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FINAL
ENVIRONMENTAL
IMPACT STATEMENT

**APTUS
INDUSTRIAL AND
HAZARDOUS WASTE
TREATMENT
FACILITY**

TOOELE COUNTY, UTAH

**U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
SALT LAKE DISTRICT OFFICE
SALT LAKE CITY, UTAH**

JUNE 1988

COMPLETED



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ORIGINAL

FINAL ENVIRONMENTAL IMPACT STATEMENT
APTUS INDUSTRIAL AND HAZARDOUS WASTE TREATMENT FACILITY
TOOELE COUNTY, UTAH

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Salt Lake City, Utah

June 1988

Kemp Conn
Kemp Conn
Acting State Director
Bureau of Land Management

COVER SHEET
FINAL ENVIRONMENTAL IMPACT STATEMENT
APTUS INDUSTRIAL AND HAZARDOUS WASTE TREATMENT FACILITY

() DRAFT

(X) FINAL

Lead Agency: U.S. Department of the Interior
Bureau of Land Management
Salt Lake District
Salt Lake City, Utah

Federal Cooperating Agency: U.S. Environmental Protection Agency

Counties That Could be
Directly Affected: Tooele County, Utah

EIS Contacts: Comments on this EIS should be directed to:
Ms. Margaret Kelsey Mr. Deane H. Zeller
BLM Utah State Office District Manager
(801) 524-3128 BLM Salt Lake District
2370 South 2300 West
Mr. John Stephenson Salt Lake City, UT 84119
Salt Lake District Office
(801) 524-6762

Date Draft EIS made available to EPA and public: February 26, 1988.

Date Final EIS made available to EPA and public: July 1, 1988.

ABSTRACT

Aptus proposes to construct and operate an industrial and hazardous waste transfer, storage, and incineration facility in Tooele County, Utah. The incinerator would be designed to thermally destruct both "hazardous" chemical waste materials, as defined under the Resource Conservation and Recovery Act (RCRA) and "toxic" chemical waste materials, as defined under the Toxic Substance Control Act (TSCA). The proposed facility would incinerate up to 10 tons of wastes per hour at approximately 7,000 operating hours per year. The transfer and storage area would operate 365 days a year, 24 hours a day. While the actual facility is proposed to be constructed on private land, the transportation and utility corridors would cross federal land administered by the Bureau of Land Management (BLM).

The Environmental Impact Statement (EIS) for the proposed Aptus industrial and hazardous waste treatment facility analyzes the environmental impacts of the proposed transfer, storage, and incineration facility, and the transportation and utility corridors through construction, operation, and closure. The Draft and Final EISs used as a set address the impacts of Aptus's Proposed Action, the Aragonite Alternative; two alternative locations, the Skunk Ridge Alternative and the Clive Alternative; the Clive-Aragonite Alternative; and the No Action Alternative.

PREFACE

The EIS has been prepared according to the requirements of the Federal Land Policy and Management Act of 1976 (FLPMA), the National Environmental Policy Act of 1969 (NEPA), as amended, and the Council on Environmental Quality's (CEQ) regulations for implementing NEPA, effective July 30, 1979. The EIS focuses on the issues and concerns identified during the public scoping process and the public review period of the Draft EIS.

The Final EIS for the proposed Aptus Industrial and Hazardous Waste Treatment Facility has been prepared in an abbreviated format under the CEQ regulations [40 CFR 1503.4 (3)(c)]. This document must be used in conjunction with, rather than in place of, the Draft EIS that was released for public review on February 26, 1988. A limited number of copies of the Draft EIS are still available and can be obtained by contacting Mr. Deane Zeller of the Salt Lake District of the BLM.

The Final EIS contains four chapters. The first chapter is a summary of the proposed project, areas of concern, major impact conclusions, and the lead agency's preferred alternative. The second chapter (Consultation and Coordination) presents the results of the agency and public reviews of the Draft EIS. Comments received by letter and at the public hearings are listed, in addition to the responses to those comments. The third chapter (Modifications and Corrections) includes text revisions to the Draft EIS and additional tables, figures, and maps to expand or clarify material presented in the Draft EIS. These have been made in response to agency and public comments and are referenced to the appropriate page number in the Draft EIS. The final chapter contains appendices that present updated mitigation measures and restoration requirements for rights-of-way that will be applied to the proposed action or alternatives.

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SUMMARY

1.0

1.0 SUMMARY

Aptus (formerly National Electric, Inc.) proposes to construct an industrial and hazardous waste transfer, storage, and incineration facility in Tooele County, Utah, 68 miles west of Salt Lake City.

1.1 Purpose and Need

In July 1985, the Congressional Budget Office (CBO) estimated that United States (U.S.) industries generated about 266 million metric tons of hazardous waste in 1983 (Journal of the Air Pollution Control Association 1985). The CBO estimated that if industry did not alter waste production rates, the volume of waste generated could grow by 6 percent (to 280 million metric tons) in 1990. However, while the amount generated is increasing, disposal options have become more limited.

The 1984 Hazardous and Solid Waste Amendments to the Resource Conservation and Recovery Act (RCRA) state that land disposal should be the least favored method for managing hazardous waste. Given the accompanying cradle-to-grave liability, the use of landfills will become more constrained. In addition, the regulations requiring the destruction of polychlorinated biphenyls (PCBs) under the Toxic Substances Control Act (TSCA) mandate thermal treatment or detoxification rather than landfilling. The 1984 Amendments adopted a regulation under the Safe Drinking Water Act (SDWA) which bans the disposal of hazardous waste by underground injection into or above any formation that contains a potential underground source of drinking water, if the distance between the well and the aquifer is within 0.25 mile.

Thus, two disposal options that were available to hazardous waste generators have been seriously constrained. Under the Superfund Amendments Reauthorization Act of 1986 (SARA Title III), each state must certify by November 1989 that it has adequate capacity to dispose of its own wastes for the next 20 years. This can be accomplished either through providing waste treatment within the state's own boundaries, or entering into specific compacts with other states for proper disposal.

The Environmental Protection Agency (EPA) estimated that given the 1984 RCRA amendments, the demand for new land-based incinerators for liquids only would be the equivalent of 82 additional units (20,000 metric tons/year average capacity) (EPA 1985). Of the nation's 13 existing commercial incinerators, none are located in the Rocky Mountain region. Thus, waste produced in Utah is either landfilled at the U.S. Pollution Control, Inc. (USPCI) landfill in Tooele County or shipped out-of-state for incineration or disposal. Approximately 1 million tons of hazardous waste per year is generated in Utah by 400 major generators and another 300+ small quantity generators; of the 1 million tons per year, approximately 30,000 tons are incinerable. This estimate of Utah incinerable waste does not include PCB waste, Superfund (CERCLA) waste, or waste from small quantity generator who produce less than 2,200 pounds per month of hazardous waste. Based on Aptus' proposed operating rate of 50,750 metric tons per year, Aptus could process all the incinerable wastes produced by all Utah generators; however, it is unlikely that Aptus could capture all of the Utah market. This is a decision that can be made only by the generators, based on free-market considerations. It has been estimated that approximately 80 percent of the wastes (or 40,600 tons per year) transported to the proposed Aptus incinerator would be from California, Oregon, Washington, Idaho, Wyoming, and Colorado. The other 20 percent (or 10,150 tons per year) would potentially be from Utah.

The proposed Aptus facility is intended to accept industrial solid and liquid wastes and dispose of them by carefully controlled burning. Aptus is a private company that would accept wastes from private companies or other generators for the purpose of financial profitability.

1.2 Description of the Proposed Action

Aptus is a Pennsylvania general partnership between National Electric, Inc. (NEI) and Westinghouse Specialty Services. Aptus (formerly NEI) proposes to construct an industrial and hazardous waste transfer, storage, and incineration facility, designed to thermally treat RCRA and TSCA-regulated chemical waste materials. The proposed Aptus treatment facility site, known as the Aragonite site, is located

approximately 34 miles northwest of Grantsville in Tooele County, Utah, adjacent to Interstate-80 (I-80) in T.1S, R.10W, W1/2 Sec. 9, SW1/4 Sec. 4, E1/2SE1/4 Sec. 5, and Sec. 16.

The proposed Aragonite site occupies one section of private land (Section 16) on which Aptus holds an option to purchase and partial sections of federal land (in Sections 4, 5, and 9) managed by the Bureau of Land Management (BLM). Aptus would acquire title to the public land through a land exchange with BLM. The proposed exchange is currently not consistent with BLM's Tooele Management Framework Plan (MFP). A plan amendment would be required before the proposed exchange could occur. This Environmental Impact Statement (EIS) analyzes the impacts of a plan amendment and will constitute analysis for the amendment under the National Environmental Policy Act of 1969 (NEPA). Aptus would also be required to obtain rights-of-way (ROWs) permits from the BLM and the Utah State Division of Lands and Forestry for the linear facilities that would cross public and state land, respectively, to reach the Aragonite site.

The Aptus treatment facility would occupy approximately 15.3 acres of the 1,200 acres that have been proposed to be acquired. Construction of the facility would entail clearing and grading of the 15.3 acres and construction of a slugging rotary kiln, gas cleaning train, bulk liquid storage tank farm, drum storage building, transfer building, sludge and bulk handling system, and analytical laboratory. Construction would require a work force of about 75 on-site personnel.

In addition to the facilities located on the site, linear facilities to provide utilities (electricity, natural gas, telephone) and transportation (access road and rail spur) to the Aragonite site would be required. Approximately 7.6 miles of the existing transmission line from the Lakeside military exit would be upgraded to 25 kilovolts (kV) utilizing wood-pole structures on the existing ROW, and a 25-kV electrical tap and telephone service tap would extend 2.4 miles from the junction located north of I-80. A 4-inch natural gas pipeline tap would extend 21.3 miles across the Lakeside Mountains from northwest of Rowley, Utah. Trucks would reach the facility via a new two-lane paved access road extending 2.2 miles from the I-80 interchange to the site.

A 1.5-mile rail spur from the Union Pacific mainline to the facility is planned for construction during the first four years of facility operation.

Following construction, all disturbed areas that would not be occupied by facilities or paved to collect and contain storm runoff water would be restored. Some areas on the 15.3-acre facility site would be landscaped while others would be revegetated to aid in inhibiting the invasion of noxious weed species. ROWs would be restored in a manner consistent with BLM requirements and to the standards of the BLM Authorized Officer.

All materials transported to and from the treatment facility would be transported by truck or rail. Prior to treatment, waste would be stored in either the tank farm or container feed building at the incinerator site. The waste generated onsite would be slag from the incineration of solids and flyash from the baghouse. This waste byproduct would be transported offsite and disposed of at an existing EPA-approved disposal facility.

The operations work force would total approximately 76 personnel. The Aptus treatment facility would be expected to operate indefinitely with the application of proper maintenance procedures. The facility is designed to process up to 10 tons per hour of waste at approximately 7,000 operating hours per year (50,750 tons per year). Final closure of the facility is anticipated in 2020 or after 30 years of facility life. An option, or sub-alternative, to the Aragonite Alternative as it is proposed would be the granting of the ROWs by BLM, but no land exchange would occur.

1.3 Alternatives

Skunk Ridge Alternative

The Skunk Ridge Alternative would differ from the Proposed Action only in the location of the waste treatment facility and the distances required for the linear facilities to provide utilities and transportation. Project components, construction, operation, and closure would all be the same as described for the Proposed Action. The Skunk Ridge site is located in T.1N, R.9W, Sec. 4 in Tooele County,

Utah. This section is public land managed by the BLM. A land exchange with BLM and ROWs grants would also be required for this alternative. Linear facilities to the Skunk Ridge site would require a 25-kV electrical tap, and a telephone service tap would extend 0.4 mile from the mainlines to the site. The natural gas pipeline tap would extend 10.9 miles from the main junction; 2.3 miles of access roads would require upgrading; and the rail spur would extend 0.3 mile to the Skunk Ridge site.

Clive Alternative

The Clive Alternative would differ from the proposed action only in the location of the waste treatment facility and the required linear facilities to provide utilities and transportation. Project components, construction, operation, and closure would all be the same as described for the proposed action. The Clive site is located in T.1S, R.11W, Sec. 30 and 31 of Tooele County, Utah. These sections are public land managed by the BLM. A land exchange and ROWs grants would also be required for this alternative.

Approximately 14.8 miles of transmission line upgrade to 46-kV would be required; the upgrade would be necessary due to the greater distance of the Clive site from the Marblehead substation. A 46-kV electrical tap and a telephone service tap would extend 2.1 miles from the mainline. The natural gas pipeline tap would extend 28.0 miles from the main junction, 1.7 miles of access roads would require upgrading, and the rail spur would extend 0.1 mile to the Clive site. It would also be necessary to deliver potable water to the site.

