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CNC CHARLESTON
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MEETING MINUTES FROM RESTORATION ADVISORY BOARD MEETING DATED 14
JANUARY 1997 CNC CHARLESTON SC
1/14/1997
ENSAFE/ ALLEN AND HOSHALL

NAVAL BASE CHARLESTON
RESTORATION ADVISORY BOARD (RAB)
Minutes of 14 January 1997

1. Introduction of the RAB Members and Guests

Ms. Wannetta Mallette introduced herself as the newly elected Community Co-Chair for 1997. She thanked her fellow members for electing her and said she's looking forward to an exciting year for the RAB as the corrective action process moves from the investigative stage into the corrective measures stage. Ms. Mallette noted that there were many new faces in the audience, and asked both the members and guests to introduce themselves. She reminded everyone that the RAB is an oversight group working with the Navy and environmental regulators on the environmental cleanup of the base and that the RAB community members represent the general public.

2. RAB Members Attending

Mr. Oliver Addison
Mr. Ray Anderson
Mr. Steve Best
Mr. Doyle Brittain
Mr. James Conner
Mr. Bobby Dearhart
Mr. Daryle Fontenot
Mr. Tom Fressilli
Mr. Wilburn Gilliard

Ms. Gussie Greene
Mr. Donald Harbert
Mr. Ralph Laney
Ms. Wannetta Mallette
Mr. Arthur Pinckney
Mr. Odell Price
Ms. Ann Ragan
LDCR Paul Rose
Ms. Priscilla Wendt

3. Guests Attending

Mr. Tony Hunt	NAVFAC, SouthDiv
Mr. Brian Stockmaster	NAVFAC, SouthDiv
Mr. Gabriel Magwood	NAVFAC, SouthDiv
Mr. Jay Bassett	EPA Region 4
Mr. Paul M. Bergstrand	SCDHEC
Mr. Rob Dunlap	SCDNR
Ms. June Mirecki	College of Charleston
Mr. J.B. Lawrence	CEERD
Mr. Jack Amey	Shipyard Detachment
Mr. John Sulkowski	E.T.C., Inc.
Ms. Donna Kopeski	Galileo
Ms. June M. Brittain	Concerned Citizen
Ms. Bertha L. Singleton	Community Member
Mr. Joseph Johnson	Community Member
Ms. Myrtle Barnett	Community Member
Ms. Rosa Lee Benekin	Community Member
Ms. Pamela Williams	Community Member

Mr. Leroy Carr	Chicora/Cherokee
Mr. Anthony Joyner	Chicora/Cherokee
Mr. Ken Ayoub	Chicora/Cherokee
Ms. Edith Askins	N. Charleston Weed and Seed
Ms. Diane Cutler	EnSafe/Allen&Hoshall
Mr. Dave Backus	EnSafe/Allen&Hoshall
Mr. Larry Bowers	EnSafe/Allen&Hoshall
Ms. Sandy Reagan	EnSafe/Allen&Hoshall
Mr. Ron Severson	EnSafe/Allen&Hoshall

4. Administrative Remarks and Comments on Minutes

Ms. Mallette asked for administrative remarks or comments on the minutes from the last meeting. No comments were made.

5. Subcommittee Reports

The Community Relations Subcommittee was scheduled to meet prior to the RAB meeting. Only Daryle Fontenot and Diane Cutler, the E/A&H resource person were in attendance. Since none of the community members attended, there are no new issues to report. The next meeting is scheduled for February 11, 1997 at 3:30 at Building NH-51 at the Naval Base. The Community Relations Subcommittee consists of 5 members including Mr. Fontenot.

6. Reuse Update

Nobody from the Redevelopment Authority was present to provide an update.

7. Environmental Cleanup Progress Report

Chicora Tank Farm Update

Mr. Fontenot reported that the Navy is currently awaiting feedback from the Redevelopment Authority and the City of North Charleston regarding who will be the user of the Chicora Tank Farm property. The RAB sent a letter to the Mayor stating that they were in favor of the partial demolition of the tanks. At the last meeting, a detailed presentation was given regarding the environmental investigations that have taken place at the Chicora Tank Farm. Anyone interested in obtaining a copy of that material should contact Mr. Fontenot. A discussion of those materials can also be found in last month's meeting minutes. Mr. Bobby Dearhart asked when the decision regarding the user of the tank farm will be made. Mr. Fontenot replied that it is up to the RDA and the City to meet and decide upon. Ms. Mallette added that she had hoped that the Chicora issue would be on the City Council's health and safety agenda for tonight, but it is not, so she does not know when it will be discussed and resolved. Mr. Fontenot also added that the Shipyard Detachment will be responsible for conducting the closure of the tanks.

Status of Environmental Programs

Mr. Fontenot provided an update on project status. Currently there are three Environmental Baseline Survey to Lease (EBSL)/Finding of Suitability to Lease (FOSL) documents at Southern Division that are awaiting Commanding Officer signature. These documents, once signed, release the property for the Redevelopment Authority to lease. One of these documents includes

231 facilities. Once all three of the EBSLs/FOSLs are signed next week, there will be approximately 700 facilities available for reuse by the RDA.

The Naval Annex is currently awaiting a reuse plan from the RDA before the environmental assessment can be completed.

To date, the Navy has removed approximately 70 underground storage tanks at the shipyard and has about 12 more to go.

Building 32 asbestos remediation is in progress, and the Detachment is handling that work as well.

