



# Department of Toxic Substances Control

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## RESPONSE TO COMMENTS

**UNITED TECHNOLOGIES CORPORATION,  
PRATT AND WHITNEY SPACE PROPULSION  
600 METCALF ROAD, SAN JOSE, EPA ID No. CAD001705235**

### **CLASS 3 PERMIT MODIFICATION FOR STORAGE AND TREATMENT OF HAZARDOUS WASTE AND RELATED CEQA DOCUMENTS**

#### **BACKGROUND:**

The following thirty-five (35) comments were received during the public comment period which ran from May 16, 2003 through July 3, 2003 on the draft Class 3 permit modifications for United Technologies Corporation, Pratt and Whitney Space Propulsion (San Jose). Only comment numbers 2, 10, 11, 13, 21, 33, and 34 apply to the Class 3 permit modification that DTSC submitted for public comments. The other comments relate to other activities at United Technologies which already operate under the permit which was issued prior to this modification request. DTSC has provided responses to the comments that do not relate specifically to the Class 3 permit modification, but it should be noted that these responses are provided for informational purposes only. There are no appeal rights associated with any comments not related to the Class 3 permit modification under review by DTSC.

#### **COMMENTS RECEIVED AND RESPONSES TO COMMENTS:**

Comments numbered 1 through 30 were received from Mr. Tom Mohr of the Santa Clara Valley Water District (SCVWD) in a letter dated July 3, 2003.

##### **Comment #1:**

Page 1-1, Introduction, bottom paragraph on page. AThe Hydrolysis Treatment FacilityYbegan operation in September 1997Y. The effluent (water) can be processed by conventional permitted wastewater treatment facilitiesY.@ The effluent water contains sodium perchlorate (see page 7-32) with significant quantities of perchlorate ion. Has UTC processed wastewater from the Hydrolysis Treatment Facility in its wastewater treatment facility on lower Shingle Valley Road? If the answer is yes what was the environmental fate

**Response to Comment #1:**

The permitted Hydrolysis treatment unit does generate wastewaters as a result of the treatment. United Technologies Corporation (UTC) has decided to manage all these wastewaters as hazardous wastes under the presumption that they are hazardous. Specific testing to determine if they are indeed hazardous waste is not conducted. Hazardous wastes generators can manage wastes under this presumptive assumption since it is managing wastes in a most conservative manner. The wastewaters from the Hydrolysis Unit are containerized and shipped off-site for disposal at an authorized incineration facility. None of these wastewaters from the Hydrolysis unit are disposed of into the wastewater treatment facility on lower Shingle Valley Road nor into the sanitary sewage system. The final permit has added Special Condition, #2 on page 13, requiring all waste effluent from the Hydrolysis Treatment Unit to be managed as hazardous waste.

**Comment #2:**

Page 1-2, third paragraph. Describe the chemicals used in the various desensitization processes and the distances from waterways and the protection methods to keep these chemicals in each desensitization point of generation throughout UTC@ including secondary containment capacities, etc.

**Response to Comment #2:**

Desensitization means the removal of some of the hazardous properties of the energetic substance for safer handling. For instance, certain energetic substances are highly shock sensitive. These desensitization chemicals would prevent an explosion in the event of a shock. The chemicals used at UTC for desensitization are listed in Table 6-10 in the Part B and include water, glycerol triacetate (Triacetine), alcohol, polyethylene glycol, polyethylene wax, and inert materials such as sand, sawdust, floor sweepings, dirt, vermiculite, or other absorbent materials. Water is used as the main desensitization material. Many energetic substances that require desensitization are submerged in water in plastic lined containers. These containers are then placed in the magazines for storage. Under no circumstances do the energetic materials that are being desensitized come in any contact with or near any waterways at the site. Please note, no changes have been made to the final permit based on this comment.

**Comment #3:**

Page 6-8, Section 6.2.1. AAF@ should be AATP@.

**Response to Comment #3:**

The UTC operation plan has been revised to change "AFT" to "ATP". (Page 6-8, Section

6.2.1.)

**Comment #4:**

Page 6-18, Section 6.3.6, last paragraph. Discuss If the effluent is determined to be hazardous in the context of the parts per billion of perchlorate in the effluent: Above how many parts per billion of perchlorate would the effluent be determined to be hazardous? Or, alternatively, below how many parts per billion of perchlorate would the effluent be determined not to be hazardous? Is the discharge of non-hazardous perchlorate-bearing effluent regulated under this RCRA permit?

