









Case Histories: Construction

Biach engineers respond to one of a kind problems encountered by customers in many diverse industries.

Torus Support Assembly	
<p>Customer: CBI / Fitzpatrick Nuclear Plant</p> <p>Problem: For the bolting up of the Torus supports, Chicago Bridge and Iron could not get accurate loading of anchor bolts using torque wrenches.</p> <p>Solution: Biach provided tensioners which provided a test load of 170 kips and a residual load of 150 kips to the 2" anchor bolts.</p>	
Anchor Bolting	
<p>Customer: TVA / Hartsville and Phipps Bend Nuclear Plants</p> <p>Problem: Customer installed 75 to 100 anchor bolts a day. They were concerned about speed and repeatability.</p> <p>Solution: Using Biach tensioners they installed the anchor bolts 2.5 times faster than they had estimated.</p>	
Pre-stressing Concrete Bridges	
<p>Customer: DYWIDAG</p> <p>Problem: In the fabrication of large concrete structures, such as bridges, towers, skyscrapers, walls, etc., threaded bar tie rods must be pre-tensioned prior to pouring concrete. The load on the bars must be accurate and uniform to prevent cracking of the concrete after it cures.</p> <p>Solution: Biach designed a series of tensioners to provide this accurate stud loading on this unusual threaded design.</p>	
Nuclear Vessel Construction – Internals Assembly	
<p>Customer: P.F. Avery</p> <p>Problem: Inaccessible stainless steel tubes had to be loaded. There were no tools available.</p> <p>Solution: Biach designed and built a special remote loading device having a split puller bar which loaded the tubes and ran down their nuts.</p>	
Hanger Construction - Tie Rod Tensioning	
<p>Customer: Herrick / Boeing</p> <p>Problem: Customer designed and was building a hanger for the new Boeing 747. The roof was supported by a series of many tie rods, which required axial loading.</p> <p>Solution: Biach provided a tensioner for the two 1/4" studs with adapters to address four other stud sizes. The tensioner had a 1" stroke to allow for elongation of the tie rods.</p>	

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Case Histories: Construction, Continued

Power Plant Construction – Chimney Anchorage	
<p>Customer: Union Boiler Company</p> <p>Problem: Customer had to anchor a very tall smoke stack for a fossil plant. Government regulations required accurate anchor bolt loading.</p> <p>Solution: Biach provided a 380,000 lb. capacity tensioner to properly load the bolts.</p>	
Mining and Tunnel Construction – Drilling Large Holes	
<p>Customer: Reed Tool Company</p> <p>Problem: In the boring of tunnels, large rotating blades having carbide bits, cut through such hard materials as granite, coal, rocks, etc. This induces tremendous vibration and stress to the bolted joints.</p> <p>Solution: To prevent the drill bits from working loose during the drilling operation, Biach provided high capacity, short stroke tensioners.</p>	
Mining – Rotating Gear Segment Mounting	
<p>Customer: Marion Power Shovel</p> <p>Problem: Continual operation required checking and re-tightening mounting bolts.</p> <p>Solution: Biach designed a special tensioner to address this application for this customer and the original equipment manufacturer – Marion Power Shovel.</p>	
Pipe Supports in Nuclear Plants	
<p>Customer: Pullman Power Products</p> <p>Problem: Customer was looking for a method of simultaneously and accurately loading studs on pipe clamps.</p> <p>Solution: Biach provided six sizes of tensioning systems for clamps using 1/2" to 2" diameter bolts for suspension of pipes ranging in sizes from 6" to 24" in diameter.</p> <p>Note: Biach has also addressed Graylok Clamps.</p>	