



## Water Intake Inspection

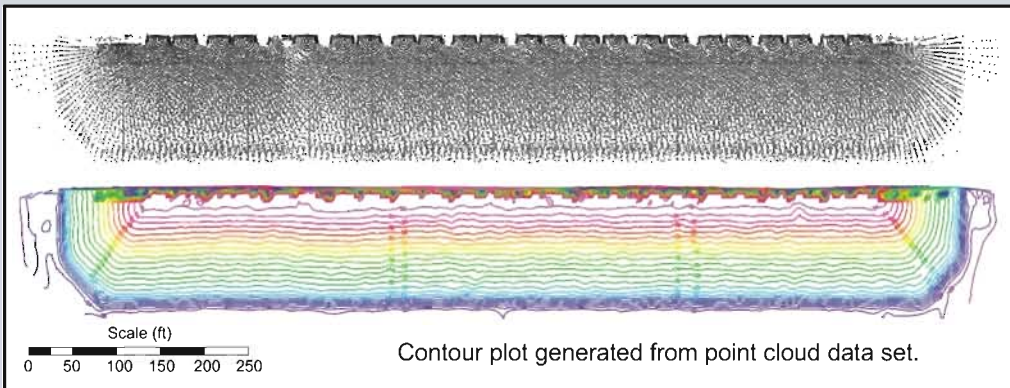
The US Energy Administration reports there are approximately 5,800 operational power plants in the United States with a nameplate generation capacity of at least one MegaWatt. In 2010, the US electricity generation was 4361 billion kWh gross, 46% of it from coal-fired plant, 23% from gas, 19% nuclear and 6.5% from hydro.

Maintaining a water supply to these facilities is critical for operation; therefore, inspecting water intakes for debris buildup is required. Scanning sonar is a cost effective tool to monitor sediment/debris accumulation inside of or adjacent to these structures.

To collect the data for this project, ASI Group Ltd. fitted the high resolution scanning sonar head to a pan-drive rotator giving the sonar head second-axis capability.



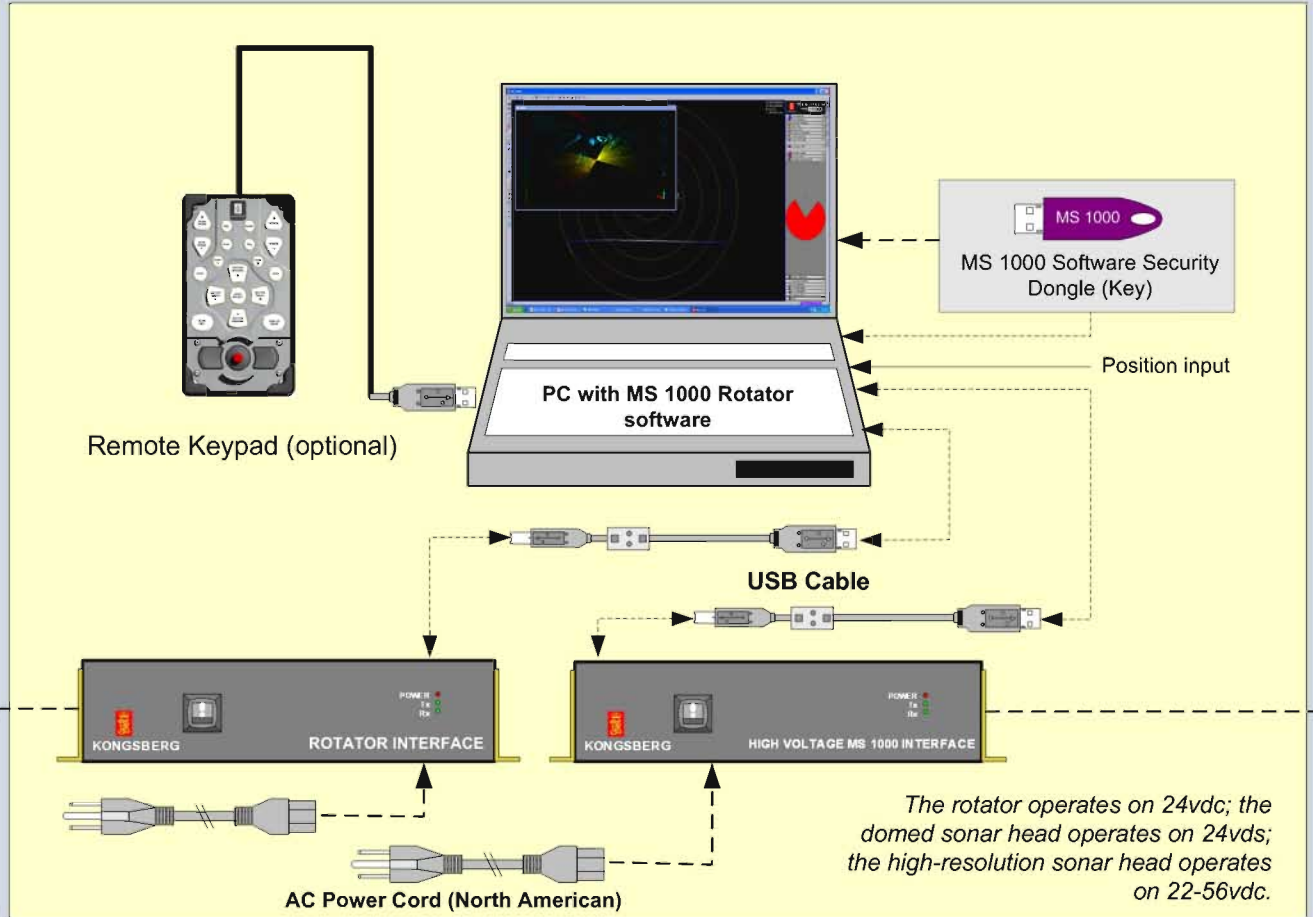
The dual axis scanning sonar was deployed using an inverted "Texas Tower." This allowed the facility to operate at full capacity as only one gate at a time had to be shut down.