**Response to Comment #4:**

See response to Comment #1. Please note, no changes have been made to the final permit based on this comment.

**Comment #5:**

Page 6-18, Section 6.3.7, first paragraph. The Hydrolysis Treatment Facility will treat up to 40,000 pounds of material per year. The material treated will contain somewhere between 63% and 73% ammonium perchlorate, per Table 6-7 on page 6-16, for a potential throughput of 25,200 to 29,200 pounds of ammonium perchlorate. What quantity of water is expected to be used in this processing of ammonium perchlorate, and what will the parts per billion of perchlorate ion in the effluent water? And what will be the environmental fate of the effluent water?

**Response to Comment #5:**

The effluent water from the Hydrolysis Treatment Facility, contained in the brine storage tank, is never released to the environment. Twice a year the effluent is pumped out of the tank, placed in containers, and sent to an offsite hazardous waste incineration facility. The brine tank holds 15,000 gallons, therefore, the quantity of water used in the processing of waste is approximately 30,000 gallons. The concentration of perchlorate, based on the estimated destruction efficiency of the Hydrolysis Treatment Unit, is approximately 33,000 parts per million. See response to Comment #1. Please note, no changes have been made to the final permit based on this comment.

**Comment #6:**

Page 6-20, Section 6.3.7, last paragraph. Is UTC keeping a daily or weekly log of the perchlorate concentration in the 15,000-gallon effluent (brine waste) tank?

**Response to Comment #6:**

UTC only keeps Daily Inspection Logs of the brine tank as required in the current Part B permit. Daily and weekly logs of the perchlorate concentration are not required and thus, not kept. Please note, no changes have been made to the final permit based on this comment.

**Comment #7:**

Page 6-21, Section 6.3.10, second paragraph. Does process effluent analysis include testing for perchlorate concentration? Can the District request this be done?

**Response to Comment #7:**

See response to Comment #1. Please note, no changes have been made to the final permit based on this comment.

**Comment #8:**

Page 7-18, Section 7.2, fourth paragraph, last sentence: Aexists@ should be Aexits.@

**Response to Comment #8:**

The UTC operation plan has been revised to correct this typographical error.

**Comment #9:**

Page 7-22, Section 7.2.4, first paragraph: Awired@ should be Awire.@

**Response to Comment #9:**

The UTC operation plan has been revised to correct this typographical error.

**Comment #10:**

Page 7-25, Section 7.3.1. What are the capacities of the various secondary containments? On January 22, 1983, a compartment in Station 0706 containing wastewater with about 1% AP overflowed due to a backed up drainage ditch that was overwhelmed by a 200-year flood event. Are the secondary containments of all facilities outside the 200-year floodplain? Do secondary containments have sufficient freeboard to withstand a 200-year return frequency rainfall event?

**Response to Comment #10:**

The secondary containments are outside the 100-yr floodplain requirements. The HTF secondary containment meets the 25-year storm event criteria. Please note, no changes have been made to the final permit based on this comment.

**Comment #11:**

Page 7-25, Section 7.3.2. What is the size or volume capacity of the fiber drums? What is the material of construction of the conductive plastic liners used in the fiber drums? Does the conductive plastic liner's lifetime (based on chemical exposure and time of exposure) meet or exceed its manufacturer's specifications for this application?

**Response to Comment #11:**

The volume of the fiber drums is 250 lbs. The liners are made of a type of plastic known as Velostat and are only used once. Then they are cleaned and disposed of as hazardous waste. Please note, no changes have been made to the final permit based on this comment.

**Comment #12:**

Page 7-29, Section 7.3.2. (continued), top paragraph. Does the packaged material placed in the delivery chute include the aforementioned conductive plastic liners? What provisions exist for cleaning the fiber containers if they are not clean, i.e., they are contaminated by a breach in the conductive plastic liner?

**Response to Comment #12:**

The plastic liners are never placed in the chute unless they are severely contaminated and cannot be separated from the material. The plastic liners are removed from the drums, placed on trays, and washed with water. The water is pumped into the digester and disposed as hazardous waste. The cleaned liners are then placed in the drums and disposed as hazardous waste. Please note, no changes have been made to the final permit based on this comment.

**Comment #13:**

Page 7-29, Section 7.3.2.1. What protection against propellant ignition is being provided for the glands/seals where the shredder shaft penetrates the housing? Is any cooling or flushing being provided?

