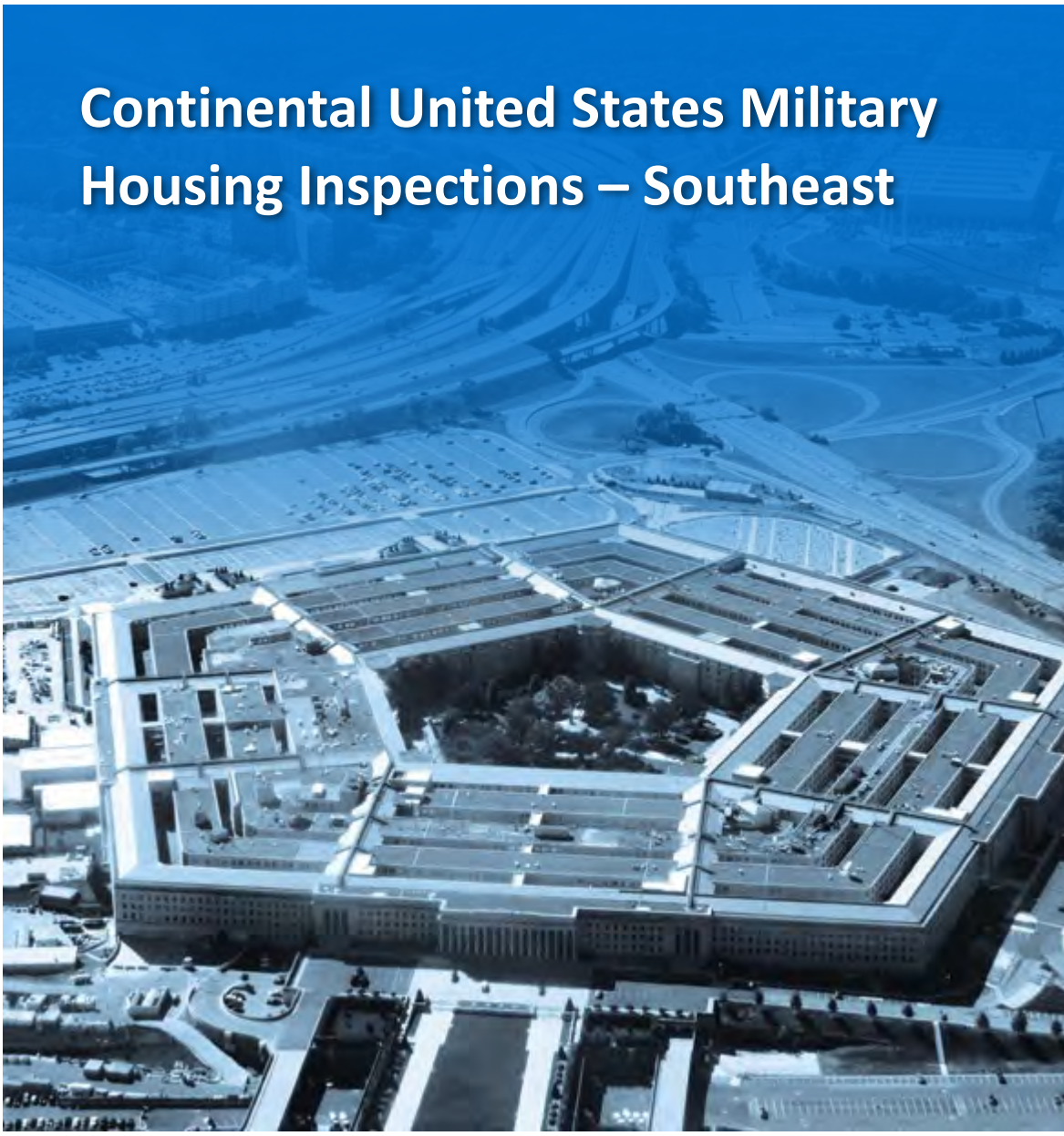
Report No. DODIG-2015-181

INSPECTOR GENERAL

U.S. Department of Defense

SEPTEMBER 24, 2015

Continental United States Military Housing Inspections – Southeast



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Results in Brief

Continental United States Military Housing Inspections – Southeast

September 24, 2015

Objective

Our objective was to inspect DoD military housing at three installations in the Southeastern region of the continental United States—Patrick Air Force Base (AFB), Naval Station (NS) Mayport, and Fort Gordon—to verify compliance with health and safety policies and standards. Those policies and standards include the Unified Facilities Criteria (UFC), National Fire Protection Association (NFPA) codes and standards, National Electric Code (NEC), U.S. Environmental Protection Agency (EPA) standards, and international building codes.

Findings

We found deficiencies at all three installations. The majority of deficiencies identified during our inspections resulted from improper installation, insufficient inspection, and inadequate maintenance of housing facilities. We identified a total of 389 deficiencies that could affect the health, safety, and well-being of warfighters and their families: 212 related to electrical system safety, 138 related to fire protection, and 39 related to environmental health and safety. All documented deficiencies were analyzed to determine the overall findings and recommendations. Of the total deficiencies, we identified 15 critical deficiencies requiring immediate action in notices of concern issued to the commanders of NS Mayport and Fort Gordon.

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Findings (cont'd)

We noted the following overall findings for Patrick AFB, NS Mayport, and Fort Gordon.

- Inspection, installation, and maintenance of housing electrical systems and fire protection systems were not sufficiently performed to ensure the safety of the warfighters and their families, resulting in potential exposure of occupants to electrocution hazards or fire.
- Heating, ventilation, and air conditioning (HVAC) system problems; mold; and moisture were not adequately addressed, resulting in poor indoor air quality and potential exposure of occupants to health hazards.
- A gap exists between the fire protection requirements applied to privatized family housing and those applied to Government-managed military housing, rendering privatized family housing potentially less safe than Government-managed military housing.
- Army publications did not consistently address radon management policy and guidelines. As a result, Fort Gordon had not established a radon assessment and mitigation program.

Recommendations

We recommend that the respective Military Departments, as applicable:

- Conduct an effective root cause analysis and perform corrective actions for all deficiencies identified.
- Verify or create a plan for ongoing inspection and maintenance of all housing units, including privatized housing, to applicable electrical, fire protection, and environmental health and safety codes and standards.

We recommend that the Assistant Secretary of the Army for Installations, Energy, and Environment review its radon policy and ensure that Army publications properly and consistently address radon assessment and mitigation requirements.

Results in Brief

Continental United States Military Housing Inspections – Southeast

Recommendations (cont'd)

We also recommend that the Assistant Secretary of Defense for Energy, Installations, and Environment (ASD[EI&E]):

- Determine the extent to which privatized military housing agreements have omitted DoD fire protection requirements and the risk associated with their omission.
- Execute a plan to improve the inspection and maintenance programs for military housing at all installations throughout the United States.

We made several additional recommendations to address the findings of this report. See the Recommendations sections of the report for more information.

Management Comments and Our Response

ASD(EI&E) did not fully address the specifics of all the recommendations. He disagreed with the recommendation to determine the extent to which DoD fire protection requirements have been omitted from privatized military housing agreements and the associated risk. Based on ASD(EI&E)'s comments, we revised our recommendation to address the inconsistencies between the applicability of the Unified Facilities Criteria and the position taken by ASD(EI&E) regarding fire protection requirements for privatized military housing. Therefore, we request that ASD(EI&E) provide further comments in response to the report.

Management Comments and Our Response (cont'd)

The Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships, responding for the Army, addressed all specifics of the recommendations, and no further comments are required.

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the Navy, addressed the specifics of all but one recommendation. We request that the Commander of NS Mayport provide further comments regarding compensatory measures employed for homes that do not meet the secondary means of egress requirements.

The Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure, responding for the Air Force, addressed all specifics of the recommendations, and no further comments are required. Please see the Recommendations Table on the next page.

Recommendations Table

Management	Recommendations Requiring Comment	No Additional Comments Required
Assistant Secretary of Defense for Energy, Installations, and Environment	J	K
Assistant Secretary of the Army for Installations, Energy, and Environment		I.1
Commander, Fort Gordon		G.1-6, H.1-3, and I.2
Commander, Naval Station Mayport	D.4	D.1-3, E.1-3, and F.1 and 2
Commander, Patrick Air Force Base		A.1-3, B.1-3, and C.1-3

Please provide Management Comments by October 24, 2015.

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

September 24, 2015

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS
ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL MANAGEMENT AND COMPTROLLER)
NAVAL INSPECTOR GENERAL
AUDITOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Continental United States Military Housing Inspections – Southeast (Report No. DODIG-2015-181)

The DoD Office of Inspector General inspected DoD military housing facilities in the Southeastern region of the continental United States for compliance with health and safety policies and standards. We conducted inspections of electrical system safety, fire protection systems, and environmental health and safety, including focus on mold, asbestos, radon, lead-based paint, drinking water quality, and pest management.

We conducted this inspection in accordance with the Council of Inspectors General on Integrity and Efficiency, "Quality Standards for Inspection and Evaluation." We found a total of 389 deficiencies that could affect the health, safety, and well-being of the warfighters and their families. Of the total deficiencies, we identified 15 critical deficiencies requiring immediate action in notices of concern issued to the commanders of Naval Station Mayport and Fort Gordon. All of these critical deficiencies were promptly addressed. The majority of the deficiencies identified during our inspections resulted from improper installation, insufficient inspection, and inadequate maintenance.

We considered management comments on a draft of this report when preparing the final report. DoD Instruction 7650.03 requires that recommendations be resolved promptly. Comments from the Assistant Secretary of Defense for Energy, Installations, and Environment (ASD[EI&E]) did not address the specifics of Recommendation J. He disagreed with the recommendation to determine the extent to which DoD fire protection requirements have been omitted from privatized military housing agreements and the associated risk. Based his comments, we revised our recommendation to address the inconsistencies between DoD policy and the position taken by ASD(EI&E) regarding fire protection requirements for privatized military housing. We request that ASD(EI&E) provide further comments in response to the report by October 24, 2015.

Comments from the Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the Commander of Naval Station Mayport, fully addressed all but Recommendation D.4. Therefore, we request additional comments by October 24, 2015.

Please provide comments that conform to the requirements of DoD Instruction 7650.03. Please send a PDF file containing your comments to [redacted]. Copies of your comments must have the actual signature of the authorizing official for your organization. We

cannot accept the /Signed/ symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff, as well as the rapid response to all critical deficiencies we identified, and the actions taken to address our recommendations. Please direct questions to [redacted].

Randolph R. Stone
Deputy Inspector General
Policy and Oversight

cc:

Assistant Secretary of the Army for Installations, Energy, and Environment
Commander, Fort Gordon
Commander, Naval Station Mayport
Commander, Patrick Air Force Base

Contents

Contents (cont'd)


INSPECTOR GENERAL
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Introduction

Objective

Our objective was to inspect DoD military housing at Patrick Air Force Base (AFB), Florida; Naval Station (NS) Mayport, Florida; and Fort Gordon, Georgia, to verify compliance with health and safety policies and standards. Applicable policies and standards include the Unified Facilities Criteria (UFC), National Fire Protection Association (NFPA) codes and standards, National Electric Code (NEC), U.S. Environmental Protection Agency (EPA) standards, and international building codes. See Appendix A for additional information about the scope and methodology of this project.

Background

This inspection project verified whether the environmental health and safety policies and standards are in place to protect our warfighters and their families and ensure adequate quality of life is provided by military housing facilities in the United States.

The DoD Office of Inspector General (OIG) previously performed similar inspections of military housing facilities in Asia, specifically throughout Japan and the Republic of Korea. The results of these inspections can be found in DoD IG Report No. DODIG-2014-121, "Military Housing Inspections – Japan," September 30, 2014, and DODIG-2015-013, "Military Housing Inspections – Republic of Korea," October 28, 2014.

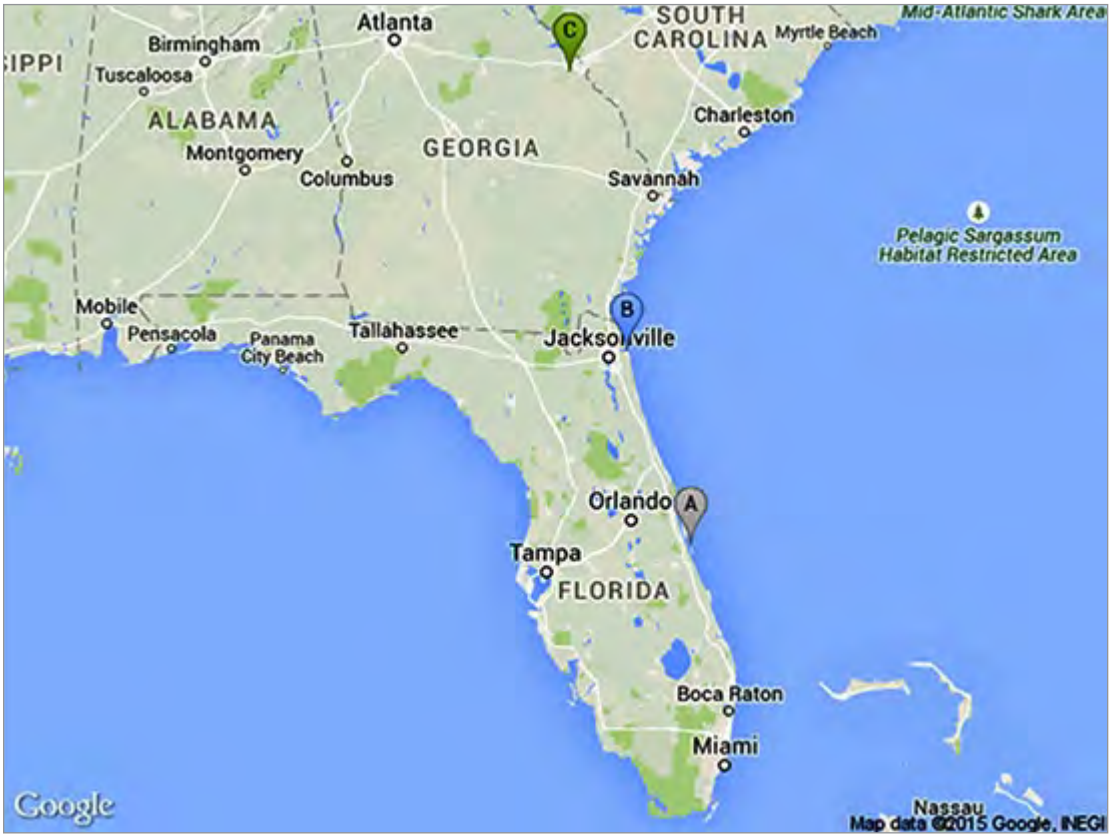
Most recently, the DoD OIG completed the inspection of military housing facilities at two installations in the United States National Capital Region—Fort Belvoir and Joint Base Anacostia-Bolling. The results of that inspection were published on August 13, 2015, in DoD IG Report No. DODIG-2015-162, "Continental United States Military Housing Inspections – National Capital Region."

To further support the DoD OIG's ongoing mission, we announced the "Continental United States Military Housing Inspections – Southeast" project on January 30, 2015—the second inspection of its kind conducted in the United States. Similar to the housing present in the National Capital Region, accompanied (family) housing facilities in the Southeastern region of the United States have also been privatized, while unaccompanied housing facilities (dormitories and barracks) are still managed by DoD. In fact, 90 public-private housing projects have been created since 1996, privatizing approximately 200,000 homes at military installations throughout the United States.

Southeastern United States

The climate of the Southeastern region (Figure 1) of the United States varies widely and is dependent on many different factors including altitude, latitude, and proximity to the Atlantic Ocean and Gulf of Mexico. Topography also varies considerably throughout the Southeast, from coastal plains and low rolling plateaus to the Appalachian Mountains. Throughout the majority of the year, the climate of the Southeast is generally mild, though summers are typically warm with frequent thunderstorms.

Figure 1. Southeastern United States Installations Inspected



Source: Google[1]

Legend

A: Patrick AFB

B: NS Mayport

C: Fort Gordon

[1] Last accessed on May 22, 2015, https://maps.googleapis.com/maps/api/staticmap?center=Gainesville,FL&size=640x480&zoom=6&maptype=terrain&markers=color:gray%7Clabel:A%7CPatrickAFB&markers=color:blue%7Clabel:B%7CNSMayport&markers=color:green%7Clabel:C%7CFortGordonstaticmap?center=Gainesville,FL&size=640x480&zoom=6&maptype=terrain&markers=color:gray%7Clabel:A%7CPatrickAFB&markers=color:blue%7Clabel:B%7CNSMayport&markers=color:green%7Clabel:C%7CFortGordon

Patrick Air Force Base

Patrick AFB is located on the East coast of Florida, in Brevard County between Cocoa Beach and Satellite Beach and is the home of the United States Air Force Space Command's 45th Space Wing. The 45th Space Wing has more than 35 major mission partners and tenants at Patrick AFB and Cape Canaveral Air Force Station including the National Aeronautics and Space Administration (NASA), 920th Rescue Wing, Joint Stars Task Force, Department of State, and the American Red Cross.

The total Patrick AFB population of military personnel and their dependents at the time of the inspections was 3,346. Additionally, about 50,000 military retirees lived within a 40-mile radius of the installation. Approximately 1,798 people lived in Patrick AFB's privatized military family housing communities, of which 1,364 were military personnel and their dependents, 343 were military retirees and their dependents, and 91 were civilians. Hunt Military Communities owns and manages all of the privatized housing at Patrick AFB, a total of 616 family housing units in 4 communities (River's Edge, Oceanside, Reef Court, and Pelican Coast). An additional 58 military personnel occupied the Government-owned unaccompanied housing dormitory facility, which can accommodate approximately 65 airmen in total.[2]

Naval Station Mayport

NS Mayport is located on the East coast of Florida near Jacksonville, in Duval County along the Saint Johns River and is the home of more than 70 tenant commands including U.S. Naval Forces South and numerous naval helicopter and destroyer squadrons.

The total NS Mayport population of military personnel and their dependents at the time of the inspections was 10,167. Approximately 2,849 people lived in NS Mayport's privatized military family housing communities, of which 2,777 were military personnel and their dependents, and 72 were military retirees, civilians, and other family members. Balfour Beatty Communities owns and manages all of the privatized housing at NS Mayport, a total of 962 family housing units in 4 communities (Bennett Shores East, Bennett Shores West, Marsh Cove, and Ribault Bay Village). An additional 987 military personnel occupied 6 Government-owned unaccompanied housing buildings, which can accommodate approximately 1,524 sailors in total.[3]

[2] At the time of our inspections, one of the two dormitory buildings was closed for renovation. Once completed, there will be a total of 130 available unaccompanied housing units at Patrick AFB.

[3] The number of military personnel occupying unaccompanied housing at NS Mayport fluctuates based on ship arrival and departure.

Fort Gordon

Fort Gordon is located in Richmond County, Georgia, at the fall line between the Piedmont and Upper Coastal Plain regions of the state and the Georgia-South Carolina border. Fort Gordon is the home of the U.S. Army Cyber Center of Excellence, the 116th and 513th Military Intelligence Brigades, Dwight D. Eisenhower Army Medical Center, and the National Security Agency/ Central Security Service (NSA/CSS) Georgia Cryptologic Center.

The total Fort Gordon population of military personnel and their dependents at the time of the inspections was approximately 17,356. About 4,212 people lived in Fort Gordon's privatized military family housing communities, the majority of which were military personnel and their dependents. Balfour Beatty Communities owns and manages all of the privatized housing at Fort Gordon, a total of 1,080 family housing units in 6 communities (Gordon Terrace, Olive Terrace, McNair Terrace, Lakeview Terrace, Maglin Terrace, and Boardman Lake). An additional 1,445 permanent party and 3,232 trainee military personnel occupied 68 Government-owned barracks buildings, which can accommodate approximately 7,000 soldiers in total.

Inspection Process and Criteria

We inspected military housing facilities at Patrick AFB, NS Mayport, and Fort Gordon for compliance with environmental health and safety policies and standards. We used recent versions of the NFPA codes as the criteria for the fire protection and electrical system safety inspections. In addition, we inspected to EPA standards governing safe drinking water and toxic substances, radon, asbestos, and lead-based paint, since those are applicable throughout the United States. The criteria used during this inspection provided a general baseline for identification of deficiencies that impact life, health, and safety because the recent standards incorporate past lessons learned and advancements in electrical system, fire protection, and environmental safety that have an impact on the health and safety of the warfighters and their dependents. The DoD applies additional requirements for Government-managed (unaccompanied) housing, which are defined by the UFC. See Appendix B for a complete list of inspection criteria.

