

## CALIFORNIA COASTAL COMMISSION

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**Th 8a**

July 19, 2001

**TO:** Commissioners and Interested Persons

**FROM:** Peter Douglas, Executive Director  
Mark Delaplaine, Federal Consistency Supervisor

**SUBJECT:** Public hearing on Navy compliance with commitments made during Commission review of radar facilities at the Surface Warfare Engineering Facility (SWEF), Naval Base Ventura County (formerly Naval Construction Battalion Center (NCBC)), Port Hueneme, Ventura Co.

**I. BACKGROUND:**

On April 14, 2000, the Commission objected to Consistency Determination CD-4-00 (Navy, Virtual Test Capability, Port Hueneme) and 3 negative determinations<sup>1</sup> for radar facilities at the Surface Warfare Engineering Facility (SWEF) in Port Hueneme (Exhibit 1). The Commission's action took place after a lengthy series of negotiations between the Navy and the Commission which were facilitated by an independent panel of technical experts convened by the Office of Ocean and Coastal Resource Management (OCRM) to advise the Commission. The Commission's findings on CD-4-00 included the following summary by OCRM of the conclusions of the expert panel members:

*General Summary - The panel members found that the operation of the SWEF, including its radiofrequency emissions, in accordance with the Navy's described operational and safety guidelines, do not, generally, pose impacts to any land or water use or natural resource of the coastal zone and do not represent a public health risk. Some of the panel members stated that there may be health or exposure risks to people on vessels transiting or anchoring in the harbor. Most of the panel members recommended steps the Navy can, or should, take to further ensure that the operation of the SWEF is safe, that the Navy's operational and safety guidelines are carefully adhered to and monitored and that radiofrequency measurements in the uncontrolled (off-base) environment are adequate to continue to assess the impact of the radiofrequency emissions. [Emphasis in original]*

<sup>1</sup> ND-26-98, ND-52-98, and ND-10-99: Four Radar Systems: (1) Fire Control System (FCS) MK 99; (2) AN/SPQ-9B Surface Search Radar; (3) AEGIS AN/SPY-1A Antenna Array; and (4) AN/SAY-1 Thermal Imaging Sensor System (TISS) (ND-26-98); MK 74 Radar System (ND-52-98); and MK 78 Mod 1 Director (ND-10-99).

Many of the steps recommended by the panel were agreed to by the Navy (see Exhibits 2-3). Nevertheless, the Commission ultimately objected to the consistency and negative determinations, based on the fact that the Navy would not agree, as had been recommended by one of the expert panel reviewers, that the Navy designate a "non-DOD [Department of Defense] person" as part of the survey team. The Commission expressed its belief that having such a person on the survey team would be essential to maintaining the objectivity of the survey panel and any conclusions it reached as to the effects of radar facilities on coastal zone resources.

The Commission also noted procedurally in its objection that the Navy was not prohibited from proceeding to implement the VTC and other radar improvements, but that if the Navy intended to proceed in the face of an objection the Navy was obligated to so inform the Commission in accordance with Section (a)(i) of Chapter 11 of the CCMP, which provides:

*If the Coastal Commission finds that the Federal activity or development project directly affects the coastal zone and is not consistent with the management program, and the federal agency disagrees and decides to go forward with the action, it will be expected to (a) advise the Coastal Commission in writing that the action is consistent, to the maximum extent practicable, with the coastal management program, and (b) set forth in detail the reasons for its decision. In the event the Coastal Commission seriously disagrees with the Federal agency's consistency determination, it may request that the Secretary of Commerce seek to mediate the serious disagreement as provided by Section 307(h) of the CZMA, or it may seek judicial review of the dispute.*

On April 13, 2000, the Navy complied with this provision by informing the Commission of its intention to proceed, with the statement that it still intended to comply with all commitments it made during the proceedings (Exhibit 3). These commitments are summarized in the attached excerpt from the Commission's findings on CD-4-00:

*The Navy's commitments in response are attached as Appendix A (pages 24-25 [Exhibit 2]), with additional commitments and clarifications made during the April 11, 2000, public hearing attached as Appendix B (Navy's letter to the Commission dated April 13, 2000 [Exhibit 3]). With some changes, the Navy has responded positively to several of the recommendations. One example of a change that, rather than have a "non-DOD RFR measurement expert participate fully in the survey and the writing of the final report submitted to the public," the Navy has agreed to expand on the surveys and their communication to the public, but not to the extent of designating a "non-DOD measurement expert" as part of the survey team. Also, the Navy has not agreed to perform a "well-designed, comprehensive public exposure assessment study," but rather has chosen to address this recommendation by improving the existing Radhaz surveys, including doubling the measurement points taken in public (uncontrolled) areas, "translating" the survey results into plain English, and appointing an information officer to answer any questions about the surveys.*

*Additional Navy commitments include that the Navy will continue to test all radar facilities, submit test results to the Commission staff, and coordinate radar modifications at the SWEF with the Commission staff, including, where appropriate, submittal of future consistency or negative determinations for operational or equipment changes at the facility. For its analysis of future changes, as the Navy has agreed (see Appendix B) the Commission staff will rely for its baseline description and level of impacts on the Navy's "Technical Parameters for SWEF emitters," dated February 18, 2000 [Exhibit 7], which was the baseline relied upon by the expert panel, as well as the "to scale" map submitted by the Navy to the panel dated January 13, 2000. The Navy will measure and report not only any exceedances of the legally applicable "DOD standards," but will also provide sufficient information (including actual radar logs) to enable a determination of any exceedance in public areas of the "FCC guideline" (currently 1 mW/cm<sup>2</sup>) cited by two of the panel members as an appropriate guideline for public areas.*

At the Commission's April 12, 2001, meeting, The Beacon Foundation presented information to the Commission asserting that the Navy had not fully complied with these commitments. The Beacon Foundation followed this up with letters dated April 27, 2001 (Exhibit 4), and May 18, 2001 (Exhibit 5), which include allegations:

1. that the Navy's annual report withholds information needed to determine compliance with the Navy's commitments;
2. that MK 74 Mod 6/8 and MK 86 SPG 60 radar levels reported on Navy radar logs exceeded commitments on "baseline" limits, the first in terms of angular bearing and the second in terms of peak power levels emitted;
3. that information provided by the Navy in response to a Freedom of Information Act (FOIA) request (Exhibit 6) shows the Navy is not using the agreed-upon baseline as its standard operating procedures (SOP);
4. that the Navy is only agreeing to show that its operations comply with the higher SOPs, instead of the lower levels relied upon by the panel members during the mediation and expert panel review process;
5. that the Navy has "sidestepped" its commitment for "verification of compliance with 'all operational modifications agreed to as a result of ... [the] informal mediation'";
6. that the Navy's latest in house RadHaz Survey did not satisfy the Navy's commitments; and
7. that the Navy has defaulted on commitments to show times it ceased radiating either because of roosting birds or ships in the exclusion zone.

The Navy has responded to the several of these contentions through an email communication. The Navy stated:

*In a letter to the CCC dated April 13, 2000, the Navy summarized its commitment to provide the CCC documentation of our continuing compliance with the Department of Defense's RF guidelines and the additional operational enhancements agreed to as a result of the informal mediation between the CCC and the Navy. The Navy provided the agreed upon information in 3 parts. The first by letter dated January 22, 2001, provided a copy of the enhanced RADHAZ Survey for SWEF and an Executive Summary of the enhanced RADHAZ survey. The second by letter dated February 2, 2001, provided a Summary Matrix of SWEF Radiate times for calendar year 2000. That summary includes radar radiate times and the number of times operations were interrupted due to ships transiting the tall ship exclusion zone and for roosting birds. That letter also provided the "raw" radar logs. The third submission in a letter dated February 9, 2001 provided information on the number of aircraft events flown off the Sea Range and a Safety Compliance verification of SWEF operations by the Navy RF safety officer.*

*The following demonstrates how the Navy's submissions relate to the issues that have been raised:*

*Issues 1 and 2. The Summary Matrix provides the total duration for each system for all events during 2000 when the SWEF emitters were used. This matrix documents the durations of the use of SWEF emitters and shows that the emitters were operated in compliance with the Standard Operating Procedures identified in the Consistency Determination. The data found in the logs must be read in conjunction with the analysis provided by the RF safety officer and should not be solely relied upon to verify the annual use of emitters at SWEF. Reviewing the logs without the benefit of the RF Safety Officers analysis may lead the reader to erroneous conclusions. For example, in the case of power levels equipment calibration, where in the system the measurement was taken, the measurement type (peak or RMS), as well as many other factors can greatly influence the meaning of any hand written notations. The Summary Matrix contains all information required to analyze SWEF operations. The Navy intended the CCC to view the Summary Matrix as our record of file.*

*Issue 3. The Navy previously revised the internal Standard Operations Procedures (SOP) for Radar systems to include agreed upon parameters. This SOP will be formally reissued with all of these changes incorporated on a standard schedule. Until that formal reissuance, the operators are trained to refer to "change pages." Unfortunately, when BEACON submitted their Freedom of Information Act (FOIA) request they requested a specific instruction by number and the Navy neglected to include the supplemental page changes. Copies of these pages were sent to Beacon when the Navy discovered this oversight.*

*Issue 4. The Navy's February 9, 2001 letter to the CCC, contained the RF Safety Officers certification that the SWEF emitters were operated in compliance with the SOPs, the*

*DoD guidelines and all other operational enhancements agreed to as a result of the informal mediation between the Navy and the CCC.*

*Issue 5. The Navy completed an enhanced RADHAZ survey in October 2000. The Navy letter dated January 22, 2001 provided the official report from the enhanced RADHAZ survey and executive summary. This report verified the SWEF operation are safe and that there are no RF hazards to personnel in the Controlled environment, or in the environment that the general populace has access to.*

*Issue 6. Information concerning the number of times radiation was interrupted due to roosting birds or of ships in the tall ship exclusion zone was provided in the Summary Matrix of SWEF radiate times for calendar year 2000 submitted via letter dated February 2, 2001. The Summary Matrix documents that there were zero instances of operations being halted due to roosting birds and 1 time when the SWEF emitters were shut off while a ship was in the exclusion zone.*

The Beacon Foundation's second, May 18, letter (Exhibit 5) responds to the Navy's statements and maintains that the Navy's response "actually confirms Navy violation of its commitment to the ... Commission."

The Navy has also informed the Commission staff informally that it will be providing a more detailed analysis of the contentions and a list of improvements it anticipates making for future record-keeping and reporting of radar logs. This more detailed analysis will be submitted after the first mailing for the August Commission meeting, but before the second mailing. Therefore a follow-up memo will be included in the "late" mailing for the August Commission meeting, providing additional details from the Navy and additional Commission staff analysis.

## **II. PROCEDURES:**

Section 930.45 provides:

### ***§930.45 Availability of mediation for previously reviewed activities.***

*(a) Federal and State agencies shall cooperate in their efforts to monitor federally approved activities in order to make certain that such activities continue to be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of the management program.*

*(b) The State agency may request that the Federal agency take appropriate remedial action following a serious disagreement resulting from a Federal agency activity, including those activities where the State agency's concurrence was presumed, which was: (1) Previously determined to be consistent to the maximum extent practicable with the management program, but which the State agency later maintains is being conducted or is having an effect on any coastal use or resource substantially different than originally described and, as a result, is no longer consistent to the maximum extent practicable with the enforceable policies of the management program; or (2) Previously*

*determined not to be a Federal agency activity affecting any coastal use or resource, but which the State agency later maintains is being conducted or is having an effect on any coastal use or resource substantially different than originally described and, as a result, the activity affects any coastal use or resource and is not consistent to the maximum extent practicable with the enforceable policies of the management program. The State agency's request shall include supporting information and a proposal for recommended remedial action.*

*(c) If, after a reasonable time following a request for remedial action, the State agency still maintains that a serious disagreement exists, either party may request the Secretarial mediation or OCRM mediation services provided for in Subpart G of this part.*

The "reopener" provision that the Commission has used in other situations (i.e., subpart (b) above) is inapplicable in the subject situation, because the Commission has objected to the federal agency's proposal. Subpart (b) applies to situations where the state agency has originally concurred with the federal agency's activity, but subsequently believes the federal agency is conducting its activity in a manner "having an effect on any coastal use or resource substantially different than originally described and, as a result, is no longer consistent to the maximum extent practicable with the enforceable policies of the management program." Even though the Commission objected, the Navy maintained that, with its commitments, the activity was consistent to the maximum extent practicable with the CCMP, and the Commission did not take any further action to challenge this position. The applicable regulation for this situation is subpart (a), which contemplates state and federal agency cooperation in order to "make certain" that federal activities "continue to be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of the management program."