Mr. Fontenot introduced Mr. Tony Hunt with Southern Division to present the RCRA Corrective Action update. For the benefit of the first-time guests in the audience, Mr. Fontenot explained that the Resource Conservation and Recovery Act (RCRA) is the environmental law that regulates the cleanup of hazardous waste sites on the Naval Base property. Mr. Hunt began by explaining that the RCRA Facility Investigation (RFI) step of the RCRA Corrective Action process requires collecting water and soil samples on base to determine the extent of contamination.

For those tracking funding, Zone J (water bodies) will be awarded later this month, and the Zone L proposal is still being evaluated.

In December, the Navy held its 90% progress meeting for Zone D which is the area near the credit union. An agreement was reached that the field work in Zone D was complete and that preparation of the RFI report can begin. Progress meetings for Zones K, F, and G were held. Zone K is the non-contiguous areas, and Zones F and G are approximately in the middle of the base. A scoping meeting was held for the Comprehensive Corrective Measures Work Plan. Also, the Zones J and L Work Plans were approved by South Carolina Department of Health and Environmental Control (SCDHEC) on December 13th.

Mr. Hunt provided an update on Solid Waste Management Unit (SWMU) 39. SWMUs are the sites that are being investigated at the Naval Base. A SWMU can be an area where wastes were at one time stored, and are suspected or show evidence of a release. SWMU 39 is an area that stored Petroleum, Oils, and Lubricants (POLs) in the DRMO area near the Virginia Avenue gate. Mr. Hunt showed a map of the area and explained that water samples were collected to determine if there were any releases. The Navy found some chlorinated solvents that they looked at further, and some petroleum products. Then, in order to see if the material was moving off-base, screening samples were collected outside the Navy base property using a cone penetrometer. The Navy did not find any chlorinated solvents in the neighborhood.

However, they did find some TCE in a well on Crawford Street, but after comparing the findings to what was found on base and groundwater flow direction, the Navy does not think the TCE in the Crawford Street well is coming from the Navy Base. Since then, the Navy installed two more wells to further investigate if the TCE was coming from the Base. Those wells were installed last week and the Navy hopes to have results available by the next RAB meeting.

In addition, Hess (the adjacent property owner) is working with SCDHEC to investigate if the petroleum contamination found originated from the Hess facility.

The Zone B RFI report has been approved. The Navy hopes to resolve comments on the Zone H RFI report in January. Zone H is the first Zone scheduled for the Corrective Measures Study. Also in January, the Navy expects to submit the Draft Comprehensive Corrective Measures Study (CMS) Work Plan to the Project Team for review. The Navy will be moving into the Corrective Measures process very soon and will be looking for community input.

Mr. Jim Conner asked how deep the wells are. Mr. Hunt answered that the Hess Well is about 45 feet deep and the wells that were just installed last week are 55 feet deep. Shallow wells have also been installed.

A guest from the audience asked what type of substance was maintained in the Hess tanks. Mr. Hunt replied that the tanks contain a fuel that is chemically similar to diesel. The same guest continued by asking what the purpose was for the wells. Mr. Hunt stated that the Navy's wells were installed to detect if contamination was moving offsite (from the base) or on-site (onto the base), and as it turned out, it looks as if it is moving onsite.

Mr. Arthur Pinckney asked for clarification on Mr. Hunt's earlier statement that the contamination found off base was not from the Navy. Mr. Hunt reiterated that TCE was found in an offsite well, yet the Navy had TCE and degradation compounds. Also, based on the shallow groundwater flow direction which flows from north to south, if a release occurred on the Navy property, the contamination flow would head toward Noisette Creek. Based on the information that the Navy has, they do not see a connection between the release at SWMU 39 and the TCE found in the well on Crawford Street. The next step is to collect data from the two newest well locations and write a letter to SCDHEC suggesting that there may be another potential source of contamination that is not on the Navy base.

Ms. Mallette asked if Hess is also installing wells. Mr. Hunt replied that Hess is conducting investigations and working closely with SCDHEC.

Mr. Pinckney asked that if Hess did find a leak, would they have to involve the community. Mr. Fontenot stated that right now all their testing is taking place on their own property.

Corrective Measures Study

Mr. Fontenot introduced Mr. Larry Bowers with EnSafe/Allen&Hoshall as the speaker for the Corrective Measures Study (CMS) presentation. The presentation is considered a training session for the community members so they understand the CMS process. This is the point in the environmental investigation where the RAB and community members will provide their input to the Navy regarding cleanup decisions.

Mr. Bowers began by stating that the goal of his presentation is to present an overview of the CMS process. At the end of the presentation will be a short exercise lead by Ms. Ann Ragan from SCDHEC that will request input from the RAB and community.

Mr. Bowers began his presentation by reviewing the four main steps of the RCRA Corrective Action Process:

Step 1 RCRA Facility Assessment (RFA) -Historical study looking at buildings and property and determining past use. Non-invasive study (no sampling or digging - it is primarily research).

Step 2 RCRA Facility Assessment (RFI) -This is the step that has been underway for a couple of years and is still ongoing today. Sampling and analysis takes place to define the extent of contamination on the property.

Step 3 Corrective Measures Study (CMS)-The step the Navy is just getting into which evaluates the different cleanup alternatives.

Step 4 Corrective Measures Implementation (CMI) - The actual remedial design and cleanup.