Clive-Aragonite Alternative

The Clive-Aragonite Alternative would be a combination of the Clive Alternative and the Aragonite Alternative. It is assumed that the industrial and hazardous waste incinerator would be constructed at only one of the sites, and lands at the other site may eventually be used for other future purposes, not yet identified, but consistent with Tooele County zoning. Any future development would be subject to applicable federal, state, and county requirements.

No Action Alternative

Under the No Action Alternative, BLM would not issue the ROWs grants nor proceed with the land exchange necessary for Aptus to develop its industrial and hazardous waste treatment facility as proposed. No action would preclude Aptus from developing the facility utilizing public land as proposed; however, it would not preclude Aptus from identifying an alternative site and ROWs on private land and proceeding with their proposal. If private land were utilized, BLM would have no permitting authority. However, the facility would still require approval from the State of Utah, Tooele County, and EPA. Impacts associated with the No Action Alternative are discussed in Section 4.5 of the Draft EIS.

1.4 Issues and Concerns

Prior to preparation of the Draft EIS, public scoping meetings were held in Grantsville and Salt Lake City, Utah to identify major issues and concerns that should be addressed in the EIS. The results of the scoping meetings were compiled in a Scoping Summary Document. The comments were assigned, as appropriate, to one of the following three categories: comments identifying alternatives to the proposed project; issues and concerns to be addressed in the EIS; and statements of opinion. The following is a listing by category or discipline of major issues and concerns submitted by commenters a minimum of five times or more that are addressed in the Draft EIS. Parenthetical number designations following each comment indicate the number of times the issue/concern was mentioned.

Purpose and Need

- The number of incinerators and landfills needed in Tooele County. (6)
- Location of an incinerator in Utah versus other states. (5)

Air Quality

- Contamination of surrounding areas from toxic stack emissions. (13)

- Cumulative air quality impacts from mining and other incinerator operations. (7)
- Monitoring and regulation of air quality during facility operation. (6)
- Need for sophisticated air quality modeling. (5)

Water Resources

- Contamination of groundwater aquifer and drinking water wells. (5)

Geology/Soils

- Contamination of soils from spills, air emissions, and fly ash. (6)
- Probability and magnitude of an earthquake and seismic protection measures. (5)

Biological Resources

- Effects on vegetation and wildlife. (8)

Transportation

- Accidents involving trucks or trains carrying hazardous waste. (12)

Socioeconomics

- Employment concerns including number of workers, local hires, union representation, pay scale, and job categories. (10)
- Economic benefits to Tooele County including property tax, hazardous waste fee, and increased employment. (8)
- Positive and negative effects on industrial growth due to the presence of the hazardous waste incinerator in Tooele County. (5)

Land Use/Recreation

- Conflicts with existing land uses including industry, grazing, farmland, wildlife, off-road vehicle use, and wilderness. (11)

Health and Safety

- Existing emergency response capabilities of Tooele County and surrounding areas. The need to upgrade those capabilities. (8).

- Adequate inspection and monitoring of the facility to protect the public. (7)
- Disposal of slag, flyash, etc., in an offsite landfill. (6)
- Qualifications of state/federal personnel who would monitor the facility. (6)
- Liability in the event of a spill. (5)

1.5 Significant Impact Conclusions

Impacts and concerns associated with the Proposed Action (the Aragonite Alternative), the Skunk Ridge Alternative, the Clive Alternative, the Clive-Aragonite Alternative, and the No Action Alternative are summarized in Table 1-1. For each alternative, significant impacts could potentially occur to emergency response personnel, bystanders, sensitive biological resources, and water resources in the event of a spill along a transportation route. A large spill of PCBs with a resulting fire could require the evacuation of people in the immediate vicinity of the accident. However, the probability of a toxic spill occurring at a sensitive location is extremely low, so significant impacts to these sensitive resources are not anticipated.

No significant impacts were identified regarding transportation concerns; however, the lack of a direct freeway interchange to the Clive site has been noted in the Draft EIS. Tooele County and the Utah Department of Transportation (UDOT) are pursuing the construction of an interchange at Clive. Construction could begin as early as 1989; however, funding for this project has not been secured and no construction schedule has been established. UDOT has agreed to leave the temporary west-bound off-ramp and east-bound on-ramp at Clive in place for use by authorized vehicles until a final decision on whether an interchange will be constructed has been made. The Skunk Ridge site is not located within Tooele County's West Desert Hazardous Industry Area. Further, a potential impact to groundwater would occur at the Skunk Ridge site if the capacity of existing wells near the site were affected by a new production well. Impacts associated with the project's linear facilities would be the same for the three alternative sites and would not be significant.

TABLE 1-1
SUMMARY OF CONCERNS AND IMPACTS FOR THE APTUS INDUSTRIAL
AND HAZARDOUS WASTE TREATMENT FACILITY¹

	Alternatives				
	Aragonite (Proposed)	Skunk Ridge	Clive	Aragonite/ Clive	No Action
<u>Air Quality</u>					
Compliance for criteria pollutants under NAAQS	Y ²	Y	Y	Y	Y
Compliance for non-criteria (toxic) pollutants	Y	Y	Y	Y	Y
<u>Geology and Soils</u>					
Site located within 200 feet of Holocene Fault	N	N	N	N	NA
Disturbance to mineral or paleontological resources	N	N	N	N	N
Disturbance to erosive soils that could not be subsequently restabilized	N	N	N	N	N
Significant impact to soil productivity following a spill and cleanup	N	N	N	N	N
<u>Water Resources</u>					
Surface water quality or quantity reduced below standards or affected existing users	N	N	N	N	N
Construction within 100-year floodplain	N	N	N	N	N
Groundwater use affecting existing water rights	N	Y	N	N	N
Groundwater quality modified by spill to affect established users	N	N	N	N	N
<u>Biological Resources</u>					
Inadequate revegetation cover to prevent erosion	N	N	N	N	N

TABLE 1-1 (CONTINUED)

	Alternatives				
	Aragonite (Proposed)	Skunk Ridge	Clive	Aragonite/ Clive	No Action
Inadequate revegetation cover to support land uses	N	N	N	N	N
Rare, unique, or sensitive habitat, species, or communities lost due to construction, spills, or emissions	N	N	N	N	N
Known critical ranges for game species affected during season of use or critical periods	N	N	N	N	N
Threatened, endangered, or candidate species affected	N	N	N	N	N
Toxic spill into Great Salt Lake or surface streams	N ³	N ³	N ³	N ³	N ³
<u>Transportation</u>					
Truck or rail accidents in Utah resulting in the spill of hazardous wastes increasing by more than 5 percent over existing levels	N	N	N	N	N
Traffic volume on I-80 increasing so that the roadway volume-to-capacity relationship results in the traffic operating Level of Service falling below Level of Service C	N	N	N	N	N
Traffic volume on I-80 increasing so that change in Level of Service indicates a corresponding increase in accident frequency	N	N	N	N	N
Roadway facilities requiring upgrading and capital expenditures to mitigate vehicle flow and/or safety deficiencies that are beyond the fiscal capabilities of the responsible agency	N	N	N	N	N

TABLE 1-1 (CONTINUED)

	Alternatives				
	Aragonite (Proposed)	Skunk Ridge	Clive	Aragonite/ Clive	No Action
Deterioration and related maintenance costs of area roadways accelerating beyond those scheduled by the responsible agency	N	N	N	N	N
Rail/highway at-grade crossing leading to the site generating more than three train/vehicle accidents during the life of the project	N	N	N	N	N
<u>Socioeconomics</u>					
Housing or service demands could not be met by existing or currently planned facilities	N	N	N	N	N
Changes in area population or employment of 5 percent or more in any year	N	N	N	N	N
Changes in local tax base greater than 5 percent	N	N	N	N	N
<u>Land Use, Grazing, Recreation, and Wilderness</u>					
Consistent/compatible with land use plans, regulations, or controls for:					
Federal	N ⁴	Y	Y	N ⁴	Y
State	Y	Y	Y	Y	Y
County	N	N	N	N	Y
Site located within the West Desert Hazardous Industry Area	Y	N	Y	Y	NA
Significantly decrease the number of grazing ADUs per acre within the Aragonite and North Cedar Mountains grazing allotments	N	N	N	N	N
Significant impact to designated wilderness or wilderness study areas	N	N	N	N	N

TABLE 1-1 (CONTINUED)

	Alternatives				
	Aragonite (Proposed)	Skunk Ridge	Clive	Aragonite/ Clive	No Action
<u>Visual Resources</u>					
Visual contrasts exceeding BLM's visual quality objectives	N	N	N	N	N
<u>Cultural Resources</u>					
Effects on sites eligible for, or listed on, the NRHP	5/	5/	5/	5/	N
<u>Health and Safety</u>					
Increased cancer risk exceeding 10^{-5} per lifetime, resulting from small spills during transport of hazardous wastes	Y ³	Y ³	Y ³	Y ³	N
Increased cancer risk exceeding 10^{-5} per lifetime, resulting from a large spill during transport of PCB wastes	6/	6/	6/	6/	N
Probability of exposures from incomplete combustion of hazardous wastes exceeding that of similar facilities	N	N	N	N	N

¹ Impact summary includes the implementation of the mitigation measures presented in Section 4.1.

² Y = Yes
N = No

³ Such an event is not predicted to occur during the life of the project.

⁴ The Aragonite Alternative without the land exchange (Aragonite Sub-Alternative) would be consistent with the BLM's Tooele Management Framework Plan.

⁵ Impacts to cultural resources cannot be specifically determined until intensive surveys are completed.

⁶ The analysis presented in Appendix B in the Draft EIS indicates that exposure of people in the immediate area of a large spill of PCBs with an ensuing fire could be significant and could require the evacuation of people within 650 feet (200 m).

NA - Not Applicable

Selection of the No Action Alternative would have no adverse impacts on the resources discussed above; however, employment opportunities and income that would result from implementation of the proposed project would not occur, nor would the opportunity to provide a hazardous waste incinerator for generators in the western region of the United States occur.

1.6 Agency Preferred Alternative

In accordance with NEPA and CEQ guidelines (40 CFR 1502.14), federal agencies are required in the Draft and Final EISs to identify the preferred alternative for the proposed project. The preferred alternative is not a final agency decision; it is rather an indication of the agency's preliminary preference. BLM's final decision will be contained in a Record of Decision prepared for Aptus' proposal and based on the information contained in the Draft and Final EIS. The alternative identified below is the BLM's preferred alternative following review of all information relevant to Aptus' proposed action.

The BLM preferred alternative is the Clive-Aragonite Alternative.

CONSULTATION AND COORDINATION

2.0

2.0 CONSULTATION AND COORDINATION

2.1 Draft EIS Review

In the course of preparation of the Draft and Final EISs and Plan Amendment for the Aptus industrial and hazardous waste treatment facility, the BLM has communicated with and received input from many federal, state, and local agencies; elected representatives; environmental and citizens groups; industries; and individuals.

Although BLM administered public lands are involved, the major issues of air, water, and public health and safety most directly involve the EPA and state and county government levels. Consequently, a steering committee composed of a representative from each federal, state, and county entity which has a specific authorizing action in conjunction with the proposed project was established. The function of the steering committee was advisory in nature and acted as a forum of ideas and concerns to provide guidance to the BLM, EPA, State, and Tooele County officials. The committee provided an avenue of communication and coordination between each of the concerned and involved governmental entities, assisted in identifying issues and sharing data sources and analysis in support of the EIS effort, and reviewed related applications for proposed projects and other documents as necessary. The steering committee reviewed the Preliminary Draft, Draft, and Preliminary Final EISs and subsequently provided comments to the BLM. BLM as the lead federal agency for NEPA compliance had the following basic responsibilities: 1) preparation of the EIS to comply with the requirements of NEPA, CEQ regulations, and departmental requirements; and 2) to the extent practical and allowed by departmental requirements, prepare the EIS to meet the needs of state and county governmental entities who have major authorizing actions so as to avoid duplication of effort.

As part of the consultation effort during the preparation of the Draft EIS, BLM contacted both the State Historic Preservation Office (SHPO) concerning cultural resources, as required by the National Historic Preservation Act (NHPA), and the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act of 1973. Copies of the Draft EIS were sent to the SHPO and USFWS, who

subsequently responded with Comment Letters 6 and 11, respectively. In addition, Appendix 4.2 contains the letters related to threatened or endangered species consultation. The Draft EIS was structured to analyze potential impacts to any threatened or endangered species and serve as the Biological Assessment for sensitive species occurring within the project area.

Approximately 700 copies of the Draft EIS were distributed by mail to various individuals, organizations, and government agencies. During the 60-day public comment period, many of those who received copies of the Draft EIS have submitted written comments and/or presented verbal comments at the public hearings held in Tooele and Salt Lake City, Utah on March 16 and 17, 1988, respectively. Those comments are presented and responded to in the following sections.

