinued parts:

- Fisher®
- CCI-Drag®
- BTG/Sulzer
- Valtek®
- Copes-Vulcan®
- Masoneilan®
- Yarway®
- Pacific®
- Edwards®
- Siemens® - Westinghouse®
- WEIR/Atwood-Morrill®
- GE®
- Velan®
- ABB/Alstom®
- Toshiba®
- Anchor-Darling®

And all other OEM’s
Critical in power generation applications, steam turbine valves can take a beating during the course of regular operations. **MMS** understands and has seen the damage that can occur on these parts. With experience in power generating stations around the world and an intimate knowledge of valve assemblies from a wide variety of manufacturers, our personnel not only know how to repair the damage but in some cases, **MMS** can improve the parts and assemblies beyond the OEM specifications increasing performance and extending the longevity of the components. Through our expertise and vast parts database, we are familiar with various OEM design flaws and have developed revised specifications to fix these issues. We can also incorporate upgraded materials to address over wear and eliminate early part failure. We offer inspection, repair, restoration and upgrades for many types of valves: main-stop, reheat, intercept, control and governor valves. We also manufacture valve stems, discs, plugs, caps, seats strainers, cam shafts, cross-heads and guide bushings. There is not a valve or valve component we can’t handle.

**Why put up with the OEM’s overpriced rates and long delivery times?**

**MMS** can manufacture your parts and assemblies at a fraction of the price OEMs would charge while also turning them around in significantly shorter lead-times. We even offer emergency service for outage situations.
One of the special services MMS offers is disc stack cage repair. This state-of-the-art precision repair process demonstrates MMS’s precision craftsmanship and exceptional capabilities.

At any plant, a multi-disc stack with damage impeding the flow path would normally be thrown away and the plant would be forced to purchase a new one from the OEM. MMS has developed a process to fix this damage and recondition the disc stack to like new condition with no change to the original flow characteristics. This service is offered at a fraction of the cost of a new disc stack and typically can save thousands of dollars per disc stack and millions over the course of operation.
Reconditioned Disc Stack (After)
Outage Management, Field Service & Machining

Anvil Power & Process offers worldwide coverage for on-site walk downs, field service, project management, on-site testing, inspection and machining for all types of valves, pipe supports and hydraulic shock suppressors.

Our dedicated team of highly qualified and trained technicians can handle:

- In-Line Valve Restoration
- Trim Swap Out
- In-Line Field Machining:
  - Lathes + Mills
  - Seat Grinding
  - Seat Lapping
- Limitorque® Actuator Support
- Valve Repacking
- Electronic Valve Setting Services
- Actuator Calibration
- Leaking Actuator Repair
- Equipment Upgrade Installations
- Foreign Material Exclusion (FME)
- Bolt Tensioning
- Diagnostic Services
- Preventative Maintenance
- Troubleshooting of Repetitive Problems
- NDE, Alloy Analysis
- Hydraulic & Mechanical Snubber Testing
- Hydraulic & Mechanical Snubber Rebuilds
- Pipe Support Inspections

We offer **24 hour emergency service** as well as pickup and delivery of parts for reverse engineering and manufacture.

To schedule outage service or preventative maintenance, please contact your local sales representative or MegaWatt Machine Services at **732-805-4000.**