We did not inspect to minimum state and local codes and standards, nor did we determine the codes applicable at the time of construction or renovation for each particular housing unit. In addition, we did not evaluate privatized housing agreements to determine which DoD policies and requirements were applied, since the evaluation was performed using a recent baseline set of criteria. Therefore, a deficiency represents noncompliance with those codes and standards used for

this inspection, and may not be a violation of code (minimum safety standards) as defined by the Authority Having Jurisdiction, nor constitute a noncompliance with the terms of the applicable privatized housing agreement.[4]

We selected buildings and units of varying size, type, and age. In unaccompanied housing facilities, in addition to sleeping rooms, we inspected common areas such as laundry rooms, lounges, shared kitchen areas and bathrooms, utility rooms, and electrical/mechanical rooms. We also interviewed residents as well as maintenance, housing management, and other installation personnel.

Our environmental health and safety inspections focused on mold, asbestos, radon, lead-based paint, drinking water quality, and pest management. We evaluated the associated plans and programs and also tested drinking water samples at each installation to identify microbial (total coliform bacteria) contamination, lead and copper concentrations, and residual chlorine levels. On-site inspections and drinking water quality sampling was performed at housing units selected semi-randomly from the available military housing at each installation.

Notices of Concern

We issued two notices of concern (NOCs) on critical health and safety deficiencies requiring immediate corrective action during these inspections. Specifically, the NOCs discussed the:

- use of recalled fire suppression system sprinkler heads throughout an unaccompanied housing building at NS Mayport, and
- combination of numerous violations of fundamental fire protection measures in two buildings at Fort Gordon as well as suspected asbestos-containing material in one of these two buildings.

Management comments are included in Appendix C.

[4] NFPA 1, "Fire Code," 2015 Edition, defines Authority Having Jurisdiction as an organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

Overall Findings and Recommendations

The condition of military housing at the installations visited within the Southeastern United States was comparable to that of the military housing facilities we inspected in National Capital Region—a significant improvement from overseas housing facilities previously inspected. Furthermore, with some exceptions related to the age of homes, differing requirements at the time of their construction,[5] and the gap between fire protection requirements applied to privatized housing and Government-managed military housing, family housing was generally better maintained and more compliant with the criteria used for this inspection. However, we observed a consistent lack of attention to detail in the installation of electrical; fire protection; and heating, ventilation, and air conditioning (HVAC) equipment as well as the periodic inspection and maintenance of most facilities visited (both accompanied housing and Government-managed unaccompanied housing). It is worth noting that unaccompanied housing facilities are generally much larger and more complex than accompanied housing: contain multiple common areas; have more sophisticated fire protection, electrical, mechanical, and HVAC systems; and have more complex requirements for such systems.

Our inspection teams identified a combined total of 389 deficiencies at Patrick AFB, NS Mayport, and Fort Gordon. See the table for details.

Table. Patrick AFB, NS Mayport, and Fort Gordon Military Housing Inspection Health and Safety Deficiencies by Housing Type

Site	Housing Type	Units Inspected	Electrical System Safety Deficiencies	Fire Protection Deficiencies	Environmental Health and Safety Deficiencies
Patrick AFB	Accompanied	18	38	17	10
	Unaccompanied	4	6	11	5*
	(Total Deficiencies = 87)		**44**	**28**	**15**
NS Mayport	Accompanied	18	35	11	2
	Unaccompanied	24	45	43	8*
	(Total Deficiencies = 144)		**80**	**54**	**10**
Fort Gordon	Accompanied	11	9	6	0
	Unaccompanied	76	79	50	14*
	(Total Deficiencies = 158)		**88**	**56**	**14**

*Total deficiencies associated with unaccompanied housing includes eight management related/ installation-wide deficiencies; one at Patrick AFB, two at NS Mayport, and five at Fort Gordon.

[5] Family housing has been privatized at Patrick AFB, NS Mayport, and Fort Gordon since the mid-2000s. Before privatization, all housing was constructed and managed by DoD.

Patrick AFB

From February 24 through February 27, 2015, we inspected 18 family housing units of various types, including 1- and 2-level single family homes, duplexes, and fourplexes in 4 privatized housing communities at Patrick AFB. We also inspected four units in the three-level dormitory building. Our inspection teams identified a total of 87 deficiencies at Patrick AFB. Of these deficiencies, 28 were related to fire protection and fire suppression systems, 44 electrical systems safety, and 15 environmental health and safety. The following sections contain further discussion of the significant deficiencies.

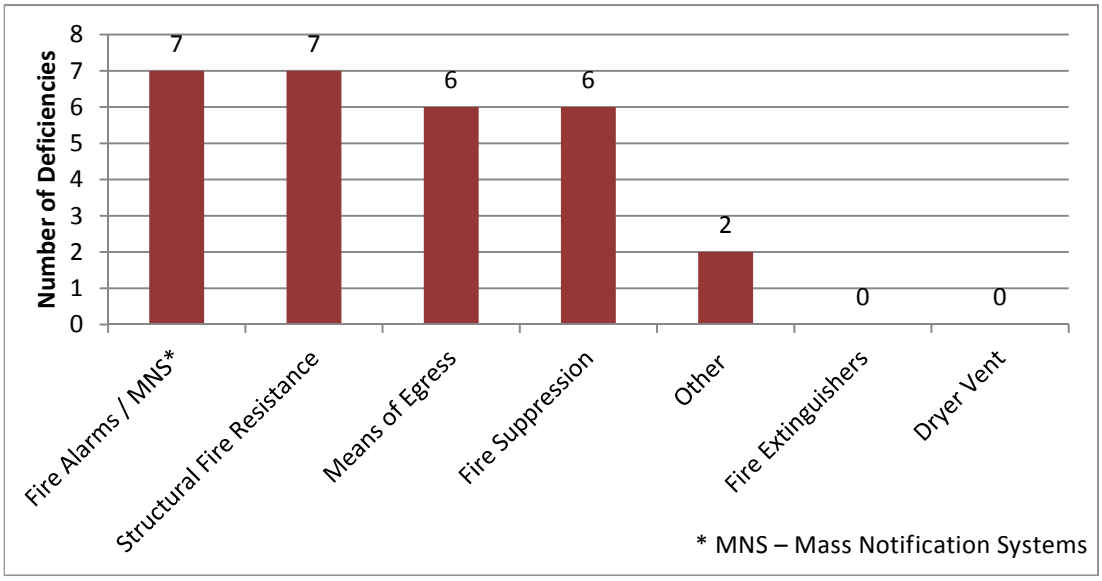
Finding A

Patrick AFB Fire Protection Systems

Patrick AFB did not ensure that housing fire protection systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units had deficient fire protection systems that posed a risk of injury or death.

At Patrick AFB, we documented a total of 28 deficiencies (see Figure 2) related to fire protection and fire suppression systems: 17 in family housing units and 11 in the unaccompanied housing building.

Figure 2. Patrick AFB Fire Protection System Deficiencies by Category



The majority of the deficiencies discovered in accompanied housing units at Patrick AFB were related to problems with structural fire resistance, means of egress, and smoke alarms. We found numerous instances of disabled or otherwise ineffective self-closing fire doors separating garages from living spaces, door locks and latches that could potentially trap children in closets and enclosed patios in the event of an emergency, and improperly installed and maintained stairway handrails. Our inspection team also identified that all homes inspected throughout the River's Edge neighborhood lacked smoke alarms in their bedrooms[6] in addition to a few issues related to incorrectly located carbon monoxide detectors and

[6] A notice of concern regarding the lack of bedroom smoke alarms in the Patrick AFB River's Edge neighborhood was withdrawn upon consideration of compliance with Florida State requirements and the presence of hallway smoke alarms in the immediate vicinity of the bedrooms.

improper storage of resident belongings in utility closets of family housing units which are only designed to store housing unit electrical and mechanical systems. These issues can result in the increased risk of fire, accelerated spread of fire or smoke, and the delay or inability of occupants to exit the home in the event of an emergency.

In the unaccompanied housing building, the majority of deficiencies found were related to fire suppression systems and fire/smoke detection, alarm, and mass notification systems. We found various problems with fire suppression sprinklers, damaged and missing riser[7] components, and a corroded fire department connection.[8] See Figure 3. Sprinklers were missing components, had corrosion, and had altered surrounding structures, diminishing sprinkler effectivity. Also, none of the common areas of the dormitory building had the required fire alarm notification strobe lights, smoke alarms in each room were improperly configured to activate the entire building alarm, and a mechanical room containing fuel-fired equipment was missing carbon monoxide detection devices. These issues impair the occupants' ability to be made aware of an emergency and safely exit the building in the event of an emergency. Additionally, fire alarm system circuit breakers were not protected with the required locking devices, which could allow the system to be deliberately or mistakenly disabled by unauthorized personnel.

Figure 3. Severely corroded fire suppression sprinkler heads in Patrick AFB's unaccompanied housing building 505. (Deficiency No. PAT-FP-150223-02)
Source: DoD OIG

[7] NFPA 13, "Standard for the Installation of Sprinkler Systems," 2013 Edition, defines a riser as the vertical supply pipe of an automatic fire suppression system.

[8] NFPA 13 defines a fire department connection as a connection through which a fire department can pump supplemental water into a fire suppression system.

We also found that the self-closing doors separating all three laundry areas, one of the kitchen areas, and one of the office areas from the common areas of the building were propped open and were not fire-resistance rated as required.

Recommendations, Management Comments, and Our Response

Deleted and Renumbered Recommendations

As a result of management comments and additional inspection work, we deleted draft Recommendation A.1 and renumbered draft Recommendations A.2 through A.4 as Recommendations A.1 through A.3.

Recommendation A

We recommend that the Patrick Air Force Base Commander:

1. **Conduct an effective root cause analysis and perform corrective actions for all fire protection deficiencies identified.**
2. **Verify or create a plan for the performance of ongoing inspection and maintenance of all housing units to applicable fire protection codes and standards.**
3. **Work with the privatized housing partner to ensure that fire protection inspection and maintenance plans are achieved.**

Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure Comments

The Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure, responding for the Patrick AFB Commander, agreed with all of the fire protection deficiencies with the exception of the need for immediate corrective action on the deficiency documenting the lack of bedroom smoke alarms in the River's Edge neighborhood. The Deputy Assistant Secretary stated that Hunt Military Communities and Patrick AFB civil engineers were working to correct all of the other fire protection system deficiencies documented in family housing units and the dormitory building. The Deputy Assistant Secretary stated that several of the dormitory deficiencies will be corrected by October 2015, and the remainder will be corrected upon completion of a $5 million dormitory renovation project scheduled to be completed in November 2016.

Our Response

Comments from the Deputy Assistant Secretary addressed the specifics of the recommendations, and no further comments are required. We appreciate that the Air Force agreed with and is working to correct the deficiencies we identified.

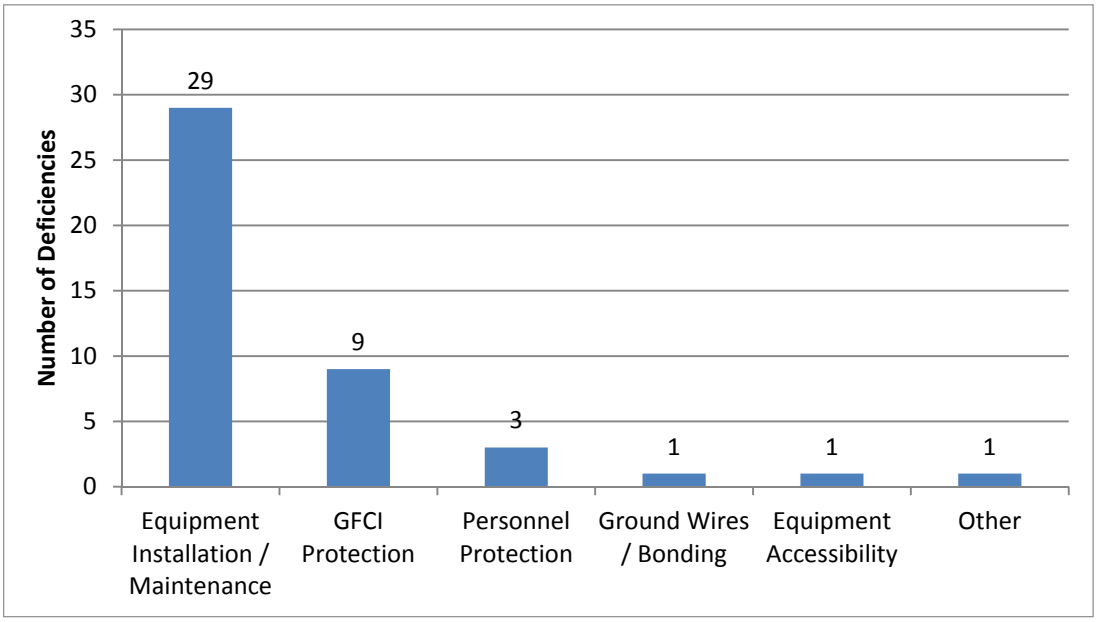
Finding B

Patrick AFB Electrical Systems

Patrick AFB did not ensure that housing electrical systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units had deficient electrical systems that posed a risk of injury or death.

Our team identified a total of 44 electrical system safety deficiencies (Figure 4) at Patrick AFB: 38 in family housing units and 6 in the dormitory building. The majority of deficiencies found were related to equipment installation/maintenance and ground-fault circuit interrupter (GFCI)[9] protection.

Figure 4. Patrick AFB Electrical System Deficiencies by Category



In family housing units, we found multiple problems with electrical receptacles, including defective wiring, incorrectly secured and loose receptacles, unprotected wall openings,[10] and broken or missing receptacle faceplates. We also identified numerous instances of unsupported, unsecured, and incorrectly terminated wiring and conduit. According to the Electrical Safety Foundation International, arcing faults that result from loose, unsecured, improperly terminated, and corroded

[9] A GFCI is a fast-acting circuit breaker designed to provide protection to personnel and property by disconnecting electric power in the event that a short circuit or return current imbalance is detected.

[10] Gaps between electrical boxes, finished wall surfaces, and receptacle face plates can increase the risk of accelerated spread of fire through the wall in the event of an electrical failure or arcing fault.

electrical conductors are one of the major causes for home structure fires in the United States. Additionally, we found that GFCI protection was ineffective in many kitchen, bathroom, and outdoor electrical receptacles inspected. These deficiencies increase the risk of electrical system failure, fire, and electrocution hazards.

In the dormitory building, we also found electrical panels and junction boxes that were not properly sealed, junction boxes and conduits that were not properly supported and fastened in place, and broken or missing electrical receptacle faceplates. These issues expose occupants and personnel to electrocution hazards and increased risk of electrical system failure and fire.

Recommendations, Management Comments, and Our Response

Recommendation B

We recommend that the Patrick Air Force Base Commander:

1. **Conduct an effective root cause analysis and perform corrective actions for all electrical deficiencies identified.**
2. **Verify or create a plan for the performance of ongoing inspection and maintenance of all housing units to applicable electrical codes and standards.**
3. **Work with the privatized housing partner to ensure that electrical inspection and maintenance plans are achieved.**

Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure Comments

The Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure, responding for the Patrick AFB Commander, agreed with all of the electrical system safety deficiencies and stated that Hunt Military Communities and Patrick AFB civil engineers had corrected each of these deficiencies.

Our Response

Comments from the Deputy Assistant Secretary addressed the specifics of the recommendations, and no further comments are required. We appreciate that the Air Force agreed with and corrected the deficiencies we identified.

Finding C

Patrick AFB Environmental Health and Safety

Patrick AFB did not adequately identify and correct the root cause of mold and moisture problems throughout housing facilities. As a result, there was an increased risk to the health and safety of the warfighters and their families.

Our team identified a total of 15 environmental health and safety deficiencies at Patrick AFB: 10 in family housing units, 4 in the dormitory building, and 1 related to the management of operations. The majority of deficiencies found in both family housing units and the dormitory building were related to mold and moisture.

During the inspection of the accompanied housing units, we found instances of mold growth and moisture intrusion inside the laundry room, HVAC ductwork, closet ceilings, and other areas of several units in the older River's Edge and Oceanside neighborhoods.[11] See Figure 5. The inspection team collected bulk surface samples of material from the excessively dirty ductwork and sent them for laboratory analysis. The results indicated actively growing mold and/or fungi. In the dormitory building, we also found a few deficiencies related to mold, moisture,

Figure 5. Visible mold and excessively dirty HVAC ductwork in Patrick AFB River's Edge housing unit. (Deficiency No. PAT-EN-150223-015)
Source: DoD OIG

[11] The River's Edge and Oceanside family housing areas of Patrick AFB were constructed between 1993 and 1997. The Reef Court and Pelican Coast family housing areas were constructed between 2004 and 2008.

and HVAC systems. For instance, visible mold was found in one sleeping unit and a chiller/boiler room, several bathrooms were under ventilated, and there was a lack of air handling unit maintenance in the unaccompanied housing building. If mold is allowed to perpetuate, it increases occupant exposure to airborne microbial materials and metabolites, which can result in allergic reactions and respiratory irritation.

We did not identify any significant concerns regarding lead-based paint, radon, pest management, drinking water quality, or asbestos.

The environmental health and safety inspection team collected drinking water samples at 13 locations (10 family housing units in 3 of the neighborhoods and 3 unaccompanied housing units in the unaccompanied housing building). All drinking water test results indicated the absence of or acceptable levels of the contaminants tested for (including lead and copper concentration, total coliform bacteria contamination, Escherichia coli [E. coli], chlorine, and pH).

Recommendations, Management Comments, and Our Response

Recommendation C

We recommend that the Patrick Air Force Base Commander:

1. **Conduct an effective root cause analysis and perform corrective actions for all environmental health and safety deficiencies identified.**
2. **Ensure that the privatized housing partner performs an assessment of the homes where instances of mold growth were identified, in accordance with Florida statutes.**
3. **Work with the privatized housing partner to ensure proper execution of its mold operations and maintenance plan.**

Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure Comments

The Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure, responding for the Patrick AFB Commander, agreed with all of the environmental health and safety deficiencies and stated that Hunt Military Communities and Patrick AFB civil engineers were working to correct each of these deficiencies documented in family housing units and the dormitory building. The Air Force stated that several of the dormitory deficiencies will be corrected by October 2015, and the remainder will be corrected upon completion of a $5 million dormitory renovation project scheduled to be completed in November 2016.

Our Response

Comments from the Deputy Assistant Secretary addressed the specifics of the recommendations, and no further comments are required. We appreciate that the Air Force agreed with and is working to correct the deficiencies we identified.

NS Mayport

From March 2 through March 6, 2015, we inspected 18 family housing units of various types, including 1- and 2-level single family homes, duplexes, multiunit apartment buildings, and townhomes in 4 privatized housing communities at NS Mayport. We also inspected 24 units in unaccompanied housing facilities of various types, including 3- and 4-level buildings. Our inspection teams identified a total of 144 deficiencies at NS Mayport. Of these deficiencies, 54 were related to fire protection and fire suppression systems, 80 electrical systems safety, and 10 environmental health and safety. The following sections contain further discussion of the significant deficiencies.

NS Mayport Notice of Concern

We issued one NOC identifying critical deficiencies at NS Mayport requiring immediate corrective action. All fire suppression system sprinkler heads inspected throughout unaccompanied housing building 337 were recalled by the manufacturer in 2001 due to corrosion susceptibility and the potential to fail in the event of a fire. Based on the potential for failure of the entire building's fire suppression system, we recommended immediate corrective action.

In response to our NOC, NS Mayport command promptly relocated all occupants of building 337 and awarded a contract to replace the recalled sprinkler heads throughout the facility, which was completed on April 17, 2015. Furthermore, NS Mayport command stated that it would inspect for recalled sprinkler heads in other buildings throughout the installation.