The following is a listing of the agencies, groups, and organizations who previously received copies of the Draft EIS in February 1988.

Federal Agencies

Department of Agriculture
Forest Service
Soil Conservation Service
Department of Defense
Army Corps of Engineers
Bolling Air Force Base
Edwards Air Force Base
Hill Air Force Base
Tooele Army Depot
Department of Energy
Western Area Power Administration
Department of Interior
Bureau of Land Management
Bureau of Mines
Bureau of Reclamation
Fish and Wildlife Service
Minerals Management Service
National Park Service
Natural Resource Library
Office of Environmental Project Review
Office of Public Affairs
Regional Solicitors' Office
U.S. Geological Survey
Department of Transportation
Information Assistance Office
Environmental Protection Agency
EIS Review Office
Emergency Response Branch

Federal Agencies (Continued)

Hazardous Waste Section
Policy and Management Division Region 8
Toxic Substances Branch
Federal Emergency Management Agency
Disaster Assistance Programs Division
Federal Energy Regulatory Commission
Oak Ridge National Laboratory Receiving Section
Occupational Safety and Health Agency
U.S. Government Printing Office

State of Utah Agencies

Attorney General Office
Board of Industrial Development
Board of State Lands/Forestry & Fire Control
Department of Agriculture
Environmental Quality Section
Department of Community and Economic Development
Division of State History
Department of Health
Bureau of Air Quality
Bureau of Solid and Hazardous Waste
Bureau of Water Pollution Control
Permitting Branch
Department of Natural Resources and Energy
Division of Oil, Gas, & Mining
Division of Parks and Recreation
Division of State Lands & Forestry
Division of Water Resources
Division of Water Rights
Division of Wildlife Resources
Department of Public Safety
Department of Transportation
Division of Comprehensive Emergency Management
Division of Safety
Planning Office
Office of the Legislative Fiscal Analyst
Planning Coordinator's Office
Utah State Energy Office
Utah State Engineer
Division of Water Rights
Utah State Geological and Mineral Survey
Utah State Job Service
Labor Market Information Services Division
Utah State Office of Planning and Budget
Utah State Tax Commission
Utah Statewide Planning Office

State of Nevada Agencies

Division of Hazardous Wastes

State of Colorado Agencies

Colorado Department of Health

Regional Agencies

Bear River Association of Governments
Central Utah Water Conservation District
Five-County Association of Governments
Mountainlands Association of Governments
Upper Colorado River Commission
Utah Lake & Jordan River Commission
Wasatch Front Regional Council
Weber Basin Water Conservation District

County Agencies

Box Elder County Commission
Davis County Commission
Davis County Planning Commission
Grand County Commission
Salt Lake County Commission
Salt Lake County Health Department
Salt Lake County Water Conservation District
Tooele County Attorney
Tooele County Auditor's Office
Tooele County Commission
Tooele County Conservation Office
Tooele County Department of Development Services
Tooele County Department of Environmental Health
Tooele County Economic Development Office
Tooele County Health Department
Tooele County Industrial Development Office
Tooele County Library
Tooele County 208 Planner
Tooele County Planning & Zoning Commission
Tooele County School District
Tooele County Sheriff
Utah County Commission
Weber County Commission
Weber County Department of Purchasing and Contract Management
Weber County Planning Commission

Local Agencies

Board of Water Resources
Citizen City Council - Grantsville
Metro. Water District of SLC
Salt Lake City Corporation Fire Department
Salt Lake City Public Library
Salt Lake City Public Works Division
Salt Lake City Hazardous Materials Response Team
Tremonton City Corporation
West Valley City C.D.

Elected Officials

Congressman Jim Hanson
Congressman Howard C. Nielson
Mayor of...

Brigham City
City of Bountiful
City of Centerville
City of Grantsville
City of Lehi
City of North Salt Lake
City of Orem
City of Provo
City of Salt Lake
City of Tooele
City of Tremonton
City of Wendover
City of West Bountiful
City of West Valley
City of Woods Cross

Representative Arvin M. Skousen
Representative Beverly J. White
Senator Jake Garn
Senator Orrin Hatch
Senator Karl Swan

Organizations

American Fisheries Society
American Lung Association of Utah
American Motorcycle Association
American Right-of-Way Association
Archaeological Society of Utah
Association of Four Wheel Drive Clubs
Box Elder County Wildlife Federation
Bridgerland Audubon Society
Bridgerland Wildlife Federation
Brigham Young University
Center for Environmental Studies
Department of Zoology
Lee Library
Raptor Research Foundation
Colorado State University Library
Council on Utah's Resources
Crossroads Urban Center
Davis County Wildlife Federation
Defenders of Our Utah Streams & Environment
Desert Foxes Motorcycle Club
Ducks Unlimited
El Nautica Boat Club
Golden Spike Gem & Mineral Society
Intermountain Water Alliance
League of Women Voters
League of Women Voters of Grand County
MIT Center of Technology, Policy, and Industrial Development

Organizations (Continued)

Mountain States RES
National Wildlife Federation
Nature Conservancy
Natural Resources Defense Council
Recreation Vehicle Advisory Council
Salt Lake Community Action Program
Salt Lake County Fish & Game Association
Salt Lake Citizen's Congress
Salt Lake Motorcycle Club
Save Our Rivers Committee
Sierra Club
Sierra Club Southwest
Stonefly Society
Tooele County Board of Realtors
Tooele County Historical Society
Tooele County West Desert Advisory Committee
Tooele County Wildlife Federation
United States Auto Club
University of California
 Department of Geography
 Department of Land, Air, and Water Resources
University of Utah
 Biology Department
 Bureau of Economic Research and Development
 Department of Chemical Engineering
 Medical Center
Utah Audubon Society
Utah Cattlemen's Association
Utah Chapter of the Sierra Club
Utah County Wildlife Federation
Utah Desert Foxes
Utah Environmental Center
Utah Farm Bureau Federation
Utah Geological Association
Utah Heritage Foundation
Utah Mining Association
Utah Native Plant Society
Utah Nature Study Society
Utah Recreation & Parks Assn.
Utah Salt Flats Racing Association
Utah Sportsman's Association
Utah State University
 College of Natural Resources
 Department of Chemistry
Utah Travel Council
Utah Water Resources
Utah Water Users Association
Utah Wildlife Federation
Utah Wildlife and Outdoor Recreation Federation
Utah Wilderness Association - Wildlife Board
Wasatch Gem Society
Weber River Water Users Association

Organizations (Continued)

Weber State College
 Department of Geology & Geography
 Department of Zoology
Western States Water Council
The Wilderness Society
Wildlife Society, Utah Chapter

Industries

AMAX Magnesium
AMAX Exploration, Inc.
American Salt Company
AT&T Long Line
Continental Lime Inc.
Crysen Refining
Diamond Crystal
EG&G Idaho, Inc.
Great Salt Lake Minerals
Kaiser Chemicals
Kennecott-UT COP DV
Martin Marietta Astronautics Group
Morton Salt Company
Mountain Bell
Mountain Fuel Resources, Inc.
Mountain Fuel Supply Company
Northwest Pipeline Services
Sol-Aire
Union Pacific Corporation
Union Pacific Railroad
U.S. Pollution Control, Inc.
Utah Power and Light
Westinghouse Electric

Other

Associated Press
Basin Land and Livestock
Box Elder News - Journal
Clearfield Bulletin
Daily Universe - BYU
Deseret News
Ebasco Services
Eckoff, Watson, & Preator Eng.
Ecology and Environment, Inc.
El Dorado Engineering Inc.
Engineering-Science, Inc.
ENSCO
EnviroSearch
Envirosphere Co.
EW&P
FNA News
Ford Bacon and Davis
Grantsville Gazette

Other (Continued)

H. D. Bills Exploration
Harding Lawson Associates
Herald Journal
High Country News
High Desert Advocate
J. F. Sato & Associates
KALL-FM
KANN
KBLW
KDYL/KSFI
KLBQ
KLO
KRGQ
KRSP
KSL Radio
KSL TV
KSOP
KTVX
KUER
KUTV
KVNJ
KVOG
Lazy "B" Land and Cattle Company
Leader Publishing Company
Magna Times & Valley News
McFarland & Hurling
McVehil-Monnett Associates, Inc.
Murray Eagle
Ogden Standard Examiner
Orem-Geneva Times
Pacific Northwest Laboratories
Parsons, Behle, & Latimer
Payson Chronicle
Planning Information Center
Promontory Ranch
Provo Daily Herald
S. K. Hart Engineering
Salt Lake Times
Salt Lake Tribune
Sitec Consultants West, Inc.
Skull Valley Company
Solar Resources
Spectrum Sciences
Teleclure Brown Engineering
Tetra Tech
Tooele Transcript
Transcript-Bulletin
UGMS
United Press International
Utah Chronicle
Utah Resources, Inc.

2.2 Written Comments and Responses

The BLM received 21 letters addressing the Draft EIS during the 60-day public comment period. All letters were reviewed and the substantive comments (those addressing the accuracy or completeness of the Draft EIS) contained in each letter were identified. Responses have been prepared for the 128 substantive comments identified; these responses are presented in this section. Other comments have been reviewed and considered by the BLM in determining the preferred alternative for the proposed project.

Table 2-1 lists each of the 21 comment letters by author and reference number assigned to the letter. All letters have been reproduced in their entirety, and all material has been reviewed and considered. The complete Public Comment Record containing all letters and public hearing transcripts is available for review at the BLM Salt Lake District Office in Salt Lake City, Utah.

Following Table 2-1, the comment letters and responses are presented. Each substantive comment is identified by a bracket and reference number keyed to the letter reference number. Thus, Comment 3 refers to the third comment in Letter 4. The response to each comment accompanies the letter and is identified by the reference number of the respective comment (e.g., Response to Comment 4-2).

The reader is reminded that this being an abbreviated Final EIS, it is necessary to use the Draft EIS in conjunction with the Final EIS in order to fully understand the analysis that was conducted for the proposed Aptus waste treatment facility.

TABLE 2-1
COMMENT LETTERS

Reference Number	Source of Letter
1	Utah Bureau of Water Pollution Control (state agency)
2	Hank N. Knox, Sr. (citizen)
3	Utah Department of Wildlife Resources (state agency)
4	Utah Environment Center (organization)
5	Wasatch Mountain Club (organization)
6	Utah Division of State History (state agency)
7	Utah Nature Study Society (organization)
8	USDI Bureau of Mines (federal agency)
9	USDI Bureau of Land Management, Colorado State Office (federal agency)
10	USDI Bureau of Reclamation (federal agency)
11	USDI Fish and Wildlife Service (federal agency)
12	Utah Sierra Club (organization)
13	H. B. Harvey (citizen)
14	City of Wendover (local government)
15	American Lung Association of Utah (organization)
16	Department of the Air Force (federal agency)
17	Department of the Air Force (federal agency)
18	M. John Pilny (citizen)
19	United States Environmental Protection Agency (federal agency)
20	Utah State Planning Coordinator's Office (state agency)
21	Nevada Division of Environmental Protection (state agency)

Letter 1

Response to Letter 1



Norman H. Bengtson
Suzanne Dandy, M.D., MPH

March 10, 1988

Mr. Dean Jeller
District Manager
BWM Salt Lake District
3370 South 2300 West
Salt Lake City, Utah 84119

Dear Sir:

We have reviewed the draft EIS prepared for the proposed Aptus Industrial and Hazardous Waste Treatment Facility in Tooele County, Utah. We have the following comments, mainly related to ground water.

The Bureau of Water Pollution Control (BWPC) is in the process of developing a statewide ground water quality protection strategy, for protecting ground water quality for present and future uses. Part of the strategy is designed to protect the recharge areas of aquifers by restricting overlying surface activities that are prone to pollute. According to maps prepared by the U.S. Geological Survey, two of the proposed sites, the Aragonite and Shure Ridge, are totally within recharge areas for aquifers. According to the maps, there are wells and springs near these sites which support wildlife, livestock, and quarrying operations. Without supporting detailed drill holes and hydrologic studies, and due to the nature of the proposed operation, we are therefore obligated to make negative recommendations for these two sites.

The Clive site is a much better choice. The underlying, shallow groundwater contains more than 30,000 TDS, making it unsuitable for most uses. This information is in DOE/EIS-0099-0, prepared by DOE for the vitro tailings disposal. However, we would like more information at the Clive site, before making a positive recommendation. A construction company well, about 600 feet deep, is reported to have supplied water for road construction in the area in 1970. Inasmuch as the water from wells drilled at Clive by the DOE improved in quality with depth, and the construction company well is 600 feet deep, it appears there may be a deep aquifer in the area containing good water. We are therefore requesting that Aptus rotary drill a 600 to 800 foot hole at the Clive site to determine if there are confining beds. If the site is eventually approved, and good water is found, Aptus may use the well water, providing they obtain permits from the Department of Natural Resources and appropriate drinking water requirements are met.

