From: Naval Inspector General

Subj: HEALTH AND SAFETY INSPECTION OF NAVY REGION MID- ATLANTIC

Ref: (a) PDASN (EI&E) Memorandum of 13 Dec 16

Encl: (1) 2017 Region Mid- Atlantic Health & Safety Inspection Report

1. Per reference (a), the Naval Inspector General inspected facilities at two installations for compliance with applicable health and safety requirements. We inspected Naval Submarine Base New London and Naval Station Great Lakes from 24 April through 5 May 2017.

2. We found deficiencies at both installations result in low to moderate risk to mission. We do not, however, have reliable data to demonstrate how additional investment would improve safety performance. During our inspection, we validated the concerns of Commander, Navy Region Mid-Atlantic regarding reduced funding levels for safety programs and the lack of interoperability between safety systems of record. Further details are included in enclosure (1). NAVINSGEN will forward a complete list of deficiencies and recommendations to the regional commander.

3. My point of contact is [b] (7)(C) Directors of Inspections. [b] (7)(C) can be reached at [b] (7)(C) or e-mail at [b] (7)(C).  

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Executive Summary

The Naval Inspector General (NAVINSGEN) conducted health and safety inspections at Naval Submarine Base New London (NAVSUBBASE NLON) and Naval Station Great Lakes (NSGL) from 24 April to 5 May 2017.

Leaders at both installations were committed to creating a safe working and living environment, but our findings indicate both installations have room for improvement in fully attaining compliance with Navy standards. Although we inspected the same number of buildings at both installations, we found significantly different results. Namely, the facilities in New London averaged 24 deficiencies per building, compared to only 15 deficiencies per building in Great Lakes. The vast majority of deficiencies were low risk, and the installations worked immediately to address any critical or serious deficiencies.

We also observed the measurable difference command culture makes on finding and correcting safety hazards. We attribute the lower numbers of total deficiencies found at Great Lakes to that installation’s focus on its primary mission of recruit and student training and the careful attention paid to the material readiness and general appearance of the training environment. Most of the total deficiencies - and all of the critical deficiencies - at Great Lakes were located in areas such as mechanical rooms and storage areas that are not normally accessible to Sailors and the base population at large. At New London, on the other hand, where the installation focus is on the waterfront (i.e. readiness of submarines), we found deficiencies in both accessible and inaccessible spaces.

We were unable to find the data necessary to determine whether investing in improved installation-level safety inspection capabilities and the subsequent correction of deficiencies would improve safety performance as measured by mishap, lost time, and fatality rates and workers compensation levels. We intend to further explore this data with the Naval Safety Center, and consider this collaboration when scheduling next year’s inspections. During the out briefs, we challenged the installation commanders to think creatively for alternative solutions during this time of fiscal constraints, perhaps considering technology that enables and empowers all hands to communicate what they see. If Sailors, employees and family members collectively reported safety deficiencies, they would transform our installations from having just a few safety professionals to having hundreds or thousands of them - a high leverage solution.

Methodology

Our team consisted of uniformed military members from NAVINSGEN, augmented by subject matter experts from Commander, Navy Installations Command (CNIC), Naval Facilities Engineering Command (NAVFACENGCOM), the Bureau of Medicine and Surgery (BUMED), and the Naval Safety Center (NAVSAFECEN). We modified our methodology slightly for this inspection, as it was a first of its kind. Whereas we normally compare our findings to the inspected command’s self-assessment, during this inspection we compared our list of safety
deficiencies to those deficiencies already identified by the installation and properly documented.

During each of the one-week visits, our team inspected unaccompanied housing (UH) and community support facilities to assess compliance with health and safety requirements as codified in the Department of Defense Unified Facilities Criteria, as well as applicable Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) regulations. Our multi-disciplinary team, which consisted of electrical, fire protection, and environmental health and safety subject matter experts, inspected buildings as a whole from inside and out, basement to roof top, common areas and spaces with more limited access such as mechanical and storage rooms. In barracks, we looked at a sampling of individual rooms on each floor. At NAVSUBBASE NLON, we inspected all UH facilities except Navy Gateway Inns & Suites and the Chalet. Due to time constraints at NSGL, we inspected a representative sample of recruit, student, and permanent party housing. At both installations, we inspected galleys, fitness centers, child development and youth centers, and various other Morale, Welfare and Recreation (MWR) facilities. Our team identified electrical, fire protection, and environmental health and safety deficiencies, assigned a risk assessment code (RAC) in accordance with OPNAVINST 3500.39C, and checked Navy systems of record to determine whether our findings had been previously identified by installation personnel and documented in Navy systems of record.