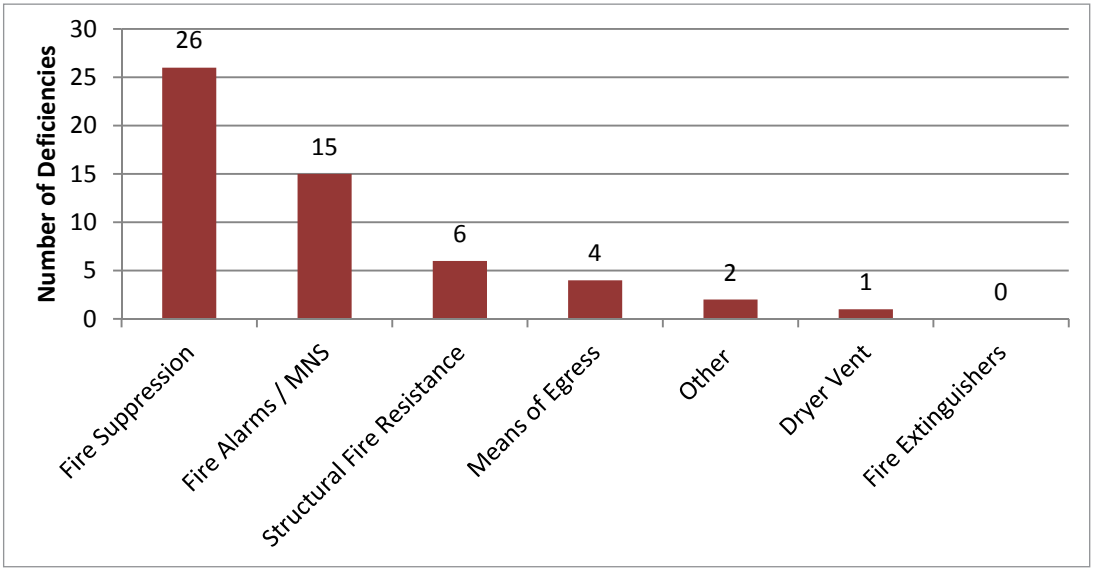
Finding D

NS Mayport Fire Protection Systems

NS Mayport did not ensure that housing fire protection systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units had deficient fire protection systems that posed a risk of injury or death.

At NS Mayport, we documented a total of 54 deficiencies (Figure 6) related to fire protection and fire suppression systems: 11 in family housing units and 43 in the unaccompanied housing facilities (including 1 deficiency associated with the previously discussed NOC).

Figure 6. NS Mayport Fire Protection System Deficiencies by Category



None of the homes inspected in the Bennett Shores West and Ribault Bay Village neighborhoods had bedroom window openings that met the minimum emergency egress size requirements. Inadequate means of egress may prevent occupants from being able to escape in the event of a fire, leading to injury or death. Based on our observations, it appears likely that none of the homes in either of these two neighborhoods have bedroom window openings that meet the requirements. We also found enclosed second-level patios with doors that cannot be unlocked from within the patio in the Ribault Bay Village neighborhood, which could potentially prevent a person from being able to escape in the event of an emergency. It should be noted that the Navy planned to divest itself of the aging,

off-base Ribault Bay Village neighborhood—the most problematic area we observed in NS Mayport family housing[12]—and had received congressional approval to do so. However, at the time of our inspections, Balfour Beatty Communities disagreed, stating that the occupancy and income of these units was more beneficial to the project.

The majority of other deficiencies discovered in family housing units at NS Mayport were related to smoke alarms and carbon monoxide detectors, including the use of expired smoke alarms, improperly located and obstructed smoke alarms, and missing carbon monoxide detectors.

The majority of the deficiencies found in the unaccompanied housing facilities were related to fire suppression systems and fire/smoke detection, alarm, and mass notification systems. For example,

- missing sprinkler components,
- obstructed sprinklers,
- missing required spare parts,
- unprotected system shut-off valves which could be tampered with,
- obstructed and improperly located smoke detectors, and
- improperly identified and unprotected fire alarm system electrical disconnects.

We also found numerous unsealed fire wall penetrations and, in a few cases, problems with fire hydrants and fire department access. All of these issues impair the occupants' ability to be made aware of an emergency and to safely exit the building in the event of an emergency.

Recommendations, Management Comments, and Our Response

Recommendation D

We recommend that the Naval Station Mayport Commander:

1. **Conduct an effective root cause analysis and perform corrective actions for all fire protection deficiencies identified.**

[12] Of the 11 fire protection system deficiencies documented in NS Mayport's family housing, 6 of the deficiencies were in the Ribault Bay Village neighborhood (constructed in the late 1970s).

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the NS Mayport Commander, agreed and stated that the Navy had conducted analysis and surveys, developed plans for corrective actions, and began implementing corrective actions for both unaccompanied and family housing units. The Principal Deputy Assistant Secretary stated that corrective actions were in various stages of planning and execution and were estimated to be completed in July 2016.

Our Response

Comments from the Principal Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required. We appreciate that the Navy agreed with our recommendation and is working to correct the deficiencies identified.

2. Verify or create a plan for the performance of ongoing inspection and maintenance of all housing units to applicable fire protection codes and standards.

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the NS Mayport Commander, agreed and stated that for unaccompanied housing, fire protection and prevention program instructions and requirements existed for NS Mayport and the base operating support contractor. He also stated that the privatized housing partner was responsible for family housing and was reinforcing the requirement with its staff to check smoke alarms, carbon monoxide detectors, and dryer vents when performing maintenance.

Our Response

Comments from the Principal Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required. We appreciate that the Navy agreed with our recommendation and has taken action to perform periodic inspections and maintenance.

3. **Work with the privatized housing partner to ensure that fire protection inspection and maintenance plans are achieved.**

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the NS Mayport Commander, agreed and stated that additional site visits and focused reviews are accomplished when issues of concern or noncompliance are identified to ensure that the privatized housing partner's corrective action plans are achieved.

Our Response

Comments from the Principal Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required. We appreciate that the Navy agreed with our recommendation and is taking action to ensure that fire protection inspection and maintenance plans are achieved for privatized housing.

4. **Work with the privatized housing partner to ensure that all means of emergency egress meet applicable requirements throughout Naval Station Mayport family housing communities, including those for bedroom windows and enclosed patios.**

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the NS Mayport Commander, agreed and stated that the cited homes were constructed prior to the publication of UFC 3-600-01, which requires windows of existing homes to comply with NFPA 101 for a secondary means of escape. However, the Navy stated that it will work with the privatized housing partner to identify the earliest practicable opportunity to provide a secondary means of egress consistent with the referenced UFC.

Our Response

Comments from the Principal Deputy Assistant Secretary partially addressed the recommendation. We appreciate that the Navy agreed with our recommendation and recognize that the associated corrective actions may require significant renovation. Because no timeframe for resolution was provided, we request comments in response to the final report. The comments should provide additional information about any compensatory measures that have been or will be implemented to decrease the risk to occupants until the homes are fully compliant with emergency egress requirements.

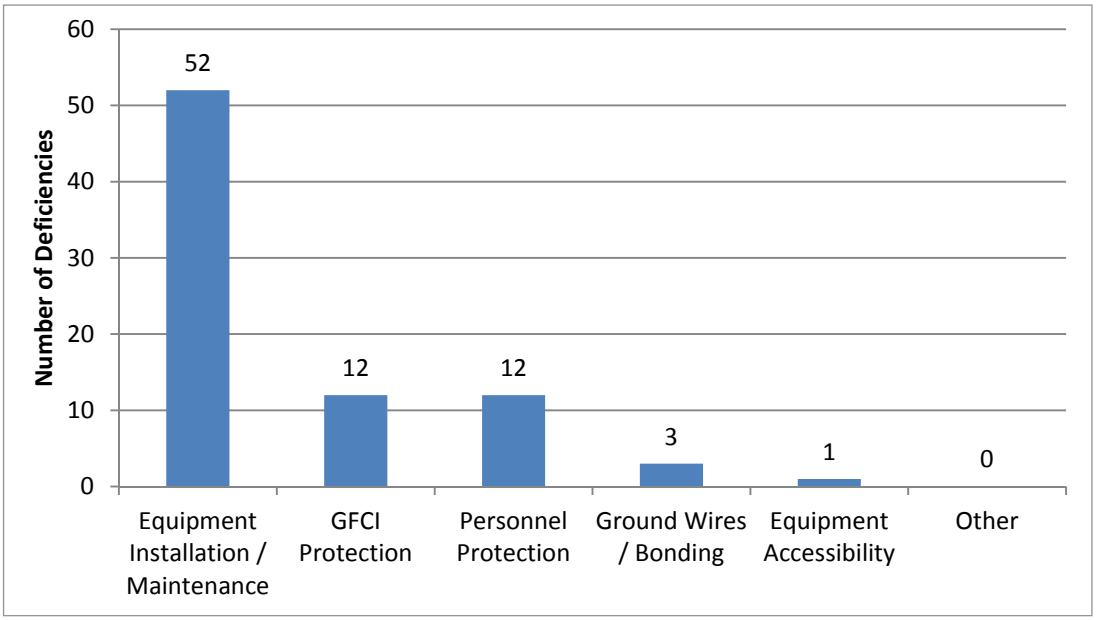
Finding E

NS Mayport Electrical Systems

NS Mayport did not ensure that housing electrical systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units had deficient electrical systems that posed a risk of injury or death.

Our team identified a total of 80 electrical system safety deficiencies (Figure 7) at NS Mayport: 35 in family housing units and 45 in the unaccompanied housing facilities. The majority of deficiencies found in both family housing units and the unaccompanied housing facilities were related to equipment installation/ maintenance, GFCI protection, and personnel protection.[13]

Figure 7. NS Mayport Electrical System Deficiencies by Category



In family housing units, we found numerous problems with electrical receptacles, including instances of defective wiring, incorrectly secured and loose receptacles, unprotected wall openings, and broken or improperly installed receptacle faceplates. Several electrical conduits and junction boxes were unsupported and unsecured. Additionally, we identified several outdoor electrical receptacles

[13] The Personnel Protection category consists primarily of improperly covered and exposed electrical wiring.

with nonfunctional GFCI protection and one home that did not have the required GFCI-protected receptacles installed in the kitchen countertop area. All of these issues increase the risk of electrical system failure, fire, and electrocution hazards.

Similarly, in the unaccompanied housing facilities, we found many problems with electrical receptacles, including instances of defective wiring and loose receptacles. We found numerous instances of utility room conduit, electrical panels, and junction boxes that were unsupported, unsecured, improperly terminated, and insufficiently covered (see Figure 8). We also found electrical panels with inadequate access space and improperly labeled circuit breakers. Several other issues we identified throughout the unaccompanied housing buildings included instances of nonfunctional GFCI protection in various locations, including vending machine areas, kitchen areas, and several bathrooms. All of these issues increase the risk of electrical system failure, and ultimately, expose occupants to potential electrocution and fire hazards.

Figure 8. Exposed wiring in a mechanical room of NS Mayport unaccompanied housing building 1587. (Deficiency No. MAY-EL-150302-022)
Source: DoD OIG

Recommendations, Management Comments, and Our Response

Recommendation E

We recommend that the Naval Station Mayport Commander:

1. **Conduct an effective root cause analysis and perform corrective actions for all electrical deficiencies identified.**

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the NS Mayport Commander, agreed and stated that analysis and surveys were conducted, plans for corrective actions were developed, and corrective actions had begun for both unaccompanied and family housing. Due to the complexity of the deficiencies, corrective actions were in various stages of planning and execution and were estimated to be completed in March 2016 for unaccompanied housing units and in July 2016 for family housing units.

Our Response

Comments from the Principal Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required. We appreciate that the Navy agreed with our recommendation and is working to correct the deficiencies identified.

2. **Verify or create a plan for the performance of ongoing inspection and maintenance of all housing units to applicable electrical codes and standards.**

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the NS Mayport Commander, agreed and stated that this was completed for both unaccompanied and family housing units in July 2015.

Our Response

Comments from the Principal Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required. We appreciate that the Navy agreed with our recommendation and has taken action to perform periodic inspections and maintenance.

3. **Work with the privatized housing partner to ensure that electrical inspection and maintenance plans are achieved.**

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the NS Mayport Commander, agreed and stated that additional site visits and focused reviews are accomplished when issues of concern or noncompliance are identified to ensure that the privatized housing partner's corrective action plans are achieved.

Our Response

Comments from the Principal Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required. We appreciate that the Navy agreed with our recommendation and is taking action to ensure that electrical inspection and maintenance plans are achieved for privatized housing.

Finding F

NS Mayport Environmental Health and Safety

NS Mayport did not perform adequate periodic inspection and maintenance of HVAC systems, resulting in poor indoor air quality that could expose occupants to health hazards.

Our team identified a total of 10 environmental health and safety deficiencies at NS Mayport: 2 in family housing units, 6 in the unaccompanied housing facilities, and 2 that impacted the entire installation. The majority of deficiencies found were related to mold, moisture, and HVAC system problems.

During the inspection of unaccompanied housing units at NS Mayport, our team observed bathroom exhaust vents in three of the four buildings built and renovated prior to the year 2000 with insufficient airflow. The humidity created from showers should be exhausted out of the building to avoid high-humidity conditions that contribute to fungal growth. We also discovered instances of mold in a few locations in these buildings, including a large growth approximately 4 by 8 feet and two smaller patches approximately 1 foot by 2 feet in the vicinity of the air handling system intake of building 1587. Furthermore, we found HVAC units in disrepair in two of the most recently constructed unaccompanied housing buildings at NS Mayport, buildings 2105 and 2234, which were constructed in 2004 and 2008, respectively. See Figure 9. Filter banks located within the air handling units were damaged and missing filters, resulting in

Figure 9. Significantly damaged HVAC filter bank found in NS Mayport unaccompanied housing building 2105. (Deficiency No. MAY-EN-150302-007)
Source: DoD OIG

unfiltered air entering the system through holes and gaps and exposing occupants to potential health hazards. Mold spores may increase respiratory complications among the warfighters and their families.

Additional Environmental Concerns

We did not identify any significant concerns regarding lead-based paint or radon. However, we found a few issues that were of minor concern, including a drinking water quality issue, some pest management problems, and asbestos program management issues.

The environmental health and safety inspection team collected drinking water samples at 30 locations (12 family housing units in the 4 neighborhoods and 18 units in the 6 unaccompanied housing buildings). All but one of the drinking water test results indicated the absence of or acceptable levels of the contaminants tested for (including lead and copper concentration, total coliform bacteria contamination, E. coli, chlorine, and pH). Test results for one home in the Marsh Cove neighborhood indicated an elevated level of lead concentration in the water (40 parts per billion)—about double the EPA-recommended action level. Water is supplied to the Marsh Cove and Ribault Bay Village neighborhoods by the City of Atlantic Beach. The public water supply was found to be in compliance with the Florida and EPA lead and copper regulations; therefore, this is indicative of an isolated contamination. In response to this test result, a deficiency was documented and we recommended that the problem faucet be temporarily taken out of service while the source of this single lead level exceedance is identified and corrected.

NS Mayport command did not implement portions of its asbestos management program and did not provide appropriate training to the asbestos program manager in accordance with Navy instructions. Failure to completely and effectively implement the asbestos management program could result in inadvertent exposure of military housing occupants and personnel who work in and around the facilities to asbestos-related health issues.

During our inspections we also found a prevalence of feral cats across the installation. Wild animals can harbor and transmit fatal and nonfatal diseases to humans. The recommendation identified in the corresponding detailed deficiency documentation (see Appendix D) recommended that NS Mayport control wild animals in accordance with the NS Mayport Integrated Pest Management Plan.

Recommendations, Management Comments, and Our Response

Recommendation F

We recommend that the Naval Station Mayport Commander:

1. **Improve heating, ventilation, and air conditioning maintenance in unaccompanied housing facilities.**

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the NS Mayport Commander, agreed and stated that NS Mayport Public Works Department will continue to assess the performance of the current HVAC system maintenance contract to ensure the required standards are met.

Our Response

Comments from the Principal Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required. We appreciate that the Navy agreed with our recommendation and will continue to assess maintenance contract performance.

2. **Conduct an effective root cause analysis and perform corrective actions for all environmental health and safety deficiencies identified.**

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments

The Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment, responding for the NS Mayport Commander, agreed and stated that analysis and surveys were conducted, plans for corrective actions were developed, and corrective actions were completed for all environmental health and safety deficiencies identified in family housing units. The Principal Deputy Assistant Secretary stated that corrective actions for all environmental health and safety deficiencies identified in unaccompanied housing units were estimated to be completed in August 2015.

Our Response

Comments from the Principal Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required. We appreciate that the Navy agreed with our recommendation and is working to correct the deficiencies we identified.

Fort Gordon

From March 9 through March 13, 2015, we inspected 11 family housing units of various types, including 1- and 2-level single family homes, duplexes, fourplexes, and multi-unit apartment buildings in 5 of the privatized housing communities at Fort Gordon. We also inspected 76 units in unaccompanied housing facilities of various types, including 3- and 4-level buildings. Our inspection teams identified a total of 158 deficiencies at Fort Gordon. Of these deficiencies, 56 were related to fire protection and suppression systems, 88 electrical systems safety, and 14 environmental health and safety.

Fort Gordon Notice of Concern

We issued one NOC identifying critical deficiencies at Fort Gordon requiring immediate corrective action. Our team found numerous violations of fundamental fire protection measures throughout barracks buildings 25702 and 25708 that collectively created an unsafe environment for occupants. These deficiencies included the following:

- exceeding the maximum allowable distances for emergency egress paths and exit stairwells (which did not discharge to the outside),
- unsafe usage of emergency egress corridor ceiling cavities for air transfer,
- poor maintenance of fire alarm systems,
- missing and improperly maintained fire extinguishers,
- nonfunctional emergency lights and exit signs, and
- various problems with fire doors (nearly all were propped open, some were damaged, and some were not properly fire rated).

Furthermore, we also found the exposure of suspected asbestos-containing material used in the flooring of building 25708. Based on our observations, we recommended immediate corrective action.

In response to our NOC, Fort Gordon command personnel promptly corrected the fire extinguisher, emergency lighting, exit sign, and fire door issues. They also performed various tests determining that no friable asbestos-containing material was present in building 25708. To address the remaining structural fire protection

deficiencies in buildings 25702, 25703, and 25708; Fort Gordon command personnel instituted fire guard procedures effective April 24, 2015, (including fire watches, monthly fire evacuation drills, additional training, and unannounced fire prevention inspections) in these buildings until such time that the building renovations eliminate the deficiencies. The Fort Gordon Fire Chief's office also identified buildings 21707, 21708, and 25707 as having similar issues and instituted compensatory measures for these buildings in July 2015.

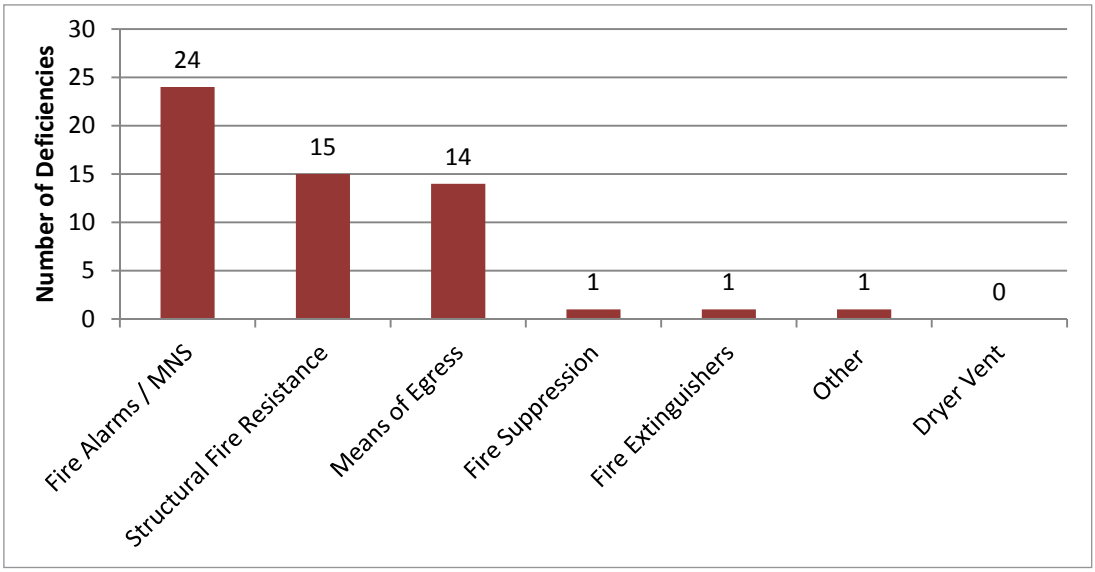
Finding G

Fort Gordon Fire Protection Systems

Fort Gordon did not ensure that housing fire protection systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units had deficient fire protection systems that posed a risk of injury or death.

At Fort Gordon, we documented a total of 56 deficiencies (Figure 10) related to fire protection and fire suppression systems: 6 in family housing units and 50 in the unaccompanied housing facilities (including 13 deficiencies associated with the previously discussed NOC).

Figure 10. Fort Gordon Fire Protection System Deficiencies by Category



In family housing units at Fort Gordon, we discovered a few locations that lacked the required carbon monoxide detectors and one home that was missing smoke alarms in all of its bedrooms. We also found a few smoke alarms with dead batteries and disconnected hard-wired power. Inadequate fire alarm and notification systems greatly increase the occupants' risk of injury or death in the event of an emergency.