Exhibits:

1. SWEF location map
2. Navy commitments made as a response to expert panel recommendations
3. Navy letter (including additional commitments) in response to Commission objection dated April 13, 2000
4. The Beacon Foundation Letter(s) dated April 27, 2001
5. The Beacon Foundation Letter(s) dated May 18, 2001
6. Navy letter responding to EDC FOIA request dated May 10, 2001
7. "Baseline" power levels for all radars
8. Radar schematics for radar systems MK 74 Mod 6/8, MK 86 SPG 60, MK 86 SPQ 9A, and MK 92 (CAS Track Mode).
9. Navy letter dated February 9, 2001, including Safety Compliance Verification

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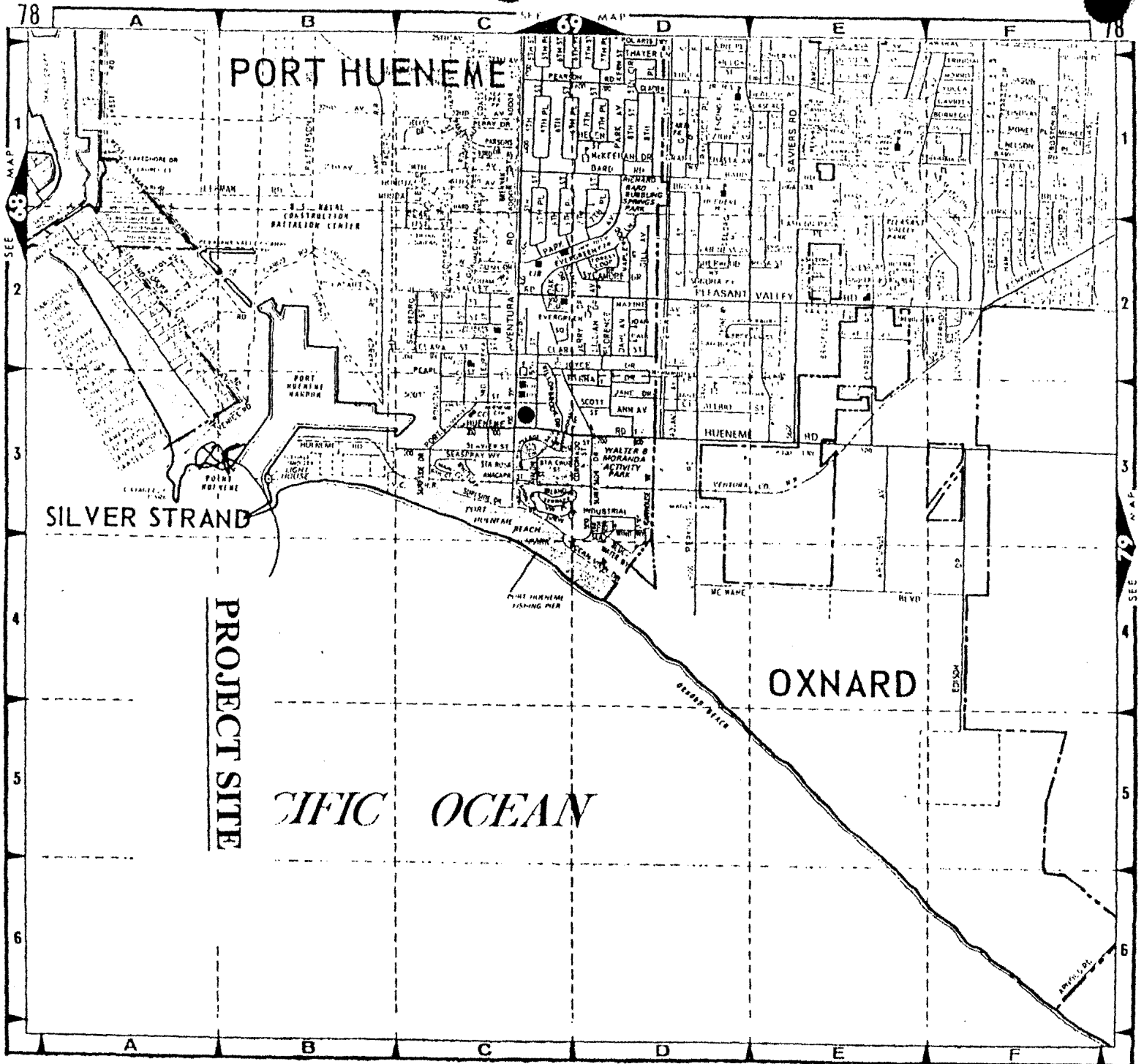


EXHIBIT NO.	1
APPLICATION NO.	
Nav SWEF	
Radar	

APPENDIX A

Navy Response to Panel Recommendations

The Navy thanks the Panel for their diligent work in support of the informal mediation between the Navy and the CCC. We have reviewed all of the recommendations by the panel members and appreciate the many good ideas for improving the SWEF operations. The Navy shall commit to the following modifications to the operation of SWEF to improve operations of the SWEF and enhance public safety.

INSTALLATION OF VIDEO CAMERA & ELIMINATION OF RADAR EMISSIONS WHEN VESSELS ARE IN THE EXCLUSION ZONE

The Navy will install a video camera system on the roof of SWEF to enable system operators and engineers to monitor large/tall vessels, which require tug assistance, entering or exiting the harbor. An area extending from the harbor entrance buoy (approximately 1/2 mile from the entrance to the harbor) to the internal channel buoy will be designated a tall vessel exclusion zone (see Attachment (1)). When a vessel is in this 'tall vessel exclusion zone', Navy will not radiate any SWEF radar that has a RF hazard zone that extends beyond the internal Navy fence. All systems' Standard Operating Procedures will be modified to include the monitoring and vessel exclusion procedures. These procedures will be also be used for future radars that may be planned for installation at SWEF.

INSTALLATION OF A VIDEO CAMERA TO MONITOR BIRDS

The video system that will be installed will also be used to spot birds roosting in front of any radar. If a bird is roosting in front of a radar, the Navy will take appropriate action to remove it from the equipment before the system radiates. If a bird roosts during operations, radiation will be stopped until appropriate action is taken to remove the bird. All systems' Standard Operating Procedures will be modified to include the monitoring and bird removal procedures. These procedures will also be used for future radars that may be planned for installation at SWEF

IMPROVEMENTS TO THE RADHAZ SURVEYS

The Navy will, at a minimum, double the number RF measurement points along uncontrolled (off-base) areas in all future RADHAZ surveys. The Navy will specifically indicate the locations of maximum and minimum readings along the fence between the Navy and the public beach in all future RADHAZ surveys. During all future RADHAZ surveys, all SWEF radars capable of simultaneous operation will be energized and oriented (as allowed) toward the measurement points. The measurement equipment used during the test will be described in the report. The Navy will also provide a plain-English Executive Summary to assist the CCC and the public in understanding the technical report. The Navy will identify a POC to answer any questions that CCC may have regarding the survey.

EXHIBIT NO.	2
APPLICATION NO.	
Navy, SWEF	



#### APPOINTMENT OF A RF SAFETY OFFICER

The Navy will designate a RF Safety Officer to ensure continued compliance with required safety measures and regulations.

#### SUBMISSION OF ANNUAL REPORT TO CCC ON RADAR OPERATIONS

The RF Safety Officer will submit to the CCC an annual report no later than 31 January of each year to include: number of total hours the radars radiated out of the antennas, the number of time radiation was halted due to ships or roosting birds, the number of aircraft events flown off the Sea range, verification that all operational modifications agreed to as a result of this informal mediation are being followed, and verification that the facility continues to be operated in compliance with safety measures

#### NOTIFICATION & UPDATE ON OPERATIONAL MODIFICATIONS IN RESPONSE TO NEW STANDARDS

To assist the CCC in staying informed about the status of DoD's RF standards, the Navy will notify the CCC when changes are made to the DoD RF standard (DoD Instruction 6055-11). In accordance with the Office of Management and Budget (OMB) circular A119, federal agencies are required to use voluntary consensus standards instead of a government-unique standards unless they are inconsistent with applicable law or otherwise impractical. Therefore, DoD has historically used the RF standards developed by the American National Standard Institute (ANSI) and the Institute of Electrical and Electronic Engineers (IEEE). DoD is also required to comply with all federal regulations. The Navy would comply with any changes to the federal regulations governing RF emission promulgated by the Environmental Protection Agency. Navy will notify the CCC of any new or revised RF standards issued by ASNI/IEEE that DoD decides to use and any changes to applicable federal regulations. The Navy will also provide an explanation of how SWEF operations will be modified to comply with the new standard or regulation.



DEPARTMENT OF THE NAVY  
 PORT HUENEME DIVISION  
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# Appendix B

IN REPLY REFER TO:

5090.1  
 Ser 02-CH/ 14  
 April 13, 2000

California Coastal Commission  
 45 Fremont Street, Suite 2000  
 San Francisco, CA 94105-2219

Dear Commissioners,

The Navy looks forward to the successful resolution of the issues related to Surface Warfare Engineering Facility (SWEF) operations. In 1998, the Navy voluntarily entered into informal mediation with the California Coastal Commission (CCC) overseen by OCRM to resolve the serious disagreement on consistency issues related to the potential impact of SWEF radar operations on the resources of the coastal zone. As remarked by Mark Delaplaine, staff to the CCC, and David Kaiser of OCRM, the Navy has worked cooperatively with these organizations to resolve issues. We all were excited by what we viewed as a consensus resolution of consistency issues.

As part of the informal mediation, a panel including four non-DoD members was selected and charged with providing the CCC and the Navy their independent and objective scientific evaluation on whether SWEF operations impact the resources of the coastal zone. The panel reviewed the SWEF RADHAZ surveys and other information on the SWEF operations. The panel indicated that the SWEF was generally being operated safely with no impacts to the coastal zone. The panelists verified that SWEF is operated in compliance with DoD Standards and that SWEF RF emissions in the uncontrolled areas surrounding the facility are even within the more restrictive limits of the FCC Guidelines.

The panel identified only two areas of concern. These areas were potential exposure of RF energy to personnel on tall ships and potential exposure to roosting birds at the SWEF. The Navy has incorporated enhancements to the SWEF operations to eliminate these potentialities. These enhancements were developed based on the recommendations of the panel members.

The Navy participated in several telephonic discussions with Mark Delaplaine and David Kaiser regarding the implementation of the panel's recommendation. We believed that we had consensus on the manner in which the Navy agreed to make improvements to its operations to address the concerns of the panel and their recommendations. In recognition of the panel's recommendations and to further the public's understanding of the Navy's RF safety program, the Navy has committed to enhancements to the SWEF safety program. The Navy has designated a RF Safety Officer and installed video cameras to monitor for tall ship and roosting birds as suggested by panel members. The Navy has committed to provide the CCC an annual report on SWEF RF emissions and operations. This annual report was agreed by Navy, CCC and OCRM

EXHIBIT NO. 3

APPLICATION NO.

Navy, SWEF

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April 13, 2000

to be the best way to implement the suggestion by Dr. Adey to provide more information to the public and the Commission. The Navy has also committed to informing the CCC and the public about changes to the DoD Standards that may effect SWEF operations.

Finally, in recognition of the panel's recommendations for a better radar survey (referred to as a public exposure assessment study), the Navy has committed to enhancements to the RADHAZ Surveys of SWEF. These improvements include at least doubling the number of test points in the uncontrolled areas, describing the test equipment and its sensitivity and accuracy, performing a worst case test scenario, and incorporating an executive summary to facilitate the public's understanding of the document. These improvements to our survey were based on the many ideas of Dr. Elder regarding the public exposure assessment study. Furthermore, the Navy would identify a point of contact to answer any questions from the CCC or the public about the results. We believed this last point would improve information exchange and public relations.

In your staff's recommendations, they reported that the Navy "had adequately responded to the panel members' recommendations and has included commitments that enable the Commission and its staff to agree that these radar modifications would not adversely affect coastal zone resources." They also agree that the Navy's consistency determination for the proposed Virtual Test Capability was consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program. Your Staff further urged that the Navy consider doing a public exposure assessment study and also having a non-DOD member participate on the study and report-writing team.

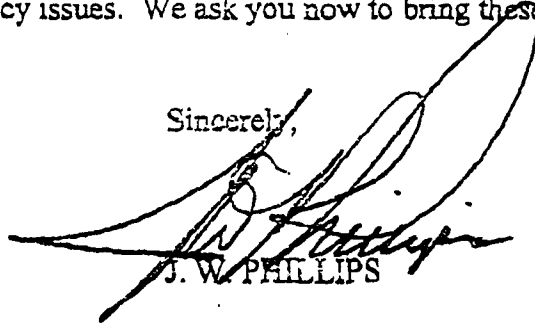
The Navy reconsidered its position on the public exposure assessment and announced at the April 11, 2000 meeting that we would conduct such a study in a comprehensive RF survey. The survey would incorporate the process improvements to our RF studies described above. This study is appropriate because it will establish an accurate baseline of current operations and provide CCC and the public with useful safety data.

We have also given further consideration to having a non-DOD person participate in the new RF survey. We understand that the Commission strongly believes that this would improve the trustworthiness of the data. However, the Navy does not believe that this measure is required to achieve federal consistency under Coastal Zone Management Act (CZMA). The Navy believes that the previously discussed enhancements, which had their genesis in the panel's recommendations, address the CCC's concerns regarding potential impacts to the coastal zone. We are also skeptical that this measure would further enhance public trust or confidence in the Navy's RF safety program. We believed that our involvement in the informal mediation and our cooperation over the past year and half had improved the level of trust. However, we do not believe that certain members of the public would be satisfied with any measure that the Navy takes to better public relations.

5090.1  
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April 13, 2000

The Navy hopes that you will agree with the Navy's negative determinations and our consistency determination based on your staff's recommendations and the Navy's commitments to improvements to SWEF operations. The Navy believes it has done everything necessary, and more, to address these consistency issues. We ask you now to bring these proceedings to a successful conclusion.

Sincerely,



J. W. PHILLIPS

Enclosure 1: Navy's Response



# The Beacon Foundation

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RECEIVED  
MAY 02 2001

Mr. Mark Delaplaine  
Federal Consistency Supervisor  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105-2219

April 27, 2001

CALIFORNIA  
COASTAL COMMISSION

Re: Navy SWEF Noncompliance  
With Commitments To  
The Coastal Commission

Dear Mr. Delaplaine:

On April 12, 2001, The Beacon Foundation appeared in public comment at the Coastal Commission meeting in Santa Barbara. We briefly outlined the failure of the Navy to fulfill the promises made to the Commission a year earlier regarding operations and reporting on operations of the Surface Warfare Engineering Facility (SWEF) at Port Hueneme. Several Commissioners commented that commitments made to the Coastal Commission in the SWEF matter must be kept. A general willingness of the panel was apparent to agenda a review of Navy compliance. The Executive Director requested that we provide staff with a detailed recitation of our concerns.

The CCC sought for more than five years to obtain a Navy consistency determination on spill over effects on the coastal zone of SWEF operations. "Serious disagreement" between the Commission and the Navy caused the Commission to request an informal mediation by the federal Office of Coastal Resource Management (OCRM). As part of the mediation, a distinguished national panel of five radio frequency radiation (RFR) experts was selected by agreement of the Navy and the Commission to review current SWEF operations. A Citizen Observer, Lee Quaintance, was selected by the Commission.

The Report of the Expert Panel dated March 2000, the Citizen Observer's Report dated March 24, 2000, a Commission Staff Report and written Navy commitments were before the Commission at a hearing commenced on April 11th and continued and concluded on April 14, 2000.

The April 2000 hearing was a summing up, refinement, and confirmation of Navy commitments to the Coastal Commission. In the mediation process the Navy had provided the Expert Panel with a baseline describing operating parameters for each RFR emitter on the SWEF. The Navy committed to the Commission that this baseline states its actual control on its operations. In response to the recommendations of members of the expert panel, the Navy agreed to specific controls and modifications of its operations including an "Exclusion Zone" to protect persons on freighters from RFR exposure. The Navy also committed to provide an Annual Report of its actual operations containing detailed logs of the parameters

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APPLICATION NO.	
Navy SWEF	

and modes of operation of each emitter and its verification that all operations complied with applicable safety regulations and with the controls and modifications it had promised to the Coastal Commission.

These commitments are memorialized in Navy letters to the Commission of April 6th and April 13th, 2000. These letters are provided here as Attachment One and Attachment Two respectively. The Navy commitments were refined in extensive testimony at the April 11, 2000 hearing by the Navy representative, Mr. Chuck Hogle.