The CMS is a study that is used to determine and rank potential remedial alternatives at a site. The CMS is **not** intended to select or choose the final cleanup (remember, it is only supposed to **rank** the different alternatives). The CMS does not suggest that cleanup is required for each site. For example, one of the remedial alternatives might be "no further action." Also, the CMS is not the actual cleanup step. Cleanup takes place during the CMI.

There are three main components of a CMS:

1. - Identify potential remedial alternatives
2. - Screen potential remedial alternatives
3. - Evaluate or rank potential remedial alternatives

Identifying potential remedial alternatives is like brainstorming. It takes professional experience to know what kind of contaminants are out there and what works to clean them up. The next step is screening the potential remedial alternatives. Screening actually eliminates some of the options. For example, options can be eliminated because of the characteristics of a site or the waste at a site, or because a certain technology isn't reliable.

The third step is to rank the potential remedial alternatives. To do this, certain criteria must be evaluated. There are nine criteria, four are considered "primary" and must be met. The five remaining criteria are called "secondary."

Mr. Bowers showed an example of a table used to evaluate the different options. He explained that alternatives will be ranked by site, or group of sites. The Navy and environmental regulators will be asking the community for their input on the importance of the evaluation criteria so it can be factored into this process and used to rank the best cleanup option(s). Using this table is a way to put objective measurements into the process.

After the alternatives are ranked, a public comment period will be provided and a public meeting will be held to discuss the alternatives.

In preparation for Ms. Ragan's exercise, Mr. Bowers provided an explanation of each of the criteria:

Primary Criteria - must be met

Protect Human Health and the Environment - Cleanup may not be necessary to meet this criteria. For example, if contaminated drinking water was the problem at a particular site, providing residents with fresh drinking water from another source may be a viable solution.

Attain Cleanup Standards - State and/or federal regulations or risk factors require that contaminants be cleaned up to a level that is considered acceptable.

Control Source of Release - Remove or control the source of contamination.

Comply With Applicable Standards - The technology that is selected must meet applicable standards.

Secondary Criteria

Long-term Reliability and Effectiveness - Some treatment systems run for many years. Their long-term reliability and effectiveness must be considered.

Reduction in Toxicity, Mobility, and Volume - Although it seems like you would always want to meet this criteria, it is not always the best choice. For example, in the case of unexploded ordnance (UXO), it may be more risky to search, unearth, and decommission the UXO than to let it stay where it is.

Short-term Effectiveness - Most of the time, short-term effectiveness comes into play in a highly populated area where contamination may cause a high risk among residents or workers. It would be used to quickly reduce risk.

Implementability - How easy is it to implement the specific technology?

Cost - Considerations may include how much it will cost, and how much is in the budget for cleanup.

Ms. Priscilla Wendt asked if implementability includes technical feasibility? Mr. Bowers replied that if an alternative was not technically feasible, it would be screened out in the screening process.

Ms. Ragan lead an exercise to collect RAB and community member input. She hung up nine pieces of poster paper at the back of the room, each with one of the nine evaluation criteria written on it. Then she handed out seven star stickers to each RAB and community member. Each member was instructed that they should use each star as one vote to choose the criteria most important to them. All seven stars could be placed on one criteria, or one on each of seven, or any combination in between. Ms. Ragan said that after everybody has had the opportunity to stick their stars on the nine criteria posters, she will take the posters back to her office, tally up the results, and be ready to discuss them at the next RAB meeting in February.

After the exercise, a quick review revealed that the big winner among the nine criteria was protecting human health and the environment.

Follow-up Questions for North Charleston Council members regarding Chicora

Ms. Mallette asked Mr. Ray Anderson if he had any updates from the North Charleston City Council meeting regarding the Chicora Tank Farm issue. Mr. Anderson said that the Mayor had received the letter from the RAB stating their choice in closure options. Right now the City is looking at other park and recreational areas and considering those in their decisions about the Chicora property. No decisions have been made yet.

Mr. Fontenot added for clarification that the RAB supports partial demolition as the closure method for the tanks.

Mr. Jim Conner asked what will be done with the pipelines under the Chicora tank farm. Mr. Fontenot answered that they will be drained, cleaned, and grouted from both ends (meaning that they will be filled with an inert solid).

Ms. Greene asked if partial demolition is the final decision. Mr. Fontenot verified that it is not, because a decision can't be made about closure until a decision is made about reuse.

A question was asked that although Chicora Tank farm was recommended for no further action, it is located in Zone G, which will go through a Corrective Measures Study, so will Chicora be required to undergo a CMS? Mr. Fontenot replied that Chicora Tank Farm was not part of the RCRA Corrective Action process so it will not undergo the CMS. Ms. Ragan added that Chicora was investigated under a different regulatory program.

Ms. Greene asked members of the audience who live in close proximity to the Tank Farm to share their concerns about it. One gentleman was concerned about oil and gas contamination. Mr. Fontenot explained that environmental investigations were completed and **no contamination was found** that would require cleanup. SCDHEC supports that finding.

One guest asked what is in the tanks. Mr. Fontenot responded that all the tanks are empty with the exception of one that has some used oil in it. None of the tanks are in use. Another guest was concerned that the pipes have corroded over time and leaked oil. Again, Mr. Fontenot emphasized that environmental investigation have been completed and that **no contamination was found** that would require any cleanup.

One woman reported that she smells a strong odor of gas when she walks by the Tank Farm. Neither DHEC or the Navy knew where the odor was coming from.