**Response to Comment #13:**

The shredder shafts/seals never come into contact with the propellant. The shafts are submerged in water, as is described in Page 7-29, Sect. 7.3.2.1. Please note, no changes have been made to the final permit based on this comment.

**Comment #14:**

Page 7-29, Section 7.3.2.2. Prior to their digestion, what happens to the nitroglycerin, RDX and HMX B none of which are very soluble in water? Will the water be tested for the

presence of any nitroglycerin before being recycled? If any nitroglycerin is present in the process, what provisions are present to prevent its freezing at 55°F which presents a whole new set of hazards? If nitroglycerin is separated from its 2-NDPA and other desensitizers, what will prevent its going sour in pipe cracks, etc. and autocatalytically decomposing and possibly detonating?

**Response to Comment #14:**

The reaction starts in the tumbler using sodium hydroxide solution and water. The reaction effectively breaks down the energetic material and upon completion is tested to ensure that pH is between 11 and 12. The wastewater effluent is disposed as hazardous waste. See response to Comment #1. Please note, no changes have been made to the final permit based on this comment.

**Comment #15:**

Page 7-29, Section 7.3.2.2. Will the water-jet use virgin water or filtered/recycled process water?

**Response to Comment #15:**

The water-jet uses virgin water. Please note, no changes have been made to the final permit based on this comment.

**Comment #16:**

Page 7-32, Section 7.3.2.2. (continued), last paragraph. The hydrolysis treatment facility has a BAAQMD permit. Would it be possible to see the list of gases expected to be generated from the BAAQMD permit application? (Neither Table B-9 in Appendix Q nor the permit conditions in Appendix S, Condition ID #13610, list chemical species emitted.) The BAAQMD permit should be attached to the RCRA Permit application.

**Response to Comment #16:**

All BAAQMD Permits for the site are attached in the UTC Operation Plan in Appendix S. See Section 7.3.2.2 for a list of all the gases. Please note, no changes have been made to the final permit based on this comment.

**Comment #17:**

Page 7-32, Section 7.3.2.2. (continued), chemical reactions. The ammonium perchlorate is converted to sodium perchlorate i.e., the perchlorate ion remains. Below how many parts per billion of perchlorate will this resultant solution be declared industrial

wastewater rather than hazardous waste (see page 7-42, section 7.3.2.4, second paragraph).

**Response to Comment #17:**

All wastewater from the HTF is disposed as hazardous waste. See response to Comment #1. Please note, no changes have been made to the final permit based on this comment.

**Comment #18:**

Page 7-32, Section 7.3.2.2. (continued), last paragraph: If hazardous, the solution of the salts and slurry Under what conditions would the solution not be hazardous? (See question for Page 6-18, Section 6.3.6, last paragraph.

**Response to Comment #18:**

See response to Comment #1. Please note, no changes have been made to the final permit based on this comment.

**Comment #19:**

Page 7-42, Section 7.3.2.3. (continued). Is the exhaust fan explosion-proof as well as resistant to the corrosive atmosphere?

**Response to Comment #19:**

The exhaust fan has been determined to successfully meet and exceed expectations for both explosion as well as corrosion resistance and meets National Electrical Code requirements. Please note, no changes have been made to the final permit based on this comment.

**Comment #20:**

Page 7-49, Section 7.3.4, third-from-last paragraph: Will the front nozzle be activated by the melting of the fusible link? Is the fusible link in the nozzle, or is the nozzle on a deluge system with the fusible link acting as a detection system? If the fusible link is in the nozzle, how can the technician manually trigger it?

**Response to Comment #20:**

The fusible link is the trigger for the primary fire suppression system. The secondary system is activated manually. Please note, no changes have been made to the final permit based on this comment.

**Comment #21:**

Page 9-3, Section 9.1.3.2, next-to-last paragraph, last sentence: What provisions are available for spills during waste transportation? What happens if waste is spilled on or from a truck or forklift during transport?

**Response to Comment #21:**

UTC has an Emergency Response Procedure, which details the actions that will be taken in case of a spill. The Contingency Plan, in Appendix Q, also has additional details of emergency response. Please note, no changes have been made to the final permit based on this comment.

**Comment #22:**

Page 9-17, Section 9.2.3, third paragraph: Tank entry must be performed under Cal/OSHA regulations (Cal. Code Regs., title 8, section 5157) concerning Permit-Required Confined Space (compare with Page 14-6, top paragraph). The Lockout Tagout regulation also applies.