We reviewed the official tape recording of the April 11, 2000 hearing in preparing this letter. Mr. Hogle's representations on behalf of the Navy in response to inquiries from the Chair and other Commissioners are an intrinsic part of the Navy commitments to the Coastal Commission. Mr. Hogle stated he was authorized to enter commitments for the Navy with the exception of a requested commitment to include a non Department of Defense expert in a public exposure study. He was accompanied to this hearing by Navy legal counsel and a staff representative of Rear Admiral Michael Mathis, of the Naval Sea Systems Command of which the SWEF is a part.

The Navy has violated the following substantive commitments made to the California Coastal Commission:

**1. The Annual Report withholds promised information essential to verify that operations are consistent with the baseline the Navy certified to the Expert Panel and to the Commission.**

The Navy committed to provide by January 31 of each year an Annual Report on SWEF operations for the twelve prior months. As stated in the April 13, 2000 Navy letter and its Attachment 1, this Annual Report "on SWEF RF emissions and operations" is to include "the SWEF radar logs" and to provide "...verification that all operational modifications agreed to as a result of this informal mediation and all safety measures are being followed."

At the April 11, 2000 hearing Mr. Hogle confirmed Navy commitment to the verification language quoted above. He further confirmed that operating parameters provided in the Annual Report would be comprehensive and complete for operations of each emitter. The purpose identified by the Chair and by Commission staff for including detailed operating data was to allow third party review of Navy compliance with the baseline. The Navy presented a baseline to the Expert Panel and to the Commission as its invariable self imposed safety restriction on SWEF operations. At the April 11<sup>th</sup> hearing Commission staff stated its understanding that the Navy had committed to provide the detailed operating data needed for this third party review purpose and Mr. Hogle confirmed this in his testimony.

The Commission received its first Navy Annual Report with a letter dated February 1, 2001. All that the Navy provided is an assortment of mostly handwritten entries of the times of day when a device was on or off or the total minutes that the device was on. For all but two of the ten radar systems installed at the SWEF no other information is provided.

Mere on/off data is useless in evaluating Navy adherence to the operating baseline it had promised the Commission to follow and is contrary to its express commitment to provide detailed data on actual operating levels and parameters in each mode of operations.

2. **Fragments of data provided on angular bearing of the MK 74 Mod 6/8 and operating power of the SPG 60 in actual operation disclose disregard of the baseline limits the Navy represented to the Expert Panel and the Commission as the control in place on its operations.**

The February 1, 2001 Navy Annual Report letter handwritten sheet for the MK-74 Mod 6/8 includes the bearing and the "radiated elevation" in addition to on/off data. For the SPG 60, the handwritten sheet includes the power levels of some operations.

These fragments of actual operating information demonstrate non-compliance with operating parameters represented to the Expert Panel and to The Commission. The log for the MK 74 reports two instances when it operated at a bearing of 183 degrees to 90 degrees. The bearing limit stated in the December 14, 1998 Navy "Responses to Questions" prepared for the Expert Panel is a different and more narrowly restricted RF exposure angle of 184 degrees to 133 degrees. This same more restricted bearing angle limit is portrayed in the to scale map the Navy prepared at the request of the Expert Panel.

The Annual Report handwritten page provided for the MK 86 SPG 60 reports operations on six occasions at a power nearly 10% in excess of the peak power stated in the Navy Technical Parameters for SWEF Emitters dated 18 February 2000. The same page reports that the three reported activations of the SPG 60-9A were powered at a level 66% in excess of the peak power limit in the Technical Parameters.

3. **Present SWEF Operating Procedures are significantly less protective than those represented to the Expert Panel and the Commission as the actual baseline safety controls and restrictions.**

In the mediation the Navy provided a December 14, 1998 memorandum to the Expert Panel setting forth the operating parameters of each RFR emitter at the SWEF. This report was supplemented and refined at the request of members of the expert panel. The additional data was presented in a Navy Technical Parameters for SWEF emitters dated February 18, 2000 provided here as Attachment Three. In Mr. Hogle's testimony before the Commission on April 11, 2000 and in the attachment to the Navy letter to the Commission of April 13, 2000 the Technical Parameters table is described "... as a baseline of current SWEF radar operational parameters." Mr. Hogle affirmed in his April 11<sup>th</sup> testimony a Navy commitment to the Commission to adhere to this baseline.

The Citizen Observer's report of March 24, 2000 pointed out specific instances where the Technical Parameters table is different and more restrictive than the July 27, 1999, Navy Standard Operating Procedures for Radar Systems, High Power Illuminators, and Launching Systems at the Surface Warfare Engineering Facility. PHDNSWCINST 3120.1A. This document was obtained from the Navy by The Beacon Foundation pursuant to a July 22, 1999 Freedom Of Information Act (FOIA) request. This procedures documents states on page one that it "Promulgates ... policy and standard operation procedures relating to Surface Warfare Engineering Facility (SWEF) equipment and systems operations." It further states that the purpose of this document is to "provide requirements and specific guidance for operating equipment and systems at the SWEF complex through institution of standard operating procedures." In short, this is the Standard Operating Procedure (SOP) for SWEF operations.

The Citizen Observer brought differences between the July 27, 1999 SOP handbook and the February 18, 2000 Technical Parameters to the attention of the Department of Commerce moderator of the Expert Panel and asked that the Panel be given the SOP. The moderator declined to do so based on a written Navy "Statement" provided to the Panel on February 6, 2000 (this Statement is attached to the Citizen Observer's Report) that disclaimed the SOP as the control document; said it was in need of correction; and enumerated twelve revisions that had been "submitted to the cognizant authorities by SWEF employees." These revisions apparently were an effort to conform the SOP to the baseline operating procedures that the Navy told the Commission and the Expert Panel it follows.

On February 2, 2001, The Environmental Defense Center on behalf of The Beacon Foundation, submitted a FOIA to The SWEF Commanding officer seeking:

"A complete copy of each standard operating procedure for radar systems at the Surface Warfare Engineering Facility (SWEF) established subsequent to the July 27, 1999



Navy Standard Operating Procedure for Radar Systems, High Power Illuminators, and Launching Systems at the Surface Warfare Engineering Facility (PHDNSWCINST 3120.1A).”

The Navy response to the February 2, 2001 FOIA was to again provide only the July 27, 1999 Standard Operating Procedure. No amendment or change of any kind is incorporated. None of the modified restrictions of the February 18, 2000 Technical Parameters are in this document. The more protective February 18, 2000 Technical Parameters appears to have been created solely for the mediation process while actual controls in effect and in practice remain more permissive and result in greater impact on coastal zone resources.

- 4. The Navy has violated its commitment to include in the Annual Report its verification that “... all operational modifications agreed to as a result of this informal mediation and all safety measures are being followed.”**

The obligation to appoint a Safety Officer “to ensure continued compliance with required safety measures and regulations” is stated in the April 6, 2000 Navy letter. The specification that verification is to include compliance with “operational modifications agreed to as a result of this informal mediation” is stated in Attachment 1 to the Navy letter of April 13, 2000. This requirement of annual Navy verification of its adherence to its commitments to the Coastal Commission was the subject of a lengthy exchange between Mr. Hogle and members of the Commission during Mr. Hogle’s testimony on April 11, 2000. In accord with his testimony, the April 13<sup>th</sup> letter added back this specific commitment that had been made to Commission staff earlier but “unintentionally” omitted in the April 6<sup>th</sup> Navy letter.

In its letter to the Commission of February 9, 2001 ( Attachment Four ), the Navy quietly sidesteps its verification of compliance with “all operational modifications agreed to as a result of this informal mediation.” This letter purports to discharge “the remainder” of the Annual Report obligation by verification that SWEF operations “...are in compliance with established Navy policies governing operations at the SWEF complex.” The Verification references the April 6<sup>th</sup> but not the April 13<sup>th</sup> Navy letter and thus deliberately omits its promised verification that “operational modifications agreed to as a result of the informal mediation” are being respected.

We now know that the modifications embodied in the February 18, 2000 Technical Parameters are not incorporated into the present official Navy Standard Operating Procedure dated July 27, 1999. The deceptive wording of the February 9, 2001 “verification” is designed to nullify all Navy

commitments to the Coastal Commission of modifications to its operations and to the baseline it represented as binding.

**5. The Navy has produced another in house Navy RADHAZ Survey that does not satisfy its promise of a public exposure study responsive to the Expert panelists recommendations.**

On May 9, 2000, The Coastal Commission unanimously approved a finding declining to concur in all then pending SWEF consistency determination and negative declaration filings. The finding was based on Navy failure to comply to the maximum extent practicable with the Coastal Zone Management Act (CZMA). A key reason for this finding was Navy refusal to perform a public exposure study that would include a non-Department of Defense radar expert in all aspects of the study. In testimony to the Commission on April 11, 2000 Mr. Hogle advised that the Navy refusal to include a non-DOD expert was not based on national security considerations.

The essence of the unanimous May 9, 2000 Commission finding of non compliance with the CZMA is this statement (p. 16, 17):

"The Commission believes that the panel recommendation that the Navy designate a 'non-DOD measurement expert' to participate in all aspects of a well-designed, comprehensive public exposure assessment survey (as described by Dr. Elder) is essential to maintaining the objectivity of the survey panel and any conclusions it reaches as to the effect; or lack thereof, of existing (baseline) and/or proposed future SWEF radar facilities on coastal zone resources."

The fundamental lack of objectivity of an entirely in-house RADHAZ survey is demonstrated in the one the Navy has now provided to the Commission. This December 2000 Electromagnetic Radiation Hazards Survey Final Report is produced by an in-house Navy agency, the Space and Naval Warfare Systems Center.

The December 2000 Report states (page i):

"RADHAZ measurements were conducted with operational constraints in effect as defined within the current established SWEF standard operating procedures. Alterations in emission sectors were required in some cases to accomplish objectives of the survey."

The December 2000 Report has a section (page 15) devoted to listing "References" but neither there nor anywhere else in the Report is the document identified that establishes the then "current" standard.

The "alterations" are not listed but our review shows they are numerous. The "Objectives" of these "alterations" appears to be a blanket Navy self-affirmation that no SWEF operations exceed Department of Defense RFR exposure limits.

Peak and average power and antenna bearings for several devices are reduced for the December 2000 Report. These bearing and levels are not consistent with the Navy representations to the Expert Panel and the Commission nor are they consistent with the July 27, 1999 Standard Operating Procedure that appears to actually be in effect. Ratcheting down power levels for the testing done in the December 2000 RADHAZ Report lessens the RFR impacts and results in calculation of smaller safe separation distances.

An example of testing at reduced power in the December 2000 Report is the data presented on the MK 92 in CAS Track mode. Exposure calculations are made assuming this device has a peak power (page E-21) of 77,900 watts and an average power of 42 watts. The February 18, 2000 Technical Parameters show this device at a peak power of 400,000 watts and an average power of 400 watts. The July 27, 1999 SOP that appears to actually control does not state a peak power but indicates an average power of 1,000 watts. Each lowering of the power level decreases the potential RFR impact.

An indication of the lack of objectivity of the December 2000 Report is its treatment of RF exposure of persons entering or leaving the Port of Hueneme on tall freighters. This potential exposure was a concern closely examined by the mediation Expert Panel. To address this concern the Navy committed to the Coastal Commission to modify its operations.

Four of the five experts on the mediation Expert Panel (only the Navy employed expert did not agree) found that persons on tall freighters entering and leaving the Port Hueneme Harbor are potentially exposed to unsafe levels of RFR radiation in excess of DoD limits. In response to the panelists concern The Navy committed to the Commission in its April 6, 2000 letter that it would create an "Exclusion Zone" extending from the harbor entrance buoy to the internal channel buoy. When any tall vessel is in this large area in the foreground of the SWEF the "... Navy will not radiate any SWEF radar that has a RF hazard zone that extends beyond the internal Navy fence." A further commitment (that we now know has not been fulfilled) is stated to modify "all systems' operating procedures ... to include the monitoring and vessel exclusion procedures." A diagram of the Exclusion Zone created by the Navy for the Commission is provided here as Attachment Five.

The December 2000 in house RADHAZ survey finds that there is no potential exposure of tall ships to RF levels in excess of DoD standards.

This finding is based on an assumption that tall vessels come no closer than 650 feet from the most powerful emitters. Earlier in house RADHAZ surveys made the same distance assumption and the same finding. Those prior RADHAZ surveys were reviewed by the Expert Panel. Four of five members of the Expert Panel expressed concern, contrary to the prior RADHAZ analysis, that persons on tall vessels transiting the Harbor may be exposed to RF radiation in excess of DoD exposure limits.

The Beacon Foundation disputed the 650 foot distance assumption in written comments to the Commission that were made a part of the Expert Panel working papers. We demonstrated that vessels typically come some 100 feet closer to the SWEF. This more than doubles the potential RFR exposure level to persons on ships (since exposure level is inverse to the squared distance). Our ship distance calculation is supported by the to-scale harbor diagram the Navy provided in response to an Expert Panel request and by an Army Corp of Engineers diagram of the Harbor.

The December 2000 Report asserts: (page viii) "There are no hazards to ships transiting the [harbor] channel or to any ship at-sea." There is no indication that its authors considered the Expert Panel Report or the to-scale diagram of the Harbor. It repeats past in house RADHAZ survey mistakes to reach exposure conclusions contrary to that of four of five members of the mediation Panel of nationally recognized RFR experts.

**6. The Navy defaults on the promised Annual Report information of times it ceased radiating either because of roosting birds or of ships in the Exclusion Zone.**

Neither the February 2<sup>nd</sup> nor the February 9, 2001 Navy Annual Report letters provide information on any suspension of operations while ships are in the Exclusion Zone or while birds are roosting on the SWEF facility. We now know that the Exposure Zone has not been incorporated into the current official Standard Operating Procedure dated July 27, 1999. We also know that the December 2000 in house RADHAZ Report asserts that excess exposure to ships is impossible. These factors raise concern that the Navy has unilaterally abandoned its commitment to the Commission to observe an Exclusion Zone for the protection of persons in the coastal zone on commercial vessels entering and leaving the Port of Hueneme. Ever increasing vessel traffic at this port intensifies this hazard.

**CONCLUSIONS.**

Our foregoing analysis establishes Navy disregard and violation of numerous substantive commitments it made to the California Coastal Commission. The violated commitments have serious implications for spill over impacts of this federal facility on the coastal zone.

If this five year proceeding regarding SWEF operations is to have substance and be worthy of public respect, the Navy must not be allowed to ignore or unilaterally abandon the commitments it made to the California Coastal Commission.