Another guest asked who performed the environmental investigation at the Tank Farm. Mr. Fontenot answered that the study was completed in 1994 by an environmental contractor that was hired by the Navy. The investigation was required by and overseen by DHEC. After the study was completed, the Navy went through a year of quarterly monitoring to see if there were any releases to groundwater or soil. A copy of the report that details all the finding can be reviewed at the Dorchester Road branch of the Charleston Regional Library. Also, Mr. Fontenot has copies of the presentation that was given on the Chicora Tank Farm environmental investigation at the December RAB, and minutes from that meeting also discuss the issues that were addressed.

Mr. Pinckney asked if it would be possible to bring someone in to talk to the RAB and the community about environmental justice issues. Mr. Fontenot replied that he will talk to his Public Affairs Officer at Southern Division to see if they can arrange for it.

Another guest asked what will the demolished tanks be filled with, what will happen if the fill material settles and creates holes in the ground, and who will be responsible for it if it happens.

Mr. Fontenot answered that the tanks will be abandoned by caving the tanks in on themselves and then adding surrounding soil and a clay or man-made cap that will reduce permeability and keep water from seeping through it. The site will be graded to make sure it drains adequately.

A woman from the audience asked if there were any other similar cases to this. Mr. Fontenot said that he knows of solid waste landfills being capped and turned into recreational facilities (Mt. Trashmore in Virginia) but can't think of any other Navy sites.

Mr. Fontenot reiterated that environmental issues have been investigated and no contamination was found in either soil or water that would require any cleanup. The current issue at Chicora is the closure of the tanks - how to close them so the property can be reused.

8. Introduction of the New EPA Representative

Mr. Doyle Brittain introduced Mr. Jay Bassett who will be replacing Mr. Brittain as the EPA representative of the Charleston RAB. This will be Mr. Brittain's last meeting and he shared that he has enjoyed working with the RAB. He said he feels that a lot of progress has been made at Naval Base Charleston and in fact next month, one of the agenda items will include a discussion of the progress that has been made over the last few years. Mr. Bassett is very experienced in this process and will not require a training period. However, Mr. Brittain suggested that the RAB help Mr. Bassett by informing him about their specific concerns. Mr. Brittain thanked the RAB and added that he has enjoyed the opportunity of working with them.

On behalf of the entire RAB, Ms. Mallette welcomed Mr. Bassett and thanked Mr. Brittain for all his support and service which was met with a round of applause.

Ms. Ragan stated that DHEC is having a plaque made for Mr. Brittain because he has vested so much personally and professionally in this project. On behalf of DHEC and South Carolina Ms. Ragan thanked Mr. Brittain and wished him well.

9. Remaining Questions and Comments

One gentleman in the audience asked how he could be informed of upcoming meetings. Mr. Fontenot asked him and anyone else who is interested to provide their name and address at the back table and they will be added to the mailing list.

Ms. Mallette asked for a show of hands from RAB members if they felt the current location is a good place for upcoming meetings.

10. Adjournment

Ms. Mallette thanked the community members for coming out to the meeting, and said that it was one of the largest turnouts for community members in a long time.

Summary of Action Item

- Ms. Ragan will evaluate the results of the CMS exercise and report back to the RAB at the February meeting.
- Mr. Fontenot will look into having a speaker on Environmental Justice.

Attachments to Minutes

- (1) Tuesday January 14, 1996 RAB Meeting Agenda
- (2) RFI Progress Report for December 1996
- (3) Presentation - "Overview of the Corrective Measures Study"

Minutes recorded by: Diane Cutler, EnSafe/Allen&Hoshall

Minutes approved by: _____
Daryle Fontenot
Navy Co-Chair

Wannetta Mallette
Community Co-Chair

Tuesday, January 14, 1997

Charleston Naval Complex

RESTORATION ADVISORY BOARD MEETING AGENDA

6:00 P.M. Location: *Live Oak Community Center*
2012 Success Street, North Charleston, SC

6:00 P.M. RAB MEETING

- A. Introduction of the RAB Members and Guests
- B. Administrative Remarks, comments on the minutes of the last meeting
- C. Subcommittee Reports
- D. Reuse Update
- E. Environmental Cleanup Progress Report - Cleanup Team
 - Chicora Tank Farm Update
 - Status of the Environmental Programs
 - Corrective Measures Study Presentation
- F. Introduction of the New EPA Representative
- G. Remaining Questions and Comments from RAB Members and Visitors
- H. Agenda for next meeting.

RAB Members, Project Team, and interested citizens informally talk about what's going on after the meeting from 7:00 p.m. to 8:00 p.m.

Please mark your calendar. Our next meeting is **Tuesday, February 11, 1997**. Time and location to be determined.

**Naval Base Charleston
RCRA Facility Investigation (RFI)
PROGRESS REPORT FOR DECEMBER 1996**

INVESTIGATIVE ZONES

- A. Warehousing and scrap metal yard
- B. Golf course and residential
- C. Office space and warehouse (NH-45, Navbase HQ)
- D. Parking lot, warehouses
- E. Shipyard
- F. Recreational areas and public works shops
- G. Fuel farm and transfer facility
- H. Southern end of the base excluding waterfront
- I. Southern end of the base including waterfront and dredge material area
- J. Waterbodies
- K. Non-contiguous areas
- L. Sewer systems and railroad system

FUNDING

- ◆ Funding status
Zone J field work will be awarded this month, Zone L field work proposal is being evaluated.

