

**Congress of the United States**  
**House of Representatives**

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

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**MEMORANDUM**  
**July 19, 2007**

**To: Members of the Committee on Oversight and Government Reform**

**Fr: Committee on Oversight and Government Reform, Majority Staff**

**Re: FEMA Documents**

**I. Executive Summary**

This memorandum provides additional information about the response of the Federal Emergency Management Agency (FEMA) to reports of dangerous levels of formaldehyde in FEMA trailers. The memorandum is based on a review of nearly 5,000 pages of documents received from FEMA. Despite the issuance of a subpoena by the Oversight Committee, FEMA continues to withhold responsive documents from the Committee.

The FEMA documents show that the agency received multiple warnings about dangerous levels of formaldehyde in FEMA trailers, including warnings from the Environmental Protection Agency (EPA) and the Centers for Disease Control and Prevention (CDC), but refused to conduct testing of occupied trailers because testing “would imply FEMA’s ownership of this issue.” The documents depict a battle between FEMA’s field staff, who recognized an “immediate need” for formaldehyde testing, and FEMA officials in headquarters, particularly FEMA attorneys, who consistently rejected the pleas of the field staff and refused to authorize testing of occupied trailers.

In March 2006, news articles reported high levels of formaldehyde in FEMA trailers. FEMA field staff urged immediate action, saying “This needs to be fixed today,” “we need to take a proactive approach,” and there is an “immediate need” for a plan of action. FEMA testing of a trailer occupied by a pregnant mother and her infant in April 2006 — apparently the only occupied FEMA trailer ever tested by FEMA — showed formaldehyde levels that were 75 times higher than the maximum workplace exposure level recommended by the National Institute for Occupational Safety and Health.

Despite the evidence of a formaldehyde problem in FEMA trailers, FEMA officials in headquarters, acting on the advice of FEMA lawyers, refused to test occupied FEMA trailers. One FEMA attorney explained: "Do not initiate any testing until we give the OK. ... Once you get results and should they indicate some problem, the clock is running on our duty to respond to them." Even though FEMA did not perform testing, a public statement from headquarters in May 2006 asserted: "we are confident that there is no ongoing risk."

In July 2006, EPA and CDC officials consulted with FEMA and warned that FEMA trailers were likely to have high levels of formaldehyde. According to a July 11, 2006, e-mail, EPA officials told FEMA: "they have done some preliminary research to establish a health base level for formaldehyde and it appears that it will be much lower than we suspected. ... The levels we find after testing may well be more than 100 times higher than the health base level." Another FEMA e-mail reported that the EPA research "has indicated that the acceptable level of formaldehyde will probably turn out to be much lower than we anticipated, and our units may be far above that level even after we ventilate them."

In consultation with EPA, FEMA staff developed a plan to test trailers to "determine formaldehyde concentrations emanating from the trailer encountered during living conditions." But this testing plan was rejected. Instead, FEMA decided to test unoccupied trailers with their windows open, their ventilation fans running, and their air conditioning units operating. FEMA staff called this test protocol "unrealistic" because "it doesn't seem that the variables are in sync with the typical living conditions for the average applicant." Nonetheless, the test results became the basis for continuing FEMA claims which minimized the risks of formaldehyde exposure.

The FEMA documents show that the agency repeatedly received complaints from occupants about high formaldehyde levels, but brushed them aside. On one occasion, a husband and wife living in a FEMA trailer notified FEMA that they suspected that formaldehyde exposure may have caused the death of their baby girl. When a FEMA official visited the trailer, she reported that the formaldehyde levels made her "nose burn." Even so, there is no record that the trailer was ever tested or that future occupants were warned about the formaldehyde risks. After a death of an occupant in a trailer was blamed on formaldehyde exposure, a teleconference with 28 staff from FEMA and other federal agencies recommended an investigation and testing. FEMA lawyers called the conference call "not acceptable" and there is no record of follow-up action being taken. In another instance, when a trailer occupant complained that formaldehyde was "causing her respiratory problems and making her eyes burn," her request for alternative accommodations was denied.

Currently, there are over 76,000 travel trailers and manufactured homes that are being used as temporary housing by victims of Hurricane Katrina and other Gulf Coast hurricanes. There still has been no comprehensive testing by FEMA to assess the levels of formaldehyde in these trailers or the risk to the occupants.