**We ask the Coastal Commission to schedule a hearing at its June meeting in Long Beach on Navy compliance with commitments made to the Commission in the SWEF mediation.**

For The Beacon Foundation,



Lee Quaintance



Gordon Birr

Attachments

Cc: Sara Wan



# The Beacon Foundation

PMB 352  
3844 W Channel Islands Blvd  
Oxnard, CA 93035

RECEIVED  
MAY 23 2001

CALIFORNIA  
COASTAL COMMISSION

Mr. Mark Delaplaine  
Federal Consistency Supervisor  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105-2219

May 18, 2000

Re: Navy SWEF Noncompliance  
With Commitments to the  
California Coastal Commission

Dear Mr. Delaplaine:

The Navy communication to the Commission of May 8, 2001 endeavors to dismiss the compliance issues raised in our April 27<sup>th</sup> letter. Instead, it not only confirms Navy noncompliance with its commitments to the Coastal Commission, but also that the Navy never intended to comply.

The Commission invested five and a half years in proceedings to obtain a baseline for operations of the Surface Warfare Engineering Facility (SWEF) -- a coastal facility built and operated without any environmental documentation. The CCC and the Navy agreed to an informal CZMA mediation. Pursuant to that mediation, a national panel of radio frequency radiation (RFR) experts studied SWEF operations as portrayed by the Navy.

The expert panelists left no doubt that SWEF spill over effects on coastal zone resources would be severe unless it operates strictly within the restrictions on power, bearing, elevation and duration that the Navy claimed to follow. Even if all the purported and self imposed limits are in place, four of five panelists advised that operations would result in RFR exposure in excess of Department of Defense standards to persons on tall freighters transiting the Port of Hueneme. The Coastal Act (Sec 30700) designates the Port of Hueneme among five harbors that are "one of the state's primary economic and coastal resources...." An important mediation outcome designed to protect the Port as a coastal resource, was Navy commitment to create and respect an RF "exclusion zone" and to cease certain operations when tall vessels transit that area of the Harbor.

The May 8<sup>th</sup> Navy communication to the Commission confirms serious Navy violations of its commitments:

- 1. Despite its commitment to the CCC, the Navy now admits it never intended to provide data that would allow verification of Navy compliance with the baseline it provided to the Expert Panel and promised to follow.**

The May 8<sup>th</sup> Navy response to Commission staff says that the one page Summary Matrix attached to its February 2, 2001 Annual Report to the Commission contains

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Navy SWEF	

all the information "The Navy intended the CCC to view ... as our record of file." The only operating parameter information provided in that Matrix is the total number of minutes each emitter was "on" during calendar 2000. This is obviously, and intentionally, insufficient to ascertain compliance with the baseline the Navy promised to follow.

The now admitted intention to withhold operating parameters violates the Navy commitment to annually provide the data that would allow verification of compliance with the baseline controls it told the Expert Panel and the Commission it follows. This withholding of promised data makes a mockery of the whole five and half years of proceedings.

**2. Despite its commitment to the CCC, the Navy has not implemented the baseline limits it presented to the Expert Panel and to the Commission as its Standard Operating Procedure.**

The May 8<sup>th</sup> communication to the Commission says the Navy will, at some unspecified future time, "formally reissue" its Standard Operating Procedures. Meanwhile, more than a year after it gave the purported baseline for its operations to the Expert Panel and to the Commission it appears the Navy does not actually respect these restraints. Based on fragmentary data apparently released unintentionally, we described violations of the baseline restrictions in point 2 of our April 27<sup>th</sup> letter. The May 8<sup>th</sup> Navy response says this log data "should not be solely relied upon" and that "Reviewing the logs without the benefit of the RF Safety Officers analysis may lead the reader to erroneous conclusions." So, it is admitted that the material provided is insufficient to verify safe operations and the "analysis" by the RF Safety Officer that would be needed for an evaluation is withheld.

The Navy responded to a February 2001 Freedom of Information Act request for its Standard Operation Procedures (SOP) by delivering a 1999 SOP that is less restrictive than the baseline it represented to the Expert Panel. The May 8<sup>th</sup> communication from the Navy dismisses this concern by claiming machine operators have "change pages" to guide them. "Unfortunately" these were not provided to the Beacon Foundation in response to our FOIA. The May 8<sup>th</sup> communication to the Commission says "Copies of these pages were sent to Beacon when the Navy discovered this oversight." The only pages provided to The Beacon came with a letter of May 10, 2001, copy enclosed. These undated pages for only two devices do not include all baseline restrictions even on these two. The latest Navy communications further suggest that the baseline was invented for the mediation process and that it does not control operations.

**3. Despite its commitment to the CCC, The Navy failed to verify in its Annual Report that "... all operational modifications agreed to as a result of this informal mediation and all safety measures are being followed."**

Point 4 of our April 27<sup>th</sup> letter shows this non-compliance. The May 8th Navy response to the Commission says its letter of February 9, 2001 includes a "certification" of compliance with "... all operational enhancements agreed to as a result of the informal mediation between the Navy and the CCC." It is untrue that the statement attached to the February 9 letter contains either the above quoted representation or the promised Navy commitment that "all operational modifications agreed to as a result of this informal mediation and all safety measures are being followed." It is deceptively worded to side step any such verification.

- 4. Despite its commitment to the CCC, the Navy has failed to do a comprehensive public exposure study of its operations and the in house RADHAZ survey its has provided ignores findings of the expert panelists and repeats past in-house survey errors.**

The Navy May 8<sup>th</sup> communication declines to offer any response to the ample showing in our April 27<sup>th</sup> letter that the new RADHAZ survey done by the Navy is not objective, ignores findings of all but the Navy member of the Expert Panel, and repeats erroneous assumptions of past in-house Navy RADHAZ surveys.

- 5. Despite its commitment to the CCC. The Navy has failed to implement an "Exclusion Zone" to protect tall vessels from RFR radiation.**

The Navy commitment regarding a tall ship Exclusion Zone is detailed in points 5 and 6 of our April 27<sup>th</sup> letter. In purported response, the Navy communication to the Commission of May 8<sup>th</sup> merely notes that the Matrix attached to the Navy letter of February 2, 2001 notes one instance when "the SWEF emitters were shut off while a ship was in the exclusion zone." This was when the RADHAZ survey was being done. No occasions are reported of respecting the Exclusion Zone during normal SWEF operations. There is no specification of this promised zone in the present SWEF Standard Operating Procedures and the "change pages" provided to The Beacon Foundation with a Navy letter of May 10, 2001 include no provision for such a zone. It appears a critical safeguard responsive to Expert Panel concerns and promised to the Commission has been dropped.

**CONCLUSION:** We ask that Navy compliance be on the June agenda. The Navy May 8, 2001 communication responding to compliance concerns actually confirms Navy violation of its commitment to the California Coastal Commission.

**Commitments made to the Commission must be commitments kept.** Five and a half years were invested in a public process to obtain these commitments. A public hearing is needed without delay regarding compliance.

For The Beacon Foundations,

  
Lee Quaintance

  
Gordon Birr

cc: Sara Wan





DEPARTMENT OF THE NAVY  
OFFICE OF THE GENERAL COUNSEL

COUNSEL FOR THE  
PORT HUENEME DIVISION  
Naval Surface Warfare Center  
Port Hueneme, California 93043-4307

5720  
Ser 02L/ED/108  
10 May 2001

Mr. John Buse  
Environmental Defense Center  
906 Garden Street, Suite 2  
Santa Barbara, CA 93101

Subj: FREEDOM OF INFORMATION ACT REQUEST

Dear Mr. Buse:

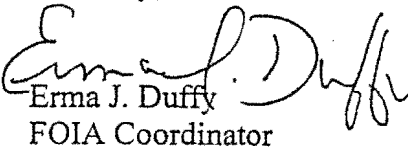
In further response to your Freedom of Information Act (FOIA) request of February 2, 2001, the following information is provided:

- (1) Appendix D - Fire Control System MK 74 Mod 14 TARTAR SM-2/NTU  
General Operating Guidelines (4 pages)
- (2) Appendix E - Fire Control System MK 74 MOD 6/8  
General Operating Guidelines (5 pages)
- (3) Figure E-2 (1 page)

These are changes made to the Standard Operating Procedures for radar systems.

Enclosed is a copy of the request documents(s). The fees associated with processing your request have been waived.

Sincerely,

  
Erma J. Duffy  
FOIA Coordinator

cc: Lee Quaintance (Beacon Foundation)

EXHIBIT NO.	6
APPLICATION NO.	
Navy, SWEF	

## APPENDIX D

### FIRE CONTROL SYSTEM MK 74 MOD 14 TARTAR SM-2/NTU GENERAL OPERATING GUIDELINES

1. DESCRIPTION. Fire Control System (FCS) MK 74 MOD 14 is a fire control radar used for acquisition, tracking, and illumination of air and/or surface targets. The MK 74 MOD 14 is a dual purpose radar using both G-band and J-band transmitters. The G-band transmitter is used for target tracking functions while an J-band Continuous Wave Illumination transmitter supports guidance of Standard Missiles. Transmitters use different transmission lines enroute to the antenna. A single antenna is used for both tracking and illumination functions. In addition, on board ship the MK 74 system interfaces with a MK 26 launcher. This capability does not exist at SWEF.

2. OPERATION. The MK 74 is operated primarily as a tracking radar. Live targets of opportunity and/or simulated targets are detected and tracked for system evaluations. Although available, the CWI is not used during standard modes of operation at SWEF. Under normal operating conditions, the transmitters are radiated into dummy load. When RF transmissions out the antenna are required, the radiation sectors are limited to open ocean only.

3. NUMBER OF RADIATING ELEMENTS. One director (antenna) installed on the roof of building 1384.

4. TRANSMITTER(S). Two (2) transmitters are installed inside building 1384 as follows:

- a. G-band pulse transmitter
- b. J-band CW transmitter

5. FIXED BEAM OR ROTATING ANTENNA. Fixed beam only for both track and CW.

6. USE AT SWEF. The MK 74 MOD 14 is used at SWEF for the following:

- a. Evaluation and debugging of engineering changes/Ordnance Alterations (ORDALTs)
- b. Direct fleet support by providing a stable platform for reference data/readings
- c. Evaluation of problems with system maintenance documentation/technical manuals

- d. Maintaining an operating system for use as a battle spare
- e. Training of NSWC personnel
- f. Computer program testing

7. SAFETY FEATURES.

a. The MK 74 system incorporates numerous safety features. Included are both personnel and equipment safety devices. Once the director on the roof is energized, an array of safety features are deployed to ensure personnel safety. To prevent any personal injury while performing work around the director, a safety cutout switch (located at the stairway to each director) is used. This switch will de-energize servo power and prevent the transmitter from radiating. The switch is used primarily during maintenance actions where personnel require access to the antenna.

b. The directors also have hardware/software interlocks to restrict radiation via radiation cutout switches. The switches are manually adjusted then secured to prevent radiating into structures or over populated areas. The computer operational program also contains the radiation sectors that are displayed on the operating console. This display is used to verify that the directors stop radiating when the director approaches the cutout zones. Additionally, the MK 74 contains hardware and software that may be used to restrict RF transmission into a dummy load.

c. Personnel safety interlocks are also installed in the transmitter cabinets to prevent the transmitters from radiating when the cabinet doors are opened.

8. AUTHORIZED USERS. Unauthorized personnel are not permitted to operate the system. Under no circumstance will the MK 74 antenna be rotated or transmitters commanded to radiate by personnel not familiar with system operation and the operating procedures of either the equipment or the SWEF site. Unqualified personnel entering each test site will be supervised by the authorized bay manager or military assigned to MK 74. Authorized users must be familiar with the system operation, test site restrictions, SWEF procedures and restrictions, and all system and building safety features incorporated to ensure personnel safety. Cognizant equipment managers and/or authorized personnel are responsible for ascertaining the qualifications of systems operators.

9. SAFETY TESTING. Safety features installed in the MK 74 are tested at regular intervals per technical procedures maintained by equipment users. Included are radiation cut out switches, and transmitter interlocks. RF emission sectors are checked in dummy load prior to radiating out the antenna each time the system is radiated live.

10. LAST RADHAZ SURVEY. Conducted by Naval Command, Control and Ocean Surveillance Center In-Service Engineering Center, East Coast Division (NISE East) in October 1996.

11. OPERATING RESTRICTIONS. Based on the most recent RADHAZ survey, MK 74 operating restrictions are as follows:

**NOTE: BELOW 5 DEGREES IN ELEVATION, THE MK 74 CWI AND TRACK TRANSMITTERS CANNOT OPERATE SIMULTANEOUSLY (ONE OR THE OTHER CAN OPERATE BUT NOT BOTH BELOW 5 DEGREES ELEVATION)**

a. RADIATE SECTORS

- (1) Elevation: 0.0 to +83 degrees
- (2) Bearing: 138 TO 263 degrees (TRUE)

b. TRANSMITTER POWER LEVEL(S)

- (1) G-band Track:
  - (a) 1,600 watts max
- (2) J-band CWI:
  - (a) 1,500 watts max

12. SWEF RADIATION SAFETY REQUIREMENTS. System operators are required to obtain authorization to radiate out the antennas into space. Operators must obtain authorization from the central SWEF building manager (building 1384), who checks a roof activity log to ensure no personnel are on the roof. The central SWEF complex building manager is also aware of other activities that may prevent users from operating equipment. In addition, the Interference Control Center at Point Mugu must be informed when radiating into space. The area must be surveyed visually prior to radiate. When determined that the area is clear, the equipment operator is required to set a radiation alarm toggle switch which triggers both audible and visible roof top alarms to alert personnel that a radiation hazard may exist on the roof. There is also an indicator panel at all rooftop access points displaying system radiation status. Testing blanking sectors for compliance with this handbook must also be performed prior to radiating out the antenna.

