

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 3 MID-ATLANTIC REGION

SAFETY LIGHT CORPORATION
SUPERFUND SITE
BLOOMSBURG, COLUMBIA COUNTY, PA

OPERABLE UNIT ONE (BUILDINGS/DEBRIS)



OU-1 Engineering Evaluation/Cost Analysis
(EE/CA)
Responsiveness Summary

February 2007

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Introduction

EPA received numerous comments on the engineering evaluation/cost analysis (EE/CA) for the proposed demolition and off-site disposal of seven buildings at the Safety Light Corporation Superfund Site (“Site”). The comments and EPA’s responses are included below. Broadly, EPA did not receive comments in opposition to the preferred alternative: demolition of seven buildings and disposal of demolition debris as radioactive waste (with limited exceptions, as discussed further below). Therefore, this preferred alternative has been selected by EPA to address the seven Safety Light buildings discussed in the EE/CA, and this decision will be documented in an Action Memo*. Subsequent to the issuance of the Action Memo, EPA will initiate the necessary contracting and work planning for the demolition project. A meeting will be held with the community prior to the demolition project, so that details regarding the demolition project (including demolition techniques, dust suppression, air monitoring, etc.) can be shared with the community, and follow-up questions can be answered.

(*Note: An “Action Memo” serves as the primary EPA decision document substantiating the need for a removal response, identifying the proposed action and explaining the rationale for the removal.)

Section 1 - Stakeholder Issues and Lead Agency (EPA) Responses

1. Proximity of Central Columbia School District to Safety Light Corporation. The majority of comments received by EPA pertained to concerns that students, teachers, school administrators, and parents of the Central Columbia School District have regarding the proposed demolition. The Central Columbia School District property, which includes the administrative buildings, elementary school, middle school, and high school, are located along Old Berwick Road, under a half-mile from the Site. Most comments expressed concern that radioactive contamination could potentially spread from the Site during demolition, and requested that the demolition project take place during the school summer break (roughly mid-June to mid-August), so that the majority of students would not be present on the Central Columbia campus during the demolition project. Other stakeholders offering comments indicated that the summer would not be the best time of year to perform the demolition, as various student activities (i.e. band practice, athletics, etc.) take place outdoors on the Central Columbia campus during that time. Finally, a comment was received that suggested that it may be appropriate to close

the Central Columbia campus if the demolition occurs during the school year, or disallow student activities if the demolition work occurs during the summer break.

EPA has carefully considered these comments, and offers the following response. The goal of the EPA Superfund program is to implement cleanup actions (such as the Safety Light building demolitions) that are protective of human health and the environment. EPA's goal for the demolition project at Safety Light is to ensure that the buildings are demolished and disposed of in a manner which is fully protective of the residents who live in the vicinity of Safety Light, the students, teachers and administrators of the Central Columbia School District, the workers performing the demolition work, and the workers who still operate at the Safety Light facility, as well as other nearby persons. Towards that goal, in the coming months EPA will focus on the following aspects of the proposed demolition project:

- **Selection of a qualified building demolition contractor**, with specific experience in the safe demolition of radioactively contaminated buildings. The selection process will include a thorough evaluation of contractors' past performances at similar sites.
- **Detailed work planning of the demolition project.** The detailed work planning will evaluate what is the safest and most effective demolition methodology to utilize at the Site with specific focus on the protection of the health and safety of nearby persons.
- **Dust suppression.** EPA will thoroughly evaluate dust suppression technologies that have been used at similar sites and situations, and will determine what are the safest and most effective dust suppression techniques that should be used during the demolition project.
- **Air monitoring.** EPA will plan and implement an air monitoring strategy that will allow EPA to evaluate the effectiveness of the demolition methodology and dust suppression techniques in real-time during the proposed demolition project.
- **On-Site chain of command.** EPA will plan how air monitoring results will be used, and will detail the chain-of-command that will be present on Site during demolition activities. This planning will ensure that if EPA's selected demolition methodologies and dust suppression techniques are found not to be fully effective for controlling dust, an on-site official will be present to stop work immediately and adjust the strategy.

EPA is certain that through careful planning and execution, the demolition project can be successfully performed in a manner which is fully protective of nearby persons. In the event that any aspect of the demolition is not occurring as planned, and a potential exists that the cleanup activity will not be fully protective of human health, EPA will ensure that work ceases immediately.

Prior to the demolition project, EPA will coordinate directly with the Superintendent of the Central Columbia School District, Mr. Harry Mathias, so that the school district is kept fully informed of the project schedule and progress. EPA will also coordinate with local and county-level emergency responders by notifying them of scheduled demolition

activities. In addition, prior to the demolition project, EPA will host a meeting to share with the community specific details regarding the demolition methodology, dust suppression, an air monitoring. (A notification with the meeting date, time and location will be published in the Press Enterprise.)

2. Time frame of demolition activities. During the January 9, 2007 public meeting regarding the EE/CA, a question was posed regarding the time frame necessary to complete the demolition of the seven buildings and dispose of the demolition debris. It is estimated that the preparation of the Action Memo and work planning/contracting activities can be completed in approximately six months. The on-Site demolition and debris shipment activities are expected to take approximately two months. According to this tentative schedule, demolition activities would not begin until late summer/early autumn.

