



## *Construction Division Safety, Health, and the Environment*

### *Comments from the Division Director*

The Construction Division's progress in improving safety, health, and environmental performance was clearly evident in 1997 as we continue to move toward our goal of "ZERO" incidents. Our mission to support each Resident Officer in Charge of Construction (ROICC) office concerning safety, health, and environmental issues remains unwavering. There were several key aspects of our performance that we are especially proud of:

During FY 97, our ROICC offices accomplished a combined total of over 19 million contractor man-hours with a lost-time incident rate of .34. This rate was the lowest by nearly 50% below any other Naval Facilities Engineering Command (NAVFAC) Engineering Field Division (EFD). This marked a 40% reduction from the FY 96 rate in our quest for "ZERO" mishaps. According to our Safety Managers, the Atlantic Division ROICC accident rate reduction was responsible for the NAVFAC-wide rate reduction of 13% from FY 96. Other comparisons show our lost-time injury rate to be below general industry, members of the Construction Industry Institute (CII), and the US Army Corps of Engineers.

During FY 97, LANTOPS realized a 30% reduction in personnel injury cases. The total number of Construction Division (Code 05) employees used in the data tabulation includes ROICC Codes 05 and 02 staffs accounting for 43% of the Atlantic Division Operations (LANTOPS) staff. While other division codes had increased incident rates, Code 05 realized a 50% reduction from FY 96. This reduction is responsible for the overall Command reduction of 30% realized in FY 97. This success directly reduces operating costs to the Command. Two main factors that contributed to reducing this number were the renovation/updating of ROICC office spaces and a renewed emphasis for safety by our ROICC Managers.

The development of an in-house 40-hour Construction Safety Hazard Awareness Course for our ROICC contract surveillance personnel has helped increase our knowledge base for ensuring safe projects throughout LANTDIV and for the customers that we serve. The cost savings that we are able to realize have made it possible to reach out to more ROICC personnel than ever before while helping to develop our in-house Safety Engineering Technician positions.

Swift communication of important safety, health, and environmental issues has been facilitated through the advent of a "SAFETY CORNER" section in our internal publication, i.e., "SPADEWORK." The publication has been successfully distributed throughout our Command to include all Component Commands.

The development of the ROICC Handbook has proven a valuable resource for even the most remote ROICC office. This new tool aids in carrying out safety, health, and environmental standard business practices.

As always, the credit for Code 05's strong performance over the past year belongs to our ROICC employees around the world whose enthusiasm and hard work make our success possible. We remain focused on the challenges and opportunities that we face as we strive to continuously improve our safety, health, and environmental performance to match the highest expectations of our employees and customers.

G. W. MACKEY, P.E.  
Director  
Construction Division

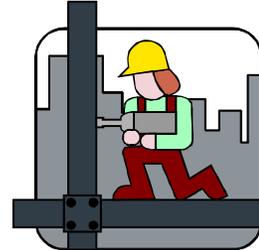


*Side View of the LANTNAVFACECOM Hard Hat*

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## *Standard of Performance/Safety Awards*



### *Commitment to Standard of Performance*

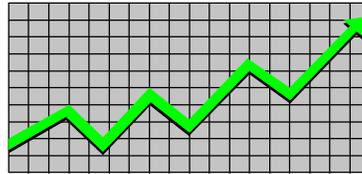
We will continuously improve our practices for safety, health, and the environment during the administration of our construction contracts. We will make consistent, measurable progress in this commitment throughout the Atlantic Division's operations. We will adhere to the highest standards of safe construction for our employees, customers, and the public. We will strengthen our business by making safety, health, and environmental issues an integral part of all our business activities to meet or exceed internal and external expectations. We believe that all injuries, as well as safety incidents, are preventable--our goal is "ZERO" mishaps.



### *Safety Award Hall of Fame*

- |      |   |
|------|---|
| 1996 | 623,400 Contractor Man-Hours with "ZERO" Lost-Time Accidents<br><b>ROICC PUERTO RICO AREA</b> |
| 1997 | 502,708 Contractor Man-Hours with "ZERO" Lost-Time Accidents<br><b>ROICC LITTLE CREEK</b>     |