In the unaccompanied housing facilities, we also found numerous deficiencies related to fire/smoke detection, alarm, and mass notification systems. For instance, we identified missing, obstructed, and nonfunctional fire alarm system

components; improperly functioning alarm systems; fire alarm system circuit breakers that were not protected using the required locking devices; and alarm systems that were not regularly inspected as required. We also discovered several other problems throughout the unaccompanied housing facilities including instances of nonfunctional emergency lighting, blocked stairways, and severely corroded sprinkler heads, and a systemic problem with self-closing fire-rated doors being propped open throughout the facilities.

Our inspection team discovered various other structural fire resistance deficiencies, mostly related to the design and construction of the Training Barracks Upgrade Program (TBUP)-renovated buildings. As a result of these renovations, utility room corridors were created that would allow smoke and fire to propagate through the building due to numerous floor and ceiling penetrations. These utility corridors also contained combustible and non-plenum-rated materials. See Figure 11. We found flammable foam insulation not encapsulated throughout various locations in the buildings, which could create toxic smoke in the event of a fire. Additionally, we found protective shipping covers still installed on all smoke detectors inspected in one of the TBUP-renovated buildings (which had been occupied for about a year), rendering the smoke detection system ineffective.

We also found that due to the design of the areas surrounding barracks buildings 19733 and 19744, fire department access to these buildings was obstructed on all but one side of the building, in violation of the Unified Facilities Criteria. Two other concerns were the excessive distance to the exits in the housing units located in the center of the buildings and the lack of required emergency lighting.

Figure 11. Combustible and non-plenum-rated materials present in Fort Gordon's TBUP-renovated building utility corridors used as airways. (Deficiency No. FGN-FP-150309-053)
Source: DoD OIG

Recommendations, Management Comments, and Our Response

Recommendation G

We recommend that the Fort Gordon Commander:

1. **Conduct an effective root cause analysis and perform corrective actions for all fire protection deficiencies identified.**
2. **Verify or create a plan for the performance of ongoing inspection and maintenance of all housing units to applicable fire protection codes and standards.**
3. **Work with the privatized housing partner to ensure that fire protection inspection and maintenance plans are achieved.**
4. **Ensure that the documented compensatory measures in response to the notice of concern remain in place to reduce the risk of fire to the occupants of buildings 21707, 21708, 25702, 25703, 25707, and 25708 until these buildings are renovated.**
5. **Provide training to installation personnel occupying unaccompanied housing units regarding the importance of proper fire door operation to maintain structural fire resistance between laundry, kitchen, and common areas of dormitory buildings.**
6. **Work with the privatized housing partner to ensure that smoke alarms are properly installed and maintained in all Fort Gordon family housing units.**

Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships Comments

The Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships, responding for the Fort Gordon Commander, agreed with Recommendations G.1-6 and stated that all corrections associated with Recommendation G.4 were complete. The Deputy Assistant Secretary also stated that all deficiencies in family housing units that were violations of codes applicable to privatized housing agreements were corrected.

Our Response

Comments from the Deputy Assistant Secretary addressed the specifics of the recommendations, and no further comments are required. We appreciate that the Army agreed with our recommendations and is taking action to correct the deficiencies we identified.

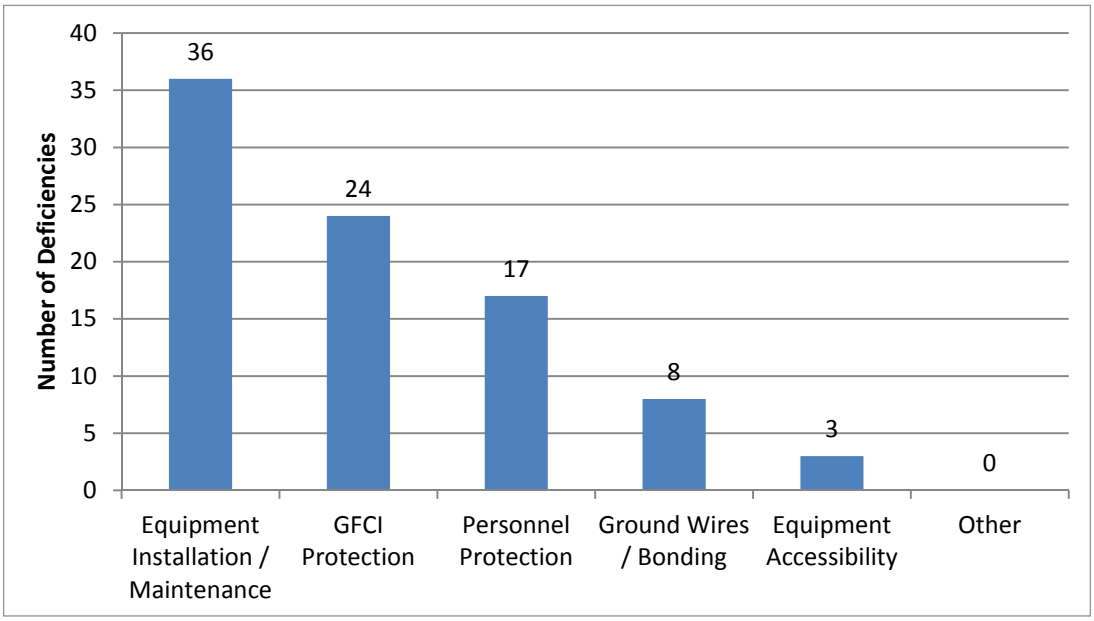
Finding H

Fort Gordon Electrical Systems

Fort Gordon did not ensure that housing electrical systems were properly installed, periodically inspected, and maintained in accordance with applicable codes and standards. As a result, accompanied and unaccompanied housing units had deficient electrical systems that posed a risk of injury or death.

Our team identified a total of 88 electrical system safety deficiencies (Figure 12) at Fort Gordon: 9 in family housing units and 79 in the unaccompanied housing facilities. The majority of deficiencies found in both family housing units and the unaccompanied housing facilities were related to equipment installation/ maintenance and GFCI protection.

Figure 12. Fort Gordon Electrical System Deficiencies by Category



The most significant issue we found was the ground conductors on light switches (see Figure 13) were not connected throughout the homes inspected in the Gordon Terrace, McNair Terrace, and Olive Terrace neighborhoods. In the event of a short circuit to the metallic light switch body, the ground conductor would prevent an individual from being exposed to potentially lethal voltages. We also identified problems with electrical receptacles and wiring as well as the lack of GFCI-protected receptacles in the kitchen areas of a few homes inspected.

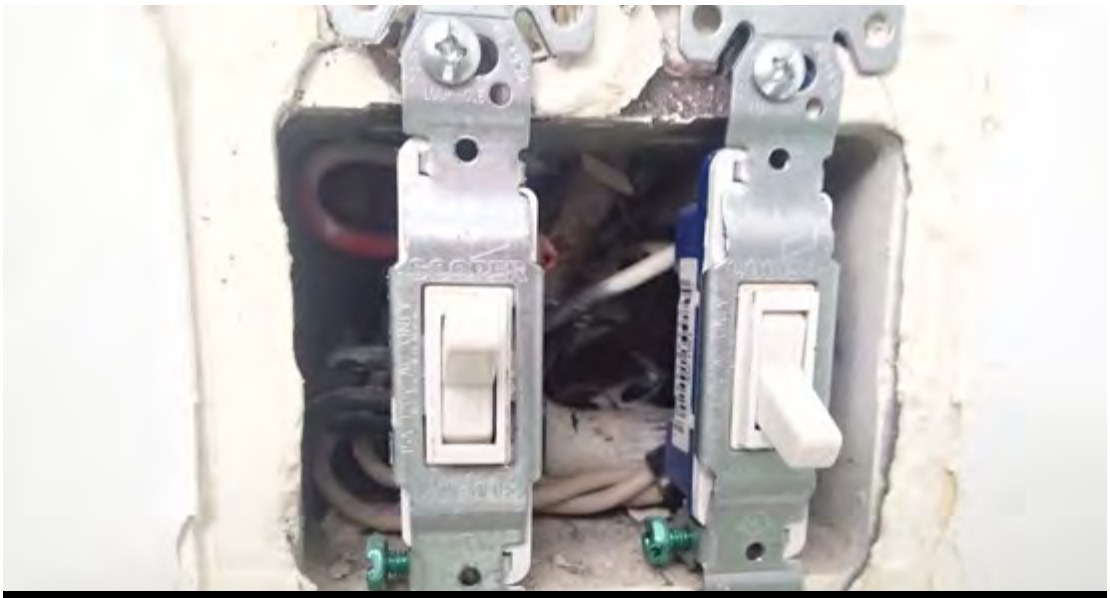


Figure 13. An ungrounded light switch in a Fort Gordon family housing unit.
(Deficiency No. FGN-EL-150309-085)
Source: DoD OIG

In the unaccompanied housing facilities, we found numerous problems with electrical receptacles, including loose electrical contacts, incorrectly secured and loose receptacles, unprotected wall openings, and broken or missing receptacle faceplates. We also found several instances of utility room conduit, electrical panels, and junction boxes that were unsupported, unsecured, improperly terminated, and insufficiently covered. Additionally, we found multiple instances of improperly labeled circuit breakers. Other issues we identified throughout the unaccompanied housing facilities included unsecured electrical conduit supplying power to laundry machines in several buildings, two laundry machines missing rear cover panels (exposing live wiring), and an instance of inadequate clearance from walls for transformer ventilation. All of these deficiencies increase the risk of electrical system failure, fire, and electrocution hazards.

Recommendations, Management Comments, and Our Response

Recommendation H

We recommend that the Fort Gordon Commander:

1. **Conduct an effective root cause analysis and perform corrective actions for all electrical deficiencies identified.**
2. **Verify or create a plan for the performance of ongoing inspection and maintenance of all housing units to applicable electrical codes and standards.**

3. **Work with the privatized housing partner to ensure that electrical inspection and maintenance plans are achieved.**

Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships Comments

The Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships, responding for the Fort Gordon Commander, agreed with our recommendations and stated that all deficiencies in family housing units that were violations of codes applicable to privatized housing agreements were corrected.

Our Response

Comments from the Deputy Assistant Secretary addressed the specifics of the recommendations, and no further comments are required. We appreciate that the Army agreed with our recommendations and is taking action to correct the deficiencies we identified.

Finding I

Fort Gordon Environmental Health and Safety

Fort Gordon did not establish a radon assessment and mitigation program in accordance with Army Regulation (AR) 420-1, "Army Facilities Management," August 24, 2012. Furthermore, Army publications did not consistently address EPA and Army radon management policy and guidelines. As a result, effective radon reduction and mitigation programs may not be established at other Army installations to ensure the warfighters and their families remain protected from unsafe levels of radon exposure.

We also identified that Fort Gordon did not perform adequate periodic inspection and maintenance of HVAC systems resulting in poor indoor air quality that could potentially expose occupants to health hazards.

Our team identified a total of 14 environmental health and safety deficiencies at Fort Gordon—all of which were found in the unaccompanied housing facilities and the management of operations. We found a wide range of issues including problems with its management programs for radon, HVAC system problems, instances of mold growth, and structural deterioration of exterior stairwells at a cluster of unaccompanied housing buildings.

The Army conducted an installation-wide radon survey at Fort Gordon in 1992 that included the testing of 350 family housing and barracks buildings.[14] Of these measurements, two family housing units in the Gordon Terrace neighborhood were identified with readings higher than 3.1 picocuries per liter (pCi/L) and, in accordance with Army policy and procedure at the time, were required to be retested. Additionally, we identified a home in the McNair Terrace neighborhood where test results indicated a radon level of 6.2 pCi/L. No evidence could be provided to show that these housing units were ever retested, no follow-on radon surveys were ever performed, and no radon reduction or mitigation activities had been conducted at Fort Gordon. Furthermore, no assessment or survey had been conducted to document radon levels in newly constructed or significantly renovated buildings since the 1992 survey.

[14] The EPA considers Richmond County, Georgia—the region where Fort Gordon lies—an area of moderate potential for radon (predicted average indoor radon screening level between 2 and 4 pCi/L).

AR 420-1 requires Army installations to establish a radon assessment and mitigation program, but fails to provide any additional guidance. AR 420-1 refers to AR 200-1, "Environmental Protection and Enhancement," for additional information regarding radon monitoring guidance, relative risk information, and action level guidelines; however, as of the December 13, 2007 version of AR 200-1, this regulation no longer contains any information about radon. Furthermore, no other documentation existed that provided guidance from the Army Environmental Management Office regarding radon management. Radon management policy and guidelines are required to ensure that the warfighters and their families are protected from unsafe levels of radon exposure.

Throughout several of the unaccompanied housing buildings, our team identified a lack of exhaust ventilation in bathrooms. High-humidity conditions can lead to microbial amplification, increased risk of occupant exposure to airborne microbial materials and metabolites, and degradation of the structural integrity of building materials. A few instances of small amounts of mold growth were observed in some of the barracks buildings.

During our inspection of buildings 24407 and 24413, our team found that the HVAC system design used in the noncommissioned officer academy buildings at Fort Gordon was not appropriate or adequate for the climatic conditions of Georgia. Fort Gordon command personnel informed us that it was well aware of the issue, but had not been sufficiently funded to fix it. Without a provision for supply of conditioned air to the hallways and other common passages in the buildings, the effects of excessive humidity led to the rusting of metal components and fixtures in hallways and the sagging of ceiling tiles in hallways and other areas. Excessive moisture can lead to mold and mildew growth as well as other types of damage to wallboards and water-permeable materials.

In building 25421 of the volunteer Army (VOLAR) barracks, we also found deteriorating exterior stairwells (see Figure 14). Crumbling concrete and exposed, corroded reinforcing steel bars were observed on the underside of the stairwell. In November 2014, the U.S. Army Corps of Engineers performed a study to determine the extent of the stairwell damage throughout all of the VOLAR barracks buildings. In its January 2015 report, "One-Stop Assessment of Buildings 25000 – 28000 Stairwells; Fort Gordon, Augusta, Georgia," the U.S. Army Corps of Engineers stated that the majority of the VOLAR barracks buildings had at least mild deterioration, and several of the buildings had severe deterioration (including building 25421). The U.S. Army Corps of Engineers (USACE) recommended replacement of the seriously damaged staircases as well as the repair of the other damaged staircases.

Figure 14. Deterioration of exterior concrete stairwells at Fort Gordon's VOLAR barracks buildings. (Deficiency No. FGN-EN-150309-007)
Source: DoD OIG

Army Installation Management Command provided a point paper dated June 25, 2015, indicating that structural engineering analysis determined imminent failure of the stair system was not probable. As of July 2015, the Army had funded the Savannah District of USACE to develop a request for proposal to replace the stairwells at one of the damaged buildings and estimated that a contract could be awarded by September 2015. An Army official stated that the other buildings requiring similar repair would be addressed in future years. If the structural integrity of building material is not maintained and continued deterioration is allowed to occur, then there is an increased risk of the stairwells and other structures collapsing, potentially resulting in a critical injury.

Additional Environmental Concerns

We did not identify any significant concerns regarding asbestos, lead-based paint, or drinking water quality. However, we found a few issues that were of minor concern related to pest management.

Based on the 2013 Augusta Utilities Drinking Water Quality Report, water quality at Fort Gordon was in full compliance with all Federal and state drinking water quality standards.[15] Furthermore, the environmental health and safety inspection team collected drinking water samples at 22 locations (10 family housing units in 5 of the neighborhoods and 12 units in 7 unaccompanied housing buildings). All

[15] The Fort Gordon water distribution system was privatized in 2008. All water is supplied to the installation by the City of Augusta Utilities Department.

drinking water test results indicated the absence of or acceptable levels of the contaminants tested for (including lead and copper concentration, total coliform bacteria contamination, E. coli, chlorine, and pH).

We found that Fort Gordon command personnel had not ensured that the Fort Gordon Integrated Pest Management Plan was periodically updated and personnel overseeing pest management operations were adequately trained, as required by DoD Instruction (DoDI) 4150.07, "DoD Pest Management Program," May 29, 2008. Outdated plans will not reflect changes in technology, operational procedures, and current program requirements. Untrained personnel overseeing pest management operations increase the risk of pesticides and other treatment methods being misused or misapplied.

Recommendations, Management Comments, and Our Response

Recommendation I.1

We recommend that the Assistant Secretary of the Army for Installations, Energy, and Environment review and update its policy to ensure that Army publications properly and consistently address radon assessment and mitigation requirements.

Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships Comments

The Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships, responding for the Assistant Secretary of the Army for Installations, Energy, and Environment, agreed with the recommendation.

Our Response

Comments from the Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required.

Recommendation I.2

We recommend that the Fort Gordon Commander:

a. **Conduct an effective root cause analysis and perform corrective actions for all environmental health and safety deficiencies identified.**

b. **Improve heating, ventilation, and air conditioning maintenance in unaccompanied housing facilities.**

c. In accordance with the U.S. Army Corps of Engineers, "One-Stop Assessment of Buildings 25000 – 28000 Stairwells; Fort Gordon, Augusta, Georgia," January 2015, implement corrective actions as necessary, to ensure the structural integrity of the VOLAR barracks buildings.

d. Establish a radon assessment and mitigation program in accordance with updated Department of the Army guidance and ensure that buildings previously identified to have elevated radon levels are retested and mitigated as necessary.

Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships Comments

The Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships, responding for the Fort Gordon Commander, agreed and stated that all deficiencies in family housing units that were violations of codes applicable to privatized housing agreements were corrected.

Our Response

Comments from the Deputy Assistant Secretary addressed the specifics of the recommendation, and no further comments are required. We appreciate that the Army agreed with our recommendations and is taking action to correct the deficiencies we identified.

Finding J

Gap Exists in Fire Protection Requirements Between Privatized Housing and Government-Managed Housing

In accordance with DoDI 6055.06, "DoD Fire and Emergency Services (F&ES) Program," and UFC 3-600-01, "Fire Protection Engineering for Facilities," the DoD requires that its military housing facilities comply with current National Fire Protection Association codes and standards. These additional fire protection requirements were not levied on privatized military housing agreements,[16] creating a requirements gap between privatized housing and Government-managed military housing, and potentially subjecting privatized housing occupants to less safe conditions than required of Government-managed military housing facilities.

The fire protection requirements set forth in DoDI 6055.06 and UFC 3-600-01 are not levied on privatized military housing agreements, creating a requirements gap between privatized housing and Government-managed military housing, potentially subjecting privatized housing occupants to less safe conditions than required of Government-managed military housing facilities.

DoDI 6055.06, "DoD Fire and Emergency Services (F&ES) Program," December 21, 2006, states that all DoD Components and non-DoD activities operating on DoD installations have to comply with UFC 3-600-01. UFC 3-600-01, April 7, 2003, Incorporating Change 3, March 1, 2013, explicitly states that "the provisions of this UFC are applicable to all new and existing DoD facilities located on or outside of DoD installations, whether acquired or leased, by appropriated or non-appropriated funds, or third party financed and constructed." Furthermore, UFC 3-600-01, states that,

> DoD personnel occupying leased housing deserve the same level of protection as those in DoD-owned housing. Implementation of these standards is therefore mandatory for all housing leased for DoD use. This requirement is intended to cover all situations, including privatized buildings. . . .

[16] An Air Force official at the Air Force Civil Engineer Center (AFCEC) stated that they were unaware of DoD policy changes regarding the applicability of fire protection requirements to privatized housing.

UFC 3-600-01 requires that existing facilities meet the standards of NFPA 101, "Life Safety Code," and requires that any facilities that do not meet these standards be brought into compliance. UFC 3-600-01 further reinforces this by stating that "Fire protection criteria must conform to the requirements of this UFC, the latest editions of the National Fire Codes, published by the National Fire Protection Association, except as modified by this UFC, and UFC 1-200-01, General Building Requirements."

One example of this requirements gap was the lack of smoke alarms in the bedrooms of all eight housing units inspected in the River's Edge family housing neighborhood at Patrick AFB. Based on our observations and discussions with housing management personnel, we suspected that the remainder of the 250 housing units in this neighborhood most likely also lacked smoke alarms in each of its bedrooms. In addition to requiring compliance with NFPA 101, UFC 3-600-01 states that fire detection systems must conform to the provisions of NFPA 72, "National Fire Alarm and Signaling Code." Since the 2007 edition of NFPA 72 and the 2009 edition of NFPA 101, the NFPA has required the installation of smoke alarms in all bedrooms of new and existing homes.