3. Off-site dust contamination. During the January 9, 2007 public meeting, a resident who lives near the Site asked EPA who would be responsible if the demolition activities described in the EE/CA resulted in radioactive dust contaminating the resident's house/property. EPA is currently performing an environmental investigation (called a Remedial Investigation/Feasibility Study), and removal actions (removal of radioactive waste, and building demolition) at the Safety Light Corporation Superfund Site with the goal of implementing a cleanup at the Site that is protective of human health and the environment. EPA's definition of the Safety Light Site is not restricted by the Safety Light property boundaries, but rather includes the areal extent of Site-related contamination. Therefore, in the unlikely event that demolition activities cause radioactive contamination to spread from the Safety Light Corp. property, EPA would be responsible for implementing response actions deemed necessary at affected areas.

4. Transportation routes for trucks removing demolition debris. During the January 9, 2007 public meeting, a resident who lives near the Site asked EPA what route would be taken by trucks which will transport demolition debris from the Site. A specified truck route has not yet been determined. The truck route will be established during the work planning phase, and will be shared with the community prior to the demolition project.

5. Dust from trucks exiting the Site. During the January 9, 2007 public meeting, a resident who lives near the Site asked what measures would be taken to ensure that radioactive dust/soil is not transferred off-Site by trucks used to carry demolition debris. This comment has been noted by EPA, and will be part of the agenda to be discussed in the meeting with the public that will be hosted by EPA prior to the demolition activities. Broadly, demolition debris will leave the Site in sealed containers to prevent dust dispersal, and the trucks will go through a decontamination process, as necessary, prior to exiting the Site.

Section 2 - Technical and Legal Issues

1. Retrieval of records prior to demolition. A comment was received requesting that EPA recover records (facility documentation) from the Old House prior to demolition and disposal of the building. In support of the on-going civil investigation at the Site, and to facilitate waste disposal activities, EPA will pursue efforts to recover records (if still in existence) from the Old House structure, prior to or during demolition activities.

2. Promethium-147 as a radionuclide of concern. A comment was received which indicated that Promethium-147 may represent a significant health risk at the Site. The rationale for not including Promethium-147 as a radionuclide of concern at the Site is included on pages 1-15, and 1-16 of the EE/CA. However, it should be noted that if Promethium-147 is present within the buildings to be demolished, the demolition methodologies, health and safety procedures, and demolition debris characterization/disposal procedures, would sufficiently address Promethium-147 as well as the Radionuclides of Concern identified at the Site.

3. Uranium-238 as a radionuclide of concern. A comment was received asking why EPA considered Uranium-238 a potential radionuclide of concern at the Site. This question is addressed on page 1-4 of the EE/CA, as follows:

“In 1956, the Atomic Energy Commission (AEC), a predecessor of the NRC, issued AEC License No. 37-00030-02 to USRC. The discussions of radionuclides covered by the original license are conflicting. However, it appears that this license may have authorized the use and distribution of products containing a wide variety of other radionuclides, including...Uranium-238.”

4. Classification of demolition debris as radioactive waste or non-radioactive waste. A question was received how the EPA will classify demolition debris as requiring disposal as “radioactive waste” or “non-radioactive waste”

EPA’s selected alternative for this project is demolition of the seven buildings and disposal of demolition debris as radioactive waste, with limited exceptions. Therefore, the majority of demolition debris will be automatically classified as radioactive waste and disposed of at an appropriate facility. For these materials, sampling and analysis in accordance with the proposed disposal facility’s Waste Acceptance Criteria (WAC) will be performed for waste characterization purposes before the material is shipped for disposal. The rationale for performing the demolition project in this manner is documented in the EE/CA.

However, certain large, metallic objects (such as a large boiler known to exist in the Etching Building), will be difficult to reduce in size to meet the proposed disposal facility’s WAC (in this case the 12” maximum size requirement). Therefore, it may be more effective to screen these specific objects for radiological contamination. The radiological screening would be performed with analytical instrumentation that will be specified during work planning, and the results will be compared to the appropriate

“Acceptable Surface Contamination Levels” included in the Nuclear Regulatory Commission Regulatory Guide 1.86, “Termination of Operating Licenses for Nuclear Reactor”**. If the surface contamination present on the large, metallic object is below the appropriate acceptable surface contamination levels, the object would be considered free for unrestricted use and could be disposed of at a demolition debris landfill, as “non-radioactive waste”. Conversely, if the surface contamination present on the large, metallic object is above the acceptable surface contamination levels, it may be cost effective to decontaminate the object and re-screen the object for radiological contamination until the acceptable surface contamination levels are achieved. If such decontamination is not possible, the large, metallic object would require disposal as radioactive waste subject to the proposed disposal facility’s “bulk” WAC.

(**NOTE: Although the Safety Light property is clearly not a nuclear reactor site, the acceptable surface contamination levels specified in the referenced NRC regulatory guide are industry-recognized standards used to determine what materials are considered to be appropriate for unrestricted use, and what materials are considered to be contaminated with radionuclides and inappropriate for unrestricted use.)