## II. Background

Following Hurricane Katrina and the other destructive hurricanes of 2005, an unprecedented number of residents of the Gulf Coast region were displaced from their homes. In response, the federal government, through FEMA, provided travel trailers and manufactured homes for Gulf Coast hurricane victims to reside in until they could relocate to permanent residences. Since 2005, over 120,000 households in the Gulf Coast have utilized trailers and manufactured homes as temporary housing.<sup>1</sup> As of May 2007, over 76,000 travel trailers and manufactured homes continued to be used by displaced hurricane victims.<sup>2</sup>

In April 2007, FEMA and HUD announced that temporary housing assistance would be extended to March 2009 for the displaced hurricane victims still residing in travel trailers and manufactured homes.<sup>3</sup> FEMA also announced in April that it would be giving the occupants the opportunity to purchase the trailers or manufactured homes in which they reside.<sup>4</sup>

In March 2006, the first reports of high levels of formaldehyde in FEMA trailers began to appear.<sup>5</sup> Formaldehyde is a chemical widely used in building materials, often as a component of glue, adhesives, paint, or coatings. It has been classified as a “known carcinogen” by the International Agency for Research on Cancer and can cause a number of adverse health effects at elevated levels.<sup>6</sup> These adverse health effects include: watery eyes; burning sensations in the eyes, nose, and throat; nausea; coughing; chest tightness;

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<sup>1</sup> Federal Emergency Management Agency: Frequently Requested National Statistics Hurricane Katrina – One Year Later (online at [www.fema.gov/hazard/hurricane/2005katrina/anniversaryfactsheet.shtml](http://www.fema.gov/hazard/hurricane/2005katrina/anniversaryfactsheet.shtml)) (accessed on July 15, 2007).

<sup>2</sup> Federal Emergency Management Agency, *Katrina and Rita Direct and Financial Assistance Housing Assistance Breakdown as of 05/25/2007* (May 25, 2007).

<sup>3</sup> U.S. Department of Housing and Urban Development, *Housing Assistance Extended for Gulf Coast Hurricane Victims for Another 18 Months* (Apr. 26, 2007).

<sup>4</sup> *Id.*

<sup>5</sup> *Couple Discovers High Levels of Formaldehyde in FEMA Trailer*, WLOX (Mar. 17, 2006).

<sup>6</sup> International Agency for Research on Cancer, *IARC Classifies Formaldehyde as Carcinogenic to Humans* (June 15, 2004).

wheezing; skin rashes; and allergic reactions.<sup>7</sup> Formaldehyde exposure may also trigger attacks in those with asthma.<sup>8</sup> At extremely high levels, exposure to formaldehyde can be immediately dangerous to health and life.<sup>9</sup>

Residential formaldehyde exposures have also been linked to shortness of breath, chest pain, headache, fatigue, unusual thirst, sleeping difficulty, dizziness, diarrhea, rashes, and menstrual irregularities.<sup>10</sup> Children and senior citizens may be more susceptible to the negative health effects associated with formaldehyde exposure.<sup>11</sup>

Formaldehyde is regulated by a number of federal laws. EPA regulates formaldehyde as a hazardous air pollutant under the Clean Air Act and as hazardous waste under the Resources Conservation and Recovery Act.<sup>12</sup> The Occupational Safety and Health Administration limits occupational exposure to formaldehyde.<sup>13</sup> HUD regulates certain home construction materials that contain formaldehyde.<sup>14</sup> Indoor air quality, however, has never been regulated by the federal government. As a result, there is no legally binding standard for formaldehyde in travel trailers, mobile homes, or other residential properties.

The National Institute for Occupational Safety and Health (NIOSH), a part of the Centers for Disease Control and Prevention, has set guidelines for what it considers to be acceptable levels of exposure to formaldehyde. NIOSH guidelines state that the acceptable exposure level to formaldehyde in a workplace over an 8-hour period is 0.016 parts per million (ppm). If an employee is subject to levels of formaldehyde greater than 0.016 ppm, NIOSH recommends that the employee use a respirator.<sup>15</sup> NIOSH also has a guideline for the maximum exposure level for a short-term, 15-minute exposure. This

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<sup>7</sup> Consumer Product Safety Commission, *An Update on Formaldehyde* (1997 Revision) (online at [www.cpsc.gov/cpscpub/pubs/725.html](http://www.cpsc.gov/cpscpub/pubs/725.html)).

<sup>8</sup> Environmental Protection Agency: An Introduction to Indoor Air Quality (online at [www.epa.gov/iaq/formalde.html](http://www.epa.gov/iaq/formalde.html)) (accessed on July 15, 2007).

<sup>9</sup> Occupational Safety and Health Administration, *Formaldehyde OSHA Fact Sheet* (2002) (online at [www.osha.gov/OshDoc/data\\_General\\_Facts/formaldehyde-factsheet.pdf](http://www.osha.gov/OshDoc/data_General_Facts/formaldehyde-factsheet.pdf)).

<sup>10</sup> Thad Godish, *Indoor Air Quality*, 369 (2004).

<sup>11</sup> California Environmental Protection Agency, *Indoor Air Quality Guideline: Formaldehyde in the Home, No. 1* (August 2004).