Facilities Inspected

### Naval Submarine Base New London

**Unaccompanied Housing**
- Permanent party (bldg 430, 434, 435, 455, 560)
- Student (bldg 488, 492, 534)

**Community Support**
- Galley (bldg 446)
- Fitness centers (bldg 83, 169)
- Indoor pool (bldg 120)
- Liberty center (bldg 569)
- Library and theater (bldg 164)
- Bowling lanes (bldg 485)
- Child development centers (bldg CT383, CT386)
- Youth center (bldg CH905)

### Naval Station Great Lakes

**Unaccompanied Housing**
- Permanent party (bldg 30)
- Student (bldg 177, 635, 831, 834, 6301)
- Recruit (bldg 7101, 7122)

**Community Support**
- Galley (bldg 535)
- Fitness centers (bldg 2A, 4, 440)
- Epicenter (bldg 525)
- Loft (bldg 2A)
- Child development centers (bldg 2700, 3110)
- Youth center (bldg 8190)
- Golf course (bldg 3311, 8400)
Region Concerns

During the inspection, we validated two concerns identified by Commander, Navy Region Mid-Atlantic (CNRMA) prior to the inspection. The first concern was reduced funding levels in military construction (MILCON) and Operations & Maintenance, Navy (O&MN) accounts. We observed that reduced MILCON funding levels led to older facilities on average at each installation. The older buildings were built to older and less safe building codes. For example, some buildings without fire sprinklers would have them under today’s codes. We also observed manpower cuts equate to fewer safety professionals and building inspectors available to conduct health and safety inspections, and installations have constrained budgets for correcting deficiencies. We observed, however, that the culture of the workforce and building occupants can make a measurable difference regardless of the age of the facilities, as can be seen by the difference in the number of deficiencies per building between the two installations.

The second concern was the lack of interoperability between the Enterprise Safety Applications Management System (ESAMS) and Maximo (NAVFAC’s computerized maintenance management system). We observed the enterprise Military Housing (eMH) system is not interoperable with either ESAMS or Maximo. Moreover, the systems do not support the end-to-end process of identifying and correcting health and safety deficiencies. Contributing to the inability of these systems to support these processes is the sharing of responsibilities among CNIC, NAVFAC, BUMED, and NAVSAFECEN – there is no single process owner. We observed similar "stove-piping" of responsibilities during our area assessment to Japan; it is a complexity that challenges the ability of installation commanders to effectively perform their mission. As a result, the Navy does not have the data necessary to determine whether investing in improved installation-level safety inspection capabilities and the subsequent correction of deficiencies would improve safety performance as measured by mishap, lost time, and fatality rates and workers compensation levels.

Observations and Findings

We identified deficiencies in each building inspected, regardless of age, condition, location, or function. NAVSUBASE NLON had zero deficiencies documented in eMH. The inspection results are summarized in Table 1 below. Tables 2 through 4 sort deficiencies by RAC, building type, and functional area.
Most of the NSGL deficiencies were in areas such as mechanical rooms, storage areas, and roofs that are not normally accessible to Sailors; most of the common high-traffic areas in these buildings had far fewer safety deficiencies. We observed that installation personnel escorting our team were not aware of many of the deficiencies until we identified them. At NAVSUBASE NLON, many deficiencies were in areas not normally accessible to the base population at large, but we also found some deficiencies in common areas that were actually known to installation personnel escorting our team, yet still not documented in Navy systems of record. This is troubling, and should be a focus area for leadership.

A commonality among both installations was the low percentage of deficiencies we found that were properly documented in Navy systems of record (approximately 20%). We believe the root causes for this situation are a lack of manpower to conduct rigorous safety inspections, differences in inspection methodology, and a general unfamiliarity with Navy electronic safety systems. NAVINSGEN employed a multi-disciplinary team to inspect whole facilities, whereas the various installation-level organizations typically inspect individually with only limited perspective (in their "lane"). For example, Industrial Hygienists typically carry out their surveys separately from other safety professionals and do not look at mechanical rooms or roofs. Other installation-level inspections include zone inspections, annual workplace hazard inspections, annual fire protection surveys, Public Works facilities condition assessments, and mission-related inspections, as applicable. Our data indicates the combined, multi-disciplinary inspections will identify more hazards than the typical practice at most installations of stove-piped inspections that each look at facilities from more limited points of view. We believe the limited funding available for safety programs under common output level standard (COLS) 4 does not provide sufficient resources for pro-active coordination of these various inspection efforts.

**DEFICIENCIES BY RISK ASSESSMENT CODE**

Table 2 provides a summary of deficiencies by RAC. None of the critical or serious deficiencies were documented in the Navy systems of record at either installation, but they were addressed immediately after identification.
2017 NAVINSGEN HEALTH AND SAFETY INSPECTION, NAVY REGION MID- ATLANTIC

<table>
<thead>
<tr>
<th>Deficiencies</th>
<th>Risk</th>
<th>NAVSUBASE New London</th>
<th>Naval Station Great Lakes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAC 1</td>
<td>Critical</td>
<td>2</td>
<td>4</td>
<td>6</td>
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<tr>
<td>RAC 2</td>
<td>Serious</td>
<td>12</td>
<td>13</td>
<td>25</td>
</tr>
<tr>
<td>RAC 3</td>
<td>Moderate</td>
<td>255</td>
<td>157</td>
<td>412</td>
</tr>
<tr>
<td>RAC 4</td>
<td>Minor</td>
<td>97</td>
<td>97</td>
<td>194</td>
</tr>
<tr>
<td>RAC 5</td>
<td>Negligible</td>
<td>58</td>
<td>0</td>
<td>58</td>
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<tr>
<td>Total</td>
<td></td>
<td>424</td>
<td>271</td>
<td>695</td>
</tr>
</tbody>
</table>