Norman H. Bengtson, Director of Environmental Health

Utah Department of Health, Division of Environmental Health, Salt Lake City, Utah 84143

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Letter 1 Continued

Mr. Dean Zeller
Page Two

1-1

On a somewhat separate issue, no information is provided on the disposal of wastewater generated from on-site employees. It is important that more detail be included to indicate how this waste will be properly disposed of.

If you wish further information contact Mack Croft (BNPC), 538-6146.

Sincerely,



Don A. Ostler, Director
Bureau of Water Pollution Control

cc: Tooele Co. Health Department
Brent Bradford - Bureau of Solid & Hazardous Waste
Ken Aikema - Division of Environmental Health
Joseph A. Urbanik - Tooele County

MC/ag
3918y-15

2-12

Response to Letter 1 Continued

1-1

All wastewater generated by on-site employees, including wash water and sanitary wastes, would be disposed of in an on-site septic system. There would be no surface discharge of wastewater.

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Letter 2

March 16, 1988

Hank N. Knox, Sr.
10 North Cooley Street
Grantsville, Utah 84029

Mr. Deane H. Zeller
District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City, Utah 84119

SUBJECT: RESPONSE TO APTUS EIS

I have been a resident of Tooele County for the past sixteen (16) years. I am a District Director of the Utah Wildlife Federation and also an officer in the Tooele County Wildlife Federation, however, the following comments are from the private concerned citizens.

Of the alternatives listed in the Draft Environmental Impact Statement, I am in favor of the **NO ACTION** Alternative.

I feel that the DEIS is incomplete and biased for the petitioner.

In the DEIS it states that the State of Utah must certify by November 1989 that it has adequate capacity to dispose of its own hazardous waste for the next twenty (20) years. This is fine and could be accomplished, however, the influx of hazardous waste from California, Oregon, Washington, Idaho, Wyoming, Colorado and even to Kansas is proposition. I think the hazardous waste should be disposed of at onsite locations. Companies that generate waste should build disposal units on site to handle this, then there would be no need of transporting by truck and rail to various places in the United States.

The projected accident rate of .62 or over the proposed life of the facility (30 years) is 1.79 that is projected to one (1) major spill in seventeen (17) years. One (1) major spill is one (1) to many, should this occur on a water shed to the streams or lake beds.

I noted in the DEIS that the average temperature is 75° while in the area proposed some 40 plus days are above 90°. In winter time with the inversion that so often occurs, the stack emissions could only add to the poor air quality.

2-1 [The wind direction charts from the Salt Lake Airport have very little to tell us about the area under consideration. Why wasn't Hill Air Force range listed for some of these? The wind currents in the area are totally different than Salt Lake.

In section 3.2.4, Biological Resources Section, Wildlife.

Response to Letter 2

2-1

The EIS preparers conducted an intensive search of available meteorological data for the area. The data required for characterizing atmospheric transport and dispersion are quite specific and are not normally available at all wind monitoring sites. No data meeting our criteria were located for the Utah Test and Training Range. The preparers recognize the limitations of the modeling using Salt Lake City data and provided a discussion of this issue for each alternative. Please refer to Pages 4-14 through 4-16, 4-53, and 4-60 of the Draft EIS.

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Letter 2 Continued

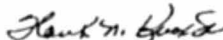
(Cont'd)
March 16, 1988

The pronghorn antelope is in abundance in the proposed area of Skunk Ridge, Aragonite, and range as far west as Clive. These animals do not like the presence of humans and the amount of increased traffic as stated in other sections of the DEIS would be detrimental to wildlife.

2-2

In summation we are asked to trust Aptus to monitor their air quality, notify public officials when they have accidents with hazardous waste. Their record in Coffeyville, Kansas on citations are not that clear. Their rotary kiln must operate at negative pressure while feeding some ten (10) tons per hour. I don't think we need anymore additions to Tooele County that seem to imply we are the dumping ground or out-house for the western states.

Respectfully,



Hank N. Knox, Sr.

attachments: Article published in Utah Wildlife News.

Response to Letter 2 Continued

2-2

Citations received by Aptus in Coffeyville, Kansas were for the transfer and storage facility. As stated in the Draft EIS, the incinerator has not been found in violation. In September 1985, the Coffeyville facility was inspected and cited for three violations. Aptus was subsequently fined \$3,900. The violations related to record keeping, labeling, and transformer oil that was present on the facility floor. EPA reinspected the facility December 1985 and acknowledged that the situations had been corrected and that no further violations existed. In June 1986, Aptus was cited by the EPA for recycling solvents with greater contamination levels than those specified in the permit, failing to collect air samples within the plant at the specified frequencies, storing two drums of contaminated materials (i.e., gloves, suits, etc.) longer than the authorized time, and record-keeping violations. Aptus corrected the situations, paid a fine of \$30,000, and took precautions to ensure that the violations did not occur again.

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STATE OF UTAH
NATURAL RESOURCES
Wildlife Resources

1596 West North Temple - Salt Lake City, UT 84116-3154 - 801-533-9333

Letter 3

Response to Letter 3

Norman H. Bangerter, Governor
Dee C. Hanson, Executive Director
William H. Geer, Division Director

March 18, 1988

Dean H. Zeller
District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City, Utah 84119

Subject: Aptus Industrial and Hazardous Waste Treatment Facility Tooele County, Utah, DEIS.

Dear Dean:

We have reviewed the subject DEIS and feel it is adequate in addressing identified issues and concerns of the proposed project, the affected environment and environmental consequences thereof. The proposed mitigation measures appear adequate in mitigating anticipated impacts from a wildlife resources standpoint.

Based on the Superfund Amendments Reauthorization Act of 1986 (SARA Title III) (Page 1-5, Paragraph one of the DEIS), it seems apparent that Utah must deal with disposing of its own industrial and hazardous wastes for the next 20 years, thus ruling out the No Action Alternative. From a wildlife value standpoint, we have ranked the remaining four alternatives in ascending order of importance as follows:

1. Clive Alternative
2. Clive - Aragonite Alternative
3. Aragonite Alternative
4. Skunk Ridge Alternative

The fewest wildlife impacts would occur with the Clive Alternative and the most impacts would occur with the Skunk Ridge Alternative. We prefer and recommend the Clive Alternative over the other three.

Specific comments on the DEIS are as follows:

3-1 [Page 2-14, Paragraph 3 - All disturbed areas should be reseeded. Allowing disturbed areas to revert to natural vegetation on their own will result in noxious weed invasion with the most likely species being halogeton and Russian thistle.

Dean H. Zeller
March 18, 1988
Page 2

3-2 [Page 3-17, Paragraph 4 - One peregrine falcon egg was produced at the Timpie Springs WMA hack site in 1987, however, it did not hatch.

Thank you for the opportunity to review and comment on this action.

Sincerely,

William H. Geer
Director

3-1 It is agreed that noxious weed invasion could occur from the grading of the proposed facility site. For this reason, Mitigation Measure D found in Section 4.1 of this Final EIS was developed to reduce the possibility of the invasion of species such as halogeton and Russian thistle. Also, please refer to Section 3.1 in the Modifications and Corrections chapter of this Final EIS regarding site reclamation.

3-2 Based on your comment, text revisions to Page 3-17 in the Draft EIS are included in Section 3.1 of this Final EIS. In conversation with Bob Benton of the U.S. Fish and Wildlife Service (USFWS), April 1988, it has been confirmed that an actively breeding pair of peregrine falcons are currently inhabiting the Timpie Springs hack site.

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Letter 4

Response to Letter 4



UTAH ENVIRONMENT CENTER

232 University Street
Salt Lake City, UT 84102
(901) 583-0220

17 March 1988

Mr. Deane H. Zeller
District Manager
BLM Salt Lake District
2170 South 2300 West
Salt Lake City, Ut. 84119

Re: Draft EIS for Aptus Industrial and Hazardous Waste Treatment Facility

Please accept these comments to be included in the EIS for the Aptus Incinerator siting alternatives.

This document's first glaring questionable statement appears in the Summary on page iii and again in the main text of the document:

"...The other 20 percent (or 10,150 tons per year) would be from Utah. Based on the proposed Aptus capacity and transport scenario, three such incinerators would be required in Utah to incinerate Utah's annual 30,000 tons of incinerable wastes."

2-16
4-1
What are you saying? That you do not know even grade school mathematics?? Or, are you implying that two other potential incinerator companies encouraged to add this statement to your document? Perhaps your goal is not to do an impact statement at all but to encourage the Utah population to accept the wastes from the entire Rocky Mountain Region (and to include, of course, the states mentioned of California, Oregon, Wyoming, Idaho, Washington and Colorado).

Although the credibility of this whole document is in question, I shall still attempt to respond to some of the specifics.

UNDER PURPOSE AND NEED

On page 1-4 the disposal options for hazardous wastes is addressed. And, of course, the advantages of incineration are addressed and include (4) "minimizing the "cradle-to-grave" liability from re-surfacing in the future." Here, you have hit onto the real reason for incineration. The companies that generate the wastes do not want the responsibility for the end product; they do not want the liability or the expense of clean-up. But, worse, they do not want to be sent back to the drawing board in search of products that generate a cleaner waste stream.

4-2
On page 1-10 a mention was made of 'previously received citations for minor violations in the Coffeyville, Kansas, transfer and storage facility.' These violations should be spelled out. If we are going to host an incinerator for 30 years in this state, we need to know what problems are already being noticed at a plant only two years of age.

ALTERNATIVES

After studying all the alternatives and visiting the three proposed sites, only one of these can be recommended in favor of the other two by the Utah Environment Center membership; that is the Clive site.

4-1

BLM agrees that this section of the Draft EIS is confusing and misleading. Aptus was asked what percent of the capacity of their proposed incinerator would be filled by Utah-generated waste. Aptus made the conservative assumption that they could capture one-third of the Utah market for incinerable hazardous wastes or about 10,000 tons per year. Obviously, the Aptus incinerator with a capacity of about 50,000 metric tons per year could accommodate all of Utah's incinerable hazardous waste estimated at 30,000 tons per year if all generators chose to use the Aptus facility. Aptus has stated that they could process all the incinerable wastes produced by all Utah generators; however, it is unlikely that Aptus could capture all of the Utah market. This is a decision that can be made only by the generators, based on free-market considerations. The assumption was made in the Draft EIS that no single incinerator could capture more than one-third of the Utah market. This assumption was misleading and has been deleted (see Section 3.1 in this Final EIS). It must be noted that the number and size of hazardous waste incinerators located in the State of Utah would be determined by a complex set of market forces and not by state or federal regulations. Also, please refer to Response to Comment 1-2 for further clarification of incinerable waste in Utah.

4-2

Please refer to Response to Comment 2-2 for a discussion of the record of citations for the Coffeyville, Kansas facility.

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Letter 4 Continued

Aptus Incinerator Sites

-2-

17 Mar 88

SKUNK RIDGE in Puddle Valley is too close to Tooele, Granville, and the Salt Lake County population. It hosts a pronghorn population and is a nesting area for bald eagles. It has an useable water supply that should not be diverted to the rotary kiln incineration cooling process.

ARGONITE sits next to a Wilderness Study Area in the Cedar Mountains. As we walked around the proposed site two Saturdays ago, we noticed droppings that identified wildlife in the area.

CLIVE is the least objectionable from a visual impact, an environmental impact, and from a goodly distance from populated areas. Already there are other beauties there: USPCI to the North of the freeway, the Vitro uranium mill tailings, and a proposed low level radioactive dump site.

UNDER FACILITY SITE

4-3 2-14 first full paragraph mentions a water supply well for the waste treatment facility. Will a study be done to identify all the water sources in this arid desert? Will there be monitoring wells around the main site to check on the potential for groundwater contamination. Although this is not potable water, it does have uses for flora and fauna of the desert.

AFFECTED ENVIRONMENT

4-4 Under Air Quality it has been stated (3-3) that no site-specific wind data are available for any of the alternative sites. But, yet you have attempted to graph a wind rose. The mention has even been that the wind speed and wind direction frequencies from Dugway are also available but these data are not separated into stability classes, as required for detailed climate characterization and for air quality modeling.

4-5 I am encouraged, however, to note that a baseline air quality sampling has been conducted near the Clive site for TSP. But, what about potential air toxics?

The discouragement is that the Utah legislature did not see fit to fund air-toxics monitoring - even with the knowledge that hazardous waste incinerators, chemical munitions incinerators, and Pershings burns were being drafted - all in the Tooele Valley.

POPULATION NUMBERS FOR SALT LAKE, TOOELE COUNTY

4-6 A bunch of hogwash (3-20). In citing statistics for Salt Lake City instead of Salt Lake County, you are begging the question. As the air enters the Salt Lake Valley from the West, the Oquirrah Range is the first impacted area with its communities of Magna, Herriman, Lark, West Valley City, Kearns, Jordan, West Jordan, Riverdale, Talonsville-Bennion. From Salt Lake City proper the wind is dispersed to Holladay (uninc), Murray, Midvale, Sandy, White City, and Draper. But you have chosen to mention only the population of Salt Lake City itself.