<sup>12</sup> National Toxicology Program, *11<sup>th</sup> Report on Carcinogens*, CAS No. 50-00-0 (Jan. 31, 2005).

<sup>13</sup> 29 CFR § 1910.1048.

<sup>14</sup> 24 CFR § 3280.308.

<sup>15</sup> National Institute for Occupational Health and Safety, *NIOSH Pocket Guide to Chemical Hazards* (NIOSH Publication No. 2005-149) (September 2005).

level is 0.1 ppm.<sup>16</sup> Consistent with the NIOSH guidance, EPA has identified 0.1 ppm as a level at which acute health effects can occur.<sup>17</sup> Some studies, however, have reported that acute adverse health effects may occur at formaldehyde exposure levels as low as 0.04 ppm.<sup>18</sup>

Under OSHA standards adopted under President Bush's father, if workers are exposed to formaldehyde levels above 0.5 ppm, exposure monitoring and medical surveillance is required.<sup>19</sup> The same standards also provide that worker exposure be limited to 0.75 ppm over an eight-hour period.<sup>20</sup> A higher federal formaldehyde standard is EPA's Acute Exposure Guideline Level (AEGL), which is designed to guide emergency responders in understanding the risks from a one-time exposure, such as what might occur after a chemical spill. The AEGL for formaldehyde states that a one-time exposure to formaldehyde at levels of 0.9 ppm should not lead to irreversible harm.<sup>21</sup>

In April 2006, the Sierra Club conducted tests to determine the formaldehyde levels in travel trailers provided by FEMA in the Gulf Coast. Levels above 0.1 ppm were found in 83% of 52 tested trailers.<sup>22</sup> In April, May, and June 2007, the Sierra Club conducted additional testing on FEMA-provided trailers in the Gulf Coast. In this round of testing, 94% of trailers had formaldehyde levels above 0.1 ppm.<sup>23</sup>

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<sup>16</sup> *Id.*

<sup>17</sup> Environmental Protection Agency: An Introduction to Indoor Air Quality (online at [www.epa.gov/iaq/formalde.html](http://www.epa.gov/iaq/formalde.html)) (accessed on July 15, 2007).

<sup>18</sup> California Environmental Protection Agency, *Indoor Air Quality Guideline: Formaldehyde in the Home, No. 1* (Aug. 2004).

<sup>19</sup> 29 CFR § 1910.1048 (2006).

<sup>20</sup> *Id.*

<sup>21</sup> Environmental Protection Agency, *Acute Exposure Guideline Levels: Formaldehyde Exposure* (online at <http://www.epa.gov/oppt/aegl/pubs/results68.htm>) (accessed on July 18, 2007). HUD sets formaldehyde emissions standards for specific building materials used in manufactured housing, but these limits cannot be used as a guide to human exposure because as the Manufactured Housing Institute notes, "these limits are not indicative of the free formaldehyde that may be present in the manufactured home once completed." Letter from Manufactured Housing Institute to Rep. Henry A. Waxman and Rep. Thomas Davis (July 18, 2007).

<sup>22</sup> Sierra Club, *Toxic Trailers?* (online at [www.sierraclub.org/gulfcoast/downloads/formaldehyde\\_test.pdf](http://www.sierraclub.org/gulfcoast/downloads/formaldehyde_test.pdf)) (accessed on July 15, 2007).

<sup>23</sup> Sierra Club, *Statement of Becky Gillette* (July 19, 2007).

### III. The Committee's Inquiry and FEMA's Response

On August 10, 2006, then-Ranking Member Waxman and Rep. Charlie Melancon requested all FEMA documents relating to formaldehyde levels in FEMA-provided trailers.<sup>24</sup> FEMA did not provide a single document in response to this request.

As Committee Chairman, Rep. Waxman requested documents from FEMA regarding potentially unsafe levels of formaldehyde in trailers on February 1, 2007<sup>25</sup> and May 15, 2007.<sup>26</sup> On June 15, 2007, FEMA provided the Committee with some documents responsive to these requests. However, at that time, FEMA failed to acknowledge that it was withholding responsive documents based upon attorney-client privilege. The Committee learned that FEMA withheld documents only after staff specifically asked FEMA whether any documents were being withheld based upon a claim of attorney-client privilege.

On July 9 and 10, 2007, FEMA made some of the withheld documents available to the Committee staff for review. Because this review showed the documents to be relevant to the Committee's inquiry, Chairman Waxman wrote FEMA on July 11, 2007, to request the production of the documents. In response to this request, FEMA provided some additional documents on July 13, 2007. However, FEMA also stated that it would not produce certain documents due to "confidentiality interests."<sup>27</sup> On July 16, 2007, the Committee issued a subpoena to obtain the requested documents.

