



Agency for Toxic Substances  
and Disease Registry  
Atlanta GA 30333

**JUN 19 2009**

Deputy Chief of Staff for Current and Future Operations (M3/5)  
Attn: CDR David McMillan  
Navy Bureau of Medicine and Surgery  
2300 E Street NW  
Washington, District of Columbia 20372-5300

Dear CDR McMillan:

Thank you for your May 18, 2009, e-mail to the Agency for Toxic Substances and Disease Registry (ATSDR) requesting a copy of the opinions provided by ATSDR to a private citizen who petitioned ATSDR to conduct public health assessment activities due to her concerns about the chemicals released from the Shinkampo/Jinkanpo Incinerator Complex and the potential exposure of the residents at the Naval Air Facility Atsugi, Japan. The following information is a copy of that provided to the petitioner and represents a review of the documents she provided and responses to questions she asked.

ATSDR reviewed documents available from several sources including those provided by the petitioner, publically available from the Navy and Marine Corps Public Health Center (<http://www-nehc.med.navy.mil/main.htm>) and the National Academies Press (<http://www.nap.edu/>), and ATSDR's *Health Consultation for Atsugi Japan Naval Air Facility, Atsugi, Japan*, released on April 21, 1998. The reviewed documents included human health risk assessments conducted by the Navy and reviews of those assessments performed by ATSDR, the National Research Council, and Battelle, a private contractor commissioned by the Navy to review the most recent assessment. Based on the level of detail presented in the Navy's assessments and the reviews of those documents, especially those performed by the National Research Council, we concluded that additional public health assessment activities by ATSDR are not necessary as they would not provide an evaluation that is any more definitive than those that have already been conducted. This letter provides a brief summary of the information we reviewed. The documents considered in our review included:

1. Documents released by the Navy.
  - Human Health Preliminary Risk Evaluation (Oct 1995).
  - Report on Observed Health Effects of Residents on Naval Air Facility Atsugi Related to Jinkanpo Incinerator Emissions (Jul 1997).
  - Technical Memorandum Screening Level Air Human Health Risk Assessment (Nov 1998).
  - Review of NAF Atsugi Health Risk Assessments and Related Environmental Data to Determine if Additional Population-Based Medical Screening is Indicated (Jun 2008) (available at: <http://www-nmcphc.med.navy.mil/atsugi/atsugi.htm> as the Battelle Technical Report with Navy Medicine Comments).
2. Documents released by the National Research Council's (NRC) Committee on Toxicology (COT) following their review of technical documents provided by the Navy.

- Review of a Screening Level Air Human Health Risk Assessment for the Navy Air Facility at Atsugi, Japan (Jun 1998) (available at: [http://books.nap.edu/openbook.php?record\\_id=9501&page=R1](http://books.nap.edu/openbook.php?record_id=9501&page=R1)).
  - Review of the US Navy's Human Health Risk Assessment of the Naval Air Facility at Atsugi, Japan (2001) (available at: [http://books.nap.edu/openbook.php?record\\_id=10053&page=1#p2000480dpppl](http://books.nap.edu/openbook.php?record_id=10053&page=1#p2000480dpppl)).
3. ATSDR's Atsugi Japan Naval Air Facility Health Consultation (Apr 1998) (attached).
  4. The draft Naval Air Facility, Atsugi, Japan Fact Sheet "Pregnancy Loss in Women at NAF Atsugi Japan".

The Navy's *Human Health Preliminary Risk Evaluation* (Oct 1995) noted that there was 'sufficient and compelling evidence showing that VOCs, PCBs, pesticides, PAHs, dioxins and furans, particulates and heavy metals' were released to the air at levels that exceeded EPA health-risk based guidelines at the time the incinerator was in operation (1983-2001). The Navy's evaluation was based on ambient air monitoring conducted at NAF Atsugi over an eight-week period between July and September, 1994. The evaluation concluded that the air monitoring data indicated there was 'a significantly elevated risk to human health' from the incinerator emissions. The study also recommended that action be taken to reduce the emissions, and health education be provided to help child care-givers reduce children's exposure and help health care providers promptly recognize and appropriately treat potential medical conditions resulting from the exposure.

At the request of the Navy Environmental Health Center (NEHC), ATSDR evaluated air monitoring data and human health risk calculations provided by NEHC in 1998. ATSDR concluded that the monitoring and modeling efforts previously conducted by the Navy were appropriate for estimating short-term air concentrations and determining the area of maximum impact for short-term release and long-term releases. However the available information was not suitable to evaluate long-term exposures or carcinogenic risks.

The Navy's *Technical Memorandum Screening Level Air Human Health Risk Assessment* (Nov 1998) noted that the incinerator operators were able to modify their operations while air sampling was performed on base and the wind was transporting incinerator emissions towards the base. However, the measured ambient air quality of the base was still identified as a significant concern with the same level of risk as the previous study.

The study recommendations included:

- Continue updating the Government of Japan of the potential health threat for base personnel and the local community.
- Conduct additional air sampling to reduce uncertainties in the human health risk assessment.