## *Safety Goal Setters*



## *“ZERO” Lost-Time Accidents for FY 97*

ROICC EARLE  
ROICC GUANTANAMO BAY  
ROICC INDIAN HEAD  
ROICC KEFLAVIK  
ROICC PANAMA CANAL AREA  
ROICC QUANTICO  
ROICC YORKTOWN  
ROICC BETHESDA  
ROICC AZORES  
ROICC LONDON  
ROICC SIGONELLA  
ROICC SOUDA BAY  
ROICC BAHRAIN  
ROICC NAPLES  
ROICC AVIANO  
ROICC VICENZA  
ROICC LA MADDALENA  
ROICC GRIFFISS  
ROICC PORTSMOUTH NH  
ROICC NORFOLKNAVSHIPYD  
ROICC MECHANICSBURG  
ROICC LAKEHURST  
ROICC NEW LONDON  
ROICC COLTS NECK  
ROICC BRUNSWICK



## *Contractor Accident Prevention Plan Guidelines*

### **A CONTRACTOR'S GUIDE FOR ACCIDENT PREVENTION PLANS IN ACCORDANCE WITH US ARMY CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL EM 385-1-1, APPENDIX A (3 September 1996 Edition)**

The following information is provided for the ROICC office to assist contractors in properly developing an Accident Prevention Plan which will meet the US Army Corps of Engineers Safety and Health Requirements Manual EM 385-1-1, Appendix A.

- **Enclosure (1) is a copy of Appendix A taken from USACE EM 385-1-1, 1996 edition.**
- **Enclosure (2) is the name, mailing/internet address, and telephone/FAX number of the Construction Safety Manager/Specialist and the address where copies of the US Army Corps of Engineers Safety and Health Requirements Manual EM 385-1-1 can be purchased. There is, also, an internet address for ordering a free copy of this manual.**

All contracts administered by the Atlantic Division, Naval Facilities Engineering Command, are required to follow EM 385-1-1 concerning construction safety requirements. As a minimum, all Atlantic Division contractors will adhere to EM 385-1-1 requirements for Accident Prevention Plans.

A key to meeting our mutual goal of "ZERO" accidents through "ZERO" tolerance is to start with a comprehensive, site-specific safety plan. To do this, we are actively enforcing contract requirements for Accident Prevention Plans by ensuring that they are formatted as shown in Appendix A of EM 385-1-1. Currently, many of the Accident Prevention Plans that have been submitted are not correct. In the future, Accident Prevention Plans that are submitted shall follow the guidelines contained within Appendix A of EM 385-1-1, or they will be disapproved and returned for resubmittal.

Internal processes are in place to ensure that the plans are reviewed by individuals who have met minimum training requirements to assist in identifying hazards associated with each contract. The contractor cannot start work on a contract until the Accident Prevention Plan has been submitted and *accepted*. Plans that do not comply with Appendix A of EM 385-1-1 will not be accepted. Emphasis is placed on ensuring that plans submitted are site specific.

- **Contracts are being updated to ensure that the latest edition of EM 385-1-1 is referenced. It is in the contractor's best interest to follow the guide contained in Appendix A of EM 385-1-1, 3 September 1996 Edition, even if the contract references the 1992 edition. The 1996 edition reflects the most recent OSHA standards and helps to ensure compliance with both.**
- **After contract work has started, it is imperative that an *Activity Hazard Analysis* be submitted before beginning each phase of the work as required by USACE EM 385-1-1 01.A.09. This contract requirement is not new--it has been in the manual for many years. As a minimum, each phase corresponds to a specification section for the contract. Additional *Activity Hazard Analyses* may be necessary for special construction efforts such as a critical crane lift or other special hazard operations. The *Activity Hazard Analysis* is normally prepared by the subcontractor performing that phase of the work and is not intended to be submitted with the overall project safety plan described above. A minimum outline form used in preparing an *Activity Hazard Analysis* is contained in EM 385-1-1, Figure 1-1. The *Activity Hazard Analysis* is normally accepted in the field by the Government representative. Not to be overlooked, the *Activity Hazard Analysis* must be reviewed with all parties involved in the work activity. Contractors are encouraged to perform this review during the *preparatory inspection meeting* required by the quality control specification section of the contract. Like the *Activity Hazard Analysis*, the contractor cannot start work on a new phase until a *preparatory inspection meeting* has been conducted. Normally, all the parties involved are on the site at this time which makes for convenience in reviewing the *Activity Hazard Analysis*. It is suggested that each *Activity Hazard Analysis* be amended to the approved Accident Prevention Plan for the project as the work progresses. The *Activity Hazard Analysis* can, also, act as an efficient tool when used as an outline for weekly safety meetings. In this way, the project superintendent can ensure that at the meetings there are discussions regarding relevant issues specific to the site. This requirement used in conjunction with contractor production schedules can assist in preventing unwanted delays due to poor planning before the work effort begins and, most importantly, prevent accidents.**
- *If you have any questions concerning how to provide a comprehensive, site specific Accident Prevention Plan for your project or how to incorporate the Activity Hazard Analysis into*