In response to the subpoena, FEMA provided approximately 700 pages of documents at 5:45 pm on July 18, 2007. However, FEMA did not provide some documents that involved on-going litigation pending coordination with the Department of Justice. FEMA stated that it would continue to provide additional documents "as expeditiously as possible."<sup>28</sup>

In total, FEMA has provided nearly 5,000 pages of documents to the Committee. The remainder of this memorandum summarizes these documents.

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<sup>24</sup> Letter from Reps. Henry A. Waxman and Charlie Melancon to R. David Paulison (Aug. 10, 2006).

<sup>25</sup> Letter from Rep. Henry A. Waxman to R. David Paulison (Feb. 1, 2007).

<sup>26</sup> Letter from Rep. Henry A. Waxman to R. David Paulison (May 15, 2007).

<sup>27</sup> Letter from David Trissell, Chief Counsel, FEMA, to Chairman Waxman (July 13, 2007).

<sup>28</sup> Letter from David Trissell, Chief Counsel, FEMA, to Rep. Henry A. Waxman (July 18, 2007).

#### IV. The Response of the FEMA Field Staff

On March 16, 2006, news reports revealed that there were excessive levels of formaldehyde in a FEMA trailer.<sup>29</sup> FEMA field staff immediately began e-mailing each other about the reports. One FEMA employee stated, "This needs to be fixed 'today.'"<sup>30</sup> Another employee immediately suggested random testing of trailers, stating, "we need to take a proactive approach; the implications are much too large to not take immediate steps to assure the safety of our units."<sup>31</sup>

Within five hours of learning of the news, the staff outlined a possible plan of action:

There is an immediate need for (1) any Manufacturer's certification or statements in our specs that would address possible issues with manufacturing a travel trailer with products that contain Formaldehyde (2) any Manufacturer's certification or statements that assure the safe use of such travel trailers and (3) possible need for all the supplying Manufacturers to do random testing of their supplied units in use in Mississippi.<sup>32</sup>

On March 28 and 29, 2006, FEMA conducted some testing of trailers at the FEMA staging center at Purvis, Mississippi.<sup>33</sup> The focus of this testing was to "determine the worker exposure level of formaldehyde."<sup>34</sup> The results of the testing showed that exposure to formaldehyde did not exceed the OSHA standard of 0.75 ppm. However, formaldehyde levels in the trailers routinely exceeded 0.1 ppm, the level identified by EPA and NIOSH as triggering acute adverse health effects. They were many times higher than the NIOSH 8-hour standard of 0.016.<sup>35</sup>

FEMA requested that a contractor test one occupied trailer.<sup>36</sup> On April 5, 2006, Bonner Analytical Testing Company tested the FEMA trailer occupied by a couple and

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<sup>29</sup> WLOX television, "Couple Discovers High Levels of Formaldehyde in FEMA Trailer" (Mar. 16, 2006).

<sup>30</sup> Internal FEMA E-mail from James Russo to Eric Gentry, Sidney Melton, Eugene Romano, Crystal Payton, and Mary Hudak (Mar. 17, 2006).

<sup>31</sup> Internal FEMA E-mail from Eric Gentry to James Russo, Sidney Melton, Eugene Romano, Crystal Payton, Mary Hudak and James Lowery (Mar. 17, 2006).

<sup>32</sup> Internal FEMA E-mail from James Lowery to James Kaczorowski, Colonel Scott and Michael Miller (Mar. 17, 2006).

<sup>33</sup> FEMA Memorandum from Bronson Brown, Chief, Occupational Safety and Health, FEMA, to John Crowley (May 31, 2006).

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*

<sup>36</sup> Internal FEMA E-mail from Eugene Romano to Mary Hudak (Apr. 18, 2006).

their four-month old daughter.<sup>37</sup> The mother was two months pregnant and had “expressed concern for her unborn child and young daughter.”<sup>38</sup> Shortly after moving into the trailer in February 2006, the family had experienced “burning eyes and feeling sick.”<sup>39</sup> Their doctor had suggested that they may have been exposed to formaldehyde.<sup>40</sup>

The test found excessive levels of formaldehyde. Over an eight and a half hour period, formaldehyde levels in the master bedroom averaged 1.2 ppm. The test found that formaldehyde levels were “significantly higher” than this average value during the hottest part of the day. The average of 1.2 ppm is 75 times higher than the NIOSH workplace guideline of 0.016 ppm and twelve times higher than 0.1 ppm level that NIOSH recommends should not be exceeded for more than 15 minutes.

At the time of the testing, the family had lived in the trailer for several weeks. According to the occupants, they were immediately told by a FEMA contractor that the trailer was “very dangerous” and that they needed to vacate the trailer without delay.<sup>41</sup>

By April 6, 2006, FEMA had put out a request for bids to contract for the testing of trailers.<sup>42</sup> The bidding period was to close on April 28, 2006.<sup>43</sup> The statement of work for this contract indicates that one of the required tasks could be to provide air sampling for formaldehyde levels. According to the request for proposals, the duration of the contract would be one year and could be extended for an additional one-year period.<sup>44</sup>

Based upon documents provided to the Committee, it appears that FEMA never executed a contract for additional formaldehyde sampling and no additional occupied trailers have been tested.