The National Research Council's (NRC) Committee on Toxicology (COT) reviewed that report in their *Review of a Screening Level Air Human Health Risk Assessment for the Navy Air Facility at Atsugi, Japan* (Jun 1998). The NRC COT review was conducted at the request of the Navy. Overall, the COT concurred with the Navy's estimates of carcinogenic risk and recommendations. However, the COT noted that the available data were not able to determine the impact of the incinerator's emissions in comparison with other possible sources

contributing to the background levels of ambient air pollution, and included recommendations for additional air monitoring and future risk analysis.

The COT also reviewed the Navy's NAF Atsugi, Japan Human Health Risk Assessment Summary of Findings, Conclusions and Recommendations, Draft Final, January 2000 in their *Review of the US Navy's Human Health Risk Assessment of the Naval Air Facility at Atsugi, Japan* (2001) report. In this review, COT also considered information from other reports, sampling plans, and sampling results. The COT review stated that the Navy's use of a 'Superfund' risk assessment methodology was adequate to assess safety, but not to determine health effects. Most of the COT comments were related to how to improve the data analysis to better characterize potential health effects.

The most recent report is the *Review of NAF Atsugi Health Risk Assessments and Related Environmental Data to Determine if Additional Population-Based Medical Screening is Indicated* (Jun 2008) conducted by Battelle. The Navy asked Battelle to review all of the health risk assessment data and make a medical determination of whether additional population-based medical screening would be appropriate. Battelle concluded that although the human health risk estimated from the 'Superfund' approach exceeds levels considered 'safe' and indicates preventive actions should be taken to reduce the exposure, the cancer risk is relatively small compared to the background rate for cancer incidence. Currently no epidemiological study protocol is capable of detecting the upper estimate of increased risk. Battelle did make several recommendations, which included:

- Develop an out-reach program for former NAF Atsugi residents.
- Define the exposed NAF Atsugi population as members of a registry.

The Navy responded to those recommendations in a cover document to the report:

- A website (<http://www-nmcpbc.med.navy.mil/atsugi/atsugi.htm>) is currently available that provides all publically available documents and a Frequently Asked Questions section. Within the Frequently Asked Questions section is a link that allows medical care providers the opportunity to contact a physician directly for any additional information on possible environmental or industrial exposure information and recommendations for medical evaluation or testing (see question #32) and a link to the Navy and Marine Corps Public Health Center (NMCPHC) that anyone can use to submit medical questions related to their exposure to the incinerator complex (see question #38).
- The Navy is currently conducting a study to evaluate the former-Atsugi resident population for any increased incidence of disease as compared with a similar population stationed at Yokosuka Naval Base. Our Navy colleagues recommend that people interested in gathering more information on this study, send their questions to the following email address:  
[HRA\\_POC\\_Atсugi@NEHC.mar.med.navy.mil](mailto:HRA_POC_Atсugi@NEHC.mar.med.navy.mil).

During a discussion with a member of my staff, the petitioner indicated her prime concern was an apparent discrepancy in information presented by the Navy describing the miscarriage rate for women living on NAF Atsugi during the years the incinerator was active. An initial study (conducted in 1997), apparently used by the US Department of Justice in their lawsuit against the incinerator complex, claimed the miscarriage rate was 26% higher than for

women living off-base in the same local area. A draft copy of a more recent report (completed in 1999) was provided by the petitioner and apparently was written by the Navy and Marine Corps Public Health Center (formerly NEHC). That document states the miscarriage rate was not higher for women living on-base compared to off-base. Further, a hand-written note on the margin of the 1999 draft report indicates the on-base miscarriage rate should be compared to rates at US-based Navy Hospitals.

Staff from ATSDR's Division of Health Studies (DHS), reviewed both documents and provided the following comments:

- The 1997 report reviewed one year of data while the 1999 draft report reviewed data collected over 3 years – the larger sample size in the 1999 draft report tends toward a more valid result having more statistical power.
- The 1997 report that presented the 26% difference between on- and off-base miscarriage rates was not statistically significant ( $p=0.5$ ). The confidence interval was wide, and the actual difference in the miscarriage rates could be zero.
- The 1999 draft report concluded the Atsugi miscarriage rate (8.8%) was close to that for other Navy bases in Japan (7.1%), and that both rates were below the U.S. national average (10-15%).

The conclusion of the ATSDR scientist who reviewed the documents was that although the miscarriage rates reported in the documents are different, due to the small number of total participants (the number of pregnant women at NAF Atsugi), the statistical analysis of the data indicates the miscarriage rate for women at NAF Atsugi is similar to that for women living off-base and less than the U.S. national average. Although it is regrettable that any family should experience a miscarriage, the data reviewed in both documents do not indicate that the miscarriage rate for NAF Atsugi was higher than would be expected for any other base or hospital in the United States.

I hope that the information presented here is helpful. If you have additional questions, please contact CAPT Susan Neurath, ATSDR Petition Coordinator, at (770) 488-3368 or email [SNeurath@cdc.gov](mailto:SNeurath@cdc.gov).

Sincerely,



William Cibulas Jr., Ph.D.  
CAPT, U.S. Public Health Service  
Director  
Division of Health Assessment and Consultation