5. Question regarding the use of NRC Regulatory Guide 1.86 (Termination of Operating Licenses for Nuclear Reactor). A question was received asking why EPA is not using all of the criteria present in the footnotes of Table 1 of the NCR Regulatory Guide 1.86, during demolition debris classification activities as “radioactive waste”, or “non-radioactive waste.” EPA will apply all applicable criteria of NRC Regulatory Guide 1.86, during demolition debris classification activities, as appropriate. Therefore, although not included in Table 1-3 of the EE/CA, the criteria included in the footnotes of Table 1 of NRC Regulatory Guide 1.86 will be followed, as appropriate, during demolition debris classification activities. The criteria included in the footnotes are considered to be standard radiological survey practices.

6. Question regarding on-Site procedures if high levels of contamination are identified during the demolition/disposal activities.

A question was received asking how demolition debris handling/processing/disposal would change if very high levels of contamination are identified during the demolition/disposal activities.

Broadly, if high levels of contamination, as loose surface contamination, would be identified within the demolition debris, the EPA selected removal alternative would still be applicable. The selected removal alternative treats all demolition debris (with limited exceptions, as discussed above) as radioactive material, so WAC characterization would be performed to determine curie content. In an inter-modal container of approximately 20 cubic yards, pockets of high contamination should not significantly impact total waste activity. It is expected that the radioactive waste broker, who will arrange for disposal of the demolition debris, will perform gamma-spectroscopy characterization using an In-Situ Object Counting System (ISOCS). The ISOCS survey would take into account total activity of the container. Also, high activity discrete sources (if present in the abandoned

buildings) would be identified via work area surveys, or package surveys. If identified, high activity discrete sources will be disposed of in an appropriate manner by the radioactive waste broker.

7. Disposal location of demolition debris. A comment was received requesting the disposal location for radioactive demolition debris and non-radioactive demolition debris. EPA has not made a final selection for either facility at this time. For cost estimating purposes, as well as to evaluate Waste Acceptance Criteria (WAC), Envirocare of Utah, LLC was considered during the preparation of the EE/CA. Waste disposal facilities will be selected during the work planning phase of the demolition project and will be shared with the public prior to the demolition activities.

8. Disposal location of demolition debris. A comment was received asking for clarification that the disposal of demolition debris will occur only off-Site (not on the Safety Light property). EPA intends to dispose of the demolition debris associated with this demolition project at off-Site facilities, not on the Safety Light property.

9. Use of the Safety Light well as an extraction well. A comment was received that requested EPA to evaluate the use of Safety Light's abandoned plant well as an extraction well to control the migration of groundwater contamination. Safety Light no longer uses the abandoned plant well, but rather uses the public water supply. The ground water contamination at the Site is being evaluated by EPA as part of the Remedial Investigation currently on-going at the Site. At present, EPA is aware of a ground water contamination plume present beneath the Site exhibiting radionuclides and certain chemical compounds associated with Site operations. EPA has sampled nearby residential wells. Site-related contaminants have not been detected in private wells located adjacent to the Safety Light property at levels above federal Safe Drinking Water Act standards. Once the Remedial Investigation is complete, EPA will prepare a Feasibility Study report which will identify what remedial alternatives are most appropriate to address the ground water contamination. EPA will select a preferred remedial alternative to address ground water, which will be documented in a Proposed Remedial Action Plan (PRAP) and submitted to the community for public comment. At present, EPA has not established that the operation of an extraction well (commonly known as "pump and treat") at the Site is an effective method for addressing the ground water contamination. Therefore, at this time, EPA believes that it is most appropriate to permanently close the abandoned plant well, sealing off a direct conduit between the surface and the ground water.

10. Future Record of Decision for the Safety Light Site. A comment was received which asked if a Record of Decision (ROD) would be issued for the Site in conjunction with the EE/CA. A ROD will not be issued in conjunction with the EE/CA. An Action Memo will be prepared which will document EPA's selected alternative for the seven buildings ("subject buildings") to be demolished at this time (as discussed in the EE/CA). The Action Memo will be EPA's decision document for this response action, and will precede a "Non-Time Critical Removal Action" at the Site. A non-time critical removal action is being performed at the Site by EPA to address the seven subject buildings,

because EPA believes that the buildings may represent an imminent and substantial threat to public health and the environment and should, therefore, be addressed by a removal action, rather than by a long-term remedial action. The remaining thirteen on-Site buildings are considered to be in better physical condition than the seven subject buildings identified in the EE/CA. Although radiological contamination may be present in the remaining buildings, it is not expected that the buildings represent a collapse or fire hazard at this time. EPA is currently performing a Remedial Investigation/Feasibility Study (RI/FS) at the thirteen remaining buildings (not addressed in the EE/CA) to evaluate the extent of radiological contamination, and appropriate cleanup options. When the RI/FS of the remaining buildings is complete, EPA will select a preferred remedial alternative to address those buildings, which will be documented in a PRAP and submitted to the community for public comment. After public comment has been received and considered by EPA, the selected alternative for the remaining buildings will be documented in a ROD.