**Response to Comment #22:**

Tank entry is performed under Cal/OSHA regulations (Cal. Code Regs., title 8, section 5157). Lockout/Tagout is also performed as per OSHA regulations. Please note, no changes have been made to the final permit based on this comment.

**Comment #23:**

Page 9 -19, Section 9.5. A Monitoring to detect, characterize, and respond to releases to groundwater, surface water, or the unsaturated zone is not required under RCRA, but is such monitoring of the unsaturated zone undertaken for any other regulatory requirement?

**Response to Comment #23:**

If releases are known or suspected at any location at the facility, DTSC can require a full investigation and clean-up under RCRA Corrective Action requirements (HSWA). The site assessment and cleanup activities at this site addressing past releases to soils and groundwater are being carried out under the direction and oversight of the San Francisco Regional Water Quality Control Board. Please note, no changes have been made to the final permit based on this comment.

**Comment #24:**

Page 10-5, Section 10.2.3. Annual HAZWOPER refresher training typically does not include such topics as respirator training or powered industrial trucks (forklifts) B these are



required by other regulations.

**Response to Comment #24:**

Respirator training, forklift training and other types of training as determined by other agencies including OSHA, etc., are given to all appropriate employees. The sample training matrix in Appendix P lists the classes given to employees. Please note, no changes have been made to the draft permit based on this comment.

**Comment #25:**

Page 13-2, Section 13.5. How many parts per billion of perchlorate make a material “reportable” under 40 CFR Part 302?

**Response to Comment #25:**

Solid rocket fuel waste materials containing perchlorate are reactive characteristic wastes (D003) per RCRA regulations. When these types of wastes are treated in the Hydrolysis Treatment Unit (HTF), United Technologies handles the effluent as hazardous waste. All effluent from the HTF will be treated as hazardous regardless of the contaminant concentration. Currently it is shipped to a facility in Nebraska for incineration. There are no stated concentrations for perchlorate which would make a solution hazardous. Testing to determine definition as a hazardous waste for a solution containing perchlorate would focus on reactivity and toxicity as defined in federal and State regulations. The section of the permit to which the commenter refers discusses “reportable quantity” listed in 40 CFR Part 302, which means the total quantity, not the concentration, of the hazardous waste. Because perchlorate is an unlisted hazardous waste the “reportable quantity” would be based on the toxicity characteristics identified in 40 CFR 261.24. However, perchlorate is not listed as a toxic chemical under this section and therefore there are no reportable limits for a release of a solution of perchlorate under federal regulations. However, the State regulations require the permittee to “report any noncompliance which may endanger health or the environment” or “release of any hazardous waste that may cause an endangerment to public drinking water supplies.” (Cal. Code Regs., title 22, 66270.30 (l)(6)). As it has been established that perchlorate is a hazard to drinking water supplies, reporting of spills of solutions containing perchlorate at any concentration is required. Please note, no changes have been made to the final permit based on this comment.

**Comment #26:**

Page 13-3, Section 13.6, second bullet. How many parts per billion of perchlorate would make a material a hazardous substance that may endanger public drinking water supplies@reportable to the DTSC?

**Response to Comment #26:**

There is no absolute limit on the concentration of perchlorate which might endanger public drinking water supplies. The facility is required to report all instances of noncompliance which might endanger health or the environment. Please note, no changes have been made to the final permit based on this comment.

**Comment #27:**

Page 14-3, Section 14.4, second paragraph. What is the average parts per billion of perchlorate in the aggregate 17,564 gallons of wastes stored at the Hydrolysis Treatment Facility?

**Response to Comment #27:**

The concentration of perchlorate in the brine tank, based on the estimated destruction efficiency of the Hydrolysis Treatment Unit, is approximately 33,000 parts per million. Concentration of ammonium perchlorate in the untreated propellant waste ranges between 63% and 73%.

**Comment #28:**

Page 14-5, Section 14.6.3, first paragraph: A High-pressure steam will be effective at dissolving any remaining constituents of concern. Nitrolycerin is not very water-soluble, RDX or HMX are apparently not very soluble either.

**Response to Comment #28:**

A solution of dilute basic detergent material used in conjunction with a high pressure water stream will be utilized for decontamination procedures. Page 14-5, Section 14.6.3 of the UTC operation plan has been modified.