4-7 Once again your creditability and tactics are in question. This is used for computer modeling on 'downwind populations'?

Response to Letter 4 Continued

4-3 Please refer to Sections 3.2.3, 3.3.3, and 3.4.3 in the Draft EIS for discussions of groundwater resources at the three alternative sites. The Utah State Engineer was contacted to identify the locations of all wells in the vicinity of each site. Since runoff from all waste storage and transfer areas would be to concrete-lined sumps, groundwater contamination at the incinerator site is not anticipated, and monitoring wells are not required by state or federal regulations and are not proposed by Aptus in their permit application. Tooele County may require groundwater monitoring as part of its conditional use permit.

4-4 The wind roses given on Page 3-4 of the Draft EIS are for Salt Lake Airport and Dugway. These data are the best available to use in characterizing site conditions.

4-5 No monitoring of air toxics has been conducted to date near any of the proposed incinerator sites. However, until some of the possible air toxic sources described in your comment go into operation, the expectation is that baseline concentrations of air toxics would be quite low.

4-6 On Page 3-20 (Table 3-5) of the Draft EIS, population numbers for Salt Lake City, Tooele County, and its communities are presented as part of Section 3.2.6, Socioeconomics. This information is presented as part of the baseline description of the study area addressed in the Draft EIS under the discussion of area populations.

The population of Salt Lake County would have been appropriate to present in this table also, and is provided below:

	1970	1980 ¹	1984 ²
	458,607	619,066	675,000

¹U.S. Bureau of the Census 1980.

²BLM 1986.

4-7 The areas and population numbers presented in Section 3.2.6 were not used in the air quality modeling discussed in Chapter 4 of the Draft EIS. The standard atmospheric dispersion models used for the evaluation of air quality impacts identified concentration levels at sensitive receptors that are identified on Table 4-6 and shown on Map 2-2. Sensitive receptors were located in Grantsville, Tooele, Magna, and downtown Salt Lake City to assess potential impacts on downwind populations.

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Letter 4 Continued

Aptus Incinerator Sites

-3-

17 Mar 88

ENVIRONMENTAL CONSEQUENCES

The air toxics information appears to be based on a modelling for cancer risk only. I addressed this issue once before, in a discussion with Eric Johnson of EPA Region VIII, that cancer is only one risk of exposure. Pneumonia, other lung diseases, neurological problems, liver and kidney damages, are also results of exposure to hazardous chemicals. Yet no modelling is done for any of these problems.

4-8 Which, of course, brings up the question of "modelling" itself. After listening to Kay Modi of Region VIII at a Tooele County meeting talking about modelling and the proposed alternatives for Aptus hazardous waste incinerator - I felt very angry and quite insecure. Using computer models takes the element of humanity out of the risk factor and also takes human reactions out of the model components. Will the model human population used be standing on an asphalt parking lot for 70 years without moving?

Page 4-9 discusses the "Estimated Incinerator Emissions" and states that "upset conditions last for approximately 5 minutes as residual material is burned out." I don't believe that -- but this issue is being addressed by a representative for the Sierra Club who has a background in chemical engineering.

4-9 Regarding metals (page 4-12). The first question is why there is no metal emission data for Coffeyville site during the trial burns. Can this be considered a trial burn without all the data? Will Utah be treated the same way? An inadequate trial burn followed by nothing else?

4-10 The Upset Conditions sound unrealistic. A worse-case upset would be controlled in only five minutes? "Give me a break!"

CLOSURE FUNDS

4-11 Since any facility that treats hazardous wastes could become a hazardous waste site itself under RCRA or CERCLA, the financial stability of the company operating such a facility is most important. Specifically, with the insurance company being based in the United States? How about the banks used? Will they be in the U.S. or even in the State of Utah? Will it be possible to access funds needed for clean-up, spills, or closure expenses in excess of those anticipated in this document?

IN C. CONCLUSION

It is important for the residents of Utah to realize that the same folks that brought the state-of-the-art hazardous waste landfills across the country that are now leaking (indeed some like Lowry Landfill in Denver are Superfund sites), are the same folks that are pushing for the "landfill in the sky" alternative.

We need to approach this incinerator proposal with caution and "respect" instead of contempt for chemicals. If industry is not forced to reduce at the source, recycle its products or exchange them, then Utah could indeed one day have the unfortunate negative impression of being the "dumping grounds of the U.S."

Aptus Incinerator

17 Mar 88

We in Utah are charging so little (\$6.00 to \$9.00 per ton) but getting so much (wastes from at least six states).

Respectfully submitted;

Jane Wickham
Utah Environment Center

Response to Letter 4 Continued

4-8 As discussed on Pages 4-1 through 4-5 of the Draft EIS, the significance criteria for air resources were established at levels that represent the lowest concentration levels at which adverse health or ecological effects are known to occur. For six air pollutants (criteria pollutants), these levels are established by the National Ambient Air Quality Standards (NAAQS). These concentrations are set by law designed to protect public health and welfare (see Table 4-1 in the Draft EIS). Pollutants not regulated by NAAQS (non-criteria pollutants) include pollutants referred to as "air toxics." Of the important non-criteria pollutants that may be emitted by the proposed incinerator, two (PCBs and dioxins) were noted as probable carcinogens.

To establish acceptable levels of ambient air exposure to non-criteria pollutants, Threshold Limit Values (TLVs) and Short-term Exposure Limits (STELs) we used, and then a safety factor of 100 (or 1,000 for known or suspected carcinogens) was applied to produce a more stringent concentration threshold. TLV is based on chronic exposure without adverse effect, and STEL is based on short-term exposure without suffering from irritation, chronic or irreversible tissue damage, or narcosis of sufficient degree which increases the likelihood of accidental injury.

The commentator's statement that the air toxics information appears to be based on a modeling for cancer risk only is incorrect.

4-9 EPA and the Utah Department of Health will set the conditions for the trial burn in the TSCA and RCRA permits.

4-10 In a plant upset, further feed of waste to the incinerator kiln would be stopped. The 5-minute time period is the estimated time needed to destroy the waste in the chamber at the time of the upset. Gases would be released to the atmosphere through the emergency vent, bypassing downstream pollution control equipment. Also refer to Response to Comment 5-5.

4-11 Please refer to Section 4.2.10 in the Draft EIS for a discussion of liability issues. As stated in this section, EPA and the State of Utah have not determined whether the estimated closure costs and trust fund method of financial assurance proposed by Aptus in their permit applications are adequate to meet RCRA and TSCA requirements. However, adequate financial assurance for both spill clean-up and closure must be demonstrated by Aptus before the EPA and State would issue required permits for the incinerator. Tooele County will also consider financial assurance as part of its Conditional Use Permit. Public review and comment is encouraged as part of each of these permitting actions.

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Letter 5

Wasatch Mountain Club
Conservation Committee
525 10th Avenue
Salt Lake City UT 84103
March 1988

Mr. Deane Zeller
District Manager
SLM Salt Lake District
2370 South 2300 East
Salt Lake City, UT 84119

Dear Mr. Zeller:

The Wasatch Mountain Club Conservation Committee submits the following comments on the draft EIS for the Aplus Industrial and Hazardous Waste Treatment Facility. Our concerns center on the deficiencies in air quality and risk management analyses. We recommend that the air quality section be completely rewritten to include a better air quality analysis. Detailed comments are as follows:

2-19
5-1
1. Table 3-1, Annual Average Temperature and Precipitation Summary. It appears that average temperatures were obtained by averaging maximum and minimum monthly figures. This procedure masks information on the diurnal temperature range determined by daytime heating and nocturnal cooling. The diurnal temperature range is indicative of the amount of heat gained or lost and therefore is related to variations in atmospheric stability. A large diurnal range would lead one to question the stability class percentage figures in Table 3-2. Atmospheric stability has a profound influence on the diffusive power of the atmosphere, which should be a major consideration in your air quality analysis. Table 3-1 should be re-done to include monthly max-min temperatures, accompanied by an analysis of seasonal variations. Also, snow cover has a significant impact on stability, but is not even mentioned. We recommend that you obtain the services of a professional meteorologist to perform an analysis of the climatological data and its impact on atmospheric dispersion.

5-2
2. Figure 3-1, Annual Wind Direction Distribution for Salt Lake City and Dugway. No reference is given for the data presented in this figure. Also, the wind direction distribution pattern for Dugway appears to be erroneous. Could the Dugway and Salt Lake figures be transposed? Winds at most Dugway sites have a northwest-southeast pattern driven by orographic effects. These effects are most pronounced during the summer months. Spring and fall have more synoptic forcing, and wind patterns tend to be lighter and more variable in the winter. Also, wind speed should be included, with light and variable winds treated as a separate category.

Response to Letter 5

5-1
The data sources used to prepare the Draft EIS do not contain the data on daily maximum and minimum temperatures requested by the comment. Please refer to Pages L-1 through L-5 in the Draft EIS for a list of EIS preparers and their qualifications.

5-2
The Salt Lake wind rose was prepared from the 1985 hourly observations used by the EIS team in the air quality modeling analysis. The Dugway data are a composite of about 20 years of data from Michales Army Air Field obtained from the National Climatic Data Center. The description of the figures on Page 3-4 is correct. Our analysis of Dugway is that the northwest-southeast pattern described by the comment is evident. The percentage of calm winds is 3 percent at Salt Lake and 25 percent at Dugway. Calms were distributed into the wind rose according to the observed frequency of the lowest wind speed category.

The EIS preparers concur with your comment that a representative wind field is a prerequisite to a valid air quality study. The approach selected for this Draft EIS was to follow approved EPA and Utah Department of Health regulatory procedures as closely as possible. These procedures contain specific models which are to be used in regulatory applications. The models cited by your comment have not been approved for general use by the regulatory agencies.

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Letter 5 Continued

5-2
Cont.

Wind analyses are needed to determine the fate of effluent under dominant flow regimes. A good flow analysis is central to an adequate air quality analysis, and may define the positioning of site monitors and the possible need for emissions limitation procedures. Such analyses are not found in this draft. Dr. Jan Paegle of the U of Utah Meteorology Dept. has developed a numerical model for meso-scale winds in the Salt Lake area. Other models also exist. Modeling is needed for the West Desert Hazardous Industry Area, and this EIS is a logical document to contain modeling results. We recommend that a thorough mesoscale wind flow analysis be included in this EIS.

5-3

3. Table 3-1 1985 Annual Frequency Distribution of Pasquill Stability Classes is presented without reference to the procedure used to calculate stability classes. There is also no diurnal or seasonal breakdown of stability class distribution. The stability class distribution at Dugway exhibits strong diurnal and seasonal variations. During the spring, summer, and fall, stability at Dugway swings from stable or extremely stable at night to unstable or extremely unstable during the day, except during storms when neutral conditions predominate. In the winter, conditions typically vary from neutral to extremely stable. Table 3-1 indicates that stability is neutral for a majority of the time, which is very unlikely. The data and stability class determination procedure need review.

Stability analysis should include thorough analysis of winter air stagnation episodes. Ventilation is generally poor during winter months, and major air stagnation episodes occur as strong inversions set in for weeks at a time. Effluent trapped within the inversion layer during these episodes cause air quality problems. An emissions limitation program may be needed.

5-4

4. The role of the State Bureau of Air Quality (BAQ) in monitoring the Aptus site is unclear in the draft. Will the BAQ monitor Aptus compliance with emissions standards? If so, how? Will Aptus be asked to cease operations during major air stagnation conditions?

5-5

5. Major emission control system failure scenarios are not considered in the risk assessment. Modeling of emission control system failure is needed. How quickly can the process be shut down in the event that a precipitator or other emission control systems cease to operate efficiently? What criteria will be used to determine the need for shutdown? Who monitors failure detection instrumentation, and will there be reporting to the BAQ?

Response to Letter 5 Continued

5-3

The method used to calculate stability class from the Salt Lake Airport data is from Turner as published in the February 1964 Journal of Applied Meteorology. This method is approved by EPA and the Utah Department of Health and has wide acceptance in the scientific and regulatory community. The data reported for 1985 and used in the modeling are consistent with other data on the frequency of stability class in western Utah (see Page 3-5 of the Draft EIS).

5-4

Wintertime stagnation episodes do occur in the valleys of western Utah. However, the Draft EIS air modeling study included concentration predictions for all hours of the year, including those related to stagnation episodes.

5-5

The EPA, Utah Department of Health, and Tooele County have the right to require that Aptus conduct whatever monitoring is determined to be needed to reach a permit decision and test for compliance. The monitoring schedules have not been determined at this time. These decisions will be made by the three agencies mentioned above upon completion of their permitting processes. Please refer to Pages 1-6 through 1-8 in the Draft EIS and Comment 19-1 and Response to Comment 19-1 for more details.