13. GENERAL SWEF OPERATING PROCEDURE. The pre-radiate checklist consists of:

- a. Notifying the SWEF front desk prior to bringing the radar to radiate

- b. Notifying the Interference Control Center
- c. Visual surveillance of area (area clear)
- d. Enabling the topside alarm system
- e. Check blanking sectors in dummy load prior to radiating out the antenna. Ensure blanking sectors conform to restrictions contained in this handbook.
- f. Monitor radiation sector and transmitter output power for compliance with requirements
- g. Maintain log of radiate times

Changes paragraph 11.a.(1)(b) and 11.b.(2)(b) to read: "NO POWER MAY BE EMITTED OUT THE ANTENNA IN J-BAND CWI TRANSMITTER MODE"

## APPENDIX E

### FIRE CONTROL SYSTEM MK 74 MOD 6/8 GENERAL OPERATING GUIDELINES

#### 1. DESCRIPTION.

a. MK 74 MOD 6/8 MFCS radar uses two different transmitters operating at different frequencies. One radar/transmitter is a G-band frequency pulse doppler radar used for tracking targets. The second transmitter supplies J-band frequency continuous wave illumination (CWI) used for missile homing on target. The transmitters can be operated to radiate either through the antenna into the atmosphere or into a load that is located within the equipment. The load confines Radio Frequency (RF) power to the equipment and is used to prevent radiation through the antenna. As an example of how these transmitters are used aboard ship, the G-band tracking radar is radiated into space and is used to acquire and track a target (threat). When an engagement against the threat is imminent, a missile is loaded and assigned to the threat. During missile launch, the J-band CW illumination is activated to guide the missile to the target. Following the missile/target intercept, the CW is turned off.

b. Fire Control System (FCS) MK 74 MOD 6/8 is a fire control radar used for acquisition, tracking, and illumination of air and/or surface targets. The FCS is a dual purpose radar using both G-band and J-band transmitters. The G-band transmitter is used for target tracking functions while an J-band CWI transmitter supports guidance of Standard Missiles. A single antenna is used for both tracking and illumination functions.

2. OPERATION. The MK 74 is operated primarily as a tracking radar during training. Tracking is primarily limited to simulated targets with RF routed into the dummy load. The MK 74 system installed at the Surface Warfare Engineering Facility complex in building 5186 is used primarily for operation and maintenance training. The scheduled training course focuses on troubleshooting techniques, scheduled maintenance, and operation.

3. NUMBER OF RADIATING ELEMENTS. One director (antenna) is installed on the roof of building 5186.

4. TRANSMITTER(S). Two (2) transmitters are installed inside building 5186 as follows:

- a. G-band tracking transmitter
- b. J-band CW transmitter

5. FIXED BEAM OR ROTATING ANTENNA. Fixed beam only for both track and CW.

6. USE AT SWEF. The MK 74 MOD 6/8 is used at SWEF for the following:

- a. Training FMS Naval personnel
- b. Evaluation and debugging of engineering changes/Ordnance Alterations (ORDALTs)
- c. Direct fleet support by providing a stable platform for reference data/readings
- d. Evaluation of problems with system maintenance documentation/technical manuals
- e. Computer program testing

7. SAFETY FEATURES. The MK 74 system incorporates numerous safety features. Included are both personnel and equipment safety devices. Once the director on the roof is energized, an array of safety features are deployed to ensure personnel safety. To prevent any personal injury while performing work around the director, a safety cutout switch (located at the stairway to the director) is used. This switch will de-energize servo power and prevent the transmitter from radiating. The switch is used primarily during maintenance actions where personnel require access to the antenna. Personnel safety interlocks are also installed in the transmitter cabinets to prevent the transmitters from radiating when the cabinet doors are opened.

8. AUTHORIZED USERS. No unauthorized personnel are permitted to operate the system. Under no circumstance will the MK 74 antennas be rotated or transmitters commanded to radiate by personnel not familiar with system operation and the operating procedures of either the equipment or the SWEF site. Unqualified personnel entering each test site will be supervised by the authorized bay manager or personnel assigned to MK 74. Authorized users must be familiar with the system operation, test site restrictions, SWEF procedures and restrictions, and all system and building safety features incorporated to ensure personnel safety. Cognizant equipment managers and/or authorized personnel are responsible for ascertaining the qualifications of systems operators.

9. SAFETY TESTING. Safety features installed in the MK 74 are tested at regular intervals per technical procedures maintained by equipment users. Included are radiation cut out switches, and transmitter interlocks. Radiation cut-out zones have already been established and mechanically set in the radar to allow

Changes paragraph 11.a.(1)(b) and 11.b.(2)(b) to read: "NO POWER MAY BE EMITTED OUT THE ANTENNA IN J-BAND CWI TRANSMITTER MODE"

radiation toward the sea only. This value is verified monthly using technical procedure - Maintenance Requirement Card 5BBC000/006-32 M-6. Thus, testing remains an integral part of training and maintenance. RF emission sectors are checked in dummy load prior to radiating out the antenna each time the system is radiated live.

10. LAST RADHAZ SURVEY. Conducted by Naval Command, Control and Ocean Surveillance Center In-Service Engineering Center, East Coast Division (NISE East) in December 1996.

11. OPERATING RESTRICTIONS. Based on the most recent RADHAZ survey, the MK 74 MOD 6/8 MFCS operating restrictions are as follows:

a. RADIATE SECTORS

(1) Elevation:

(a) 0.0 to +83 Degrees (G-Band Track Power)

(b) NO POWER MAY BE EMITTED OUT THE ANTENNA IN J-BAND  
CWI MODE

(2) Bearing: 133 - 184 Degrees (TRUE)

b. TRANSMITTER POWER LEVEL(S).

(1) G-Band Pulse Transmitter: 550 Watts max

(2) NO POWER MAY BE EMITTED OUT THE ANTENNA IN J-BAND CWI  
MODE

12. SWEF RADIATION SAFETY REQUIREMENTS. System operators are required to obtain authorization to radiate out the antennas into space. Operators must obtain authorization from the central SWEF building manager (building 1384), who checks a roof activity log to ensure no personnel are on the roof. The central SWEF complex building manager is also aware of other activities that may prevent users from operating equipment. In addition, the Interference Control Center at Point Mugu must be informed when radiating into space. The area must be surveyed visually prior to radiate. When determined that the area is clear, the equipment operator is required to set a radiation alarm toggle switch which triggers both audible and visible roof top alarms to alert personnel that a radiation hazard may exist on the roof. Testing blanking sectors for compliance with this handbook must also be performed prior to radiating out the antenna.

13. GENERAL SWEF OPERATING PROCEDURE. The pre-radiate checklist consists of:



- a. Notifying the SWEF front desk prior to bringing the radar to radiate
- b. Notifying the Interference Control Center
- c. Visual surveillance of area (area clear)
- d. Enabling the topside alarm system
- e. Checking blanking sectors in dummy load prior to radiating out the antenna. Ensure blanking sectors conform to restrictions contained in this handbook.
- f. Monitoring radiation sector and transmitter output power for compliance with requirements
- g. Maintaining log of radiate times

Changes paragraph 11.a.(1)(b) and 11.b.(2)(b) to read: "NO POWER MAY BE EMITTED OUT THE ANTENNA  
IN J-BAND CWI TRANSMITTER MODE"

MK 74 MOD 6/8  
CWI

Not to Scale

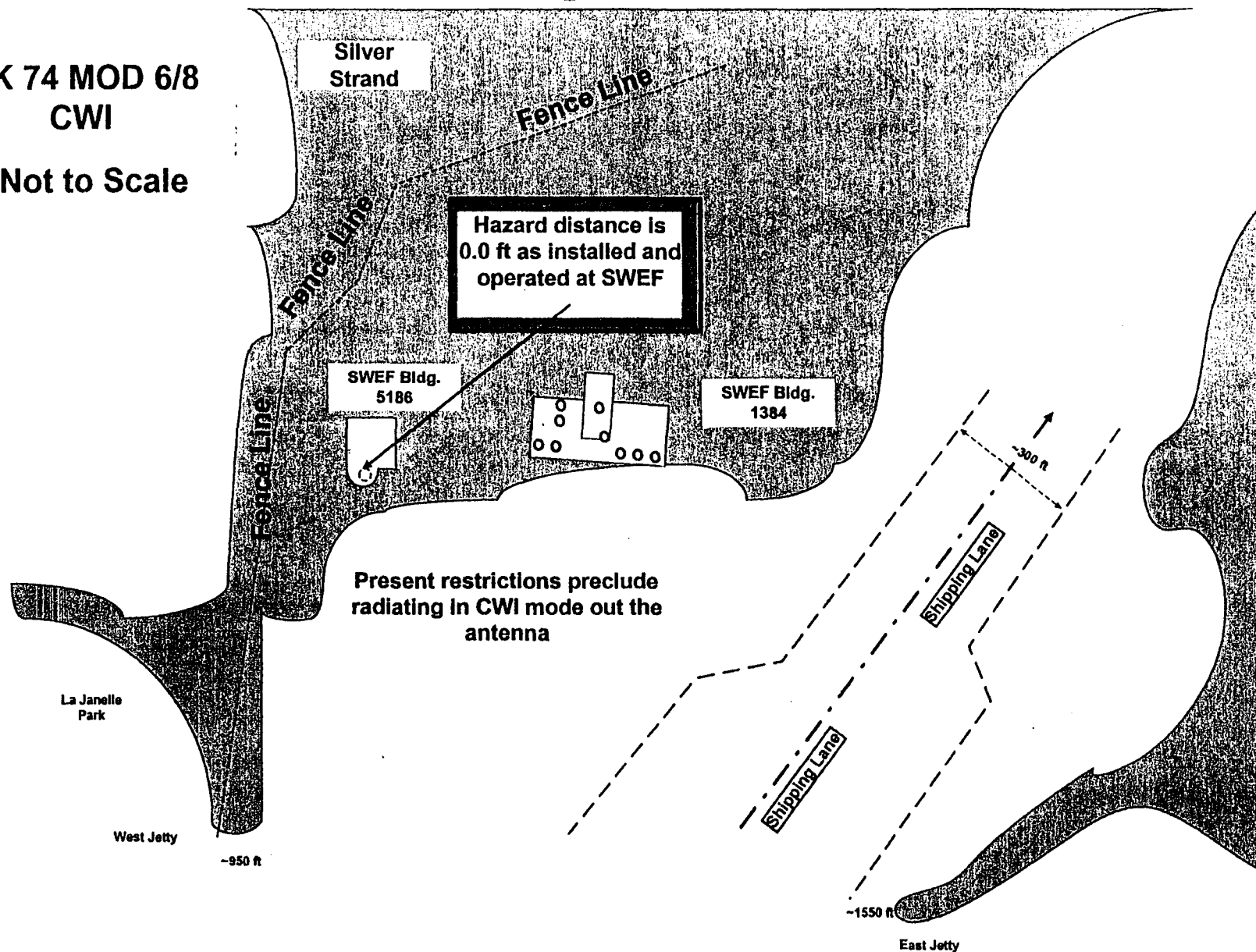


Figure E-2. Operational Safe Separation Distances for SWEF Building 5186  
Shown for TARTAR Fire Control System MK 74 MOD 6/8/A/N/SPG-51C CWI With Emission Sectors  
(Uncontrolled "Public" Environment)

# Technical parameters for SWEF emitters

18 February 2000

SWEF EMITTER NAME	ANTENNA GAIN (dBi)**	SYSTEM LOSS(GAIN) INCLUDES COUPLING FACTOR LOSS (dB)	APPROXIMATE TRANSMITTER PEAK POWER (WATTS)	POWER USED IN CALCULATION (AVERAGE-WATTS)	RANGE OF TRANSMITTER PULSE REPETATION FREQUENCIES (PULSES PER SECOND)	Antenna Sidelobe Levels (dBc - referenced to mainbeam) Angle from Boresight Elevation	Antenna Sidelobe Levels (dBc - referenced to mainbeam) Angle from Boresight Azimuth	Beam Width (Degrees)	Antenna Dimensions (Feet)	COMMENTS
FCS MK 92 CAS-CWI	35.5	8.73	5000	5000	N/A-CW SYSTEM	Less than -13 $0^\circ \leq \theta \leq 6^\circ$	Less than -13 $0^\circ \leq \theta \leq 6^\circ$	2.4	4 ft-diameter	Sidelobe data from sample antenna pattern
FCS MK 92 CAS-Track	35	4	400,000	400	2210-2770	-20 $0^\circ \leq \theta \leq 10^\circ$	-20 $0^\circ \leq \theta \leq 10^\circ$	2.4	4 ft-diameter	
FCS MK 92 CAS Search	35	3	1,000,000	1000	2210-2770	-18 $0^\circ \leq \theta \leq 30^\circ$	-24 $0^\circ \leq \theta \leq 10^\circ$	1.4-horiz 4.7-vert	5 ft-horiz 3 ft-vert	ROTATING SYSTEM DUTY CYCLE = 0.0039
FCS MK 92 STIR-CWI	42	6.52	5,000	5000	N/A-CW SYSTEM	Less than -15 $0^\circ \leq \theta \leq 6^\circ$	Less than -15 $0^\circ \leq \theta \leq 6^\circ$	1.0-horiz/vert	7 ft-diameter	Sidelobe data from sample antenna pattern
FCS MK 92 STIR-Track	41.5	7	1,000,000	1000	1105-1385	-16 $0^\circ \leq \theta \leq 6^\circ$	-20 $0^\circ \leq \theta \leq 6^\circ$	1.2-horiz/vert	7 ft-diameter	
MK 86 SPG-60	41	2.2	5,500	825	25K - 35K	CLASSIFIED	CLASSIFIED	1.2-horiz/vert	7 ft-diameter	
MK 86 SPQ-9A	37.5	0	1,200	57.6	3K	CLASSIFIED	CLASSIFIED	1.5 horiz 0.75-vert	6.8 ft-horiz 2.7 ft-vert	ROTATING SYSTEM DUTY CYCLE = 0.0042
MK 74 MOD 14 (TARTAR SM2/NTU)-CWI	42.5	1.82	1,500	1500	N/A-CW SYSTEM	***Not spec'd for maximum sidelobes	***Not spec'd for maximum sidelobes	1-horiz/vert	9 ft-diameter	
MK 74 MOD 14 (TARTAR SM2/NTU)-Track	39.6	2.27	50,000*	1600	4.1K Surface 9.5 K- 18.1 K Air	CLASSIFIED	CLASSIFIED	1.6-horiz/vert	9 ft-diameter	
MK 23 TAS	21	0	200,000	5600	636.5 - 749.4	Gain vs Elevation 18.4dBi @ -6° 20.0dBi @ 0° 21.0dBi @ 10°	CLASSIFIED	3.3-horiz -6 to +75 -vert	2 ft-vert 14 ft-hriz	ROTATING SYSTEM DUTY CYCLE = 0.0092
MK 57 NSSMS Radar A	36.5	0	1,800	1800	N/A-CW SYSTEM	-23 $6^\circ < \theta < 12.0^\circ$	-23 $6^\circ < \theta < 12.0^\circ$	2-horiz/vert	3 ft-diameter	
MK 57 NSSMS Radar B	36.5	0	1,800	1800	N/A-CW SYSTEM	-23 $6^\circ < \theta < 12.0^\circ$	-23 $6^\circ < \theta < 12.0^\circ$	2-horiz/vert	3 ft-diameter	
TARTAR MK 74 MOD 6/8/A/N/SPG-51C-Track	39.5	(1.87)	25,000	550	4.1K Surface 9.5 K- 16.7 K Air	-20 $0 > 0.8^\circ$	-20 $0 > 0.8^\circ$	1.6-horiz/vert	9 ft-diameter	

EXHIBIT NO. 7

APPLICATION NO.