Recommendations, Management Comments, and Our Response

Draft Recommendation J

In a draft of this report, we recommended the Assistant Secretary of Defense for Energy, Installations, and Environment:

1. **Determine the extent to which DoD fire protection requirements have not been incorporated into privatized military housing agreements throughout the Department.**
2. **Determine the risk associated with the lack of implementation of current NFPA 101, "Life Safety Code" requirements in privatized military housing facilities.**
3. **Implement and execute a plan to ensure that changes in policies and instructions applicable to military housing facilities are coordinated with housing management across all DoD Components and are included in contracts and agreements, as required.**

Assistant Secretary of Defense for Energy, Installations, and Environment Comments

The Assistant Secretary of Defense for Energy, Installations, and Environment disagreed with our recommendations, stating that the application of standards for Government-owned facilities to privatized housing is inconsistent with the basis of

military housing privatization efforts. Furthermore, the Assistant Secretary stated that the revision of privatized housing agreements to require formal inspections similar to those performed in Government-owned facilities would unnecessarily increase costs and disrupt the business enterprise and military personnel living in privatized housing units.

Our Response

Comments from ASD(EI&E) did not address the specifics of Recommendation J, but did raise uncertainty concerning DoD unified policy involving fire protection requirements for privatized housing. We request comments on revised Recommendation J.

Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure Comments

Although not required to comment, the Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure agreed with our recommendations, stating that DoD requirements generally do not apply to privatized military housing agreements, but that ASD(EI&E) should determine the associated risk with respect to fire protection.

Revised Recommendation J

As a result of management comments, we revised Recommendation J. DoDI 6055.06 states that UFC 3-600-01 applies to all activities on DoD installations, and UFC 3-600-01 states that it is intended to cover all situations, including privatized buildings. Therefore, we are revising Recommendation J as follows.

We recommend that ASD(EI&E) address the inconsistencies between the applicability of UFC 3-600-01 and the position taken by ASD(EI&E) regarding fire protection requirements for privatized military housing and initiate appropriate changes to the UFC or other applicable policy and guidance.

Finding K

Periodic Maintenance and Inspection of Military Housing

The Military Departments did not adequately inspect and maintain housing facilities to ensure compliance with health and safety codes and standards.

Based on the results of this inspection as well as our inspection of installations in the National Capital Region of the continental United States,[17] we found a multitude of health and safety issues in military housing facilities across all focal areas examined. Many of the deficiencies we discovered through these inspections were common throughout all of the installations and facilities inspected, indicating an overall lack of attention to detail in the installation of electrical, fire protection, and HVAC equipment as well as the failure to perform thorough periodic inspection and maintenance of most facilities visited. The findings of these reports demonstrate that the maintenance and inspection program across military housing facilities is inadequate.

Recommendations, Management Comments, and Our Response

Recommendation K

We recommend that the Assistant Secretary of Defense for Energy, Installations, and Environment implement and execute a plan for the improvement of inspection and maintenance programs for military housing at all installations throughout the United States.

Assistant Secretary of Defense for Energy, Installations, and Environment Comments

The Assistant Secretary of Defense for Energy, Installations, and Environment partially agreed with our recommendation, and stated that the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD[AT&L]) issued policy in September 2013 based on the U.S. Army Corps of Engineers Sustainment Management System (SMS). This policy standardizes inspection processes for Government-managed military housing. He stated that he considers this portion of the recommendation complete. Full implementation of SMS across all DoD real

[17] The results of the National Capital Region inspection were published on August 13, 2015, in DoD IG Report No. DODIG-2015-162, "Continental United States Military Housing Inspection–National Capital Region."

property assets is scheduled for September of 2017. The Assistant Secretary also stated that the Military Departments work with privatized housing partners to ensure that the health and safety of housing is consistent with privatized housing agreements and did not agree that ASD(EI&E) should develop plans for health and safety inspections in privatized military housing.

Our Response

Comments from ASD(EI&E) addressed the specifics of the recommendation. We appreciate that the USD(AT&L) has issued policy to standardize the inspection processes for Government-managed facilities and is working toward full implementation by 2017. We also appreciate that the Military Departments will continue to work with privatized housing partners to ensure the health and safety of military housing across the continental United States. No further comments are required.

Appendix A

Scope and Methodology

We conducted this inspection in accordance with the Council of Inspectors General on Integrity and Efficiency, "Quality Standards for Inspection and Evaluation." Those standards require that we plan and perform the inspection to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our inspection objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our inspection objectives.

We conducted inspections of military housing in the Southeastern region of the continental United States to identify occupant health and safety hazards related to electrical systems, fire protection systems, and environmental concerns (including indoor air quality [mold, radon], asbestos, lead-based paint, pest control, and drinking water quality). We performed the onsite inspections from February 23 through March 13, 2015, at Patrick AFB, NS Mayport, and Fort Gordon.

Government contract administration policies and practices were not the focus of this inspection. Additionally, we did not identify or evaluate the performance of specific service contractors supporting military housing efforts at the installations we inspected.

Onsite Inspections

Our inspections were conducted by three subject matter expert teams (electrical system safety, environmental health and safety, and fire protection systems) that collectively visited each housing unit to be inspected. Each team consisted of a DoD OIG Technical Assessment Directorate engineer and subject matter experts obtained from Naval Facilities Engineering Command and the Army Institute of Public Health.

Each team inspected the facilities, photographed and documented issues, identified criteria, and captured any pertinent condition information. After each day's inspections, all issues were documented on deficiency forms, along with the specific codes cited, and appropriate impact statements. Deficiencies were documented as non-compliances to UFC, NFPA, NEC, and EPA environmental standards, DoD policies and instructions, Armed Services policies, and internal procedures and processes for each facility. Quality control and configuration control was then applied to each and every deficiency and for all data obtained from a specific base. Upon completing the inspections at each base, we briefed base military leadership and provided draft copies of all deficiencies.

Drinking Water Quality Test Methodology

Water faucets at designated locations in the housing facilities were flushed for three minutes and secured to prevent any water movement for a minimum of 6 hours, but no more than 18 hours. After being flushed, 250 milliliter (ml) samples were collected from each faucet to test the drinking water for lead and copper content. Later, 100 ml samples were collected to test the water for coliform bacteria contamination and the presence of E. coli. An EPA/State certified laboratory analyzed all drinking water samples in accordance with EPA standards. Inspectors also conducted field chlorine and pH tests using portable test equipment.

Use of Computer-Processed Data

We did not use computer-processed data to perform this inspection.

Use of Technical Assistance

During this inspection, we used the assistance of subject matter experts in the areas of electrical system safety, fire protection engineering, environmental engineering, industrial hygiene, and quality assurance.

Prior Coverage

During the last 5 years, the Department of Defense Inspector General (IG) issued four reports discussing military housing inspections. Unrestricted DoD IG reports can be accessed at http://www.dodig.mil/pubs/index.cfm.

DoD IG

Report No. DODIG-2015-162, "Continental United States Military Housing Inspections – National Capital Region," August 13, 2015

Report No. DODIG-2015-013, "Military Housing Inspections – Republic of Korea," October 28, 2014

Report No. DODIG-2014-121, "Military Housing Inspections – Japan," September 30, 2014

Report No. DODIG-2014-093, "Inspection of the Armed Forces Retirement Home," July 23, 2014

Appendix B

Inspection Criteria

Federal Law

- Toxic Substance Control Act
- Safe Drinking Water Act

DoD Policies and Standards

- DoDI 6055.05, "Occupational and Environmental Health," November 11, 2008
- DoDI 4165.63, "DoD Housing," July 21, 2008
- DoDI 4150.07, "DoD Pest Management Program," May 29, 2008
- DoDI 6055.06, "DoD Fire and Emergency Services Program," December 21, 2006
- DoD Directive 4715.1E, "Environmental Safety and Occupational Health," March 19, 2005
- DoD 4165.63-M, "DoD Housing Management," October 28, 2010

Unified Facilities Criteria

- UFC 1-200-01, "General Building Requirement," Change 1, September 1, 2013
- UFC 3-410-01, "Heating, Ventilating, and Air Conditioning Systems," Change 1, October 2014
- UFC 3-520-01, "Interior Electrical Systems," Change 2, July 1, 2012
- UFC 3-560-01, "Electrical Safety, O&M [Operations and Maintenance]," Change 4, May 1, 2012
- UFC 3-600-01, "Fire Protection Engineering for Facilities," Change 3, March 1, 2013
- UFC 3-601-02, "Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems," September 8, 2010
- UFC 4-010-01, "Department of Defense and Army Antiterrorism/Force Protection Standards," Change 1, October 1, 2013

National Fire Protection Association Standards

Electrical Criteria

- NFPA 70, "National Electrical Code (NEC)," 2008 Edition
- NFPA 70, "National Electrical Code (NEC)," 2014 Edition

Fire Protection Criteria

- NFPA 1, "Fire Code," 2012 Edition
- NFPA 13, "Standard for the Installation of Sprinkler Systems," 2013 Edition
- NFPA 13R, "Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies," 2013 Edition
- NFPA 25, "Standard for the Inspection Testing and Maintenance of Water-Based Fire Protection System," 2014 Edition
- NFPA 25, "Standard for the Inspection Testing and Maintenance of Water-Based Fire Protection System," 2008 Edition
- NFPA 72, "National Fire Alarm and Signaling Code," 2013 Edition
- NFPA 80, "Standard for Fire Doors and Other Opening Protective," 2013 Edition
- NFPA 90A, "Standard for the Installation of Air-Conditioning and Ventilating Systems," 2015 Edition
- NFPA 90A, "Standard for the Installation of Air-Conditioning and Ventilating Systems," 2009 Edition
- NFPA 101, "Life Safety Code," 2015 Edition

General Environmental Health and Safety Criteria

- AR 420-1, "Army Facilities Management," August 24, 2012
- AR 200-1, "Environmental Protection and Enhancement," December 13, 2007
- DA PAM 420-1-1, "Housing Management," April 2, 2009
- DA PAM 200-1, "Army Radon Reduction Program," January 17, 2002 (superseded)
- U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) Technical Guide 277, "Army Facilities Management Information Document on Mold Remediation Issues," February 2002
- U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) Technical Guide 278, "Industrial Hygiene/ Preventive Medicine Mold Assessment Guide," February 2002

- Department of the Navy Memorandum, "Interim Technical Guidance (ITG) FY 03-4, NAVFAC Mold Response Manual," June 06, 2003
- OPNAVINST 5100.23G CH-1, "Navy Safety and Occupational Health Program Manual," July 21, 2011
- Chief of Naval Operations Instruction (OPNAVINST) 5090.1D, "Environmental Readiness Program," January 10, 2014
- Facilities Criteria (FC) 4-721-10N, "Navy and Marine Corps Unaccompanied Housing," November 1, 2012, Change 2, May 1, 2013
- NAVFAC, "Navy Radon Assessment and Mitigation Program (NAVRAMP)," September 10, 2002
- Department of the Air Force Memorandum, "Interim Policy and Guidance for the Prevention, Surveillance, and Remediation of Water Damage and Associated Mold Contamination in Air Force (AF) Facilities," May 10, 2005
- AFI 48-148, "Ionizing Radiation Protection," September 21, 2011
- ANSI/ASHRAE 62.1-2013, "Ventilation for Acceptable Indoor Air Quality"
- EPA 402-K-01-002, "Building Radon Out," April 2001
- EPA 402-K-02-003, "A Brief Guide to Mold, Moisture, and Your Home," Reprinted September 2010
- EPA 816-R-10-004, "Revised-Lead-and-Copper-Rule- Water – Monitoring and Reporting Guidance for Public Water Systems," March 2010
- EPA Technical Guidance "3Ts for Reducing Lead in Drinking Water in Schools," Revised October 2006

Other Applicable Criteria and Local Code

- 2012 International Building Code
- 2000 International Residential Code
- 2012 International Residential Code
- 2010 Florida Building Code
- Council of American Building Officials One and Two Family Dwelling Code – 1992 Edition

Appendix C

Notices of Concern

DoD OIG NOC 1, March 5, 2015 – NS Mayport

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

March 5, 2015

MEMORANDUM FOR COMMANDER, NAVAL STATION MAYPORT

SUBJECT: Notice of Concern – Military Housing Inspections – CONUS-Southeast
(Project No. D2015-DT0TAD-0001)

This Notice of Concern is to inform you that the DoD, Office of the Inspector General (OIG), has identified an issue that requires your immediate attention. During the inspection of military housing at Naval Station Mayport, conducted from March 2 through 6, 2015, we identified deficiencies in fire protection, electrical systems, structures, and environmental health and safety.

Although the DoD OIG views all deficiencies as significant to the health and safety of the warfighter and their families, we identified a critical deficiency that requires immediate corrective action. We found that unaccompanied housing building #337 contained fire protection system sprinkler heads that were recalled in 2001. These sprinkler heads are prone to corrosion and minerals, salts, or other contaminants present in the water can negatively affect the rubber O-ring seals. These factors could cause the sprinkler heads not to activate in a fire, resulting in injury or loss of life.

We have attached a copy of our evaluation record that contains the evidence cited within. In accordance with requirements of DoD Instruction 7650.03, please provide your comments and proposed corrective actions by March 19, 2015. We will include copies of the comments in our final report. If possible, send a portable document format (.pdf) file containing your comments to [redacted]

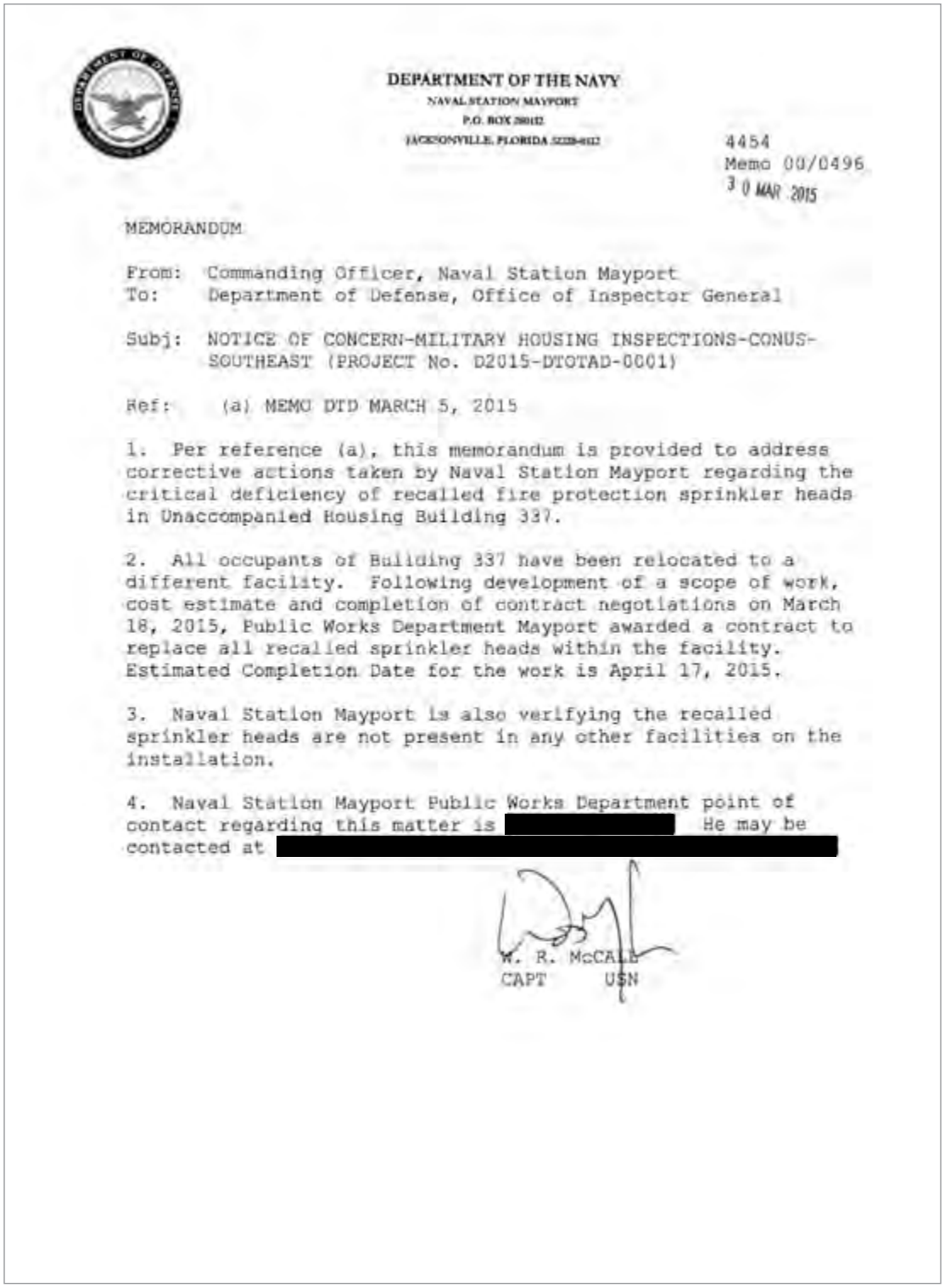
We appreciate the courtesies and support extended to the DoD OIG staff. Please direct questions to [redacted]

Randolph R. Stone
Deputy Inspector General
Policy and Oversight

cc:
Under Secretary of Defense for Installations and Environment
Auditor General, Department of the Navy
Naval Inspector General

[redacted]

Commanding Officer, NS Mayport Response to NOC 1, March 30, 2015



DEPARTMENT OF THE NAVY
NAVAL STATION MAYPORT
P.O. BOX 280032
JACKSONVILLE, FLORIDA 32228-0032

4454
Memo 00/0496
30 MAR 2015

MEMORANDUM

From: Commanding Officer, Naval Station Mayport
To: Department of Defense, Office of Inspector General

Subj: NOTICE OF CONCERN-MILITARY HOUSING INSPECTIONS-CONUS-SOUTHEAST (PROJECT No. D2015-DTOTAD-0001)

Ref: (a) MEMO DTD MARCH 5, 2015

1. Per reference (a), this memorandum is provided to address corrective actions taken by Naval Station Mayport regarding the critical deficiency of recalled fire protection sprinkler heads in Unaccompanied Housing Building 337.

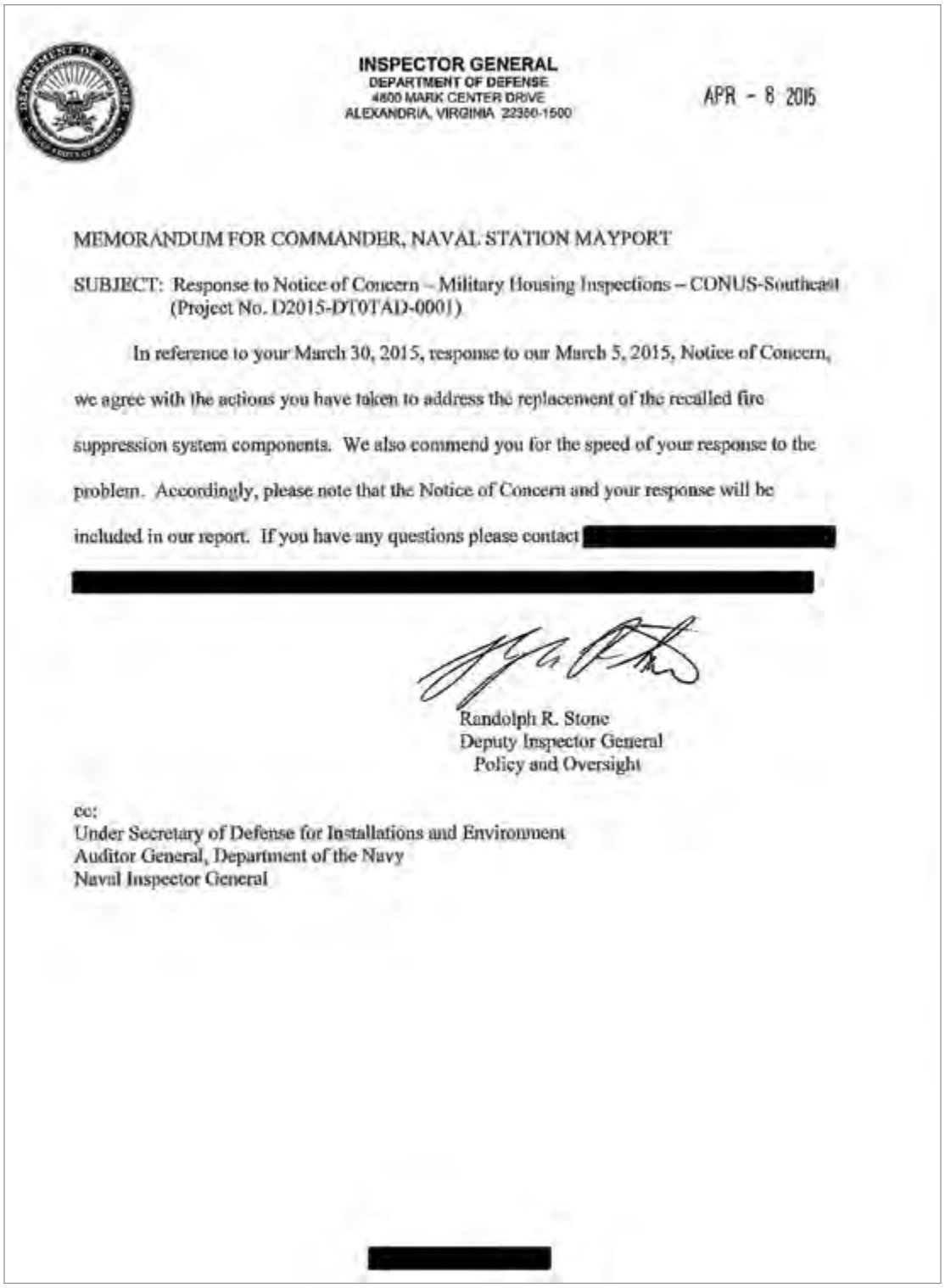
2. All occupants of Building 337 have been relocated to a different facility. Following development of a scope of work, cost estimate and completion of contract negotiations on March 18, 2015, Public Works Department Mayport awarded a contract to replace all recalled sprinkler heads within the facility. Estimated Completion Date for the work is April 17, 2015.