A worst-case upset of a power failure with the kiln full of solids is described on Page 4-13 of the Draft EIS. All pollution control equipment is bypassed in this situation. RCRA and TSCA permits routinely require that incinerator operation be halted if operating parameters exceed predefined specifications. The Utah Bureau of Solid and Hazardous Wastes (UBSHW) has indicated that the RCRA permit will specify minimum and maximum operating conditions. The RCRA permit operating conditions will be based on the conditions in which the facility successfully demonstrated the required Destruction and Removal Efficiency (DRE) during the trial burn. Aptus will be required to maintain the minimum permit operating conditions (e.g., temperature, flame, combustion air) at all times there is waste in the kiln to assure DRE compliance. In addition to maintaining the minimum afterburner temperature, all waste feed will be automatically cutoff during plant upset conditions. Thus, as indicated in the DEIS, the organic emissions should not increase.

The RCRA permit will not allow the emergency vent to open unless the facility has demonstrated through a risk assessment that the estimated emergency vent emissions would not exceed the incremental lifetime cancer risk of 10^{-5} to the potential maximum exposed individual or exceed the reference air concentrations for noncarcinogens to the potential maximum exposed individual. The risk assessment would be based on estimated HCl, Appendix VIII metals (antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium), and particulates emissions at maximum chlorine, metals, and ash feed rates. Opening of the emergency vent, even during a situation to prevent fire or melt down (e.g., damage to air pollution control equipment, threat to employee safety), would result in a permit violation and may be subject to enforcement action.

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Letter 5 Continued

6. Some minor points

- 5-8 [Page 3-5 The reference for AFLC 1985 is missing. Also, are TSP data reported in arithmetic or geometric means?
- 5-7 [P 4-13 Dispersion model inputs should be listed
- 5-8 [P 4-16 Because of the proximity of the Salt Lake Airport site to the lake, the use of these data to draw conclusions about Cedar Mt. sites is inappropriate. Proper modeling of the wind field is needed
- 5-9 [P 4-17 Table 4-5 should compare with Class II PSD increments for sulphur dioxide and particulates rather than NAAQS
- 5-10 [P 4-20 The ERT study should be referenced

Thank you for the opportunity to review this document. We hope you will find our comments useful in the preparation of the final EIS.

Christopher A. Bittoli
Christopher A. Bittoli
Conservation Co-Director

Mary C. G. Fleming
Mary C. G. Fleming
Conservation Co-Director

Response to Letter 5 Continued

- 5-6 The AFLC reference was listed under U.S. Air Force Logistics Command in the references on Page 8-7 of the Draft EIS. The Vitro Tailings EIS, from which the Clive site total suspended particulate (TSP) data were taken, does not specify whether the annual average is an arithmetic or geometric mean.
- 5-7 The Draft EIS on Pages 4-13 through 4-15 contains considerable detail on the model inputs.
- 5-8 Please refer to Response to Comment 5-2 for a discussion of the wind field used in the air quality modeling.
- 5-9 The expected facility emissions would be less than 250 tons per year for all pollutants. As such, the source will not be subject to Prevention of Significant Deterioration (PSD) rules. However, the impacts do comply with Class II PSD increments at all alternative site locations.
- 5-10 The ERT study mentioned was conducted as part of this Draft EIS and is not a separate report. The text on page 4-26 has been clarified in this regard (see Section 3.1 in this Final EIS).

Letter 6

Response to Letter 6



Division of State History
 Utah State Historical Society
 Department of Community and Economic Development

UTAH STATE OFFICE			
Rt	Off	Init	Date
	SD		
	ASD		
	PAO		
	EEO		
	MR		
1	L & R	AK	3/22
	Oper		
	Admin		

Action _____
 Info _____
 Discuss _____

March 22, 1988

Kemp Conn
 Acting State Director
 Bureau of Land Management
 Salt Lake District Office
 2370 South 2300 West
 Salt Lake City, Utah 84119

RE: APTUS Industrial and Hazardous Waste Treatment Facility DEIS, Tooele County
 In Reply Please Refer to Case No. K935

Dear Mr. Conn:

The Utah State Historic Preservation Office has received for consideration the above listed project. We understand that the results of a Class III intensive level survey of all proposed development sites will be submitted to our office, and we look forward to receiving that. Until the results of the Class III intensive level survey are received, we have no further comments on this project at this time.

The above is provided on request as outlined by 36 CFR 800 or Utah Code, Title 63 18 37. If you have questions or need additional assistance, please contact me at (801) 533-7039, or 533-6017.

Sincerely,

Kent Powell
 Deputy State Historic
 Preservation Officer

AKP:K935/5272V OR

Action _____
 Info _____

R		Int	D.C.
	Gen. Mgr.		
	Asst. Dir.		
	Public Affairs		
	Planning		
	Rec. Mgmt.		
	Operations		
	Admin.		
	Phony Express BA		
	Beer River BA		

Thank you for your letter.

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Letter 7



721 Second Avenue
Salt Lake City
Utah 84103

April 6, 1988

Area	Init	Done
Utah Mgr.		
Acting Mgr.		
Public Affairs		
Planning		
Research		
Operations		
Admin		
Public Exposure		
Base Data		
Treatment		

Mr. Deane H. Zeller, District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City, Utah 84119

Dear Mr. Zeller:

Concerning the Draft EIS of Aptus Industrial and Hazardous Waste Facility:

We of the Issues Committee of Utah Nature Study Society strongly object to the statements that Utah will need three incinerators to burn its approximate 30,000 tons of hazardous waste Utah generates per year. Please answer:

- 21
22
- 7-1 [1) Why, if Aptus capacity is 50,750 tons per year and Utah generates only 30,000 tons per year does Utah need three incinerators?
 - 7-2 [2) Why cannot Aptus be required to burn all of Utah's incinerable waste?
 - 3) How did this decision get made?
 - a) Was this decision made at some level of State or Federal bureaucracy? If so, which bureaucracy is responsible?
 - b) Was this decision made at some legislative branch of government? If so, was it at the State level or at the Federal level?
 - c) Was this decision made at some executive branch of government? If so, was it at the State level or at the Federal level?
 - 7-3 [4) Since the radius of hauling waste is a 800 mile distant, what are the states in this radius doing with hazardous waste?
 - a) What hazardous waste proposals are occurring in each of these states and what is the capacity?
 - b) What hazardous waste is each state producing that could be incinerated?
 - 7-4 [5) Is Utah being selected as a hazardous waste center of the West?
 - a) Is this because there has never been regulation of industry in Utah?
 - b) Is this because Utah clamor for hazardous waste?
 - 7-5 [

None of the above questions were addressed in the Draft Environmental Impact Statement. Yet there now appears to be three proposals for large scale incineration in Utah: the Moab site by an ex-official of the Environmental Protection Agency; the Milford-Iron County site by the scandalous Pollins Engineering; and the Tooele County site by Aptus. A mere coincidence?

It is interesting that Kennecott can produce 80,000 tons of sulfur dioxide a year, that Amax can produce 60,000 tons of chlorine gas and 7,000 tons of hydrochloric acid a year and yet there is no effort in Utah to reduce these amounts. Now more production, albeit in much less quantities is being proposed. It seems that Utah should reduce its present pollution before

Response to Letter 7

- 7-1 Please refer to Response to Comment 4-1 for a discussion of the number of incinerators needed in Utah.
- 7-2 Aptus could receive wastes from any generator, as long as the incinerator is permitted to incinerate those wastes and the wastes are properly manifested. It is the generator's determination on how his wastes will be disposed of, whether to contract with an outside firm, and which outside firm to contract with for disposal. Being an independent private businesses, Aptus cannot be required to accept wastes from any generator, nor can any generator be required to contract with Aptus.
- 7-3 There are no state or federal regulations which could require all of Utah's incinerable wastes to be burned in the Aptus incinerator. Refer also to the preceding response.
- 7-4 The status of hazardous wastes generation and disposal in each of the states within an 800-mile radius of the Tooele County sites is a highly complex problem that is subject to political uncertainties and not directly related to the analysis of the potential impacts of the proposed Aptus incinerator. Thus, it is beyond the scope of this EIS.
- 7-5 Please refer to Section 1.3 in the Draft EIS for a discussion of the regulations that apply to the proposed Aptus incinerator.

Letter 7 Continued

Response to Letter 7 Continued

-2-

any further additions are made. Then there is the old Geneva Steel plant in Provo which produces toxic gases and there is no effort to get these pollutants under control. In fact, the polluters can obtain special utility rates that are not available to residential and small business and agricultural consumers and these rates are approved of by State government. Yet will State government appreciate large billboards in Arizona, Colorado, Nevada, Idaho, and Wyoming announcing the Hazardous Waste and Industrial Pollution capitol of the west? Yet these decisions are being made and

7-6 [Implied in the Draft Environmental Impact Statement. Will these incinerators get special tax breaks also?

7-7 [The Draft Environmental Impact Statement goes to great length in showing that such incinerators are safe and that Aptus has a good record. Perhaps the Draft EIS should explain what happen with Rollins Engineering in Louisiana and Texas and state how this could not occur in Utah. Assurances are given for intensive environmental monitoring. Yet we can not even operate nuclear power plants or the space shuttle program. Where are the trained personnel coming from? What will be their qualifications? Will they be allowed to sleep and take drugs on the job? There is mention of monitoring drivers of the hazardous waste trucks for alcohol? Will they be monitored for drugs also? At this time it appears that instrumentation has exceeded the technicians ability to run the machines.

7-8 [On page 4-7, the version of the plant is double the size at Coffeyville. Is this large plant in operation elsewhere? It seems that the nuclear power industry began to fail when the plant size increased.

7-9 [Would the hazardous waste facilities locate in Utah is there were a \$10 per ton commercial disposal fee? What do the other states in the West charge?

7-10 [One page 4-71, there is mention of Biological Resouce mitigation. Utah Nature Study Society recommends that Measure D be added: A thorough biological survey analysis will be conducted to determine the presence of previous unknown plants or genetic variants of existing plants. The survey will include repeated visits through one growing season by a recognized authority on Intermountain flora. The rationale for the request is that the Great Basin is the home of more relic native plants than any other comparable region of North America. Likewise, the common native plants are evolving into new forms and new species at a very high incidence.

7-11 [An accident scenario that should be discussed is a single truck rollover in which all the contents of hazardous waste end up in Mountain Dell reservoir at night and the contents end up in Salt Lake City's drinking water the next morning.

7-12 [Perhaps the most alarming aspect of this entire proposal is the efforts at assuring the public that no accidents will occur. Yet if this is the case, these incinerators do not have to be located in the middle of nowhere but in urban areas as by the oil refineries in North Salt Lake. Just why are these facilities located in the middle of nowhere?

7-13 [Members of Utah Nature Study Society recognize the need to get the toxic material out of the environment. It recommends that burning on site occur at the site of location and production first. Second, it recommends that in the case of Utah, only one incinerator handle all of Utah's production. And third, it recommends that synthesis of toxic material cease.

7-6 There is no indication from the State of Utah or Tooele County that the Aptus incinerator facility would receive "special tax breaks."

7-7 Existing state and EPA regulations mandate close scrutiny and monitoring of commercial incinerators. Aptus' track record and policy is to abide by or exceed the regulations. Aptus has no intention of relaxing its vigilance toward the safe handling and treatment of hazardous waste.

7-8 All Aptus employees are screened periodically and randomly for alcohol, illegal drugs, and prescription drug abuse. Aptus has an internal training program. All employees must participate in orientation training; plant process employees must take safety and compliance training within 60 days of hire. Annual refresher training is also mandatory. It is possible that the Utah personnel will be trained at the Aptus Coffeyville, Kansas facility. In 1986, the supervisors and operators for the new Kansas plant were trained at a similar plant at GSB near Munich, West Germany.

7-9 A 100-million British thermal unit (Btu) system is proposed for Utah. This is a typical size commercial incineration system. There are two identical plants in operation in West Germany, one is located at Herten and one at BASF in Ludwigshafen. Chemical plant incinerators currently in operation in the United States range in size up to 160-million Btu. Cement kilns are larger than the proposed Aptus incinerator in terms of throughput. There has been no documented correlation between size of kiln and safety.

7-10 The analysis in the Draft EIS was based on a \$1/ton commercial fee for hazardous waste that was imposed until recently by the State of Utah. Please note in Comment 20-8 that the Utah Bureau of Solid and Hazardous Wastes (UBSHW) has indicated that Utah's fees have been increased to \$6/ton for in-state hazardous waste and \$9/ton for out-of-state hazardous waste. Ten percent of this fee goes to the county for overall compliance activities which can include monitoring. Please refer to Section 3.1 of this Final EIS for text revisions to Page 4-38 in the Draft EIS. It is not within the scope of this EIS to analyze scenarios that are not related to the Proposed Project or alternatives identified in the Draft EIS or to analyze the fee structures of other states.