## **V. The Response of FEMA Headquarters and FEMA Counsel**

On April 11, 2006, the issue of formaldehyde testing was referred to FEMA’s Office of General Counsel (OGC).<sup>45</sup> A month later, a lawsuit was filed against the U.S.

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<sup>37</sup> Bonner Analytical Testing Company, An Evaluation of Formaldehyde Concentration in FEMA Trailer (Apr. 6, 2006).

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

<sup>41</sup> Statement of Dawn Sistrunk (July 18, 2007).

<sup>42</sup> Internal FEMA E-mail from Eugene Romano to Mary Hudak (Apr. 18, 2006).

<sup>43</sup> *Id.* In June 2005, one e-mail indicates that FEMA is still in pursuit of a contract to do testing. Internal FEMA E-mail from Sidney Melton to Stephen Miller, Cindy Howell, and Jill Igert (June 1, 2006).

<sup>44</sup> FEMA Request for Proposals with attached Statement of Work (undated).

<sup>45</sup> Internal FEMA E-mail from Eugene Romano to Mary Hudak (Apr. 18, 2006).



government alleging that FEMA has provided trailers in the Gulf Coast that have high concentrations of formaldehyde that cause a clear and present danger to the health and well being of the displaced gulf coast residents.<sup>46</sup>

On May 17, 2006, FEMA issued a statement regarding formaldehyde in travel trailers that stated: "FEMA and industry experts have evaluated the small number of cases where orders [sic] of formaldehyde have been reported, and we are confident that there is no ongoing risk."<sup>47</sup>

Internal e-mails from this period reflect a growing resistance from FEMA headquarters to address formaldehyde issues. One FEMA official wrote on May 27, 2006: "According to HQ there are no health concerns associated with the formaldehyde inside our FEMA MH/TT [Mobile Homes/Travel Trailers]."<sup>48</sup> Another FEMA employee noted: "HQ made the determination, airing these units out would be the only steps we take. However, if an applicant comes to us with air quality testing in hand, perhaps we should take those to OGC for a determination before we act or do not act."<sup>49</sup>

On June 15, 2006, Patrick Preston, a FEMA attorney, directed that FEMA employees should not conduct any testing in FEMA trailers without receiving prior approval from the Office of General Counsel. Mr. Preston wrote:

Do not initiate any testing until we give the OK. While I agree that we should conduct testing, we should not do so until we are fully prepared to respond to the results. Once you get results and should they indicate some problem, the clock is running on our duty to respond to them."<sup>50</sup>

On June 16, 2006, Peggy Phillips, a FEMA employee, reiterated this point in her summary of a FEMA conference call. Ms. Phillips wrote: "OGC has advised that we do not do testing, which would imply FEMA's ownership of this issue."<sup>51</sup>

At one point, FEMA did authorize the distribution of a brochure about formaldehyde exposure to trailer occupants. However, the brochure did not contain any

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<sup>46</sup> FEMA, Formaldehyde Timeline (June 15, 2007).

<sup>47</sup> Internal FEMA E-mail from Aaron Walker, FEMA National Spokesman (May 17, 2006).

<sup>48</sup> Internal FEMA E-mail from Stacy Suchodolski to Geraldine Cox (May 27, 2006).

<sup>49</sup> Internal FEMA E-mail from David Hart to Stacy Suchodolski, Guy Bonomo and Cindy Howell (May 30, 2006).

<sup>50</sup> Internal FEMA E-mail from Patrick Preston, Trial Attorney, FEMA OGC (June 15, 2006).

<sup>51</sup> Internal FEMA E-mail from Peggy Phillips (June 16, 2006).

contact information for trailer occupants to use to contact FEMA with questions or complaints. A FEMA staffer asked about this in a July 26, 2006, e-mail:

Martin, question ... I don't see a number on it. Are ya'll going to put your MDC numbers on it, we here in MS would put our call center number it. Or is the intent not to?<sup>52</sup>

He received a prompt response: "Hi Sid, we are trying to not generate a lot of calls, just get the facts out as we know them so we are not putting our number on it."<sup>53</sup>

## **VI. Communications with EPA and CDC**

In July 2006, employees of FEMA, EPA, and CDC discussed whether EPA should conduct systematic testing of FEMA trailers. During these discussions, EPA and CDC raised concerns that the formaldehyde levels in the tested trailers could be well above a safe level for residential exposure.