Navy SWEF

# Technical parameters for SWEF emitters

18 February 2000

TARTAR MK 74 MOD 6/B/A/N/SPG-51C-CWI	45	0.68	4,000	4000	N/A-CW SYSTEM	-20 0<2.5°	-20 0<2.5°	0.8-horiz/vert	9 ft-diameter	
AN/SPQ-9B	43	0	10,000	300	2660 - 35K	-15 0° ≤ 0 ≤ 2.5°	-15 0° ≤ 0 ≤ 2.5°	1.5-horiz 1.0-vert	9 ft-horiz 6.75 ft-vert	ROTATING SYSTEM DUTY CYCLE = 0.0042
FCS MK 99	43	2.48	12,000	12000	N/A-CW SYSTEM	-20 0° < 0 < 6.0°	-20 0° < 0 < 6.0°	1-horiz/vert	7.9-diameter	

\* Peak power is reduced significantly due to an imposed power restriction on this transmitter.

\*\* dBi is antenna gain in decibels referenced to an isotropic radiator

\*\*\* Antenna sidelobes are not specifically addressed in specification. Specification for these systems focuses on nulls ('holes') in the spectrum rather than maximum sidelobe levels.

General Note: Peak power is equivalent to average power for continuous wave (CW) systems.

Effective Radiated Power (ERP) is Equal to transmitter output power minus system losses (or plus system gains) x antenna directive gain

Total radiate time for all radar systems in Fiscal Year 98 is approximately 214 hours

Figure D-16. Operational Safe Separation Distances for SWEF Building 5186  
 Shown for TARTAR Fire Control System MK 74 MOD 6/8/A/N/SPG-51C Track  
 With Emission Sectors (Uncontrolled "Public" Environment )

MK 74 MOD 6/8  
 Track

Not to Scale

Operational Safe Separation Distances  
 Based on Emitter Parameters  
 Documented in 1996 RADHAZ Survey  
 Report and Empirical Data.  
 Calculations Were Made Using MSE  
 East Proprietary Software with a  
 Permissible Exposure Limit Based On  
 Frequency Offset From Actual, Thus  
 Yielding Distances Greater Than Actual.  
 Empirical Mainbeam Power Density  
 Measurements Were Used In  
 Calculations For The High Gain Fire  
 Control Track/CWI Systems Where  
 Available. Refer to 1996 RADHAZ  
 Survey Reports For Measurement Data.

Silver Strand

Fence Line

Fence Line

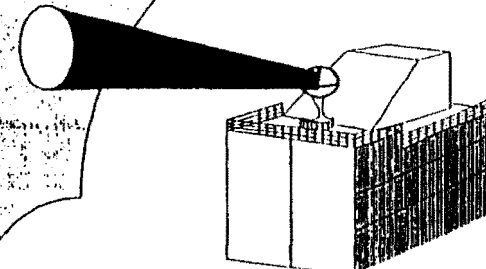
Fence Line

SWEF Bldg. 1384

SWEF Bldg. 5186

As installed and operated at SWEF  
 <486 ft

~750 ft  
 minimum  
 shipping lane  
 from radar



Narrow Pencil Beam  
 Antenna Height Approx. 40 ft Above Water

~300 ft

Shipping Lane

Shipping Lane

-1550 ft

East Jetty

184 Degrees True

MK 74 Emission Sectors

st Jetty

-950 ft

EXHIBIT NO. 8

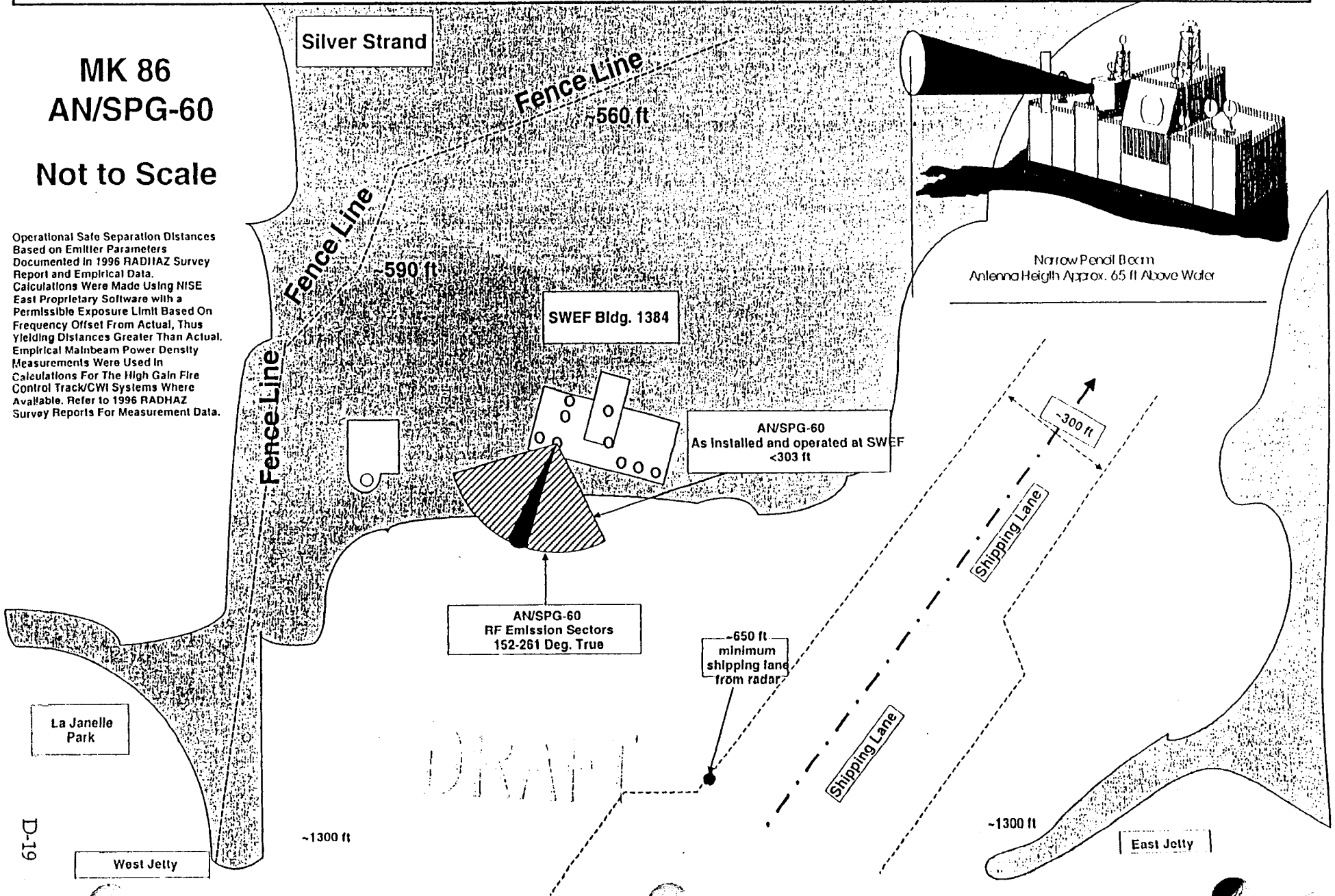
APPLICATION NO.

Navy, SWEF

Figure D-10. Operational Safe Separation Distances for SWEF Building 1384  
 Shown for Fire Control System MK 86 AN/SPG-60 With Emission Sectors  
 (Uncontrolled "Public" Environment)

MK 86  
 AN/SPG-60  
 Not to Scale

Operational Safe Separation Distances  
 Based on Emitter Parameters  
 Documented in 1996 RADHAZ Survey  
 Report and Empirical Data.  
 Calculations Were Made Using NISE  
 East Proprietary Software with a  
 Permissible Exposure Limit Based on  
 Frequency Offset From Actual, Thus  
 Yielding Distances Greater Than Actual.  
 Empirical Mainbeam Power Density  
 Measurements Were Used in  
 Calculations For The High Gain Fire  
 Control Track/CWI Systems Where  
 Available. Refer to 1996 RADHAZ  
 Survey Reports For Measurement Data.



**Figure D-12. Operational Safe Separation Distances for SWEF Building 1384  
Shown for Fire Control System MK 86 AN/SPQ-9A  
With Emission Sectors (Uncontrolled "Public" Environment)**

**MK 86  
AN/SPQ-9A  
Not to Scale**

Operational Safe Separation Distances Based on Emitter Parameters Documented in 1996 RADHAZ Survey Report and Empirical Data. Calculations Were Made Using NISE East Proprietary Software with a Permissible Exposure Limit Based On Frequency Offset From Actual, Thus Yielding Distances Greater Than Actual Empirical Mainbeam Power Density Measurements Were Used in Calculations For The High Gain Fire Control Track/CWI Systems Where Available. Refer to 1996 RADHAZ Survey Reports For Measurement Data.