PROGRESS FOR DECEMBER

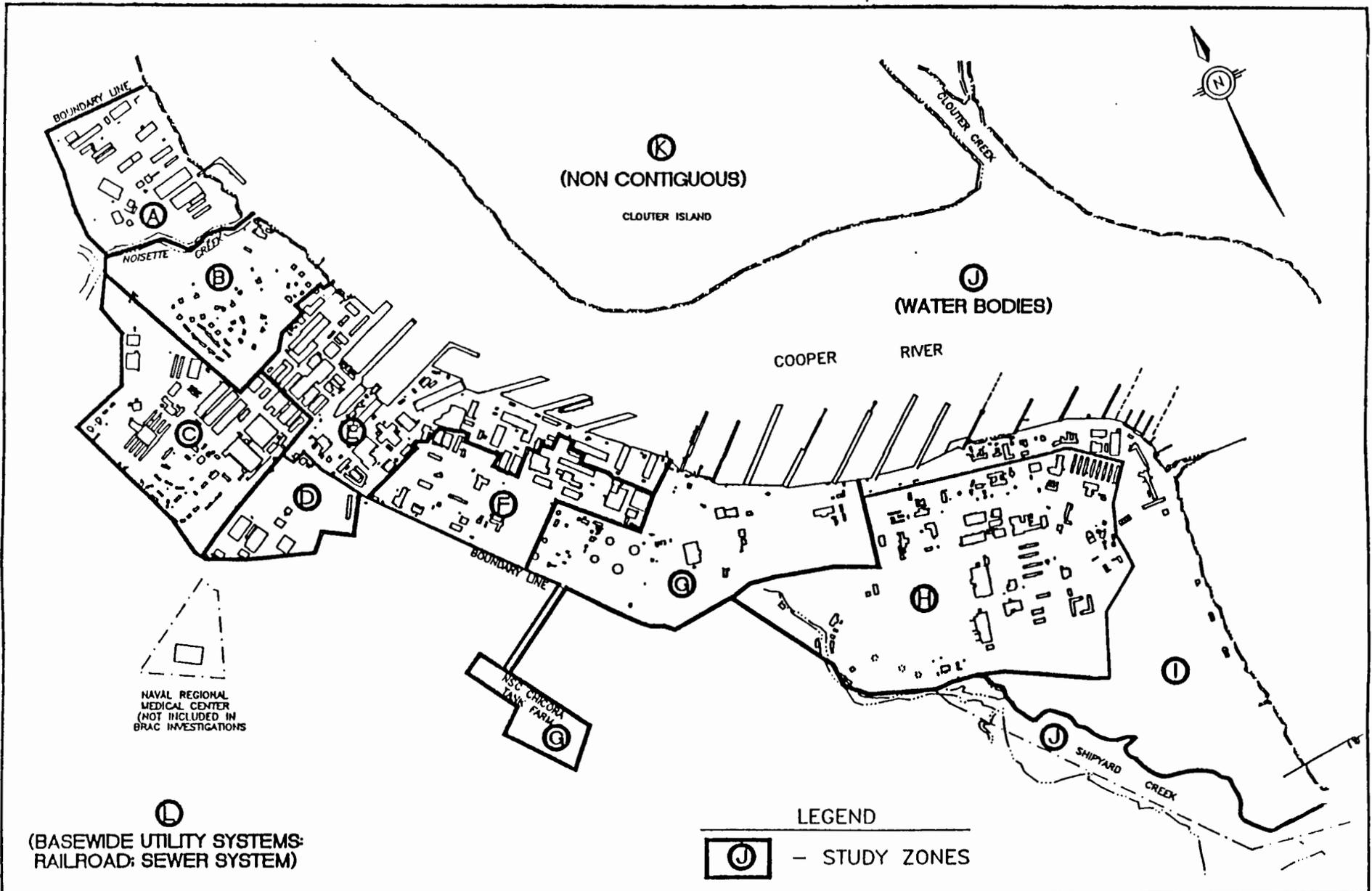
- ◆ 90% progress meeting for Zone D was held. Agreement reached that field work in Zone D was complete to support preparation of the Zone D RFI Report.
- ◆ Progress meetings for Zones K, F and G were held. Additional sample locations were identified for some sites in Zones F and G and field work continues.
- ◆ A scoping meeting was held for the Comprehensive Corrective Measures Work Plan.
- ◆ Zones J and L Work Plans were approved by SCDHEC on 13 December.

PROJECTED ACTIVITY FOR JANUARY

- ◆ Zone B RFI report approval.
- ◆ Resolve comments on Zone H RFI report.
- ◆ Submit Draft Comprehensive CMS Work Plan to the Project Team for review.