On July 11, 2007, a FEMA employee summarized a conference call with EPA as follows:

Sam and Dana [the EPA employees] prefaced that call by saying that they have done some preliminary research to establish a health base level for formaldehyde and it appears that it will be much lower than we suspected. The 14 day exposure maximum may be .03 ppm and the one year level may top out at .008 ppm. The levels we find after testing may well be more than 100 times higher than the health base level.<sup>54</sup>

The following day, the same FEMA official again wrote an e-mail about the conference call with EPA. She stated: "Their preliminary research has indicated that the acceptable level of formaldehyde will probably turn out to be much lower than we anticipated, and our units may be far above that level even after we ventilate them."<sup>55</sup>

## **VII. FEMA's Testing of Unoccupied Trailers**

Ultimately, FEMA did decide to conduct some testing of unoccupied trailers. According to documents that FEMA has produced to the Committee, it appears that

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<sup>52</sup> Internal FEMA E-mail from Sidney Melton to Martin McNeese (July 26, 2006).

<sup>53</sup> Internal FEMA E-mail from Martin McNeese to Sidney Melton (July 26, 2006).

<sup>54</sup> Internal FEMA E-mail from Gail Haubrich to Tracy Haynes (July 11, 2006)

<sup>55</sup> Internal FEMA E-mail from Gail Haubrich to Kevin Souza (July 12, 2006).

FEMA decided to conduct this testing “in anticipation of litigation,” not because of concerns for the health of occupants of the trailers.<sup>56</sup>

The earliest draft of a FEMA plan to test unoccupied trailers, which the Committee has received, is dated July 18, 2006. In this draft, the object of the testing is to measure formaldehyde concentrations that equal or exceed the exposure that trailer residents are likely to experience. The draft described the sampling and analysis methodology as follows:

Divide the trailers into two subsets: In one subset (Group A), determine the airborne concentration of formaldehyde in selected new and unoccupied trailers. The concentrations will be measured while circulating indoor air but not ventilating, which will provide concentrations greater than would be expected during residential use. In the second subset (Group B), determine formaldehyde concentrations emanating from the trailer encountered under living conditions. The concentrations will be measured while ventilating and controlling the air temperature and humidity to simulate a residential living indoor environment.”<sup>57</sup>

On July 22, 2006, an attorney for FEMA wrote in an e-mail that there had been a “shift in purpose” for the testing.<sup>58</sup> The change in approach is reflected in a July 28, 2006, draft of the testing procedure. In this draft, the plan for the testing had changed to the following:

After initial sampling in all trailers to be evaluated to establish baseline conditions, divide the trailers into two subsets: In one subset (Group A), determine the airborne concentration of formaldehyde when ventilation is provided by open windows and static vents, and exhaust fans. In the second subset (Group B), determine formaldehyde concentrations while ventilating with open static vents, and controlling the air temperature and humidity through the use of the home's air conditioning system.”<sup>59</sup>

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<sup>56</sup> Internal FEMA E-mail from Diane Donley to Ron Sherman (Oct. 5, 2006).

<sup>57</sup> Environmental Protection Agency, *Draft Formaldehyde Sampling at FEMA Temporary Housing Units Task-Specific Addendum to: Contingency Air Monitoring and Sampling Plan for C&D Burning or Grinding Sites* (July 18, 2006).

<sup>58</sup> Internal FEMA E-mail from Jill Igert to Stephen Miller and James Stark (July 22, 2006)

<sup>59</sup> Environmental Protection Agency, *Draft Formaldehyde Sampling at FEMA Temporary Housing Units Task-Specific Addendum to: Contingency Air Monitoring and Sampling Plan for C&D Burning or Grinding Sites* (July 28, 2006).

The appendix to the final version of the sampling plan, dated August 31, 2006, states: “Twelve hours prior to the start of the T1 sampling run, at 1900 hours, the EPA contractor will notify the FEMA personnel to set the following conditions in the Group A row of trailers: Open all windows and static vents and turn on ventilation fans.”<sup>60</sup>

The final testing protocol appears to have limited value. In fact, according to a treatise on diagnosing air quality problems, testing for formaldehyde with windows open is “meaningless”:

It is very undesirable to test under conditions that produce results reflecting minimum levels of formaldehyde contamination. Test results from air sampling conducted when windows and/or doors are open are meaningless. To assess the acute health-affecting potential of formaldehyde in a residence most accurately, “near worst case” conditions of building closure and indoor temperature should be approximated.<sup>61</sup>

In internal communications, FEMA officials raised doubts about the FEMA test procedures. One FEMA attorney made the following comments upon reviewing the plan:

Are we testing to identify a methodology for FEMA to reduce the levels of formaldehyde in the units before we place the applicants into the units or are we trying to identify a methodology for the applicants to reduce the levels while they are living in the units? If it's the latter, it doesn't seem that the variables are in sync with the typical living conditions for the average applicant. I don't understand why Sample B is focused on the utilization of the air conditioning and virtually nothing else since it is unrealistic that an applicant will use it twenty-four hours a day. Have we confirmed that these air conditioners can withstand this amount of use for fourteen straight days.<sup>62</sup>

