



LOCK-N-STITCH Inc.
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Gas turbine shell crack repair final report

Customer: Exelon Power Generation
Contact: Carlos Lopez
Address: 10202 Strang Rd
City, State, Zip: La Porte, TX 77571

Phone: (817) 791-7269
Alt phone:
Fax:
Date: 10/24/13

Part: GT-1

Serial number:

Inspected by: David Werther

1. Base metal

- cast iron
- ductile iron
- cast steel
- cast aluminum
- other _____

4. Cause of damage

- impact
- heat
- freezing
- normal operation
- other _____

2. Machinability

- no previous repairs
- arc-welded
- brazed
- heat-related cracks
- other _____

5. Length of crack/s

54 total inches

3. Casting shape where cracked

- flat
- inside/outside corner
- radius
- other _____

6. Material thickness

3/8" to 1 3/4"

7. Operating pressure

8. Operating temperature

9. Working environment

hot
 cold
 safety concerns
describe: _____

other _____

10. Remachining requirements

bolt holes
 bearing bores
 machined surfaces
 other _____

11. Customer's needs

permanent repair
 temporary repair
 turnaround time
describe: _____

other _____

12. Accessibility

room for the tools?
 room for the operator/s?
 need for disassembly?
describe: _____

other _____

13. Inspection method(s): Visual and NDT

14. Damage found:

#1 Bolt hole on A side of upper shell



Drilling for lock after metal stitching



Completed repair after finish work



#2 Bolt hole on B side of upper shell



Facing off the insert to match part



Completed repair after finish work



#3 Bolt hole on B side of upper shell flange



Metal stitching in process



Stitching, locks, and insert complete



#4 Bolt hole on A side of lower shell



Installing Castmaster stitching pins



Stitching and locks completed



#5 Bolt hole on B side of lower shell



Stitching using Castmaster pins



Hand finishing to match part



Installation of custom manufactured inserts to reinforce cracked bolt holes



Reinforcement brackets were manufactured and installed on both sides for additional strength



Conclusion: The repair was completed using Castmaster stitching pins and Full-Torque inserts in order to remove and seal the cracks that were found in the unit. Locks and reinforcement brackets were installed for added strength.