7-11 Your comment regarding an additional mitigation measure for vegetational survey analyses is noted. The vegetational communities located at the three alternative sites are not considered unique to the West Desert. Legislation currently protects plant species listed as threatened or endangered or those proposed for listing, according to the Endangered Species Act of 1973. As stated in the Draft EIS, no federal or state-listed threatened, endangered, or candidate plant species are known to occur within the proposed project areas.

2-24

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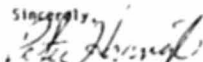
38

Letter 7 Continued

-3-

Members of Utah Nature Study Society also know that what starts off as a well-run industry as Aptus suggests of itself can end up as a subsidiary of a poorly run but highly profitable company as Rollins Engineering. Thus we have in Utah no assurance of environmental protection and improvement or that the Aptus incinerator will be operated with diligent hands.

Sincerely,



Peter Moringh, Issues Chairman
Utah Nature Study Society

2-25

Response to Letter 7 Continued

7-12

The probability of a spill of hazardous wastes into Mountain Dell Reservoir, or any other water supply reservoir, as a result of a truck accident is extremely remote (see Response to Comment 21-6). For this reason, Mountain Dell Reservoir was not specifically discussed in Section 4.2.3 of the Draft EIS. However, if such a spill were to occur, the effects of that spill would depend on a large number of factors, such as the volume of waste spilled, the toxicity of the waste, the solubility of the waste, the specific gravity of the waste, the breakdown of the waste in water, etc. Following a spill, the State Highway Patrol would coordinate the spill response, Salt Lake City and Aptus would dispatch their spill response teams to the location, and spill containment and cleanup procedures appropriate for the type of material spilled would be implemented. It would take the Salt Lake City Hazardous Materials Team approximately 15 minutes to respond to a spill (Rylee 1988). Water quality samples would be taken to determine if state drinking water quality criteria were exceeded for any parameters related to the spill. If criteria were exceeded, steps would be taken to prevent introduction of contaminated water into the municipal water supply system.

The water could not be used for domestic supply until it met state criteria; the length of time required could be several days to several weeks. Aptus would be responsible for cleaning up the spill, ensuring that the water is properly tested, and working with the affected water utility to provide alternative sources of water, if required.

7-13

In other states and other countries, incineration facilities have been located close to urban areas. Tooele County, through its citizens and elected officials, designated an area around two existing landfills (Vitro and USPCI) as amenable to hazardous waste (see Map 1-1 in the Draft EIS). The remote location of this area was thus selected by Tooele County. However, Tooele County did not select any of the three alternative sites for the Aptus facility. Two of these sites are located in Tooele County's West Desert Hazardous Industry Area.

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Letter 8

Response to Letter 8



United States Department of the Interior

BUREAU OF MINES

P. O. BOX 25086
BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

Intermountain Field Operations Center



April 11, 1988

Memorandum

To: Deane Zeller, District Manager, BLM Salt Lake District,
2370 South 2300 West, Salt Lake City, Utah 84119

From: Chief, Intermountain Field Operations Center

Subject: Draft Environmental Impact Statement for Aptus Industrial and
Hazardous Waste Treatment Facility, Tooele County, Utah

We have received the above DEIS and appreciate the opportunity to offer our comments regarding the proposed treatment facility. We are interested in such projects from the standpoint of determining whether mineral resource impacts have been adequately considered during feasibility studies.

The discussions on "Affected Environment" and "Environmental Consequences" contain mineral resource information for each alternative site. Three references cited in the text should be included in the references section: DOE 1983 (p. 3-46), DOE 1984 (pp. 3-9, 3-10, and 3-46); and BLM 1988 (p. 3-11). Collectively, the mineral resource discussions provide an adequate analysis of mineral-related impacts, and the consensus reached is that local mineral resources would not be adversely affected by selection of any of the proposed sites. We concur with that appraisal, and have no objection to implementation of any of the alternate waste treatment proposals.


William Cochran

8-1 Please refer to the reference section of the Draft EIS for both the 1983 and 1984 U.S. Department of Energy references. Both are presented correctly within this section. The BLM 1988 reference that occurs on Page 3-11 of the Draft EIS should be corrected to read (Skinner 1988). This reference is also listed correctly in the reference section. Thank you for your comment.

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Letter 9

Response to Letter 9



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
COLORADO STATE OFFICE
2500 YOUNG BLVD. SUITE 111
LAKEWOOD, COLORADO 80225-7076



7700
(CO-933)

April 13, 1988

Memorandum

To: District Manager, Salt Lake District (UT-020)
From: Air Resource Specialist, Colorado State Office (CO-933)
Subject: Aptus Industrial and Hazardous Waste Treatment Facility EIS'

Bill Hawks and Shelia Barber of Aptus recently described their proposed project to a meeting of the Rocky Mountain States Section of the Air Pollution Control Association. The following individuals asked me to have copies of the Draft and Final Environmental Impact Statements mailed to them:

Thank you for your letter.

Larry D. Fusher
Environmental Management
Martin Marietta Astronautics Group
P.O. Box 179
Denver, CO 80201

Clifford J. Lewis
Technical Director
Continental Lime Inc.
P.O. Box 356
6677 West Colfax Avenue
Lakewood, CO 80214

Raylan H. Roetman
Associate
McVehil-Monnett Associates, Inc.
5655 South Yosemite Street
Suite 104
Englewood, CO 80111

Frank A. Rogers
Senior Air Pollution Control Spec
Colorado Department of Health
4210 East 11th Avenue
Denver, CO 80220

J. Louis York
Consultant
3557 South Ivanhoe Street
Denver, CO 80237

Thank you for your assistance.

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Letter 10

Response to Letter 10



United States Department of the Interior

BUREAU OF RECLAMATION
UPPER MERIDIAN RECLAMATION DISTRICT
P.O. BOX 3100
SALT LAKE CITY, UTAH 84119

IN REPLY
REFER TO: UC-150

ppr 10 1274

Memorandum

To: Mr. Deane W. Zeller, District Manager, BLM Salt Lake District
2370 South 2300 West, Salt Lake City, Utah 84119

From: **ACTING** Regional Director
Bureau of Reclamation

Subject: Review of Aptus Industrial and Hazardous Waste Treatment Facility,
Draft Environmental Impact Statement, Tooele County, Utah (DES 88-8)
(Environmental Impact Statement Review)

Thank you for your letter.

We have no comment concerning the subject document.

Mr. E. Cook

cc: Commissioner
Attention: MO-150

2-28

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Letter 11

Response to Letter 11



United States Department of the Interior

FISH AND WILDLIFE SERVICE
FISH AND WILDLIFE ENHANCEMENT
UTAH STATE OFFICE
NORTH ADMINISTRATION BUILDING
1745 WEST 1200 NORTH
SALT LAKE CITY, UTAH 84146-1100



IN REPLY REFER TO:

(FWE)

April 18, 1988

MEMORANDUM

TO: District Manager, Salt Lake District, Bureau of Land Management,
Salt Lake City, Utah

FROM: State Supervisor, Fish and Wildlife Enhancement, Fish and Wildlife
Service, Salt Lake City, Utah

SUBJECT: Review of Draft Environmental Impact Statement for Aptus
Industrial and Hazardous Waste Treatment Facility (EC 88/17)

Thank you for your letter.

The Fish and Wildlife Service has no comments on the Draft Environmental
Impact Statement for the Aptus Industrial and Hazardous Waste Treatment
Facility.

cc: BFA (ERT)/Washington, D.C.

2-29

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Letter 12

Response to Letter 12

Mr. Deane H. Zeller
District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City, UT.
84119

April 20, 1988

Dear Mr. Zeller,

The following are comments on the:
Draft environmental impact statement for
Aptus Industrial and Hazardous Waste Treatment Facility

General comments;

The Aragonite site is not suitable for the siting of a hazardous waste incinerator. The Aragonite site is just one mile from the scenic Cedar mountains WSA. At times, the maximum ground level pollution will occur within the WSA. Considering the amount of toxins that will be released from this facility over its lifetime, I feel that siting it so close to pristine country to be foolish. Also the views from the WSA will be impaired by the plume emitting from the incinerator. At the Clive site, these impacts are much less. Also, the Vitro tailings are adjacent to the Clive site and are a much better neighbor for such a facility.

12-1 A major deficiency of the EIS is that virtually no work was done to evaluate possible process upset impacts. Only one process upset was even mentioned; loss of power. The conclusion that a loss of power would not result in any added emissions of toxics is not supported in the EIS. With the loss of the main fan, what evidence is there that the toxic gases would remain in the kiln for the 2-second dwell time at 2200 degrees F? The system would be operating at a positive

12-1 In the RCRA/TSCA permit application, a discussion of process upsets is mandated. The Draft EIS assessed the worst possible case, which is loss of power, where a time delay of 5 minutes might occur before the diesel-fired standby generator could come online. Aptus has indicated that a more typical time would be approximately 2.5 minutes. Other process upsets are detailed in the permit application and summarized on Table 3-1 in Section 3.2 of this Final EIS. The UBSM and EPA may require that additional upset conditions be analyzed by Aptus prior to granting a permit.

In the event of power loss, the gases that are in the system would flow from the kiln to the afterburner where auxiliary fuel would be used to maintain temperature at 2200°F. The gases would continue to flow through the system as the hot duct creates a chimney effect. The automatic system is programmed to start the standby generator, combustion air fan, and auxiliary fuel burner in under 2 minutes to avoid the pyrolytic conditions.

Review of upset conditions and appropriate responses by the incinerator operator is the responsibility of the EPA and UBSM for the TSCA and RCRA permit applications, respectively. Public review and comment related to upset conditions or any other aspect of these permit applications is encouraged.

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2-30

Letter 12 Continued

Response to Letter 12 Continued

2

12-1
Cont.

pressure, what would prevent gases from exiting at the kiln ends? As soon as the power was lost the oxygen supply would deplete quickly, leading to pyrolytic combustion which would not completely burn the organic materials. The conclusion that a loss of power would not result in a release of toxic compounds is false. Further study of this condition is certainly warranted.

Perhaps even more importantly, it points out that the environmental impacts of non-steady state operation were not even considered. A properly operating kiln does a pretty good job of hazardous waste destruction. However an improperly operating kiln is a genuine hazard. A study of abnormal operating conditions and their environmental impacts is sorely needed. Examples of abnormal operating conditions include; Rupture of one or more bag filters releasing increased particulates (toxins and heavy metals) and/or reducing the efficiency of downstream gas cleaning components.

12-2

Nearby lightning strike temporarily scrambles electronic control systems. Fuel supply is interrupted to burners. Rapid flash of combustible material causes pressure spike in kiln. Water supply to Quench tower is interrupted. All of these conditions are possible and could lead to a release of toxic and hazardous materials. The potential for these releases along with the effects should be evaluated further in the EIS.

12-3

I feel that the continued grazing close to such a facility is unwarranted. The land is of only marginal value, I suggest that a larger portion of the section be closed to grazing. The land should be fenced off to prevent both domestic livestock and wildlife from using this area. How large of an area should be fenced? The data from the particulate deposition study should provide an answer.

12-2

These comments indicate why the incinerator facility is "over-designed." For example, 4 seconds residence time is provided versus 2 seconds required by TSCA, and normal excess air in the kiln during operation is 100 percent while design is 150 percent. Pressure spikes in the kiln are monitored and are controlled through the interlock system which cuts off waste feed to the burners, or takes other measures as the interlock system logic dictates. The interlock system is designed to minimize the impact of upset conditions and to prevent the release of hazardous materials. The RCRA/TSCA permit application also discusses automatic cutoff equipment associated with failure of the baghouse filters, fuel interruption to the burners, quench tower water supply interruption, and other sources of equipment failure.

12-3

As noted in Response to Comment 12-16, that follows, the particulate matter released to the atmosphere from the incinerator would be small in size and would not be subject to significant deposition. Therefore, fencing of the area to restrict grazing would be unnecessary.

2-31

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Letter 12 Continued

Response to Letter 12 Continued

12-4 A system for monitoring the DRE should be established. Also some blind testing of the lab on a continuing basis seems prudent.

12-5 The EIS only addresses the DRE of a few specific compounds, it does not take into account that other toxic compounds are actually produced during the incineration process.

I disagree with the statement on page iii that three incinerators are necessary to dispose of Utah's hazardous waste. With this incinerator alone, Utah will become a net IMPORTER of incinerable wastes! Utah will be burning 20 tons more incinerable waste than it produces.

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Page by Page comments;

Page No.

p. v I strongly urge that the land exchange should occur and that the sub alternative to the Aragonite Alternative should not be considered.