Naval Base Charleston
Project Status
1/14/97

PROGRAM	PROJECT DESCRIPTION	ACTION REQUIRED	ECD
BRAC - Property Lease/Transfer	EBSL/FOSL for 231 facilities	Awaiting SOUTHDIV CO signature	1/17/97
	EBSL/FOSL for NS Annex (19 fac.)	Awaiting SOUTHDIV CO signature	1/25/97
	EBST Clouter Island (Transfer to COE, 2 fac.)	Awaiting SOUTHDIV CO signature	1/25/97
NEPA	Environmental Assessment of Naval Annex	Waiting on reuse plan from RDA before completing the EA	
RCRA Compliance	Part B permit application	CSO submit Part B application	1/20/97
RCRA Corrective Action	Zone A RFI report	In SCDHEC review, Document approval meeting scheduled next	2/11/97
	Zone A field work	Radiological survey complete at DRMO, SWMU 1 & 2 sampling to begin 2/24/97, SWMU 39 wells installed	1/24/97
	Zone B RFI report	Document conditionally approved with actions to be taken or clarified during CMS	1/2/97
	Zone C RFI report	In SCDHEC review	1/24/97
	Zone D field work	Field work complete, Presubmittal review of RFI report scheduled next	2/11/97
	Zone F & G field work	In progress, next progress meeting (90%) is 2/11/97	2/11/97
	Zone E RFI field work	In progress, remaining field work to complete 2/24/97	2/24/97
	Zone H RFI report	SCDHEC disapproved	
	Zone I RFI report	In SCDHEC review	3/27/97
	Zone J RFI WP	RFI Work Plan approved 12/13/96, Award 1/24/97	2/7/97
	Zone J RFI field work	Field work to start 2/7/97	2/7/97
	Zone K Field Work	In progress, 60% progress scheduled for 1/14/97	1/14/97
	Zone L RFI WP	RFI Work Plan approved 12/13/96, Field work to begin 1/31/97	1/31/97
	Miscellaneous issues		
	Groundwater Model	Draft report distributed for review 11/15/96, review by EPA, SCDHEC, Navy by 2/14/97	2/14/97
	Transfer of IR sites to UST program	Navy to submit letter requesting transfer of sites (AOC 656, 659, 667, SWMU 13, 138)	
	RAD survey of DRMO	EPA and SCDHEC review complete, EPA letter issued	
	Support services		
	IDW Management	Background organics memo submitted for comment, to be discussed 1/14/97	1/14/97
	Groundwater Monitoring	Zone E 4th quarter in progress, Zone H, C, I, B complete, Zone A Add 1 to begin 1/22/97	1/22/97
Underground Storage Tank	Tank Management Plan	Responses to SCDHEC comments submitted	
	Petroleum Remediation Plan	Det preparing plan of action (approval pending Tank Management Plan approval)	
	Bioremediation demonstration project	Facility being prepared	
	Removals	FY 96 - 54 tanks authorized for removal, as of 1/14/97 two more tanks remaining	
		FY 97 - 12 tanks authorized for removal, as of 1/14/97 twenty eight have been removed	
	Chicora Tank Farm	Technical issues resolved, awaiting further guidance	
Asbestos	Building 32 remediation	In progress	6/30/97

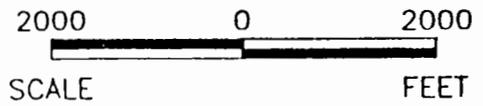


NAVAL REGIONAL
MEDICAL CENTER
(NOT INCLUDED IN
BRAC INVESTIGATIONS)

L
(BASEWIDE UTILITY SYSTEMS:
RAILROAD; SEWER SYSTEM)

LEGEND

J - STUDY ZONES



SOURCES: SOUTHCOM, n.d. ESE, 1981.



NAVAL BASE CHARLESTON
CHARLESTON, S.C.

FIGURE 1-2
BASE WIDE
ZONE BOUNDARIES

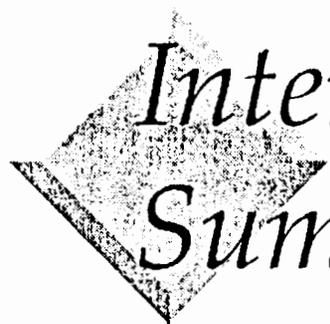
DWG DATE: 01/13/95 DWG NAME: 29ZONE1

NAVAL BASE CHARLESTON RCRA FACILITY INVESTIGATION PROGRESS UPDATE

ZONES	CURRENT	PLANNED	NEXT	RFI	RFI	NOTES	
	PHASE	COMPLETION					PHASE
	PHASE	PERCENTAGE	PHASE	PHASE	DATE	PERCENTAGE	
A	Report Review	80	2/28/97	CMS Work Plan	2/28/97	90	
B	Report Review	100	12/20/96	CMS Work Plan	12/20/96	100	RFI was completed on 12/16/96.
C	Report Review	75	3/31/97	CMS Work Plan	3/31/97	85	
D	Field Work	100	12/15/96	RFI Report Prep	6/13/97	50	
E	Field Work	95	2/24/97	RFI Report Prep	8/21/97	50	
F	Field Work	60	3/15/97	RFI Report Prep	9/12/97	30	
G	Field Work	60	3/15/97	RFI Report Prep	9/12/97	30	
H	Report Review	90	1/31/97	CMS Work Plan	1/31/97	95	
I	Report Review	50	4/23/97	CMS Work Plan	4/23/97	80	
J	Field Work	0	9/16/97	RFI Report Prep	2/25/98	10	
K	Field Work	30	3/16/97	RFI Report Prep	9/12/97	15	
L	Field Work	0	8/2/97	RFI Report Prep	1/28/98	10	
All Zones					2/25/98	62	

LEGEND

Phase	Description
RFI	RCRA Facility Investigation
CMS	Corrective Measures Study
Work Plan Preparation	Work Plan being prepared by Navy Contractor
Work Plan Review	Regulators (DHEC & EPA) reviewing work plan
Field Work	Navy contractor performing field work as outlined in the Work Plan
RFI Report Preparation	Navy contractor preparing the RFI Report
Report Review	Regulators (DHEC & EPA) reviewing report
CMS Work Plan	CMS Work Plan being prepared by Navy Contractor