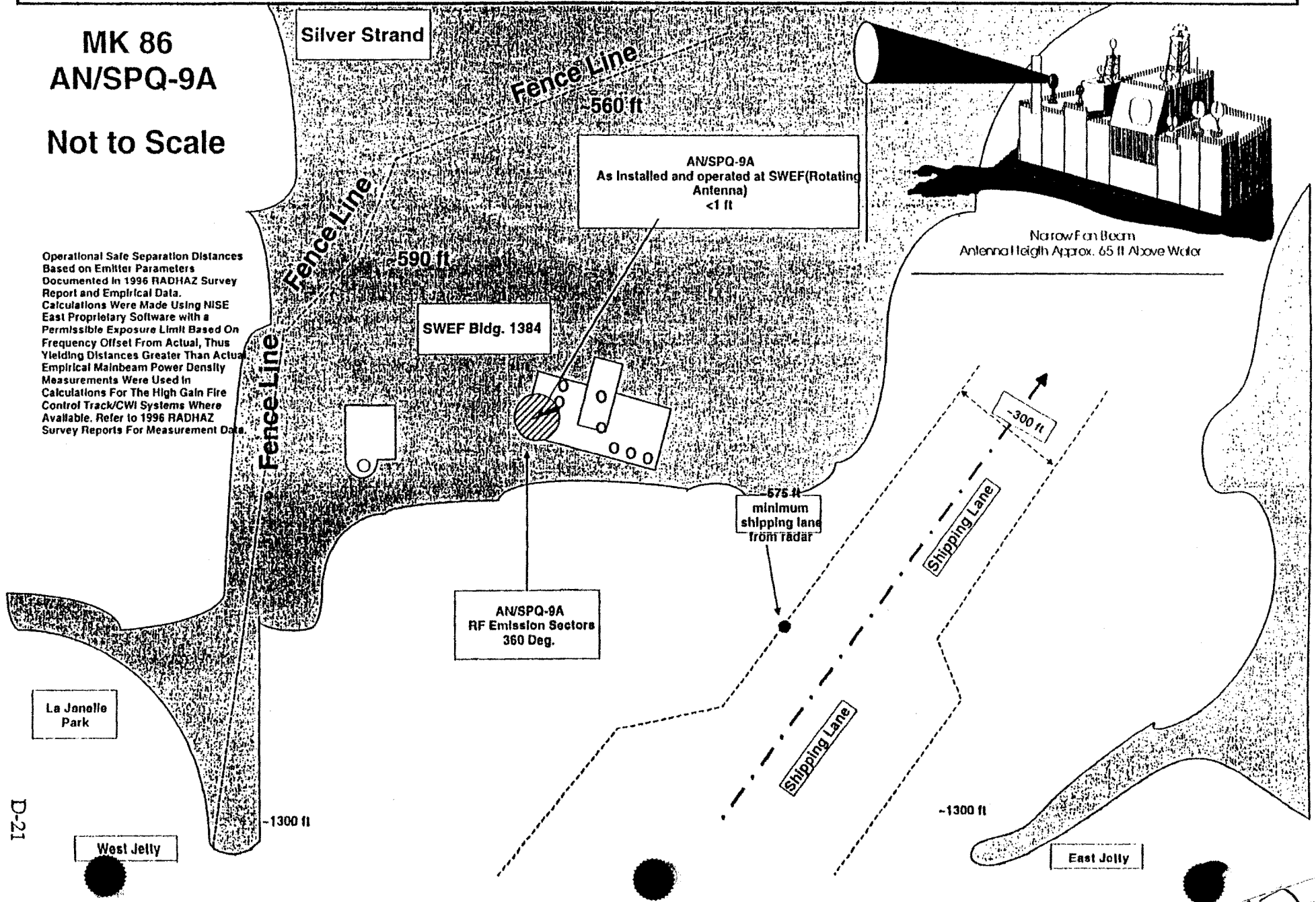


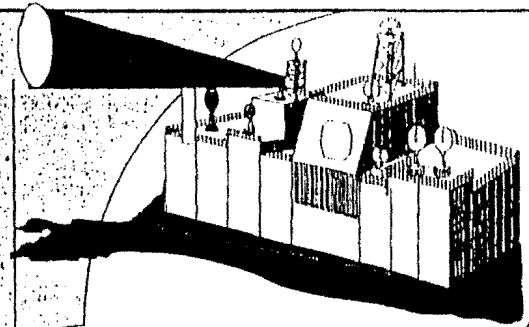
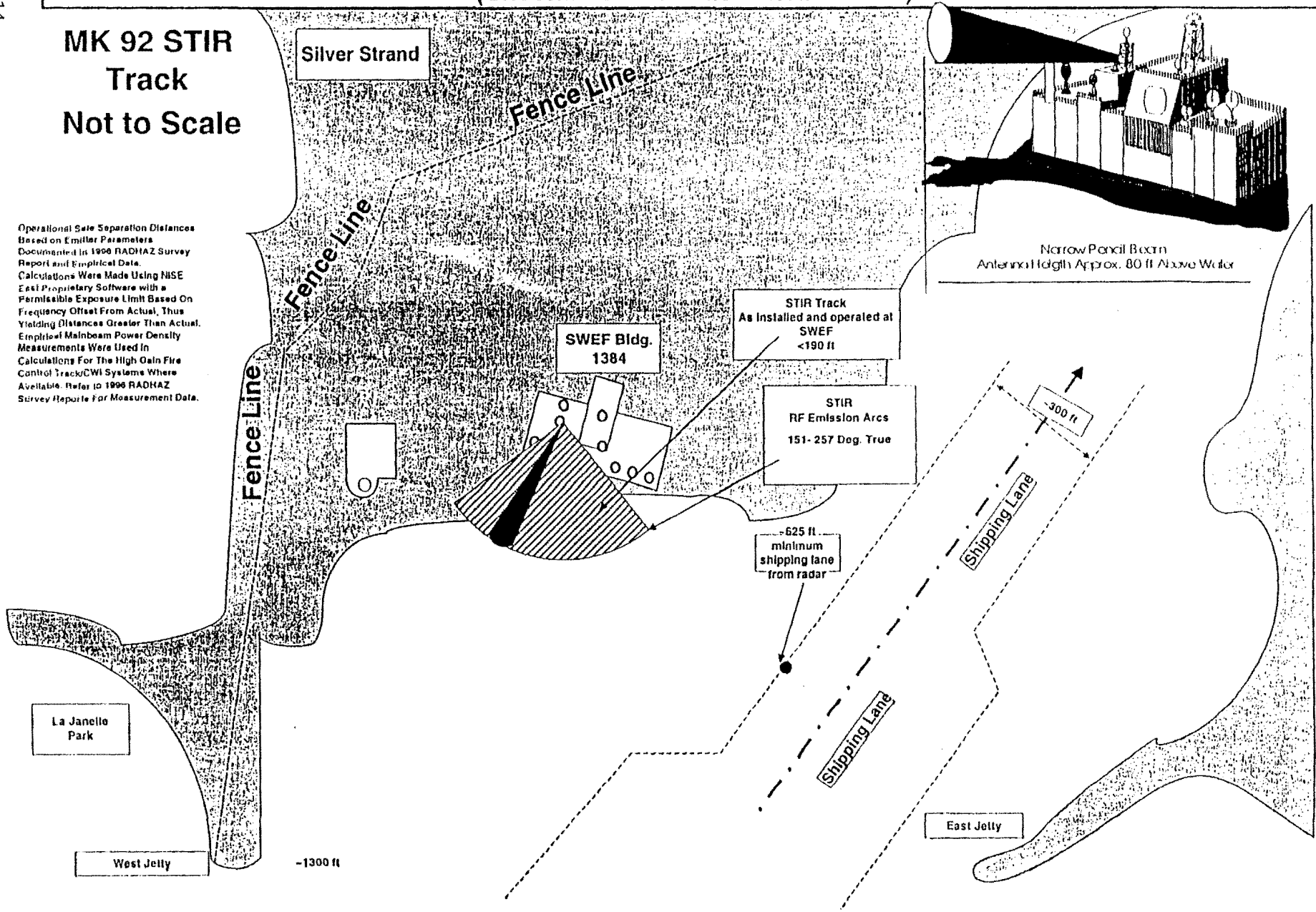


Figure D-5. Operational Safe Separation Distances for SWEF Building 1384  
 Shown for Fire Control System MK 92 STIR Track With Emission Sectors  
 (Uncontrolled "Public" Environment)

D-14

MK 92 STIR  
 Track  
 Not to Scale

Operational Safe Separation Distances  
 Based on Emitter Parameters  
 Documented in 1996 RADHAZ Survey  
 Report and Empirical Data.  
 Calculations Were Made Using NISE  
 East Proprietary Software with a  
 Permissible Exposure Limit Based On  
 Frequency Offset From Actual. Thus  
 Yielding Distances Greater Than Actual.  
 Empirical Mainbeam Power Density  
 Measurements Were Used In  
 Calculations For The High Gain Fire  
 Control Track/CWI Systems Where  
 Available. Refer to 1996 RADHAZ  
 Survey Reports for Measurement Data.



La Janello  
 Park

West Jetty

~1300 ft

SWEF Bldg.  
 1384

STIR Track  
 As installed and operated at  
 SWEF  
 <190 ft

STIR  
 RF Emission Arcs  
 151-257 Deg. True

~625 ft  
 minimum  
 shipping lane  
 from radar

Shipping Lane

~300 ft

Shipping Lane

East Jetty



DEPARTMENT OF THE NAVY  
PORT HUENEME DIVISION  
NAVAL SURFACE WARFARE CENTER  
4363 MISSILE WAY  
PORT HUENEME, CALIFORNIA 93043-4307

IN REPLY REFER TO:

5090.1B  
Ser 4C42-GV/072  
09 FEB 01

RECEIVED  
FEB 15 2001

CALIFORNIA  
COASTAL COMMISSION

Mr. Mark Delaplaine  
Federal Consistency Coordinator  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105-2219

Dear Mr. Delaplaine:

In our correspondence to you on 6 April 2000, the Navy agreed to provide you with a year-end report covering specific operations at the Surface Warfare Engineering Facility (SWEF). In addition, the Navy reported that video cameras would be installed at the SWEF complex for monitoring shipping in front of the SWEF complex, as well as for monitoring bird activity near the radar systems. All video cameras are installed and fully operational at the SWEF complex. Cameras are staged to monitor all radar systems and shipping traffic in front of the SWEF complex.

Requirements for the year-end report include: The number of hours the radars radiated out the antennas, the number of times radiation was halted due to ships or roosting birds, the number of aircraft events flown off the Sea Range, and verification that all safety guidelines and operational constraints continue to be followed.

In our letter to the Commission dated 02 February 2001, we included the number of hours the radars radiated out the antennas, the number of times radiation was halted due to ships or roosting birds and copies of equipment logbooks depicting system radiation activity. The remainder our year-end report to the Commission is included below.

Number of aircraft events flown off the Sea Range:

The Navy has conducted no scheduled aircraft events off the Sea Range during calendar year 2000.

EXHIBIT NO. 9
APPLICATION NO.
Navy SWEF

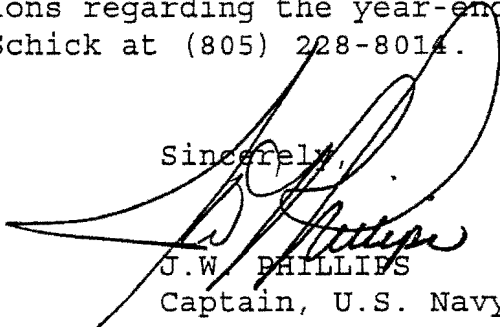
5090.1B  
Ser 4C42-GV/072  
09 FEB 01

Verification that all safety guidelines and operational constraints continue to be followed.

Verification that safety guidelines and operational constraints are followed is an ongoing process with oversight by our Radiation Safety Officer. The enclosed validation summary report is provided for your information, and shows that SWEF operators are in compliance with established Navy policies governing operations at the SWEF complex.

If you have any questions regarding the year-end report, please contact Ms. Jeanne Schick at (805) 228-8014.

Sincerely,



J.W. PHILLIPS  
Captain, U.S. Navy

Enclosure: 1. SAFETY COMPLIANCE VERIFICATION of Surface Warfare Engineering Facility Operations

5 Feb 01

**SAFETY COMPLIANCE VERIFICATION  
OF  
SURFACE WARFARE ENGINEERING FACILITY OPERATIONS**

In a letter to the California Coastal Commission on 6 April, 2000 the Navy agreed to provide verification that radar systems and high power emitters are operating under approved guidelines and under specific operational constraints (Ser 02-CH/12 dtd. 6 April, 2000). In response to this request by the Commission, the Radiation Safety Officer has verified the safety of operations of all high power emitters and radar systems installed at the Surface Warfare Engineering Facility (SWEF).

Radio Frequency emission safety and compliance with guidelines is monitored continuously by the RSO through the review of weekly activity reports and review of all upcoming events requiring the use of RF emitters. Overall operational compliance was verified by the RSO during the recent RF survey completed 2 October, 2000, and through the review equipment logs maintained by operators as well as operating procedures. Results of the RF survey demonstrated safety of operations to the general public as well as SWEF personnel. During the survey it was verified that equipment operators were operating under all constraints and safety guidelines established within the Navy's operating procedures. These operating procedures were reviewed and validated during the last RF survey. The most recent review of equipment logs by the RSO in January, 2001 indicates full compliance with operational guidelines.

In conclusion, operations of emitters at the SWEF complex are in compliance with operational guidelines and operational constraints set forth in the Navy's operational procedures.

*Gary Vasiloff*

\_\_\_\_\_  
Gary Vasiloff  
RF Radiation Safety Officer

*2/3/01*

\_\_\_\_\_  
Date

Enclosure (1)

## CALIFORNIA COASTAL COMMISSION

45 FREMONT STREET, SUITE 2000  
SAN FRANCISCO, CA 94105-2219  
TELEPHONE AND TDD (415) 904-5200



## RECORD PACKET COPY

## Th 8a

July 25, 2001

**TO:** Commissioners and Interested Persons

**FROM:** Peter Douglas, Executive Director  
Mark Delaplaine, Federal Consistency Supervisor

**SUBJECT:** Navy compliance with commitments made during Commission review of radar facilities at the Surface Warfare Engineering Facility (SWEF), Naval Base Ventura County

---

**I. BACKGROUND:**

This memo adds to the previously-mailed, July 19, 2001, memo to Commissioners and interested parties concerning Navy compliance with radar commitments at the Surface Warfare Engineering Facility (SWEF) in Port Hueneme. As noted in the previous memo, the Navy had provided an initial discussion of the issues but was expected to provide further amplification after the July 20, 2000, mailing for the August Commission meeting. On July 24, 2001, the Commission staff received this additional information, which is attached. In it the Navy acknowledges that its log/record collection system could be improved and better communicated, and that "reporting changes to the technical parameters of the SWEF radars need to be provided in a single report that explains the changes relative to the technical parameters reviewed by the Technical Panel." The Navy also proposes a more concise log entry system, and responses to allegations that certain radar systems were operated at greater power levels than originally agreed to.

**II. PROCEDURES:**

15 CFR § 930.45 provides:

*§930.45 Availability of mediation for previously reviewed activities.*

*(a) Federal and State agencies shall cooperate in their efforts to monitor federally approved activities in order to make certain that such activities continue to be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of the management program.*

*(b) The State agency may request that the Federal agency take appropriate remedial action following a serious disagreement resulting from a Federal agency activity, including those activities where the State agency's concurrence was presumed, which was: (1) Previously determined to be consistent to the maximum extent practicable with the management program, but which the State agency later maintains is being conducted or is having an effect on any coastal use or resource substantially different than originally described and, as a result, is no longer consistent to the maximum extent practicable with the enforceable policies of the management program; or (2) Previously determined not to be a Federal agency activity affecting any coastal use or resource, but which the State agency later maintains is being conducted or is having an effect on any coastal use or resource substantially different than originally described and, as a result, the activity affects any coastal use or resource and is not consistent to the maximum extent practicable with the enforceable policies of the management program. The State agency's request shall include supporting information and a proposal for recommended remedial action.*

*(c) If, after a reasonable time following a request for remedial action, the State agency still maintains that a serious disagreement exists, either party may request the Secretarial mediation or OCRM mediation services provided for in Subpart G of this part.*

As noted in the staff's previous memo, the applicable regulation for this situation is subpart (a), which contemplates state and federal agency cooperation in order to "make certain" that federal activities "continue to be undertaken in a manner consistent...with the enforceable policies of the management program."

Exhibits:

1. Navy memo dated July 24, 2001
2. Revised Radar Log
3. SWEF Technical Parameter Changes to the Baseline, July 2001

*G: Land Use/Federal Consistency/Staff Reports/2001/SWEF compliance.7.25.01.doc*

Navy Response to SWEF Radar Concerns  
July 24, 2001

The questions presented by the Beacon and those expressed by Commission Staff indicate that PHD NSWG could have better explained the relationship between the power levels reviewed by the Technical Panel and the operational limits defined in the Environmental Assessment (EA). It has also become clear that the raw RF logs are confusing and difficult to interpret without supplemental information from the Radiation Safety Officer (RSO). In an effort to better explain the data previously provided and to improve future data submissions, the following information is provided:

In response to the concerns expressed regarding the operational logs, PHD NSWG has developed a standard form (sample attached) that will replace the raw operational logs for all systems. This new form will also facilitate the submission of a clear concise annual report for 2001. PHD NSWG also recognizes that reporting changes to the technical parameters of the SWEF radars need to be provided in a single report that explains the changes relative to the technical parameters reviewed by the Technical Panel. A sample of this new chart containing information that explains changes to the SWEF radars since the technical panel review is also attached. This chart will also become part of the PHD NSWG annual report in 2001.

We believe several of the Beacon's questions need a more detailed response. The following additional information is provided.

BEACON Comment: MK 74 operated outside of transmission sectors (two occurrences) and therefore inconsistent with established Operating Procedures.

Response: As with all radars at SWEF, during normal operation the MK 74 radar is operated within the operational parameters of the Standard Operating Procedures (SOP). The only instance where the MK 74 radar was operated outside of the SOP parameters occurred on October 3, 2000 in order to accomplish the objective of the enhanced RADHAZ survey. The enhanced RADHAZ survey required measurement of the mainbeam power density of all SWEF radars. Because of the elevation, location on the building, and proximity of the water, the RADHAZ test engineers were unable to safely reach the mainbeam on the MK 74 with the test equipment to measure its power density. In order to collect these data safely, the RSO authorized the test engineers to temporarily adjust the transmission sector to establish line-of-site with a tower within SWEF complex where the test equipment was placed. The RSO supervised the test to ensure that no people, ships, or birds were exposed to the RF from this radar. At the completion of this test on October 3rd, the equipment was immediately reconfigured to the parameters in the Standard Operating Procedures (SOP).

EXHIBIT NO.	1
APPLICATION NO.	
Navy SWEF Radar	

The other instance cited was an annotation error in the raw log. The RSO has verified the employee entering the data in the logbook copied values recorded in the log by the last event. This previous event was the Enhanced RADHAZ Survey measurement taken on October 3, 2000. This was simply clerical error and does not represent the transmission sector on that day.

BEACON Comments: (1) The Annual Report handwritten page for the AN/SPG-60 and SPQ-9A shows entries for peak power in excessive of those provided to the Technical Panel. (2) The MK 92 CAS Track power level provided in the December 2000 baseline RADHAZ report is different than that provided in the Technical Parameters Table provided to the Technical Panel for this system.

Response: The SOP for the SWEF radars provides the operational parameters which are consistent with the operational limitations documented in the EA and the Consistency Determination. Through the National Environmental Policy Act (NEPA) process, the Navy evaluated the potential environmental impact from implementing the Virtual Test Capability (VTC) at SWEF. All aspects of the VTC including emitter power levels were evaluated and a Finding of No Significant Impact (FONSI) was issued. Copies of the EA and FONSI are available from NSWC Port Hueneme by calling (805) 228-7984. The enhanced RADHAZ Survey further verified SWEF emitter power levels were compliant with DoD guidelines for safe operations.