*your standard business practices, please feel free to call the ROICC or LANTDIV Code 0526 at the telephone number listed in enclosure (2).*

### **Suggested Steps for Organizing an Effective Accident Prevention Plan**

1. You should use a three-ring binder which will contain your Accident Prevention Plan.
2. Use tab sheets numbered 1 through 13. The tab sheets will be used to separate the thirteen sections shown in Appendix A.
3. You will need to have an index page inserted as the first page of your plan.
4. Next insert tab sheet #1.
5. Next comply with sections #1 a, b, and c. When you have completed these items, insert them into your tab #1 section.
6. Next insert tab sheet #2.
7. Next comply with sections #2a, b, c, d, e, and f. When you have completed these items, insert them into your tab #2 section.
8. By now, as you can see, each tab section has sub-statements within them that will be inserted into each section. Follow this procedure until all thirteen sections are completed. Upon completion, assemble the correct number of Accident Prevention Plans required by your contract to be submitted and forward the copies to the Resident Officer in Charge of Construction. Be sure your project superintendent retains the approved copy on the site and has a complete understanding of its contents and his/her responsibility for enforcement. By complying with Appendix A of EM 385-1-1, you will have an Accident Prevention Plan meeting the requirements of the contract. The outline offers minimum requirements--contractors are encouraged to add elements for a more complete plan as necessary.

## APPENDIX A

### MINIMUM BASIC OUTLINE FOR ACCIDENT PREVENTION PLAN

An accident prevention plan is, in essence, a safety and health policy and program document. The following areas are typically addressed in an accident prevention plan, but a plan shall be job-specific and shall also address any unusual or unique aspects of the project or activity for which it is written. The accident prevention plan shall interface with the employer's overall safety and health program. Any portions of the overall safety and health program that are referenced in the accident prevention plan shall be included as appropriate.

1. **SIGNATURE SHEET.** Title, signature, and phone number of the following:
  - a. plan preparer (corporate safety staff person, QC);
  - b. plan approval, e.g., owner, company president, regional vice president (HTRW activities require approval of a Certified Industrial Hygienist (or qualified Industrial Hygiene personnel for in-house USACE activities; a Certified Safety Professional (or qualified USACE safety personnel for in-house work) may approve the plan for operations involving UST removal where contaminants are known to be petroleum, oils, or lubricants);
  - c. plan concurrence (provide concurrence of other applicable corporate and project personnel (contractor)), e.g., Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional, project QC.
  
2. **BACKGROUND INFORMATION.** List the following:
  - a. contractor;
  - b. contract number;
  - c. project name;
  - d. brief project description, description of work to be performed, and location (map);
  - e. contractor accident experience (provide information such as EMR, OSHA 200 Forms, corporate safety trend analyses);
  - f. listing of phases of work and hazardous activities requiring activity hazard analyses.
  
3. **STATEMENT OF SAFETY AND HEALTH POLICY.** (In addition to the corporate policy statement, a copy of the corporate safety program may provide a significant portion of the information required by the accident prevention plan.)
  
4. **RESPONSIBILITIES AND LINES OF AUTHORITIES.**
  - a. Identification and accountability of personnel responsible for safety - at both corporate and project level (contracts specifically requiring safety or industrial hygiene personnel should include a copy of their resume - the District Safety and Occupational Health Office will review the qualifications for acceptance).
  - b. Lines of authority.
  
5. **SUBCONTRACTORS AND SUPPLIERS.** Provide the following:
  - a. identification of subcontractors and suppliers (if known);
  - b. means for controlling and coordinating subcontractors and suppliers;
  - c. safety responsibilities of subcontractors and suppliers.

6. TRAINING.

- a. List subjects to be discussed with employees in safety indoctrination.
- b. List mandatory training and certifications which are applicable to this project (e.g., explosive actuated tools, confined space entry, crane operator, diver, vehicle operator, HAZWOPER training and certification, personal protective equipment) and any requirements for periodic retraining/recertification.
- c. Identify requirements for emergency response training.
- d. Outline requirements (who attends, when given, who will conduct, etc.) for supervisory and employee safety meetings.

7. SAFETY AND HEALTH INSPECTIONS. Provide details on:

- a. who will conduct safety inspections (e.g., project manager, safety professional, QC, supervisors, employees, etc.), when inspections will be conducted, how the inspections will be recorded, deficiency tracking system, follow-up procedures, etc.;
- b. any external inspections/certifications which may be required (e.g., Coast Guard).