Interim Measure Status Summary

SITE	DESCRIPTION	STATUS
AOC 690	Perimeter road. Remediate site of solid waste along perimeter road	Completed
SWMU 54	Abrasive blast grit area. Remediate site of spent blast grit.	field work complete, writing report
SWMU 44	Coal yard. Remediate site of coal.	field work complete, writing report
AOC 653	Auto Hobby Shop. Remove hydraulic vaults and remediate soils of petroleum.	95% Disposing of soils, closing up site
SWMU 159	Former storage area. Removal of soils contaminated with petroleum.	95% Disposing of soils, closing up site



Interim Measure Status Summary

SITE	DESCRIPTION	STATUS
AOC 626	Viaduct gate fuel line past rupture area	30% In field removing pipe and installing collection system
SWMU 8	Oil Sludge Pits	20% In field starting to uncover pit areas



OTHER ENVIRONMENTAL ACTIONS

SITE	DESCRIPTION	STATUS
SWMU 83	Foundry, Bldg. 9. Completion of process closure cleanup.	Completed most field work, awaiting some sample results
SWMU 25	Old plating shop annex, Bldg. 44. Demolition and removal to the annex portion of this building.	Started demolition of building earlier this month.

**Charleston Naval Base
Environmental Investigation and Cleanup**

**Overview of the
Corrective Measures
Study**

Presented by:
Lawrence K. Bowers, PE
EnSafe /Allen & Hoshall

The Big Picture

Review of the RCRA Corrective Action Process



RCRA Facility Assessment (RFA)

RCRA Facility Investigation (RFI)



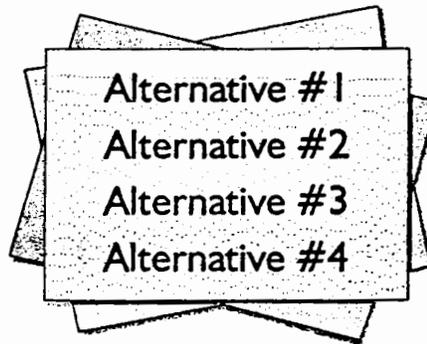
Corrective Measures Study (CMS)

Corrective Measures Implementation (CMI)



What is a Corrective Measures Study?

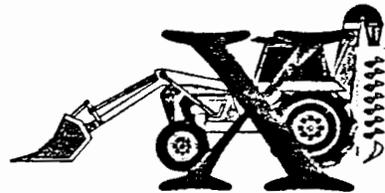
A study that is used to determine and rank potential remedial alternatives at a site.



CMS Overview - January 14, 1997

What is NOT a CMS?

- The CMS is not intended to select or choose the final cleanup. (Only makes recommendations.)
- The CMS does not suggest that cleanup is required for each site.
- The CMS is not the "cleanup" step.



CMS Overview - January 14, 1997

Three Main Components of a CMS

1. **IDENTIFY** Potential Remedial Alternatives

2. **SCREEN** Potential Remedial Alternatives

3. **EVALUATE** Potential Remedial Alternatives
(or **RANK**)

CMS Overview - January 14, 1997

Step One of the CMS Process

IDENTIFY Potential Remedial Alternatives

- 1**
- Type of contaminant/type of media
 - Professional experience
 - Familiarity with similar sites/conditions
 - Literature research
 - Vendor consultation

CMS Overview - January 14, 1997

Step Two of the CMS Process

SCREEN Potential Remedial Alternatives

2

- Site characteristics
- Waste characteristics
- Technology limitations

CMS Overview - January 14, 1997

Step Three of the CMS Process

EVALUATE (or RANK) Potential Remedial Alternatives

3

- **Primary Criteria**
 - Protect human health and the environment
 - Attain cleanup standards
 - Control source of release
 - Comply with applicable standards
- **Secondary Criteria**
 - Long-term reliability and effectiveness
 - Reduction in toxicity, mobility, and volume
 - Short-term effectiveness
 - Implementability
 - Cost

CMS Overview - January 14, 1997

Evaluation of Remedial Alternatives

Site/Group X		Alternative #1			Alternative #2			Alternative #3		
Criteria	Weighting Factor	Description	Meets Criteria	Weighted Criteria Value	Description	Meets Criteria	Weighted Criteria Value	Description	Meets Criteria	Weighted Criteria Value
1	Community input considered									
2										
3										
4										
5										
6										
7										
8										
9										
Total				#			#			#

CMS Overview - January 14, 1997

Public Comment Period

After the CMS evaluation process is complete, the cleanup alternatives (including the *recommended* alternative) will be announced to the public.



- A public comment period will be provided.
- A public meeting to discuss the alternatives will be held.