During the informal mediation process, the Navy provided the Technical Panel the technical parameters for all of the SWEF radars as they were measured at the time the table was developed (February 2000). The technical parameters of some of the radars have since changed, but all are still well within the authorized limits. The radars continue to be operated with the same constraints in emission sectors, bearings, and elevations as reviewed by the Technical Panel. The radars with safe separation distances that extend beyond the fence line continue to be restricted to only radiate seaward or at high elevations not below the horizon. Radars with safe separation distances that extend into the shipping channel continue to be restricted to radiate at elevations 5 degrees above the horizon and are required to operate with elevations above 30 degrees while tall ships are present in the Tall Ship Exclusion Zone.

The enhanced RADHAZ survey report of December 2000 confirmed that the AN/SPQ-9A radars' safe separation distance is still within the Navy fence line and the safe separation distance for the AN/SPG-60 does not extend into the harbor shipping channel. The power levels for radars in RADHAZ tests may be lower than that previously reported in either earlier RADHAZ tests or the data provided to the Technical Panel. This is the result of equipment failures resulting in low power output during the test. In the case of the MK 92, an equipment failure at the time of the enhanced RADHAZ survey prevented the MK 92 from operating at its full-authorized power. Rather



than delaying the tests and potentially missing the agreed upon timeline, the test was completed with the lower power levels for the MK 92. However, during the 1998 RADHAZ survey the MK 92 radar was tested at full power and authorized to operate at this power level. No changes have been made to the MK 92 that would have resulted in an increased in power level and therefore the earlier RADHAZ survey power level is still authorized.

It should also be noted that all of the changes to the SWEF radars' power levels in the uncontrolled areas are still below the FCC standards and within the limitations described in the EA.

PHD NSWC welcomes the opportunity to provide any additional information that would help the California Coastal Commission (CCC) verify that the Navy has fulfilled its commitments to the CCC and plans to continue to work with CCC staff to make certain that operations continue to be consistent with the enforceable policies of the Coastal Zone Management Program.

Date/Time and System Parameters			Pre-Radiate Check List						Comments
Date	System	Transmit time	Power check	Front Desk Notified (check roof activity log)	Point Mugu Notified (Freq. Mgr)	Area Checked -Personnel -Ships -Birds (Man Aloft Check)	Alarm Set	Emission Sectors Check	Interruptions while transmitting (e.g., shipping traffic, roosting birds)

Figure N-1.  
Equipment Log Entries When Radiating Out Antennas  
At Surface Warfare Engineering Facility

EXHIBIT NO. 2
APPLICATION NO.
Navy Radar, SWEF

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
(July 2001)**

SWEF EMITTER NAME	PREVIOUS BASELINE PARAMETER	CURRENT PARAMETER	COMMENTS
FCS MK 92 CAS-CWI	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  8.7	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  5.4	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique.
	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <173	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <256	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone and the new Safe Separation distance does not extend into the shipping lane. Within guidelines established for the RF exclusion zone, the radar will not operate below +30 in elevation when tall ships are present. This ensures no mainbeam energy will be impact a tall ship within the harbor shipping lane.
FCS MK 92 CAS-Track	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  4	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  3.2	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique.
	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <87	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <96	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar's mainbeam Safe Separation Distance does not extend beyond Navy property.

EXHIBIT NO. 3
APPLICATION NO.
Navy Radar SWEF

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
(July 2001)**

<b>SWEF EMITTER NAME</b>	<b>PREVIOUS BASELINE PARAMETER</b>	<b>CURRENT PARAMETER</b>	<b>COMMENTS</b>
FCS MK92 STIR-Track	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  7	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  4.1	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique.
	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <190	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <283	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone and the new Safe Separation distance does not extend into the shipping lane. Within guidelines established for the RF exclusion zone, the radar will not operate below +30 in elevation when tall ships are present. This ensures no mainbeam energy will be impact a tall ship within the harbor shipping lane.
MK-86 SPG-60	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  2.2	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  3.4	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique.
	TRANSMITTER PEAK POWER (WATTS) approx.  5,500	TRANSMITTER PEAK POWER (WATTS) approx.  10,000	Power increase resulted from engineering efforts to replace transmitter components with more reliable components.
	POWER USED IN CALCULATION (AVERAGE WATTS)  825	POWER USED IN CALCULATION (AVERAGE WATTS)  1500	Power increase resulted from engineering efforts to replace transmitter components with more reliable components.

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
(July 2001)**

SWEF EMITTER NAME	PREVIOUS BASELINE PARAMETER	CURRENT PARAMETER	COMMENTS
MK-86 SPG-60	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <303	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <361	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar's mainbeam does not extend into the shipping lane. In addition, this system is subject to the RF exclusion zone (i.e., radar will not transmit RF at lower elevations when tall ships are present).
AN/SPQ-9A	TRANSMITTER PEAK POWER (WATTS) approx.  1,200	TRANSMITTER PEAK POWER (WATTS) approx.  2,500	System power was increased following transmitter adjustment. There is no change to the Safe Separation Distance as a result of a power increase for this system (remains less than 1 foot from the antenna). This is because this system has a rotating antenna, and transmitted power is averaged over the time it takes the antenna to rotate through 360 degrees. Thus, the power out the antenna at any point is reduced by the rotational duty cycle of the antenna (i.e., amount of actual on time Vs. off time). Since the rotational duty cycle is small, a small power increase will have no impact Safe separation Distance.

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
(July 2001)**

<b>SWEF EMITTER NAME</b>	<b>PREVIOUS BASELINE PARAMETER</b>	<b>CURRENT PARAMETER</b>	<b>COMMENTS</b>
AN/SPQ-9A	POWER USED IN CALCULATION (AVERAGE WATTS)  57.6	POWER USED IN CALCULATION (AVERAGE WATTS)  120	<p>System power was increased following transmitter adjustment. There is no change to the Safe Separation Distance as a result of a power increase for this system (remains less than 1 foot from the antenna). This is because this system has a rotating antenna, and transmitted power is averaged over the time it takes the antenna to rotate through 360 degrees. Thus, the power out the antenna at any point is reduced by the rotational duty cycle of the antenna (i.e., amount of actual on time Vs. off time). Since the rotational duty cycle is small, a small power increase will have no impact Safe separation Distance.</p>

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
(July 2001)**

SWEF EMITTER NAME	PREVIOUS BASELINE PARAMETER	CURRENT PARAMETER	COMMENTS
MK 74 MOD 14 (TARTAR SM-2/NTU) - Track	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  2.27	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  0.06	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique.
	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <465	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <543	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone and the new Safe Separation distance does not extend into the shipping lane. Within guidelines established for the RF exclusion zone, the radar will not operate below +30 in elevation when tall ships are present. This ensures no mainbeam energy will be impact a tall ship within the harbor shipping lane.

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
(July 2001)**

<b>SWEF EMITTER NAME</b>	<b>PREVIOUS BASELINE PARAMETER</b>	<b>CURRENT PARAMETER</b>	<b>COMMENTS</b>
MK 74 MOD 14 (TARTAR SM-2/NTU) - CWI	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  1.82	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  0.6	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique.
	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <457	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <530	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone and the new Safe Separation distance does not extend into the shipping lane. Within guidelines established for the RF exclusion zone, the radar will not operate below +30 in elevation when tall ships are present. This ensures no mainbeam energy will be impact a tall ship within the harbor shipping lane.



**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
(July 2001)**

<b>SWEF EMITTER NAME</b>	<b>PREVIOUS BASELINE PARAMETER</b>	<b>CURRENT PARAMETER</b>	<b>COMMENTS</b>
MK-23 TAS	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <2.5	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <1	Uncontrolled Safe Separation Distance changed based on measurements collected at the antenna (lower power than predicted previously). Lower power equates to a shorter Safe Separation Distance.
MK 57 NSSMS Radar A	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  0.0	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  2.7	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique. System loss for this system was not previously measured.
	TRANSMITTER PEAK POWER (WATTS) approx.  1,800	TRANSMITTER PEAK POWER (WATTS) approx.  2,000	Power increased following transmitter adjustment.
	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <321	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <247	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone and the new Safe Separation distance does not extend into the shipping lane. Within guidelines established for the RF exclusion zone, the radar will not operate below +30 in elevation when tall ships are present. This ensures no mainbeam energy will be impact a tall ship within the harbor shipping lane.

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
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<b>SWEF EMITTER NAME</b>	<b>PREVIOUS BASELINE PARAMETER</b>	<b>CURRENT PARAMETER</b>	<b>COMMENTS</b>
MK 57 NSSMS Radar B	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  0.0	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  4.6	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique. A system loss for this system was not previously measured.
	POWER USED IN CALCULATION (AVERAGE WATTS)  1,800	POWER USED IN CALCULATION (AVERAGE WATTS)  2,000	Power will increase or decrease by adjusting certain parts of the transmitter. This slight increase in power was achieved by adjusting the transmitter power before the last RADHAZ test. Since the transmitter can achieve this power, the baseline has changes to reflect a new power level. Note that with this increase in power, the system's Safe Separation Distance still went down (i.e., got shorter). The shorter Safe Separation Distance is due to the new system loss measurement (more loss means a shorter Safe Separation Distance). Therefore, this change has no adverse affect on RF hazards.

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
(July 2001)**

<b>SWEF EMITTER NAME</b>	<b>PREVIOUS BASELINE PARAMETER</b>	<b>CURRENT PARAMETER</b>	<b>COMMENTS</b>
MK 57 NSSMS Radar B	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <321	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <199	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone and the new Safe Separation distance does not extend into the shipping lane. Within guidelines established for the RF exclusion zone, the radar will not operate below +30 in elevation when tall ships are present. This ensures no mainbeam energy will be impact a tall ship within the harbor shipping lane.

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
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<b>SWEF EMITTER NAME</b>	<b>PREVIOUS BASELINE PARAMETER</b>	<b>CURRENT PARAMETER</b>	<b>COMMENTS</b>
	<p style="text-align: center;">RF CUTOUT BEARING (degrees true)</p> <p style="text-align: center;">117 to 260</p>	<p style="text-align: center;">RF CUTOUT BEARING (degrees true)</p> <p style="text-align: center;">91 to 262</p>	<p>RF Cutout Bearing modified to support operational requirements (extended tracking of aircraft beyond previous cutout). The system was assessed at these new cutouts during the 2000 RADHAZ survey. Results from the survey indicate that there is no safety issue as a result of the change. The system remains safe because it is located approximately 95 feet above the water and the lowest point of elevation depression is 0 degrees (which places the mainbeam above shipping). Therefore, the mainbeam does not point where people could be located. In the area of 91 degrees, the Safe Separation Distance does not extend beyond Navy property (remains overland and doesn't extend into the shipping lane).</p>
<p>TARTAR MK 74 MOD 6/8 (AN/SPG-51C) - Track</p>	<p style="text-align: center;">SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)</p> <p style="text-align: center;">(1.87)</p>	<p style="text-align: center;">SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)</p> <p style="text-align: center;">(0.95)</p>	<p>System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique.</p>

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
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SWEF EMITTER NAME	PREVIOUS BASELINE PARAMETER	CURRENT PARAMETER	COMMENTS
	TRANSMITTER PEAK POWER (WATTS) approx.  25,000	TRANSMITTER PEAK POWER (WATTS) approx.  32,000	Power increase resulting from transmitter component replacement following casualty.
	POWER USED IN CALCULATION (AVERAGE WATTS)  550	POWER USED IN CALCULATION (AVERAGE WATTS)  700	Power increase resulting from transmitter component replacement following transmitter casualty.
	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <486	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <493	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone and the new Safe Separation distance does not extend into the shipping lane. Within guidelines established for the RF exclusion zone, the radar will not operate below +30 in elevation when tall ships are present. This ensures no mainbeam energy will be impact a tall ship within the harbor shipping lane.
TARTAR MK 74 MOD 6/8 (AN/SPG-51C) - CWI	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  0.68	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  2.3	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique.

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
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SWEF EMITTER NAME	PREVIOUS BASELINE PARAMETER	CURRENT PARAMETER	COMMENTS
	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  Not Radiated	UNCONTROLLED SAFE SEPARATION DISTANCE (FT)  <966	Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously). There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone and the new Safe Separation distance does not extend into the shipping lane. Within guidelines established for the RF exclusion zone, the radar will not operate below +30 in elevation when tall ships are present. This ensures no mainbeam energy will be impact a tall ship within the harbor shipping lane.
	ANTENNA ELEVATION (Degrees)  0	ANTENNA ELEVATION (Degrees)  +5	Antenna elevation modified to ensure safety to shipping because of the extended safe separation distance. This system did not radiate out the antenna previously. In addition, the RF exclusion zone remains in effect for this system.
AN/SPQ-9B	ANTENNA ELEVATION (Degrees)  0	ANTENNA ELEVATION (Degrees)  -0.7	Antenna Elevation modified to support system design requirements (i.e., elevation is set at -0.7 degrees onboard ship). This change has no impact on RF safety because the Safe Separation Distance for this system is less than one foot from the antenna.
FCS MK-99	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  2.48	SYSTEMS LOSS (GAIN) COUPLING FACTOR LOSS (dB)  (0.3)	System losses/gains were remeasured during the 2000 RADHAZ survey. Change in loss is due to a more accurate measurement technique.

**SWEF TECHNICAL PARAMETER CHANGES TO THE  
BASELINE  
(July 2001)**

SWEF EMITTER NAME	PREVIOUS BASELINE PARAMETER	CURRENT PARAMETER	COMMENTS
	<p style="text-align: center;">UNCONTROLLED SAFE SEPARATION DISTANCE (FT)</p> <p style="text-align: center;">&lt;1320</p>	<p style="text-align: center;">UNCONTROLLED SAFE SEPARATION DISTANCE (FT)</p> <p style="text-align: center;">&lt;1815</p>	<p>Uncontrolled Safe Separation Distance changed based on new system loss measurement (i.e., lower loss than previously) and calculation at baseline power level of 12,000 watts average/peak. There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone, and the new mainbeam Safe Separation Distance does not extend into the shipping lane where tall ships would be affected. This system has a requirement to transmit no lower than +5 degrees. When this occurs, all mainbeam energy is transmitted well above any tall ship that may be present. There is no safety issue with the extended Safe Separation Distance because the radar is subject to the RF exclusion zone and the new Safe Separation distance does extend into the shipping lane. Within guidelines established for the RF exclusion zone, the radar will not operate below +30 in elevation when tall ships are present. This further ensures no mainbeam energy will be impact a tall ship within the harbor shipping lane.</p>