Table 2 - Deficiencies by RAC

DEFICIENCIES BY BUILDING TYPE

Table 3 provides a summary of deficiencies by building type. The larger number of deficiencies per building at NAVSUBASE NLON was evident in both UH and community support facilities. There appears to be some parity between the installations for fitness centers, pools, and child development and youth centers. The two installations had nearly the same number of deficiencies in student UH, but NAVSUBASE NLON had three such barracks and NSGL had five. NAVSUBASE NLON, therefore, had more deficiencies per building.

<table>
<thead>
<tr>
<th>Deficiencies</th>
<th>NAVSUBASE New London</th>
<th>Naval Station Great Lakes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UH permanent party</td>
<td>164</td>
<td>21</td>
<td>185</td>
</tr>
<tr>
<td>UH student</td>
<td>113</td>
<td>111</td>
<td>224</td>
</tr>
<tr>
<td>UH recruit</td>
<td>N/A</td>
<td>36</td>
<td>36</td>
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<tr>
<td>UH subtotal</td>
<td>277</td>
<td>168</td>
<td>445</td>
</tr>
<tr>
<td>Galley</td>
<td>28</td>
<td>6</td>
<td>34</td>
</tr>
<tr>
<td>Fit ctrs &amp; pools</td>
<td>41</td>
<td>41</td>
<td>82</td>
</tr>
<tr>
<td>Child dev &amp; youth ctrs</td>
<td>24</td>
<td>20</td>
<td>44</td>
</tr>
<tr>
<td>Other MWR</td>
<td>50</td>
<td>36</td>
<td>86</td>
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<tr>
<td>Community support subtotal</td>
<td>143</td>
<td>103</td>
<td>246</td>
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<tr>
<td>Other areas</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>424</td>
<td>271</td>
<td>695</td>
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</table>

Table 3 - Deficiencies by Building Type

DEFICIENCIES BY FUNCTIONAL AREA

Table 4 provides a summary of deficiencies by functional area. Fire protection deficiencies made up the largest proportion of deficiencies at both installations, although the proportion was higher at NSGL. The number of deficiencies in each functional area was lower at NSGL than
at NAVSUBASE NLON, although the difference was more pronounced for electrical and environmental health and safety than for fire protection.

<table>
<thead>
<tr>
<th>Deficiencies</th>
<th>NAVSUBASE New London</th>
<th>Percent of installation total</th>
<th>Percent of functional area total</th>
<th>Naval Station Great Lakes</th>
<th>Percent of installation total</th>
<th>Percent of functional area total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>112</td>
<td>26%</td>
<td>66%</td>
<td>57</td>
<td>21%</td>
<td>34%</td>
<td>169</td>
</tr>
<tr>
<td>Fire Protection</td>
<td>174</td>
<td>41%</td>
<td>53%</td>
<td>157</td>
<td>58%</td>
<td>47%</td>
<td>331</td>
</tr>
<tr>
<td>Env. Health &amp; Safety</td>
<td>138</td>
<td>33%</td>
<td>71%</td>
<td>57</td>
<td>21%</td>
<td>29%</td>
<td>195</td>
</tr>
<tr>
<td>Total</td>
<td>424</td>
<td>61%</td>
<td>271</td>
<td></td>
<td>21%</td>
<td>39%</td>
<td>695</td>
</tr>
</tbody>
</table>

Table 4 – Deficiencies by Functional Area

Examples of recurring fire protection deficiencies include fire-rated doors damaged or missing hardware or improperly held open, improper firewall penetrations, inadequate or improper fire sprinklers, sprinklers missing annual inspection tags, sprinklers missing hydraulic information, defective emergency and exit lighting, and fire extinguishers lacking required maintenance or service.

Examples of recurring electrical deficiencies include improper use of lock-out/tag-out procedures, outlets and boxes open or missing covers or knockout plugs, inoperative ground fault circuit interrupters (GFCI) or GFCI with incorrect terminations, blocked access to electrical panels, damaged extension cords, extension cord daisy chains, improper extension cord plugs, and exposed wiring.

Examples of recurring environmental health and safety deficiencies include mold on caulking and grout in showers and baths, improper storage of hazardous materials, faded crosswalk markings, damaged stair treads, and trip hazards.

RECOMMENDATIONS

Overall, we believe the deficiencies identified during these inspections pose a low risk to mission execution at both installations. However, collectively, they identify patterns that require attention. We recommend continuing the implementation of Safety and Occupational Health Management Systems, as required by SECONAVINST 5100.10K, in order to improve collection and analysis of safety performance data and identify cost-effective safety measures.

We have already provided Commander, Navy Region Mid-Atlantic with a complete list of deficiencies and recommendations for each installation.