3. Naval Station Mayport is also verifying the recalled sprinkler heads are not present in any other facilities on the installation.

4. Naval Station Mayport Public Works Department point of contact regarding this matter is [redacted] He may be contacted at [redacted]

W. R. McCALL
CAPT USN

DoD OIG NOC 1 Response Acknowledgement, April 8, 2015



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

APR - 8 2015

MEMORANDUM FOR COMMANDER, NAVAL STATION MAYPORT

SUBJECT: Response to Notice of Concern – Military Housing Inspections – CONUS-Southeast (Project No. D2015-DT0TAD-0001)

In reference to your March 30, 2015, response to our March 5, 2015, Notice of Concern, we agree with the actions you have taken to address the replacement of the recalled fire suppression system components. We also commend you for the speed of your response to the problem. Accordingly, please note that the Notice of Concern and your response will be included in our report. If you have any questions please contact [redacted]

[redacted]

Randolph R. Stone
Deputy Inspector General
Policy and Oversight

cc:
Under Secretary of Defense for Installations and Environment
Auditor General, Department of the Navy
Naval Inspector General

[redacted]

DoD OIG NOC 2, March 16, 2015 – Fort Gordon

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

March 16, 2015

MEMORANDUM FOR GARRISON COMMANDER, FORT GORDON

SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast
(Project No. D2015- DT0TAD-0001)

This Notice of Concern is to inform you that the Department of Defense, Office of the Inspector General (OIG), identified issues that require your immediate attention. The inspection of military housing at Fort Gordon, GA was conducted from March 9, 2015 to March 13, 2015. We identified deficiencies in fire protection, electrical systems, and environmental health and safety. Draft copies of all deficiencies will be provided to the base command shortly after the conclusion of the inspection, followed by a report addressing our findings for the bases inspected.

Although the DoD OIG views all deficiencies as significant to the health and safety of the warfighter and their families, we did identify 14 critical deficiencies that require immediate corrective action. We found that buildings 25702 and 25708 had multiple deficiencies that systemically violated the fundamental principles of fire protection. Both buildings were constructed in 1969 and were not required to have sprinkler systems installed; however, there were multiple fire protection violations found that collectively create an unsafe environment for the occupants. Additionally, in building 25708 we found suspected asbestos-containing material which is no longer properly encapsulated, potentially rendering the material friable. The violations are as follows:

Building 25702:

- Nearly all fire doors (including doors to storage and laundry rooms, dayrooms, and stair enclosures exposed to exit corridors at every level) would fail to provide the required fire and smoke containment due to the use of non-fire-rated doors and the fact that the doors were propped open. *(FGN-FP-150309-001)*
- Openings were cut through fire rated walls separating sleeping rooms from the exit corridor without smoke dampers installed. This was done to create a return air plenum above the suspended ceiling. *(FGN-FP-150309-004, FGN-FP-150309-012)*
- Half of the emergency lights tested did not function. *(FGN-FP-150309-007)*
- Means of egress features, including exit discharge, travel distance, common path of travel, and dead end corridors did not comply with requirements and exceeded the allowable travel distances. *(FGN-FP-150309-008)*

[redacted]

DoD OIG NOC 2, March 16, 2015 – Fort Gordon (cont'd)

[redacted]

Building 25708:

- Building 25708 has been confirmed to contain asbestos-containing materials, including vinyl floor tiles and floor tile mastic. These worn, damaged, and broken floor tiles, and exposed floor tile mastic and cove base mastic had not been controlled or abated. *(FGN-EN-150309-001)*
- Nearly all fire doors would fail to provide the required fire and smoke containment due to the use of non-fire-rated doors and the fact that the doors were propped open. *(FGN-FP-150309-002)*
- Openings were cut through fire rated walls separating sleeping rooms from the exit corridor without smoke dampers installed. This was done to create a return air plenum above the suspended ceiling. *(FGN-FP-150309-005, FGN-FP-150309-013)*
- Most exit signs were broken/damaged or missing and half of the emergency lights tested did not function. *(FGN-FP-150309-011)*
- Fire alarm system was not properly maintained and found in poor condition. (FGN-FP-150309-006)
- Means of egress features, including exit discharge, travel distance, common path of travel, and dead end corridors did not comply with requirements and exceeded the allowable travel distances. *(FGN-FP-150309-009, FGN-FP-150309-003)*
- Fire extinguishers were missing or not in proper working order at most indicated locations. *(FGN-FP-150309-010)*

We have attached copies of the deficiencies that record in detail the evidence sited within. In accordance with requirements of DoD Instruction 7650.03, please provide your comments and proposed corrective actions by March 30, 2015. We will include copies of the comments in the report. If possible, send a portable document format (.pdf) file containing your comments to [redacted]

We appreciate the courtesies and support extended to the DoD OIG staff. Please direct questions to [redacted]

Randolph R. Stone
Deputy Inspector General
Policy and Oversight

cc:
Under Secretary of Defense for Acquisition, Technology and Logistics
Inspector General, Department of the Army

2

[redacted]

Commander, Fort Gordon Response to NOC 2, March 30, 2015

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO ATTENTION OF

IMGO-ZA

MAR 3 0 2015

MEMORANDUM FOR Inspector General, Department of Defense, ATTN: Mr. Randolph Stone, 4800 Mark Center Drive, Alexandria, VA 22350-1500

SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

1. This correspondence is in response to your memorandum dated 16 March 15. It provides comments, and addresses completed and proposed corrective actions related to the inspection of buildings 25702 and 25708 during the Fort Gordon Housing Inspection conducted during the period 9-13 March 15.

a. **Building 25702:**

(1) FGN-FP-150309-001: Corridor and stairwell fire doors were propped open.

(a) DPW ensured all door closers are operable and all doors close into jambs. DMO#3801328

(b) IAW DES instructions, the facility manager removed all rocks and obstructions from all fire doors and was further instructed to emplace measures to ensure the rocks and obstructions do not reappear.

(c) DES conducted a 100% inspection of doors in the exit access corridors to ensure rating IAW NFPA 101.

(d) DES provides training on a monthly basis. Occupants have been offered additional training as needed.

(e) Except for one fire door that is on order with a 6 April 15 EDD, all other corrections were completed as of 27 March 15.

(2) FGN-FP-150309-004: Ceiling cavity above the egress corridors have been inappropriately modified to constitute return air plenums.

(a) The above statement is incorrect. The ceiling cavity in this facility is not a return air plenum; the facility currently has fan coil units in each room for heating and air conditioning purposes. There are no fire dampers above the ceiling.

Commander, Fort Gordon Response to NOC 2, March 30, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

(b) The comment regarding non-plenum rated wire in the ceiling cavity is incorrect, since the ceiling cavity is not a return air plenum.

(c) Numerous penetrations were noted on all three floors where communications conduits were run thru the fire walls. All of these penetrations were sealed with a "UL" approved fire stop material.

(d) The comment regarding the lack of corridor smoke detection will delay notification of personnel is incorrect. There are functioning smoke detectors located in the corridors IAW NFPA 72.

(3) FGN-FP-150309-007: Egress routes do not have adequate emergency lighting.

(a) Emergency lighting meets the requirements set forth, and IAW NFPA 101, Sect. 5-9.1and 17-2.9 (1997Ed.). Emergency lighting IAW Section 5-9 shall be provided in all buildings with more than 25 rooms.

(b) The last Inspection/Testing/Maintenance (ITM) activity for this facility was conducted on 22 Oct 2014. At that time, all components to include emergency lights were tested and operational. All ITMs are IAW UFC & NFPA Standards. DMO # 3801334 was issued to inspect and correct this current deficiency.

(c) All required corrections were completed as of 27 March 15.

(4) FGN-FP-150309-008: Means of egress do not meet minimum requirements for existing dormitories as required by Life Safety Code.

(a) DES has identified the sprinkler requirement and travel distance discrepancy on all "Rolling Pin" type barracks and include mitigation comments on all projects/renovations.

(b) DES ensures Fire Evacuation Procedures are established and practiced during annual Inspections or more frequently when requested by the occupant (following course rotations).

(c) DES provides training on a monthly basis. Occupants have been offered additional training as needed.

(5) FGN-FP-150309-012: The required fire and smoke separation between sleeping rooms and egress has been compromised.

2

Commander, Fort Gordon Response to NOC 2, March 30, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

(a) Numerous penetrations were noted on all three floors where communications conduits were run thru the fire walls. All of these penetrations were sealed with a "UL" approved fire stop material.

(b) The comment regarding "holes" were equipped with fire dampers, but not required smoke detectors is not correct. The ceiling cavity in the facility is not a return air plenum; the facility currently has fan coil units in each room for heating and air conditioning purposes. There are no fire dampers above the ceiling.

(c) The comment regarding the lack of functioning smoke detection will delay notification of personnel is incorrect. There are smoke detectors located in the corridors IAWS NFPA 72.

(d) DES includes observations for penetration of walls during annual inspections. The following deficiency was noted on the last inspection: Fire Extinguishers are not being inspected monthly and certification cards are not being signed off monthly.

(e) All required corrections were completed as of 27 March 15.

b. Building 25708:

(1) FGN-EN-150309-001: Uncontrolled worn, damaged, and broken ACM floor tiles and mastic.

(a) Immediate visual inspection by the Environmental and Preventive Medicine Offices indicated no friable asbestos.

(b) Past test results of BLDG 25708 indicated no friable asbestos.

(c) Ten (10) wipe and nine (9) bulk material samples of the floor in and around the areas of concern were taken the day of the inspection and submitted to the only accredited lab in Augusta. Test results were returned on 23 March 15 and all were found to be negative for asbestos. There is no friable asbestos in the building resulting from the current state of the floor.

(d) Six(6) air samples were also taken and all results were negative indicating no presence of friable asbestos in the building.

(e) The unit was provided instructions on how to mitigate the possible release of friable asbestos using a floor wax applied with a mop only and absolutely no use of a buffer.

3

Commander, Fort Gordon Response to NOC 2, March 30, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

(2) FGN-FP-150309-002: Corridor and stairwell fire doors were propped open.

(a) The DPW ensured all door closers are operable and all doors close into jambs. DMO# 3801096

(b) The NCOIC for the facility was instructed by DPW and DES personnel to remove all rocks and obstructions from all fire doors.

(c) DES assisted the occupants in development of a revised Fire Evacuation Procedures Standard Operating Procedure outlining restriction of propping open doors.

(d) DES conducted a 100% inspection of doors in the exit access corridors to ensure rating IAW NFPA 101.

(e) DES provides training on a monthly basis. Occupants have been offered additional training as needed.

(f) All required corrections were completed as of 27 March 15.

(3) FGN-FP-150309-003: Stairwell door blocked by a chair, creating an unsafe condition.

(a) The DPW ensured all door closers are operable and all doors close into jambs. DMO #3801096

(b) The NCOIC for the facility was instructed by DPW and DES personnel to remove all obstructions from all stairwell and fire doors.

(c) DES provides training on a monthly basis. Occupants have been offered additional training as needed.

(d) All required corrections were completed as of 27 March 15.

(4) FGN-FP-150309-05: The ceiling cavity above the egress have been inappropriately modified to constitute a return air plenum.

(a) Plenums may be used as an integral part of an air handling system only if they conform to the requirements of NFPA 90A IAW Military Handbook, Fire Protection for Facilities Engineering, Design and Construction 1008C, Sect. 2.12.3 (1997 Ed.). The subject plenums do comply with NFPA 90A IAW Military Handbook, Fire

4

Commander, Fort Gordon Response to NOC 2, March 30, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

Protection for Facilities Engineering, Design and Construction 1008C Sect. 2.12.3 (1997 Ed.) and are an integral part of the air handling system.

(b) Reference to ceiling cavity plenum, the space between the top of the finished ceiling and the underside of the floor or roof above shall be permitted to be used to supply air to the occupied area, or return or exhaust air from or return and exhaust air from the occupied area IAW NFPA 90A, Sect. 2-3.10.2 (1999 Ed.)

(5) FGN-FP-150309-06: The fire alarm was not properly maintained and found in poor condition.

(a) Trouble conditions for the fire alarm system are not reporting to the central station monitoring. This comment could not be substantiated. Fire alarm personnel were summoned on site and noted that the system was transmitting, as designed. A full test of the operational capability of this system was conducted on 19 Mar 2015, no operational issues were noted. DMO#3799403

(b) The last Inspection/Testing /Maintenance (ITM) activity for this facility was conducted on 29 Oct 2014. At that time, all components were tested and operational. All ITMs are IAW UFC & NFPA Standards. Monthly testing is not required; since the system reports to the central station monitoring, (front-end).

(c) The secondary power supply (battery charger) was removed. The "UL" approved secondary power supply is operating as required by NFPA 72. DMO# 3796498

(6) FGN-FP-150309-009: Means of egress do not meet minimum requirements for existing dormitories as required by Life Safety Code.

(a) DES has identified the sprinkler requirement and travel distance discrepancy on all "Rolling Pin" type barracks and include mitigation comments on all projects/renovations

(b) DES ensures Fire Evacuation Procedures are established and practiced during Annual Inspections or more frequently when requested by the occupant (following rotations).

(c) DES provides training on a monthly basis. Occupants have been offered additional training as needed

(7) FGN-FP-150309-010: Fire extinguishers were noted missing at several locations and several were past the inspection expiration date.

Commander, Fort Gordon Response to NOC 2, March 30, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

(a) DES includes fire extinguisher inspections during annual inspections or more frequently as requested by the occupant.

(b) The unit was instructed to turn-in all expired fire extinguishers to the U-DO-IT facility, located in Bldg 40101. Replacement fire extinguishers will be provided. The missing fire extinguishers will be procured through the 15th BDE supply channels. All fire extinguishers will be in place and current NLT 3 April 15.

(8) FGN-FP-150309-011: Egress routes are not clearly marked and do not have sufficient emergency lighting.

(a) The last Inspection/Testing /Maintenance (ITM) activity for this facility was conducted on 29 Oct 2014. At that time, all components to include emergency lights were tested and operational. All ITMs are IAW UFC & NFPA Standards. Demand Maintenance Order (DMO), 3799274 was issued to inspect and correct all exit lighting issues. DMO #3801102 was issued to inspect and correct all emergency lighting issues.

(b) DES includes Exit Lighting and Emergency Lighting during Annual Inspections. The last inspection was conducted on 14 June 2014 and the following deficiencies were noted: dryer hoses not connected and excessive lint build-up in Laundry Rm., fire extinguishers missing pin seals, storage being too high for a non-sprinkled bldg., ceiling tiles missing, fire extinguishers needing to be recertified, mops needing to be stored outdoors and extension cord running through wall to power a router.

(c) Exit signs in need of repair were repaired by DPW.

(d) Emergency Lighting meets the requirements set forth and IAW NFPA 101 Sect. 5-9.1and 17-2.9 (1997Ed.). Emergency lighting IAW Section 5-9 shall be provided in all buildings with more than 25 rooms.

(e) All required corrections were completed as of 27 March 15.

(9) FGN-FP-150309-013: The required fire and smoke separation between sleeping rooms and egress has been compromised.

(a) Numerous penetrations were noted on all three floors where communications conduits were run thru the fire walls. All of these penetrations were sealed with a "UL" approved fire stop material.

(b) The comment regarding "holes" were equipped with fire dampers, but not required smoke detector is not correct. There are fire dampers, per applicable code, above the ceiling.

Commander, Fort Gordon Response to NOC 2, March 30, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

(c) The comment regarding the lack corridor smoke detection will delay notification of personnel is incorrect. In addition to the smoke detectors located in the corridors, IAW NFPA 72, there are HVAC duct detectors on the air handler units in the mechanical rooms that will shut down the units upon activation.

(d) All required corrections were completed as of 27 March 15.

2. Building 25708 is programmed to be vacated NLT 15 April 2015 to undergo TBUP (Training Barracks Upgrade Program). The facility will be turned over to the United States Army Corps of Engineers - Savannah District for a $13M restoration and modernization.

3. The Fort Gordon POC for this action is [redacted]

SAMUEL G. ANDERSON
COL, SC
Commanding

CF
Commander, IMCOM
Director, Atlantic Region, IMCOM

DoD OIG NOC 2 Response Comments, April 9, 2015

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

APR 9 2015

MEMORANDUM FOR GARRISON COMMANDER, FORT GORDON

SUBJECT: OIG DoD Notice of Concern – Military Housing Inspections – CONUS-Southeast, March 2, 2015, (Project No. D2015-DT0TAD-0001)

In reference to your March 30, 2015, response to the subject Notice of Concern, we agree that no further corrective action is necessary for barracks building 25708 as long as it is vacated for the Training Barracks Upgrade Program renovation no later than April 15, 2015, as planned.

However, based on our inspection of barracks building 25702, we disagree with your statement that wall penetrations into sleeping rooms did not exist in the ceiling cavity of egress corridors. Furthermore, we disagree with your statement that the wall penetrations we found between egress corridors and sleeping rooms do not create improper air plenums in violation of National Fire Protection Association (NFPA) code.

Since at least the 1996 edition, NFPA 90A has stated that egress corridors in residential occupancies shall not be used as a portion of a supply, return, or exhaust air system serving adjoining areas and air transfer openings shall not be permitted in walls or in doors separating egress corridors from adjoining areas.