FEMA tested 96 unoccupied trailers located in Baton Rouge, Louisiana, from September 19 through October 7, 2006. The results of the testing were released by FEMA in March 2007. The results showed that for the trailers that utilized air conditioning, the average level of formaldehyde on the final day of testing remained

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<sup>60</sup> Environmental Protection Agency, *Formaldehyde Sampling at FEMA Temporary Housing Units Task-Specific Addendum to: Contingency Air Monitoring and Sampling Plan for C&D Burning or Grinding Sites* (August 31, 2006).

<sup>61</sup> Thad Godish, *Indoor Air Pollution Control*, 338 (1989).

<sup>62</sup> Internal FEMA Document, *Formaldehyde Testing Proposal Revision # 3*, Jill Igert (Undated).

above 0.1 ppm. However, for trailers that had their windows and vents open for three straight weeks, formaldehyde levels did drop to 0.02 ppm.<sup>63</sup>

FEMA stated: “Our investigation of formaldehyde and travel trailers indicated that ventilating the units can significantly reduce levels of formaldehyde emissions.”<sup>64</sup> On May 15, 2007, FEMA Administrator David Paulison testified before the House Committee on Homeland Security:

The formaldehyde issue was brought to our attention and we went out and investigated and used the EPA and other agencies to do testing. We've been told the formaldehyde does not present a health hazard.<sup>65</sup>

The persistent refusal by FEMA to conduct testing in occupied trailers or under conditions that reflected actual use of the trailers may have been part of a strategy to deny potential plaintiffs information that could be used against FEMA in litigation. On July 26, 2006, FEMA Administrator Paulison sent Homeland Security Secretary Michael Chertoff a memo entitled “Status of Current Litigation.” Mr. Paulison wrote:

FEMA’s overall level of exposure for damages is low. Individual plaintiffs, in order to succeed, bear the burden of proof and must establish specific harm and damage. Based on the limited information known so far, this is likely to be a very high threshold for them to meet.<sup>66</sup>

### **VIII. FEMA’s Responses to Formaldehyde Complaints**

The documents produced by FEMA describe how FEMA responded to complaints about formaldehyde exposure raised by occupants of FEMA trailers. Even in cases where deaths were involved, the FEMA responses display indifference to the problem of formaldehyde exposure.

***FEMA’s Response to an Infant Death.*** In August 2006, an infant girl died in a FEMA trailer in Texas. The mother and father thought formaldehyde exposure was the cause of death and asked that the trailer not be used by FEMA again. Upon entering the trailer, a FEMA representative noted that the formaldehyde in the trailer made her “nose

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<sup>63</sup> *Id.*

<sup>64</sup> FEMA, *Statement on Travel Trailers and Formaldehyde* (March 1, 2007).

<sup>65</sup> House Committee on Homeland Security, Testimony of FEMA Administrator R. David Paulison, *Hearing on the 2007 Hurricane Season: Are We Prepared*, 110<sup>th</sup> Cong. (May 15, 2007).

<sup>66</sup> Memorandum from R. David Paulison to Secretary Michael Chertoff (July 26, 2006).

burn.”<sup>67</sup> Nonetheless, it appears that FEMA never conducted any testing or warned future occupants of the potential risk.

***FEMA’s Response to an Adult Death.*** In June 2006, FEMA learned of a death in another trailer. In an e-mail with the subject line “Urgent: Death of Applicant,” a FEMA official wrote:

A FEMA applicant was found dead in his trailer in St. Tammany earlier today. We do not have autopsy results yet, but he had apparently told his neighbor in the past that he was afraid to use his A/C because he thought it would make the formaldehyde worse. . . . It may not have anything to do with formaldehyde, but I agree with Mark that we need to deal with this head on.<sup>68</sup>

The official’s e-mail states that “OGC has not wanted FEMA to test to determine if formaldehyde levels are in fact unsafe.”<sup>69</sup> For that reason, according to the official, “HQ Recovery (Souza and Garratt) are recommending that we mission assign EPA to do a full assessment and make recommendations. I agree with this.”<sup>70</sup>

Within hours, FEMA staff had decided to “move forward with a standardized safety notice and sit tight on testing based on the potential EPA mission assignment.”<sup>71</sup> The following day, FEMA’s Baton Rouge Transitional Recovery Office organized a teleconference call with 28 staff from six federal agencies to examine questions raised by this death.<sup>72</sup> Minutes of the meeting provide the following synopsis:

The compressed boards of the travel trailers contain formaldehyde. A man, John Doe, in St. Tammany parish died as the possible result of Formaldehyde Sensitivity. Details surrounding the death remain unknown. At the time of this writing it is not known if an autopsy has been performed.<sup>73</sup>

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<sup>67</sup> Internal FEMA E-mail from River Burton to George Drake (Aug. 4, 2006).