8. SAFETY AND HEALTH EXPECTATIONS, INCENTIVE PROGRAMS, AND COMPLIANCE.

- a. The company's written safety program goals, objectives, and accident experience goals for this contract should be provided.
- b. A brief description of the company's safety incentive programs (if any) should be provided.
- c. Policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation of safety requirements) should be identified.
- d. Provide written company procedures for holding managers and supervisors accountable for safety.

9. ACCIDENT REPORTING. The contractor shall identify who shall complete the following, how, and when:

- a. exposure data (man-hours worked);
- b. accident investigations, reports and logs;
- c. immediate notification of major accidents.

10. MEDICAL SUPPORT. Outline on-site medical support and off-site medical arrangements.

11. PERSONAL PROTECTIVE EQUIPMENT. Outline procedures (who, when, how) for conducting hazard assessments and written certifications for use of personal protective equipment.

12. PLANS (PROGRAMS, PROCEDURES) REQUIRED BY THE SAFETY MANUAL (as applicable).

- a. hazard communication program (01.B.04);
- b. emergency response plans:
  - procedures and tests (01.E.01)
  - spill plans (01.E.01, 06.A.02)
  - firefighting plan (01.E.01, 19.A.04)

- posting of emergency telephone numbers (01.E.04)
- wildfire prevention plan (09.K.01)
- man overboard/abandon ship (19.A.04)
- c. layout plans (04.A.01);
- d. respiratory protection plan (05.E.01);
- e. health hazard control program (06.A.02);
- f. lead abatement plan (06.B.05 & specifications);
- g. asbestos abatement plan (06.B.05 & specifications);
- h. abrasive blasting (06.H.01);
- i. confined space (06.I);
- j. hazardous energy control plan (12.A.07);
- k. critical lift procedures (16.C.17);
- l. contingency plan for severe weather (19.A.03);
- m. access and haul road plan (22.I.10);
- n. demolition plan (engineering and asbestos surveys) (23.A.01);
- o. emergency rescue (tunneling) (26.A.05);
- p. underground construction fire prevention and protection plan (26.D.01);
- q. compressed air plan (26.I.01);
- r. formwork and shoring erection and removal plans (27.B.02);
- s. lift slab plans (27.D.01);
- t. SHP and SSHP (for HTRW work on SSHP must be submitted and shall contain all information required by the accident prevention plan - two documents are not required (28.B.01);
- u. blasting plan (29.A.01);
- v. diving plan (30.A.13);
- w. plan for prevention of alcohol and drug abuse (Defense Federal Acquisition Regulation Supplement Subpart 252.223-7004, Drug-Free Work Force);

13. The contractor shall provide information on how they will meet the requirements of major sections of EM 385-1-1 in the accident prevention plan. Particular attention shall be paid to excavations, scaffolding, medical and first aid requirements, sanitation, personal protective equipment, fire prevention, machinery and mechanized equipment, electrical safety, public safety requirements, and chemical, physical agent, and biological occupational exposure prevention requirements. Detailed site specific hazards and controls shall be provided in the activity hazard analysis for each phase of the operation.

**Mailing/Internet Address and Telephone/FAX Number**

**The mailing/internet address and telephone/FAX number for William J. Garrett, the Construction Safety Manager/Specialist, at the Atlantic Division, Naval Facilities Engineering Command are as follows:**

**Mailing Address:**

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LANTNAVFACENGCOM  
1510 GILBERT STREET  
NORFOLK VA 23511-2699

**Internet Address:**

garretwj@efdlant.navfac.navy.mil

**Telephone Number:**

(757) 322-8424/DSN 262-8424

**FAX Number:**

(757) 322-8426

**The following is the address for ordering US ARMY CORPS OF ENGINEERS SAFETY AND HEALTH REQUIREMENTS MANUAL EM 385-1-1, 3 SEPTEMBER 1996:**

- U S Government Printing Office  
Superintendent of Documents  
Mail Stop: SSOP  
Washington, DC 20402-9328

Note: The order number is ISBN 0 - 16 - 048877 - X.