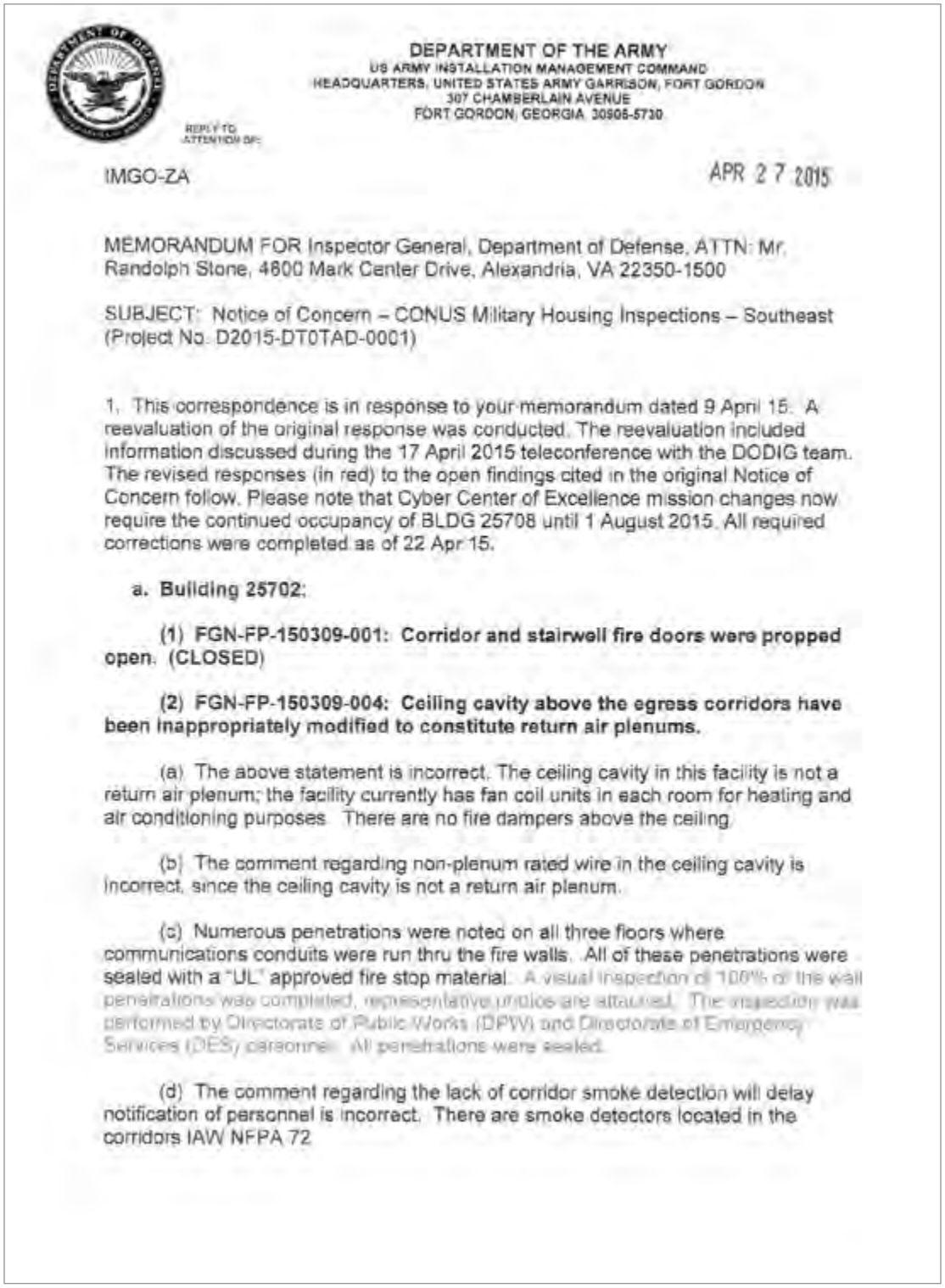
Because no immediate solution has been provided for the egress corridor ceiling cavity air transfer openings, the maximum travel distance exceedance for means of egress, or the discharge of all exit stairs into the interior of the first floor of the building, we recommend that written compensatory measures be developed for building 25702 in accordance with Unified Facilities Criteria 3-601-02, "Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems," September 8, 2010. Additionally, in the event that barracks building 25708 is not vacated for renovation according to the timeline and plan provided in your response, we recommend that you develop compensatory measures for this building as well.

Based on this information, we request that you reevaluate your response to our Notice of Concern and reply to this memorandum by April 23, 2015. If you have any questions, please contact [redacted]

Randolph R. Stone
Deputy Inspector General
Policy and Oversight

cc:
Under Secretary of Defense for Installations and Environment
Auditor General, Department of the Army
Inspector General, Department of the Army
Commander, Army IMCOM
Director, Atlantic Region, Army IMCOM

Follow-up Commander, Fort Gordon Response to NOC 2, April 27, 2015



DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT GORDON
307 CHAMBERLAIN AVENUE
FORT GORDON, GEORGIA 30905-5730

REPLY TO ATTENTION OF:

IMGO-ZA

APR 27 2015

MEMORANDUM FOR Inspector General, Department of Defense, ATTN: Mr. Randolph Stone, 4800 Mark Center Drive, Alexandria, VA 22350-1500

SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

1. This correspondence is in response to your memorandum dated 9 April 15. A reevaluation of the original response was conducted. The reevaluation included information discussed during the 17 April 2015 teleconference with the DODIG team. The revised responses (in red) to the open findings cited in the original Notice of Concern follow. Please note that Cyber Center of Excellence mission changes now require the continued occupancy of BLDG 25708 until 1 August 2015. All required corrections were completed as of 22 Apr 15.

a. **Building 25702:**

(1) FGN-FP-150309-001: Corridor and stairwell fire doors were propped open. (CLOSED)

(2) FGN-FP-150309-004: Ceiling cavity above the egress corridors have been inappropriately modified to constitute return air plenums.

(a) The above statement is incorrect. The ceiling cavity in this facility is not a return air plenum; the facility currently has fan coil units in each room for heating and air conditioning purposes. There are no fire dampers above the ceiling.

(b) The comment regarding non-plenum rated wire in the ceiling cavity is incorrect, since the ceiling cavity is not a return air plenum.

(c) Numerous penetrations were noted on all three floors where communications conduits were run thru the fire walls. All of these penetrations were sealed with a "UL" approved fire stop material. A visual inspection of 100% of the wall penetrations was completed, representative photos are attached. The inspection was performed by Directorate of Public Works (DPW) and Directorate of Emergency Services (DES) personnel. All penetrations were sealed.

(d) The comment regarding the lack of corridor smoke detection will delay notification of personnel is incorrect. There are smoke detectors located in the corridors IAW NFPA 72.

Follow-up Commander, Fort Gordon Response to NOC 2, April 27, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

(3) FGN-FP-150309-007: Egress routes do not have adequate emergency lighting. (CLOSED)

(4) FGN-FP-150309-008: Means of egress do not meet minimum requirements for existing dormitories as required by Life Safety Code.

(a) DES has identified the sprinkler requirement and travel distance discrepancy on all "Rolling Pin" type barracks and include mitigation comments on all projects/renovations.

(b) DES ensures Fire Evacuation Procedures are established and practiced during annual inspections or more frequently when requested by the occupant (following course rotations).

(c) DES provides training on a monthly basis. Occupants have been offered additional training as needed.

(d) NFPA 99A, NFPA 101 and Unified Facility Criteria (UFC) 3-601-2 criteria has been reviewed and complied with. DES coordinated with DPW, Safety, and the Facility Manager to establish compensatory measures (see attachment) consistent with Unified Facilities Criteria 3-601-02, "Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems" to mitigate the concerns of supply and return air exchanges between egress corridors and adjoining sleeping rooms, the maximum travel distance exceedance for means of egress, and exit discharge of all exit stairs into the first floor. These measures will remain in effect until Building 25702 is taken off line for renovation in 2016.

(5) FGN-FP-150309-012: The required fire and smoke separation between sleeping rooms and egress has been compromised.

(a) Numerous penetrations were noted on all three floors where communications conduits were run thru the fire walls. All of these penetrations were sealed with a "UL" approved fire stop material. A visual inspection of 100% of the wall penetrations was completed; representative photos are attached. The inspection was performed by Directorate of Public Works (DPW) and Directorate of Emergency Services (DES) personnel. All penetrations were sealed. Since fan coil units are employed in this facility, a return air plenum is unnecessary.

(b) The comment regarding "holes" were equipped with fire dampers, but not required smoke detectors is not correct. The ceiling cavity in the facility is not a return air plenum; the facility currently has fan coil units in each room for heating and air conditioning purposes. There are no fire dampers above the ceiling.

2

Follow-up Commander, Fort Gordon Response to NOC 2, April 27, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

(c) The comment regarding the lack of corridor smoke detection will delay notification of personnel is incorrect. There are smoke detectors located in the corridors IAW NFPA 72.

(d) DES includes observations for penetration of walls during annual inspections. The following deficiency was noted on the last inspection: Fire Extinguishers are not being inspected monthly and certification cards are not being signed off monthly.

b. Building 25708:

(1) FGN-EN-150309-001: Uncontrolled worn, damaged, and broken ACM floor tiles and mastic. (CLOSED)

(2) FGN-FP-150309-002: Corridor and stairwell fire doors were propped open. (CLOSED)

(3) FGN-FP-150309-003: Stairwell door blocked by a chair, creating an unsafe condition. (CLOSED)

(4) FGN-FP-150309-05: The ceiling cavity above the egress have been inappropriately modified to constitute a return air plenum.

(a) Plenums may be used as an integral part of an air handling system only if they conform to the requirements of NFPA 90A IAW Military Handbook, Fire Protection for Facilities Engineering, Design and Construction 1008C, Sect. 2.12.3 (1997 Ed.).

(b) Reference to ceiling cavity plenum, the space between the top of the finished ceiling and the underside of the floor or roof above shall be permitted to be used to supply air to the occupied area, or return or exhaust air from from the occupied area IAW NFPA 90A, Sect. 2-3.10.2 (1999 Ed.).

(c) A visual inspection of 100% of the wall penetrations was completed; representative photos are attached. The inspection was performed by Directorate of Public Works (DPW) and Directorate of Emergency Services (DES) personnel. All penetrations are sealed.

(d) NFPA 90A, NFPA 101 and UFC 3-601-2 criteria was reviewed. DES coordinated with DPW, Safety, and the facility Manager to establish compensatory measures (see attachment) consistent with Unified Facilities Criteria 3-601-02, "Operation And Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems" to mitigate the concerns of: supply and return air exchanges between egress corridors and adjoining sleeping rooms; the maximum travel distance exceptions for

3

Follow-up Commander, Fort Gordon Response to NOC 2, April 27, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

[illegible] egress, and exit discharge of all exit stairs into the first floor. These measures will remain in effect until Building 25705 is taken off line for renovation 1 August 2016.

(5) FGN-FP-150309-06: The fire alarm was not properly maintained and found in poor condition. (Closed)

(6) FGN-FP-150309-009: Means of egress do not meet minimum requirements for existing dormitories as required by Life Safety Code.

(a) DES has identified the sprinkler requirement and travel distance discrepancy on all "Rolling Pin" type barracks and include mitigation comments on all projects/renovations.

(b) DES ensures Fire Evacuation Procedures are established and practiced during Annual Inspections or more frequently when requested by the occupant (following rotations).

(c) DES provides training on a monthly basis. Occupants have been offered additional training as needed.

(d) DES coordinated with DPW, Safety, and the Facility Manage to establish compensatory measures (see attached) consistent with Unified Facilities Criteria 3-601-02, "Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems" to mitigate the concerns of: supply and return air exchanges between egress corridors and adjoining sleeping rooms, the maximum travel distance exceedance for means of egress, and exit discharge of all exit stairs into the first floor. These measures will remain in effect until Building 25705 is taken off line for renovation 1 August 2016.

(7) FGN-FP-150309-010: Fire extinguishers were noted missing at several locations and several were past the inspection expiration date. (CLOSED)

(8) FGN-FP-150309-011: Egress routes are not clearly marked and do not have sufficient emergency lighting. (CLOSED)

(9) FGN-FP-150309-013: The required fire and smoke separation between sleeping rooms and egress has been compromised.

(a) Numerous penetrations were noted on all three floors where communications conduits were run thru the fire walls. All of these penetrations were sealed with a "UL" approved fire stop material. A visual inspection of 100% of the wall penetrations was conducted; representative photos are attached. The inspection was performed by

4

Follow-up Commander, Fort Gordon Response to NOC 2, April 27, 2015 (cont'd)

IMGO-ZA
SUBJECT: Notice of Concern – CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001)

Directorate of Public Works (DPW) and Directorate of Emergency Services (DES) personnel. All penetrations are sealed.

(b) The comment regarding "holes" were equipped with fire dampers, but not required smoke detector is not correct. There are fire dampers, per applicable code, above the ceiling.

(c) The comment regarding the lack of corridor smoke detection will delay notification of personnel is incorrect. In addition to the smoke detectors located in the corridors, IAW NFPA 72, there are HVAC duct detectors on the air handler units in the mechanical rooms that will shut down the units upon activation.

(d) NFPA 90A, NFPA 101 and UFC 3-601-2 criteria was reviewed. DES coordinated with DPW, Safety, and the facility Manager to establish compensatory measures (see attachment) consistent with United Facilities Criteria 3-601-02, "Operation and Maintenance: Inspection, Testing, and Maintenance of Fire Protection Systems" to mitigate the concerns of: supply and return air exchanges between egress corridors and adjoining sleeping rooms, the maximum travel distance exceedance for means of egress, and exit discharge of all exit stairs into the first floor. These measures will remain in effect until Building 25700 is taken off line for renovation 1 August 2015.

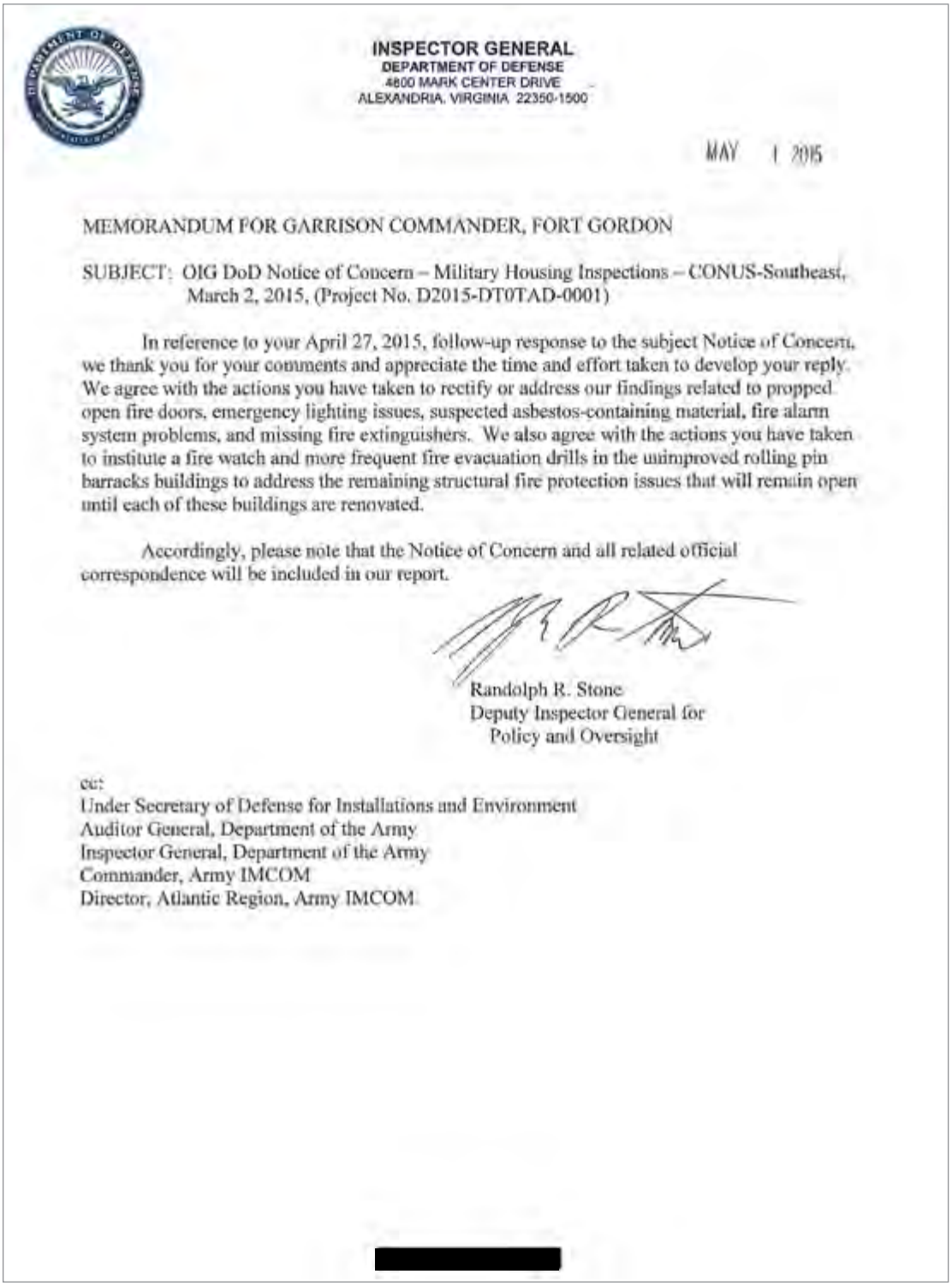
2. The Fort Gordon POC for this action is [redacted]

Encl

SAMUEL G. ANDERSON
COL, SC
Commanding

CF:
Commander, IMCOM
Director, Atlantic Region, IMCOM

DoD OIG NOC 2 Follow-up Response Acknowledgement, May 1, 2015



INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

MAY 1 2015

MEMORANDUM FOR GARRISON COMMANDER, FORT GORDON

SUBJECT: OIG DoD Notice of Concern – Military Housing Inspections – CONUS-Southeast, March 2, 2015, (Project No. D2015-DT0TAD-0001)

In reference to your April 27, 2015, follow-up response to the subject Notice of Concern, we thank you for your comments and appreciate the time and effort taken to develop your reply. We agree with the actions you have taken to rectify or address our findings related to propped open fire doors, emergency lighting issues, suspected asbestos-containing material, fire alarm system problems, and missing fire extinguishers. We also agree with the actions you have taken to institute a fire watch and more frequent fire evacuation drills in the unimproved rolling pin barracks buildings to address the remaining structural fire protection issues that will remain open until each of these buildings are renovated.

Accordingly, please note that the Notice of Concern and all related official correspondence will be included in our report.

Randolph R. Stone
Deputy Inspector General for
Policy and Oversight

cc:
Under Secretary of Defense for Installations and Environment
Auditor General, Department of the Army
Inspector General, Department of the Army
Commander, Army IMCOM
Director, Atlantic Region, Army IMCOM

[redacted]

Appendix D

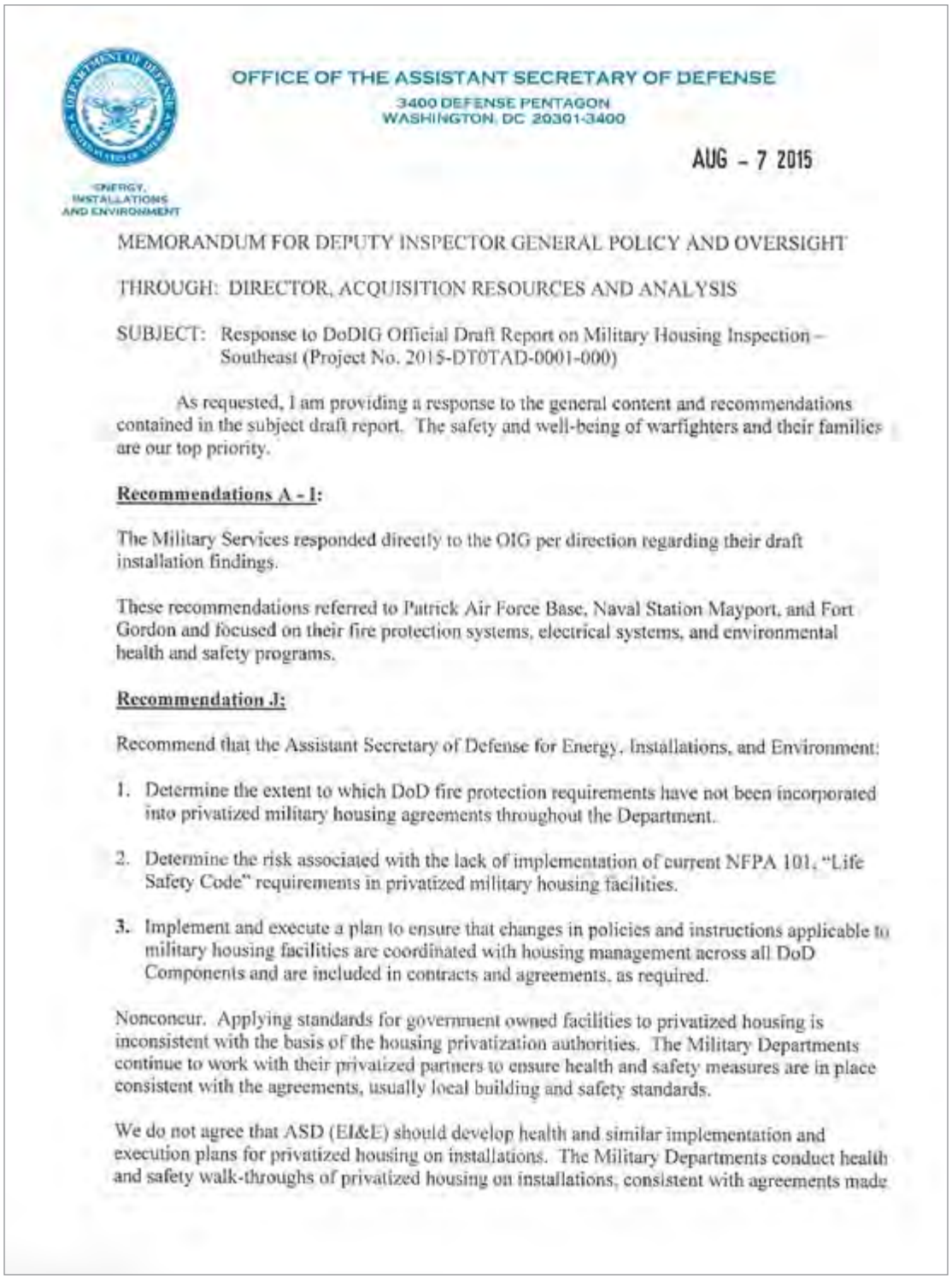
Deficiencies

Recipients of this report will be provided detailed documentation of all deficiencies identified during this inspection.