CMS Overview - January 14, 1997

DATE: 14 January 1997

CHARLESTON NAVAL COMPLEX
RESTORATION ADVISORY BOARD (RAB)
MEETING ATTENDANCE SHEET

Mr. Oliver Addison

Mr Ray Anderson

Mr. Steve Best

Mr. Doyle Brittain

Mr. James Conner

LCDR Paul Rose

Mr. Bobby Dearhart

Mr. Daryle Fontenot

Mr. Wilburn Gilliard

Ms. Gussie Greene

Mr. Donald Harbert

Mr. Virgil Johnston

Mr. Ralph Laney

Ms. Wannetta Mallette-Pratt

Mr. Odell Price

Mr. Louis Mintz

Mr. Arthur Pinckney

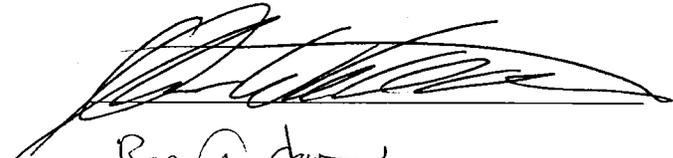
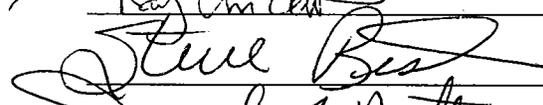
Ms. Ann Ragan

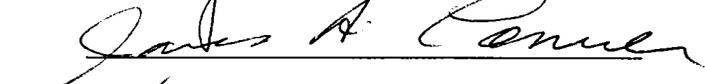
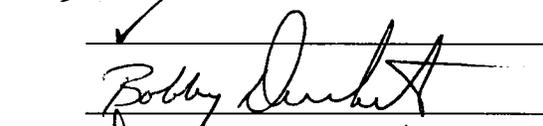
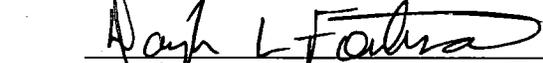
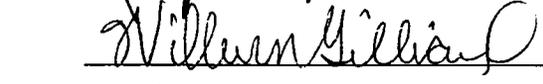
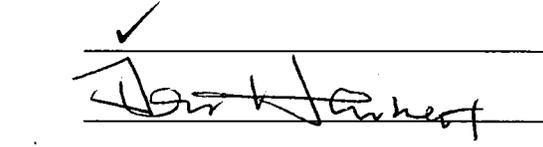
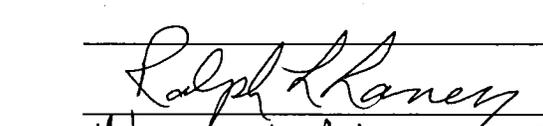
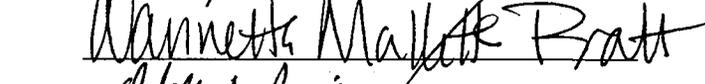
Mr. Van D. Robinson

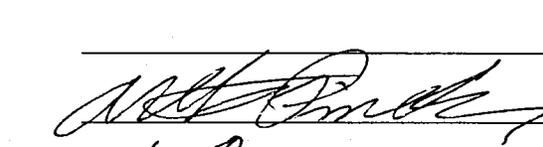
Ms. Priscilla Wendt

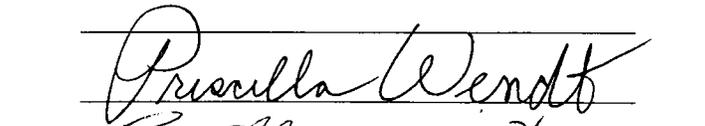
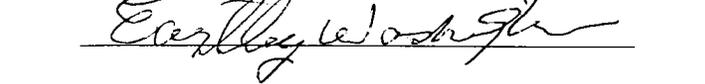
Fouche'na Sheppard

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✓

Donald Harbert

Ralph Laney

Wannetta Mallette-Pratt

Odell L. Price

Louis Mintz

Ann Ragan

Priscilla Wendt

Fouche'na Sheppard

Bob Veronee

RAB MEETING

14 January 1997

Sign-in Sheet

Name	Organization	Phone No.
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Tony Hunt	SDIV	820-5525
Brian Stockmaster	SAIU	820-7481
LARRY BOWERS	E/A&H	757 766-9556
Richard L. Knight		744-5205
Rasa Lee Benetkin		747-1743
J. Lawrence	CEERD	743-6777
LEROY CARR-3322 Florida CHICORA/CHEROKEE		566-1480
DAVE BACKUS	E/A&H	901/372-7962
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Donna Kapeski	Galbis	701-568-1026
Jay V Bassett	EPA	404 562 8572
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Paul M. Bergstrand	SCDHRC	803-896-4016
Anthony Joyner	Chicora/Cherokee	803(566-9936
Ron Semerson	E/A&H	919-851-1886
Tom Fnessill	BTC-CSD	803-743-9985 Ext 20
Gale Long	South Div	803-820-7307
JACK Amey		
Robert E. Flury		
Joseph Johnson		803-745-0494

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RAB MEETING

14 January 1997

Sign-in Sheet

Name

Organization

Phone No.

Myrtle Barnett

566-0867

ROB DUNLAP

SCDNR

762-5067

JUNE MIRECKI

COLLEGE OF CHARLESTON

953-8278

Landoni Aron

3524 ADMIRAL DR.

554-7127

FRED K AYDUB
Chicora / Cherokee Neighborhood Council

554 7127

Edith Askins

N. Chas. "Weed Seed"

745-1073

KEN AYDUB, PRESIDENT

Chicora / Cherokee Neighborhood Council

~~3524~~ 3524 ADMIRAL DR.

North Charleston, S.C. 29405

"please notify of meetings"

Please Notify of Meetings

Pamela Williams

P.O. Box 72352

N. Chas. SC 29415

added to
fact sheet
mail list
and labels

added to
fact sheet
mail list and
labels

747-2138

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