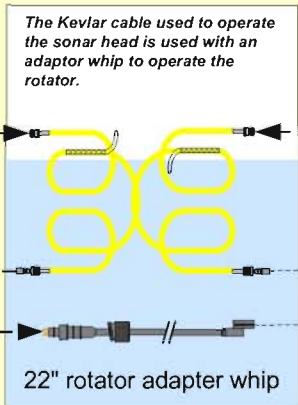
The 3D images show water intake bays at a power generation station. Profile points were collected and time-tagged with head position, azimuth, and second axis-drive angle. The data sets were then batch-filed and merged into this *point cloud* presentation.



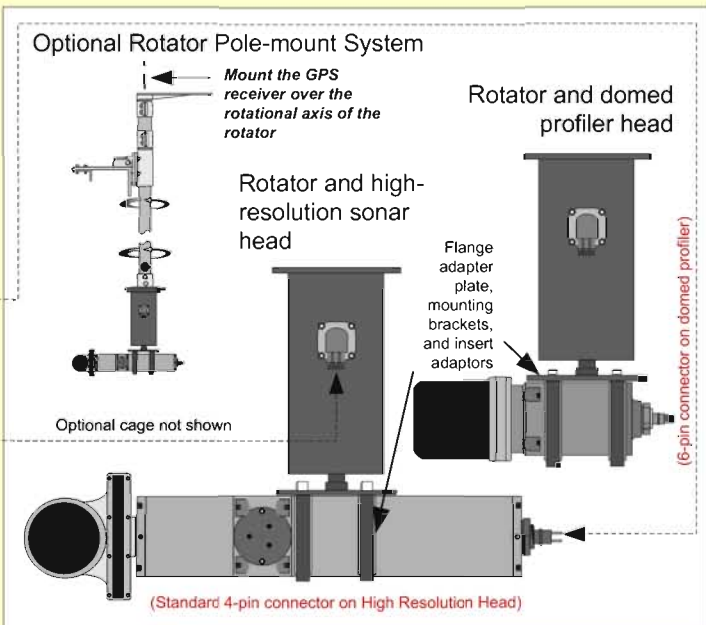
### 3D MS 1000 Profiler System Configuration



### MS 1000 Scanning Sonar and Rotator Arrangement



**Kevlar Operation's Cable:**  
Clean the connector and lightly coat inside with non-conductive o-ring grease.



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