Management Comments

Assistant Secretary of Defense for Energy, Installations, and Environment Comments

Final Report Reference



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

ENERGY, INSTALLATIONS AND ENVIRONMENT

AUG - 7 2015

MEMORANDUM FOR DEPUTY INSPECTOR GENERAL POLICY AND OVERSIGHT

THROUGH: DIRECTOR, ACQUISITION RESOURCES AND ANALYSIS

SUBJECT: Response to DoDIG Official Draft Report on Military Housing Inspection – Southeast (Project No. 2015-DT0TAD-0001-000)

As requested, I am providing a response to the general content and recommendations contained in the subject draft report. The safety and well-being of warfighters and their families are our top priority.

Recommendations A - I:

The Military Services responded directly to the OIG per direction regarding their draft installation findings.

These recommendations referred to Patrick Air Force Base, Naval Station Mayport, and Fort Gordon and focused on their fire protection systems, electrical systems, and environmental health and safety programs.

Revised Recommendation J

Recommendation J:

Recommend that the Assistant Secretary of Defense for Energy, Installations, and Environment:

1. Determine the extent to which DoD fire protection requirements have not been incorporated into privatized military housing agreements throughout the Department.
2. Determine the risk associated with the lack of implementation of current NFPA 101, "Life Safety Code" requirements in privatized military housing facilities.
3. Implement and execute a plan to ensure that changes in policies and instructions applicable to military housing facilities are coordinated with housing management across all DoD Components and are included in contracts and agreements, as required.

Nonconcur. Applying standards for government owned facilities to privatized housing is inconsistent with the basis of the housing privatization authorities. The Military Departments continue to work with their privatized partners to ensure health and safety measures are in place consistent with the agreements, usually local building and safety standards.

We do not agree that ASD (EI&E) should develop health and similar implementation and execution plans for privatized housing on installations. The Military Departments conduct health and safety walk-throughs of privatized housing on installations, consistent with agreements made

Assistant Secretary of Defense for Energy, Installations, and Environment Comments (cont'd)

with the privatization partners. To revise agreements now requiring formal inspections as if the privatized units are owned by the Federal government would unnecessarily increase costs, impose more government intrusion into a private business enterprise, and create inconsistencies with how military personnel living in privatized units on and off installations are treated.

Recommendation K:

Recommend that the Assistant Secretary of Defense for Energy, Installations, and Environment implement and execute a plan for the improvement of inspection and maintenance programs for military housing at all installations throughout the United States.

Partially concur. For unaccompanied housing and government owned family housing, the USD(AT&L) has already issued policy standardizing inspection processes. The policy requires implementation plans for facilities that are deemed in a failing condition. We view this portion of the recommendation as complete.

My point of contact should you require additional information is [redacted]

John Conger
Performing the Duties of the Assistant Secretary of Defense
(Energy, Installations and Environment)

Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure Comments

Final Report Reference

DEPARTMENT OF THE AIR FORCE
WASHINGTON, DC

OFFICE OF THE ASSISTANT SECRETARY

AUG 14 2015

MEMORANDUM FOR DEPARTMENT OF DEFENSE, INSPECTOR GENERAL

FROM: SAF/IEE

SUBJECT: DoD IG Project No. D2015-DT0TAD-0001.000 - Official Draft "Continental United States Military Housing Inspections - Southeast"

The Air Force provides the following comments to the subject report:

- The Air Force agrees with the DoD IG's Recommendation J that ASD(EI&E) should determine the extent to which DoD fire protection requirements have or have not been incorporated into privatized housing agreements and the resultant associated risk. The DoD IG did not determine the local codes applicable to the privatized housing deals, but did recognize the myriad state/local Authorities Having Jurisdiction (AHJs) which enforce the fire protection requirements in privatized homes. We have informally discussed the issue with the other Services and agree that the DoD requirements generally do not apply in the Military Housing Privatization Initiative deals, and the AHJ responsible for enforcement of the fire protection codes has the authority to determine fire protection requirements for privatized housing.

- The Air Force agrees with 86 of the 87 deficiencies noted at Patrick AFB (but not the need for immediate corrective action to the deficiency to install smoke detectors in the River's Edge housing area bedrooms-see next comment). The Air Force is monitoring corrective actions to the 86 deficiencies. In housing at Patrick AFB, Patrick Family Housing, LLC, a wholly owned subsidiary of Hunt Military Communities ("Hunt") has corrected each of the 38 electrical deficiencies noted in the report, and is working on the 27 fire protection deficiencies and environmental health and safety issues. In the dormitory the DoD IG inspected at Patrick AFB, the base civil engineers have resolved each of the 6 electrical deficiencies, 2 of 11 fire protection deficiencies, and 1 of the 5 environmental health and safety deficiencies. Seven of the open dormitory deficiencies will be corrected by October 2015, as some of the work orders require parts that had to be ordered. The remaining 6 dormitory deficiencies will be corrected following completion of a $5 million dormitory renovation project scheduled for completion in November 2016.

Deleted Draft Recommendation A.1

- The Air Force disagrees with the Patrick AFB Notice of Concern (NOC) for immediate correction of the lack of smoke detectors in the bedrooms of the River's Edge housing area. As stated in AFCEC/CI's 1 and 27 April 2015

Withdrawn Notice of Concern

Deputy Assistant Secretary of the Air Force for Environment, Safety, and Infrastructure Comments (cont'd)

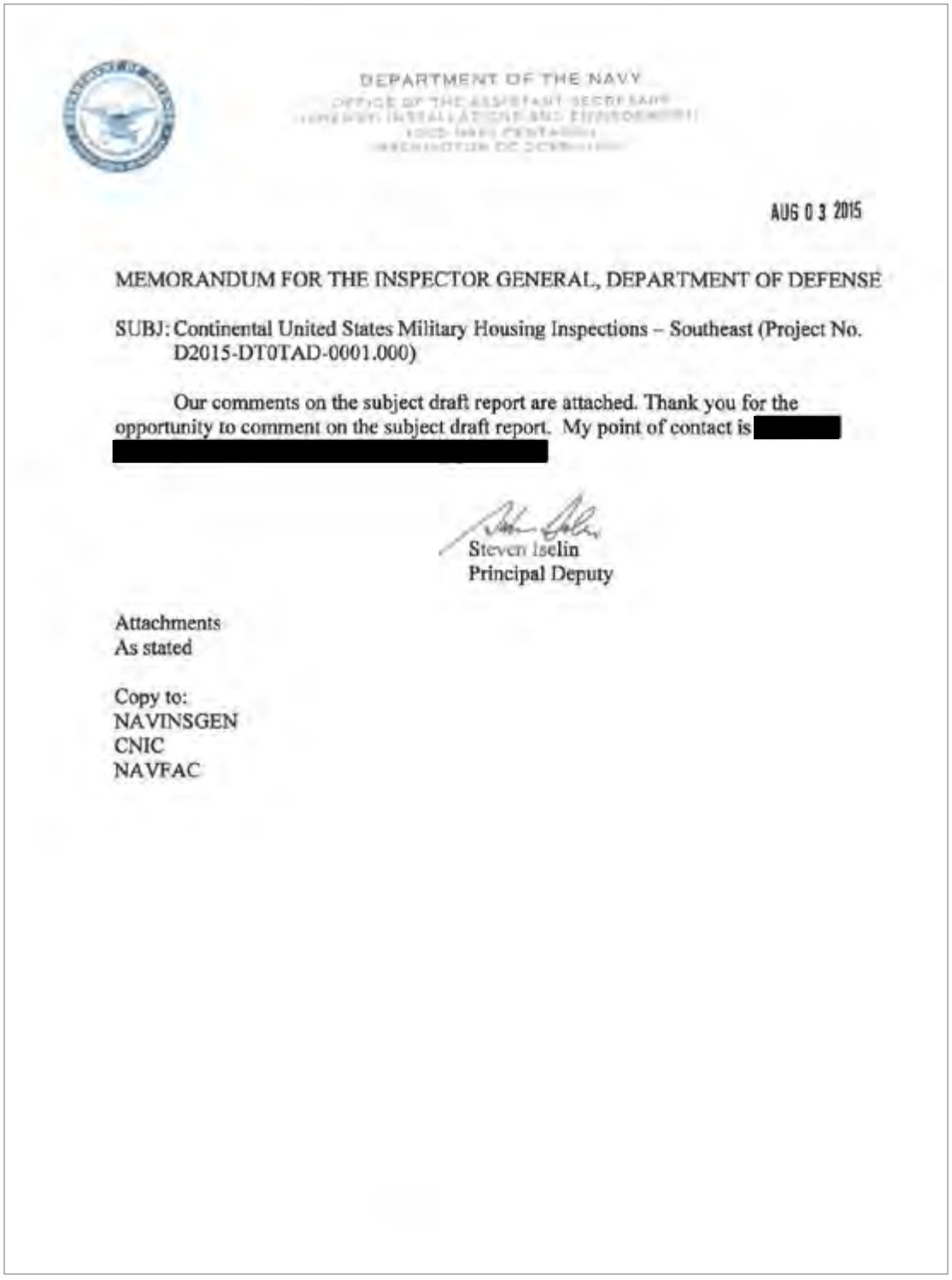
memoranda to the DoD IG, the Air Force is not legally or contractually required to comply with the smoke alarm requirements described in the NOC. The privatization contract did not incorporate DoD Instruction 6055.06 in the privatization agreement with Hunt. The privatized homes are governed by the codes and standards of the local jurisdictions and the State of Florida. The Florida Fire Protection Code incorporates the 2009 National Fire Protection Association requirement for smoke detectors in bedrooms, but does not mandate compliance retroactively. The Florida Division of State Fire Marshall e-mail provided to the DoD IG in April 2015 stated replacement of a smoke alarm in the homes "should not trigger any requirements to bring the building into compliance with the present edition of the Florida Building Code." Also, the AHJ has not required any corrective action.

- The DoD IG report should correct the number of privatized homes at Patrick AFB from 539 homes to 616 homes.

If you have additional questions, please contact [redacted]

MARK A. CORRELL, P.E.
Deputy Assistant Secretary of the Air Force
(Environment, Safety and Infrastructure)

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments



DEPARTMENT OF THE NAVY

AUG 0 3 2015

MEMORANDUM FOR THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

SUBJ: Continental United States Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001.000)

Our comments on the subject draft report are attached. Thank you for the opportunity to comment on the subject draft report. My point of contact is [redacted]

Steven Iselin
Principal Deputy

Attachments
As stated

Copy to:
NAVINSGEN
CNIC
NAVFAC

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments (cont'd)

DOD IG DRAFT REPORT RESPONSE:CONTINENTAL UNITED STATES MILITARY HOUSING INSPECTIONS – SOUTHEAST
(PROJECT NO. D2015-DT0TAD-0001.000)

The Navy's responses to the findings and recommendations of the Department of Defense Inspector General's (DoD IG's) subject Draft Report are provided below.

Recommendation D.1: Naval Station Mayport Commander conduct an effective root cause analysis and perform corrective actions for all fire protection deficiencies identified.

Response: Concur.

For unaccompanied housing (UH), the Naval Station (NS) Mayport Public Works Department (PWD) has conducted an analysis, surveys, and developed plans for corrective actions. Corrective actions for the UH deficiencies have started. Due to the complex nature of the deficiencies, corrective actions require contract support and are in various stages of planning and execution. Estimated completion date is July 2016.

For privatized family housing (FH), SE Housing LLC took immediate action and completed a number of corrections such as replacing expired fire alarms and installing CO detectors. Other actions, i.e. relocating smoke detectors and preparing plans for egress changes, are more complex and corrective actions are in various stages of planning and execution. SE Housing LLC has conducted an analysis and surveys, and has developed action plans. Estimated completion date is July 2016.

Recommendation D.2: Naval Station Mayport Commander create and execute a plan for the performance of ongoing inspection and maintenance of all housing units to applicable fire protection codes and standards.

Response: Concur.

For UH, Naval Station (NS) Mayport has a standing fire protection and prevention program instruction: NAVSTAMYPTINST 11320.4M. In addition, the Base Operating Support (BOS) contractor executes an Integrated Maintenance Program on all fire protection systems in accordance with the MO 117 and UFC 3-600-02, Testing, and Maintenance of Fire Protection Systems. Completed July 2015.

For FH, SE Housing LLC has direct responsibility. SE Housing LLC is reinforcing the requirement with staff to check smoke alarms and CO detectors, expiration dates, the need to clean dryer vents during maintenance work orders, change of occupancy (COMs) maintenance, and preventative maintenance checks (PMs). Completed July 2015.

Recommendation D.3: Naval Station Mayport Commander work with the private housing partner to ensure that fire protection inspection and maintenance plans are achieved.

Response: Concur.

For FH, SE Housing LLC has direct responsibility. In accordance with Navy oversight procedures, additional site visits and focused reviews are accomplished when issues of concern

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments (cont'd)

or non-compliance are identified, which allows Navy to ensure partner corrective plans are achieved. Completed July 2015.

Recommendation D.4: Naval Station Mayport Commander work with the private housing partner to ensure that all means of emergency egress meet applicable requirements throughout Naval Station Mayport family housing communities, including those for bedroom windows and enclosed patios.

Response: Concur. For FH, SE Housing LLC has direct responsibility. Homes were constructed by the Navy prior to 2006 and prior to publication of USC 3-600-01 Section 6-3.3. In the inspection reports, DoD IG refers to UFC 3-600-01 (26 September 2006, Change 3, 1 March 2013), Fire Protection for Facilities, section 6-3.3, Existing Multi-Family Housing, which states:

> *"In accordance with Office of Under Secretary of Defense memorandum dated 14 January 2002, all windows in existing housing must comply with NFPA 101 as a secondary means of escape by 2007, unless a waiver is obtained from the component's AHJ (Authority Having Jurisdiction)."*

The referenced OUSD 14 Jan 2002 memo directs the Services to submit a master plan to eliminate inadequate housing (as defined by the Services) by 2007. The memo did not direct any action with respect to units designated as adequate. In the Navy's response to the OSD 2002 memo, Mayport family housing was identified as adequate.

Subsequent to privatization, there has been no alteration, modernization, rehabilitation, or renovation work that has exceeded 50 percent of the replacement value which would trigger compliance with criteria for new construction pursuant to UFC 3-600-001, paragraph 1-3.2.2. Accordingly, initial construction codes that were utilized are still in effect. However, the Navy will work with SE Housing LLC to identify the earliest practicable opportunity to provide a secondary means of egress, consistent with the UFC. The Navy's AHJ concurs with this comment. Completed July 2015.

Recommendation E.1: Naval Station Mayport Commander conduct an effective root cause analysis and perform corrective actions for all electrical deficiencies identified.

Response: Concur.

For UH, the NS Mayport PWD has conducted an analysis, surveys, and developed plans for corrective actions. Corrective actions for the UH deficiencies have started. Estimated completion date is March 2016.

For FH, SE Housing LLC has corrective actions underway such as purchasing more sensitive testing devices to test GFCI and replace faulty outlets, both interior and exterior. SE Housing LLC will inspect outlets during all COMs and PMs and install boxes with covers as needed. Estimated completion date is July 2016

Recommendation E.2: Naval Station Mayport Commander create and execute a plan for the performance of ongoing inspection and maintenance of all housing units to applicable electrical codes and standards.

Principal Deputy Assistant Secretary of the Navy for Energy, Installations, and Environment Comments (cont'd)

Response: Concur.

For UH, this was accomplished as part of PM program; change of occupancy maintenance and maintenance service calls. Completed July 2015.

For FH, SE Housing LLC has direct responsibility. SE Housing LLC has developed plans to ensure testing to identify and replace faulty GFI outlets and to determine if non-GFCI outlets need to be upgraded. Completed July 2015.

Recommendation E.3: Naval Station Mayport Commander work with the private housing partner to ensure that electrical inspection and maintenance plans are achieved.

Response: Concur. In accordance with Navy privatized housing oversight procedures, additional site visits and focused reviews are accomplished when issues of concern or non-compliance are identified, which allows the DoN to ensure partner corrective plans are achieved. Completed July 2015.

Recommendation F.1.: Naval Station Mayport Commander improve heating, ventilation, and air conditioning maintenance in unaccompanied housing facilities.

Response: Concur. NS Mayport has a standing Base Operating Support (BOS) contract that executes an Integrated Maintenance Program on all HVAC systems that require maintenance per the manufacturer's recommendations; Division 23 Heating, Ventilating, and Air Conditioning of the Unified Facilities Guide Specifications (UFGS); National Fire Protection Association (NFPA) for Health Care Facilities; Center for Disease Control Air Quality Requirements, 29 CFR; American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) standards; ASME Sections VI, VII; ANSI B31.1; and the National Board of Boiler Inspectors Codes. Public Works Department will continue performance assessment to ensure BOS contractor is meeting above mentioned standards. Completed July 2015.

Recommendation F.2: Naval Station Mayport Commander Conduct an effective root cause analysis and perform corrective actions for all environmental health and safety deficiencies identified.

Response: Concur. NS Mayport PWD has conducted an analysis, surveys, and developed plans for corrective actions. Corrective actions for the two specific FH issues (lead in water/bathroom exhaust fan) are complete. Corrective actions for the identified UH deficiencies are nearly complete. Estimated completion date is August 2015.

Deputy Assistant Secretary of the Army for Installations, Housing, and Partnerships Comments

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
INSTALLATIONS, ENERGY AND ENVIRONMENT
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WASHINGTON, DC 20310-0110

AUG 03 2015

SAIE-IHP

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE, 4800 MARK CENTER DRIVE, ALEXANDRIA, VIRGINIA 22350-1500

SUBJECT: CONUS Military Housing Inspections – Southeast (Project No. D2015-DT0TAD-0001.000)

1. The Army concurs with recommendations G.1, G.2, G.3, G.4, G.5, G.6, H.1, H.2, H.3, I.1, and I.2. My staff reviewed and concurs with U.S. Army Installation Command's proposed corrective actions for the root causes and open findings specifically in Advanced Individual Training barracks, Building 25702 and 25708. The open findings have been addressed and all required corrections were completed.

2. The DoD IG findings associated with privatized housing cited non-applicable building codes and non-applicable DoD facilities guidance as the basis of their findings. All privatized housing is built or renovated to installation design guidance and local codes in effect at the time the project is commenced. Building codes and standards change frequently and - except in very limited circumstances not relevant here - are not retroactive to existing homes. This resulted in a faulty baseline for the inspection. Each RCI Ground Lease details Lessee requirements in ensuring the health and welfare of residents occupying homes. The executed construction agreements provide specific code compliance requirements. Additionally, the Construction, Renovation, and Condition Standards for RCI Family Housing, signed by Deputy Assistant Secretary of Army for Installations, Housing and Partnerships, detail fire/life safety requirements for new/renovated housing. As RCI homes are renovated/built they are required to meet the latest applicable code requirements.

3. POC for this action is [redacted]

for PAUL D. CRAMER
Deputy Assistant Secretary of the Army
(Installations, Housing and Partnerships)

Acronyms and Abbreviations

AF	Air Force
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
ANSI	American National Standards Institute
AR	Army Regulation
ASD(EI&E)	Assistant Secretary of Defense for Energy, Installations, and Environment
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
CSS	Central Security Service
E. coli	Escherichia Coli
EPA	Environmental Protection Agency
F&ES	Fire and Emergency Services
GFCI	Ground-Fault Circuit Interrupter
HVAC	Heating, Ventilation, and Air Conditioning
ITG	Interim Technical Guidance
ml	Milliliter
NASA	National Aeronautics and Space Administration
NAVRAMP	Navy Radon Assessment and Mitigation Program
NEC	National Electric Code
NFPA	National Fire Protection Association
NOC	Notice of Concern
NS	Naval Station
NSA	National Security Agency
OIG	Office of Inspector General
pCi/L	Picocuries Per Liter
ppb	Parts Per Billion
SMS	Sustainment Management System
TBUP	Training Barracks Upgrade Program
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics
VOLAR	Volunteer Army


INSPECTOR GENERAL
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