**Internet address for EM 385-1-1 Manual:**

<http://www.usace.army.mil/inet/usace-docs/eng-manuals/ceso.htm>

**Note: Please read instructions for loading program.**



# ROICC CONTRACTOR ACTIVITY HAZARD ANALYSIS

Page

<u>Location:</u>	<u>Contract Number:</u>	<u>Project Title:</u>
<u>Phase (Division):</u>	<u>Prime Contractor:</u>	<u>Subcontractor(s):</u>

General description for scope of work of this division or other significant activity:

<u>Date of Preparatory Inspection:</u>		<u>Estimated Start Date of Activity:</u>
<u>Division/Activity:</u>	<u>Potential Safety Hazard:</u>	<u>Procedure to Control Hazard:</u>
<u>Equip. To Be Used:</u>	<u>Equip. Inspections Required:</u>	<u>Special Training Requirements for Workers:</u>

Reviewed & Approved:

Prime Contractor Name: _____  Supt: _____ CQC: _____ (Signature) (Signature)	Subcontractor(s): Company Name: _____ Foreman: _____
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# ACTIVITY HAZARD ANALYSIS (Continuation Sheet)

Page

Division/Activity:	Potential Safety Hazard:	Procedure to Control Hazard:

**LANTNAVFACENGCOM CONSTRUCTION SITE SAFETY REVIEW**

The most effective way to achieve good safety is through strict enforcement of safety standards. For construction, these standards are the US Army Corps of Engineers Safety and Health Requirements Manual EM 385-1-1, as amended. While the ROICC must require contractor compliance with all provisions of EM 385-1-1, there are many requirements found on virtually every construction site. These are listed to aid the ROICC during routine jobsite visits. Circle Y, N, or N/A as appropriate for each.

1. Y N N/A Is an approved water source available for drinking? (02.A)
2. Y N N/A Are toilet facilities available? (02.B)
3. Y N N/A Are medical facilities available? (03.A)
4. Y N N/A Is eye protection used when needed? (05.B)
5. Y N N/A Are workmen wearing proper hard hats? (05.D)
6. Y N N/A Is personal protective equipment provided to control dust, mist, fumes and gases in the work space? (05.E, 06.G.01 - 06.G.05, 06.H.01 - 06.H.05)
7. Y N N/A Are safety measures for heating devices or melting kettles adequate? (06.C)
8. Y N N/A Are lighting intensities adequate? (07.A.01, 07.A.02; Table 7-1)
9. Y N N/A Are nails, in scrap lumber, bent over or withdrawn? (14.B.07.C, 14.C.08)
10. Y N N/A Are stairways, passageways and accessways kept free of materials, supplies, tools, extension cords, etc.? (06.C.04.A, 14.B.03, 14.C.01, 14.C.02, 14.C.07, 21.A.13, 27.G)
11. Y N N/A Is site being cleaned up daily? (09.A.12, 14.C.01)
12. Y N N/A Are measures taken adequate for above-ground flammable storage tanks? (09.B.20)
13. Y N N/A Are flammable liquids being handled in approved portable containers? (09.B.01 - 09.B.10, 09.B.12)
14. Y N N/A Are fire protection measures adequate? (09.A.01, 09.A.03, 09.B.03)
15. Y N N/A Are emergency phone numbers posted at the jobsite with phone available? (01.E.05)
16. Y N N/A Are electrical provisions adequate? (11.A.01 - 11.A.03, 11.A.10, 11.A.11, 11.B.01 - 11.B.05, 11.C.01, 11.C.05, 11.D)
17. Y N N/A Are hand tools in good repair and used properly? (13.A.01 - 13.A.12)
18. Y N N/A Are ropes and slings used properly? (15.A.02 - 15.B.08, 15.D - 15.D.07, 15.E.01 - 15.E.06)
19. Y N N/A Have machinery and equipment been tested and inspected? (16.A.01, 16.A.02)
20. Y N N/A Are gas cylinders used and stored properly? (10.D.02 - 10.D.10, 20.D.01 - 20.D.19)
21. Y N N/A Are scaffolds and working platforms placed and used properly? (22.A.01 - 22.A.04, 22.B.01 - 22.B.11)
22. Y N N/A Have proper measures been taken to protect workers in excavations? (25.A.01 - 25.A.11, 25.B.01)
23. Y N N/A Are ladders used properly? (21.D.01 - 25.D.11, 25.B.07)
24. Y N N/A Are personnel protected at floor and wall openings? (24.A.01 - 24.A.08)
25. Y N N/A Are personnel protected against excessive sound pressure levels? (05.C.01 - 05. C.07)
26. Y N N/A Are the requirements for confined space entry in use? (06.I; Table 6-1, 10.D.06, 25.A.11)
27. Y N N/A Has a hazardous energy control plan been implemented on the jobsite for electrical circuitry? (12.A.07)
28. Y N N/A Has a hazard communication program been implemented? (01.B.04)
29. Y N N/A Are proper measures being taken to protect employees during demolition? (23.A.01 - 23.A.10)
30. Y N N/A Are Activity Hazard Analysis (AHA) being implemented for each major phase of work? (01.A)

COMMENTS: \_\_\_\_\_

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_