G.1 (Cont'd)
A bar check was conducted at the end of data collection with satisfactory results. A comparison of digital and analog readings was also done in the check.

   e) All sounding correctors were applied to both the narrow (100 kHz) and the wide (24 kHz) beams.

   f) The static draft of launches MI-3 (VesNo 2223) and MI-4 (VesNo 2224) was determined in April, 1993 while the launches were out of the water at the Atlantic Marine Center, Norfolk, Virginia. A calibrated steel tape was used to measure the distance from the transducer to a reference line on the launch above the waterline. The launches were then put in the water and the distance from the waterline to the reference line was measured. Static drafts of 0.6 meters were used in HDAPS Offset tables for both launches (refer to Separate III). *

   g) Settlement and squat correctors for each launch were determined, using procedures outlined in the Hydrographic Manual, on the Elizabeth River on April 30, 1993. An observer, stationed with a level on a pier, measured changes in relative height as each launch ran toward and away from the observer at various speeds. Settlement and squat correctors were applied to soundings through the HDAPS offset table. Refer to the Sounding Equipment Calibrations and Corrections Report for a more detailed description of static and dynamic draft determination. *

   h) Neither launch is equipped with a heave, roll and pitch indicator. For this sheet wave action was minimal to nonexistent.

G.2 Pneumatic depth gauges were not used in this survey.

G.3 a) The tidal datum for this project is mean lower low water. The operating tide station at Grand Isle, Louisiana (876-1724) served as reference station for predicted tides, and a tide station at East Isles Dernieres (876-2888) was established by ship's personnel as the direct control for datum determination. Predicted tidal data for Grand Isle tides was provided on floppy magnetic disk before the start of the project. Approved tables were applied during office processing.

   b) The height and time correctors listed below were provided in the Project Instruction for the project area, and applied to the Grand Isle predicted tides to generate an on-line predicted tide table:

<table>
<thead>
<tr>
<th>HYDROGRAPHIC AREA</th>
<th>TIME</th>
<th>HEIGHT RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>East of 090° 30.0' W and West of 090° 20.0' W</td>
<td>High Water -30 min</td>
<td>Low Water -30 min</td>
</tr>
</tbody>
</table>

The tide tables were applied on-line and during processing of sounding data. For a more detailed overview of tidal information please refer to Appendix V. *

* FILED WITH THE ORIGINAL FIELD RECORDS.

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G.3 (Cont'd)
c) No zoning is required for this project.

H. CONTROL STATIONS

H.1 The horizontal datum for this project is the North American Datum of 1983 (NAD 83).

H.2 The list of Horizontal Control Stations is located in Appendix III.

H.3 The two DGPS reference stations listed below were used during this survey. A NOAA HF Flyaway DGPS transmitter was installed on station Muench and used to control this survey. The USCG Beacon in New Orleans was used as an independent DGPS station for performance checks of the HF station and as a backup.

The position for the USCG New Orleans beacon was published via memo from Hydrographic Surveys Branch on July 16, 1993 and is a B-order position. Station Muench was established by Coastal Survey Unit, Field Photogrammetry Section, Photogrammetry Branch, in 1989 for a NOAA Ship Whiting project. The Third order Class I position for station Muench was obtained from the Field Photogrammetry Section and verified by MT MITCHELL personnel using the NOS MONITOR program.

<table>
<thead>
<tr>
<th>Reference Station</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>USCG Beacon, New Orleans, LA</td>
<td>29° 52' 43.87808&quot;N</td>
<td>089° 56' 31.38025&quot; W</td>
<td>293 kHz</td>
</tr>
<tr>
<td>Muench 1989, Grand Isle, LA</td>
<td>29° 15' 57.30111&quot;N</td>
<td>089° 57' 17.39008&quot; W</td>
<td>2.7745 MHz &amp; 6.9790 MHz</td>
</tr>
</tbody>
</table>

H.4 No horizontal control stations were established by the MT MITCHELL during this survey.

H.5 Refer to the Electronic Control Report submitted with this survey for a description of station recovery and verification procedures of station Muench.

H.6 No problems or anomalies were encountered in positioning control of this survey.

I. HYDROGRAPHIC POSITION CONTROL

I.1 The primary method of sounding position control was Differential Global Positioning System (DGPS).

I.2 At no time in this survey did the estimated position error consistently exceed 15 meters (1.5 mm at the survey scale).