**Comment #29:**

Page 14-6, Section 14.6.3 (continued), fifth paragraph: A sample of the final rinse water will be collected and analyzed for perchlorate. If the rinse water sample results indicate that hazard constituents continue to exist, the decontamination procedure will be repeated as necessary until clean. Below what parts per billion of perchlorate will the determination of clean be made? (Same question for following paragraph.)

**Response to Comment #29:**

Rinse waters must be non-detect for contaminants of concern, including perchlorate, in

order for the unit to be considered “clean”. The UTC operation plan, page 14-6, section 14.6.3 has been modified to reflect this clarification.

**Comment #30:**

Page 14-7, Section 14.6.3 (continued), second paragraph: All wash water will be captured and sampled for perchlorate to determine if it is hazardous. Below what parts per billion of perchlorate level will the determination of nonhazardous be made?

**Response to Comment #30:**

All waste waters from the Hydrolysis Treatment Unit, no matter what the concentration of perchlorate, are treated as hazardous waste and shipped off-site for disposal at an incineration facility. Please note, no changes have been made to the draft permit based on this comment.

**Comment #31:**

Page 14-8, Section 14.8 (continued): The anticipated final closure for the four RCRA facilities is the year 2036 (35 years from the date of this permit application). The permit application date of record appears to be September 17, 2002, making the closure year 2037.

**Response to Comment #31:**

The anticipated year of final closure is a rough estimate. Page 14-8, Section 14.8 of the UTC operation plan has been revised to reflect the fact that the rough estimate of 35 years into the future would correspond to the year 2037 rather than 2036.

**Comment #32:**

Page 14-8, Section 14.10, third bullet. Define causerie.

**Response to Comment #32:**

The UTC operation plan has been revised to correct this error and the word “causerie” has been removed.

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**Comments 33 and 34 were received from the Bay Area Air Quality Management District (BAAQMD) in letter dated July 1, 2003. It should be noted that both these comments pertain to California Environmental Quality Act issues.**

**Comment #33:**

On page 5 of the CEQA Initial Study, air quality impacts are discussed. The finding of significance made in the CEQA Initial Study is that the project will have no air quality impact. We recommend that the more appropriate finding is that this project will have a less than significant air quality impact. Certain equipment included in the proposed project (the new shredder and chopper for instance) will result in some air quality impact, but it will likely be a less than significant impact because the project is required to meet all air quality laws before we issue a permit for the sources.

**Response to Comment #33:**

DTSC agrees with this comment. This correction to the Initial Study will not effect the Negative Declaration which states that the project will have “no significant impact”.

**Comment #34:**

Before beginning construction on any sources that requires a permit from the Bay Area Air Quality Management District (BAAQMD), the owner/operator of the proposed project must file an application for an Authority to Construct with the BAAQMD. This will allow the owner/operator to make any required design changes, while still in the planning stage. Failure to file before construction begins will result in increased fees and possible civil or criminal penalties. An Authority to Construct will be issued by the BAAQMD, only after engineers review the equipment design for the proposed project and determine if it is capable of complying with air quality laws. A Permit to Operate is issued under the same permit application.

**Response to Comment #34:**

DTSC appreciates this clarification of procedures required by BAAQMD. This comment supports DTSC’s findings that the project will have a less than significant impact since all construction and operations must meet existing air quality requirements. Please note, no changes have been made to the draft permit based on this comment.

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**A letter of support (see Comment #35) for the SCVWD comments was received from the City of Morgan Hill dated July 3, 2003.**

**Comment 35:**

The City of Morgan Hill supplies drinking water to 10,000 plus households and businesses and we are 100% dependent upon groundwater wells. We, therefore, are very concerned

about any increases in storage of hazardous materials at the UTC site above Anderson Reservoir, including perchlorate storage.

The City fully supports the July 3, 2003 letter from the Santa Clara Valley Water District (SCVWD) relative to this permit, and we also would like to attend the requested meeting with stakeholders to fully discuss the issues/questions raised by the SCVWD in their July 3, 2003 letter.

**Response to Comment 35:**

Comment noted that the City of Morgan Hill supports the comments sent by the Santa Clara Valley Water District. DTSC will arrange an interagency meeting (DTSC, RWQCB, UTC, and the City) to discuss and address their interests and concerns in relation to this project and all activities at the UTC site and their effect on drinking water quality in the area. Please note, no changes have been made to the final permit based on this comment.