<sup>68</sup> Internal FEMA E-mail from Michelle McQueeney to Gil Jamieson, James Stark and Darryl Madden (June 27, 2006).

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> Internal FEMA E-mail from Mark Misczak to FEMA staff (June 27, 2006).

<sup>72</sup> Internal FEMA E-mail from Corey Collor to Michelle McQueeney (June 28, 2006).

<sup>73</sup> *Id.*

The day after the conference call, a FEMA official noted that the death was “blamed on sensitivity to formaldehyde” and stated that “FEMA would monitor the trailer in question as soon as access to it could be arranged.”<sup>74</sup>

However, FEMA lawyers intervened. One lawyer wrote that the response plan developed in the conference call was “not acceptable”:

I understand there was a conference call this morning to discuss this issue and I do not believe OGC was invited. We must be involved in all issues pertaining to formaldehyde as the Agency is in litigation. Decisions with respect to testing, press releases, safety notices, etc., must come through this office first. To be moving forward with plans and consulting with other agencies prior to vetting this internally could seriously undermine the Agency’s position in the litigation and that is not acceptable.

The Department of Justice considers the litigation of national importance and it is thus handling from Washington which requires full involvement of FEMA HQ OGC. We are not getting off to a good start.<sup>75</sup>

The participants on the June 28, 2006, conference call resolved to take six actions to help determine the appropriateness of their response to the formaldehyde problem. These actions included determining the cause of death, sampling the air in the trailer, requesting the Consumer Product Safety Commission to “vet FEMA trailers against the industry standard,” and identifying an independent, nongovernmental agency to conduct tests of indoor air quality and evaluate their policies.<sup>76</sup> There is no evidence in the documents provided to the Committee that any of these actions were actually taken.

***FEMA’s Response to Respiratory and Eye Complaints.*** In June 2006, an occupant of a trailer complained that formaldehyde was “causing her respiratory problems and making her eyes burn.”<sup>77</sup> A FEMA official attempted to get the occupant permission to stay in a hotel, arguing: “These are health issues that we are talking about. If the applicants are having respiratory problems because of these odors, we handle them from that prospective [sic].”<sup>78</sup>

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<sup>74</sup> Internal FEMA E-mail from William Ringo to James Stark (June 28, 2006).

<sup>75</sup> Internal FEMA E-mail from Adrian Sevier, FEMA OGC (June 28, 2006).

<sup>76</sup> Internal FEMA E-mail from Corey Collor to Michelle McQueeney (June 28, 2006).

<sup>77</sup> Internal FEMA E-mail from Ruth Pfleuger to Amy Webbeking (June 13, 2006).

<sup>78</sup> Internal FEMA E-mail from Herman Fuimaono to Douglas Bordon (June 14, 2006).

Her supervisor replied: “For now, the decision is that this request is denied.”<sup>79</sup>

***FEMA’s Response to a Physician’s Request for Information.*** In June 2006, FEMA received a request from a trailer occupant who at the suggestion of his doctor sought the “Material Safety Data Sheet” (MSDS) for the FEMA trailer.<sup>80</sup> A MSDS includes chemical safety information that is required to be available in workplaces.

A FEMA employee spoke with the occupant and learned that he had been “experiencing numerous respiratory problems.”<sup>81</sup> The occupant stated that the “trailer stinks like formaldehyde” and “upon advice from his doctor” was seeking the MSDS in order to understand what types of solvents, glues or adhesives were used in the manufacturing of the trailer.<sup>82</sup>

Word of the inquiry reached FEMA’s Office of General Counsel. This led a FEMA lawyer to admonish the FEMA field staff: “The program should not be dealing with applicants on the formaldehyde issue without first coordinating with [OGC] and DOJ.”<sup>83</sup>

The FEMA field staff understood the message. One employee wrote: “we are at all stop on providing MSDSs to requestors.”<sup>84</sup>

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<sup>79</sup> Internal FEMA E-mail from HQ-Lodging to Ruth Pfleuger and Herman Fuimaono (June 14, 2006).

<sup>80</sup> E-mail from Dan Shea, Gulf Stream Coach, to David Porter, FEMA (June 12, 2006).

<sup>81</sup> Internal FEMA E-mail from Rosalind Scott to Dondra Landry (June 13, 2006).

<sup>82</sup> *Id.*

<sup>83</sup> Internal FEMA E-mail from Jordan Fried, Associate General Counsel for Litigation to Harold Lucie and Jill Igert (June 14, 2006).

<sup>84</sup> Internal FEMA E-mail from James Stark (June 14, 2006).