12-6 p. 2-18 The Pre-acceptance procedures rely very heavily on physical appearance of the waste. Surely there exists an analytical method to footprint the incoming material. A material that has twice the PCB's than the original sample, could look identical and therefore be burned. All of the dispersion modeling would no longer apply.

12-7 p. 2-30 The last sentence in the particulate control section states "The solids removal equipment would reduce solids contents at very

12-4 The facility must perform field audit(s) (performance or systems audits) during the trial burn. Systems audits attempt to assure that the trial burn sampling is being performed in accordance with the methods specified in the approved trial burn plan and the approved quality assurance performance plan. Performance audits check the preparation of known solutions of analytes to be submitted for analysis and the accuracy/precision of analytical results. The Utah Department of Health requires all analytical data submitted to the Division of Environmental Health to be performed by a laboratory certified by the Utah Department of Health Laboratory. Each laboratory must be recertified on an annual basis. Please refer to Comment 19-1 and Response to Comment 19-1 and the response to the statement by Nancy Fox (Section 2.3 in this Final EIS) for further discussion of monitoring.

12-5 The principal organic hazardous constituents (POHCs) evaluated in the Draft EIS were selected based on the difficulty in incinerating the compound, anticipated presence in the waste in significant concentrations, and relative toxicity of the compound. EPA and the State of Utah may establish additional POHCs at their discretion for formal testing of destruction removal efficiency (DRE) in the trial burn.

12-6 The "pre-acceptance" procedures are a procedure used to verify that the waste is the same waste as indicated on the "Waste Characterization Form" and the manifest. The preacceptance procedures are outlined in the Waste Analysis Section of the permit application. A total of seven "Mandatory Analyses" beyond physical description are conducted: pH, water mix test, ignitable screen, waste compatibility, sulfide reactivity test, reactive organics screen, and radioactivity. The facility will also conduct "Supplemental Analysis" (e.g., quantification of heavy metal concentrations, viscosity, heat value, solids/ash content, organically bound chlorine, free sulfides, and specific compounds determined by a GC or GC/MS analysis. The "Supplemental Analysis" and any additional analyses specified in the permits will provide the information to enable the facility to store, treat, or dispose of the waste in accordance with the permit conditions (RCRA/TSCA/Air Quality). The RCRA permit (TSCA will limit waste feed rate of PCBs) will specify a maximum total incinerator feed rate and also limit specific feed rates (e.g., ash, chlorine, fluorine, minimum heating value, etc.). The permit waste feed limits will be based on the waste feed rates demonstrated during the trial burn as meeting the performance standards. The RCRA permit will require the facility to quantify through analyses the concentrations of specified parameters (e.g., ash, chlorine, minimum heating value, etc.) for each batch feed to the incinerator. The dispersion modeling was done at design conditions which are greater than nominal feeds.

12-7 The spray dryer-baghouse is designed to remove particulates to 0.02 grains/dry standard cubic feet, corrected to 7 percent oxygen. The Coffeyville plant is currently designed to meet the RCRA standard of 0.08 grains/dry standard cubic feet, corrected to 7 percent oxygen.

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Letter 12 Continued

Response to Letter 12 Continued

12-7 Cont. high efficiency.* What is very high efficiency? What is the removal efficiency at the Coffeyville plant?

12-8 p. 2-30 No mention is made of the materials of construction of the gas cleaning equipment. This is a very corrosive environment and the materials of construction are important to the integrity of the plant.

12-9 p. 2-46 Section 2.7 Why isn't the electronic battlefield considered interrelated?

12-10 p. 3-45 The analysis of the Skunk Ridge site did not include the workers at the Marblehead plant.

12-11 p. 3-48 The peregrine falcon is discussed for the Clive site but it is never mentioned at the other sites. The peregrine is more likely to be a factor at the other sites because of the proximity of the Timpie Springs hack site.

12-12 p. 4-8 What type of liquids would be burned in the afterburner?

12-13 p. 4-9 Since it is impossible to characterize every compound that is emitted from the stack, is there available a general number that would indicate total carbon (except CO and CO₂)? I am concerned that just because the POHC is destroyed, it doesn't create something that is also hazardous. How complete is the combustion of the organic material?

12-14 p. 4-10 TSCA wastes are incinerated at a higher temperature, so why

12-8 The materials of construction are outlined in the RCRA/TSCA permit application. Fiberglass-reinforced plastic and rubber-lined carbon steel are the dominant materials of construction.

12-9 The electronic battlefield proposal was considered, but it did not meet the criteria presented in Section 2.7 of the Draft EIS for interrelated projects. Specifically, it was determined that this proposal would not compete for the same resources and would not have overlapping effects that would cause it to interact with the Aptus proposal to generate cumulative impacts.

12-10 The Marblehead facility is identified as a sensitive receptor on Map 2-2 of the Draft EIS. The analysis of air quality impacts associated with the Skunk Ridge Alternative appears in Section 4.3 of the Draft EIS (Page 4-51 and following). The air quality impacts at sensitive receptors (including the Marblehead Plant) for the Skunk Ridge Alternative are shown on Table 4-8 on Pages 4-54 and 4-55.

12-11 Your statement concerning the peregrine falcon being of greater concern for the Aragonite and Skunk Ridge Alternatives than for the Clive Alternative, due to the proximity of the Timpie Springs hack site, is correct and was so addressed in the Draft EIS. Please refer to Pages 3-17 and 3-42 for descriptions of peregrine presence near the Aragonite and Skunk Ridge Alternatives, respectively. As discussed in Section 3.4.4 of the Draft EIS, peregrine falcon presence near the Clive site is unlikely due to the distance from the Timpie Springs hack site.

12-12 Atomizable liquids, aqueous waste, and auxiliary fuel are burned in the afterburner.

12-13 The Draft EIS considered emissions of dioxins and furans, which are products of incomplete combustions (PICs) formed during the incineration process. Dioxins and furans are generally accepted as the most toxic of potential PICs. The risk posed by any PIC emission depends on both the quantity and toxicity of the individual toxic components of the emissions.

RCRA will address the monitoring of PICs indirectly through the continuous monitoring and limitation of CO emissions as specified in the RCRA permit. CO has been determined the "best available" indicator of combustion efficiency and a "conservative" indicator of combustion upset. (Data have shown a general correlation between a deterioration in combustion efficiency during upset conditions and the increase in CO and total hydrocarbon emissions.) Available emission data indicates that PIC emissions do not pose significant risks when incinerators are operating under optimum conditions.

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Letter 12 Continued

12-14

Cont.

Is thermal NOx values the same as for RCRA wastes?

12-15

p. 4-10 Do any other facilities achieve 90% SO2 reduction with this gas cleaning set-up?

12-18

p. 4-14 The deposition of particulate matter was not evaluated in the dispersion model. On pages 1-11,12 there were over 15 comments during the scoping process that addressed this area specifically. The deposition of particulate matter should be evaluated.

12-17

p. 4-23 Statement near top of page "Air emissions modeling (Section 4.2.1) indicate that soils would not be impacted significantly by stack emissions." See previous comment: The deposition of particulate matter was never evaluated in the air emission model. The conclusion reached in this section is not supported in the referenced section.

12-18

p. 4-25 There appears to be an error in one of the probability numbers shown in the first full paragraph (.065 spills is not consistent with one chance in 160,000).

2-34

Sincerely,



Mark D. Precup
Utah Sierra Club
1261 W. Royalwood Drive
Taylorsville, Utah 84118
(801) 969-4044

Response to Letter 12 Continued

Therefore, CO emissions will be limited to a specific RCRA level which represents high combustion efficiency operations to ensure operation under optimum conditions. Exceedance of the RCRA CO emission limits will activate automatic waste feed cutoff and other mitigating procedures. If the facility cannot demonstrate compliance with the RCRA-specified CO emission limits during the trial burn, the facility must demonstrate through a risk assessment of unburned hydrocarbons that the facility CO emission above the RCRA limit would not pose a risk to public health.

12-14

The trial burns at Coffeyville measured 5 pounds per hour (lb/hr) thermal nitrogen oxides (NO_x) while incinerating TSCA waste. The value of 10 lb/hr for TSCA and RCRA wastes at the Tooele County incinerator is a conservative estimate.

12-15

Overall design for sulfur dioxide removal is 94.1 percent of the expected 300 lb/hr of SO₂ gas inlet to the wet scrubbers. The wet scrubber supplier will guarantee 90 percent removal, and references are available.

12-16

The particulate matter released to the atmosphere from the incinerator stacks would be extremely small in size and not subject to significant deposition. Current federal and state hazardous waste regulations do not require particulate deposition monitoring. However, Tooele County is considering such monitoring as a condition of the County's Conditional Use Permit for the Aptus facility.

12-17

See Response to previous Comment 12-16

12-18

Based on your comment, text revisions to Page 4-25 in the Draft EIS are included in Section 3.1 of this Final EIS.

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Letter 13

Response to Letter 13

RR 2, Box 48
Jamestown, ND 58401
21 April 1988

Mr. Deane H. Zeller
District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City, UT 84119

Dear Sir:

I have reviewed the Aptus DEIS and have the following comments:

1. Emissions:

13-1 a. No mention is made of day-in, day-out inversion fog conditions which frequently occur during the winter, as commuters to Dugway and TAD South Area can verify. Assuming the average incineration operation of more than 19 hours per day, the massive emissions would accumulate locally over days in much larger concentrations than are presented in the tables. Moreover, research last fall suggested that the affinity of pollutants to the minute droplets comprising fog forms a dangerous vapor that hovers at ground level, depositing the pollutants on all surfaces it contacts.

13-2 b. The EPA dispersion models are not explained very well in the DEIS. I presume the concentrations at sensitive receptors presented in the tables are average concentrations. This DEIS should also present the predicted concentrations in worst-case climatic conditions, since any environmental and health risks associated with these conditions will be enhanced.

13-3 c. No mention is made of the accuracy of the EPA dispersion models used. A model is useless unless it can reasonably approximate the real world.

2. Spills:

13-4 a. The accident and conditional spill probabilities used by Aptus are assumed to be constant throughout the life of the project. My analysis of DOT figures on the number of accidents resulting in spills shows that these spills increased exponentially between 1975 and 1987 ($P < .0001$, $r^2 = .90$). The relationship between this exponential increase and the rate (assumed to be constant) per mile should be examined. If the total number of hazardous waste transport miles per year has increased at a rate less than exponential, then the assumption of constant accident-spill probability is violated and any forecasted probability derived from constant spill rates of the last few years will be underestimated.

13-1 Please refer to Response to Comment 5-3 for a discussion of impacts during wintertime stagnation periods.

13-2 The air quality impacts reported in the Draft EIS are for the maximum model prediction for each averaging time based upon 1 year of data. As such, the reported concentrations represent the worst-case conditions observed in that year.

13-3 It is generally accepted that the EPA models used in this study are conservative, that is, they over-predict the expected concentrations.

13-4 According to the U.S. Department of Transportation (DOT), Office of Information Assistance, there was a nationwide increase in the number of truck accidents that resulted in exposure (incident) involving hazardous wastes (versus hazardous materials) between 1982 and 1986; however, there was a decrease in the number of incidents involving hazardous materials during the same period. It is reasonable to assume that the number of loads of hazardous wastes increased steadily over these years resulting in an increase in the number of incidents. Thus, an increase in the rate of incidents involving hazardous wastes does not appear to be occurring and should not have affected the spill probability used in the Draft EIS.

2-35

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Letter 13 Continued

Response to Letter 13 Continued

13-5 b. The Department of Transportation's working rate of $.3 \times 10^{-6}$ hazardous waste accidents resulting in spills is 50 percent higher than the rate used by Aptus. If the rate of tanker truck accidents figure I have heard to be used by the American Petroleum Institute (3.4×10^{-6}) is used and multiplied by DOT's working conditional probability of a spill given an accident (.3), the resulting accident-spill rate is five times the rate reported by Aptus. Given these figures and assuming a constant probability of a spill (discussed in a), point estimates of 2.7 and 9 accident-induced spills would be computed for the life of the facility (one accident every 11.1 and 3.3 years) using DOT and American Petroleum Institute figures, respectively. Both figures are substantially greater than Aptus's rate, with the latter figure being especially alarming. In any case, use of DOT figures should be preferable to the use of Aptus's for consideration by a federal agency.

c. The use of confidence bounds on the point estimate is possible if the forecast rate is assumed to remain constant throughout the forecast period (see a). A forecasted confidence bound was presented on Page 3-10, para 3. Applying a Poisson exact 90% upper bound to the point estimates presented by Aptus and in comment b provide a more complete picture.

No. Hazardous Waste Spills per 30 years		
Estimate	Source	90% Upper Bound
1.79	Aptus	3
2.68	DOT	4.5
9.12	Amer. Petr. Inst.	12.5

If the assumption of constant rates holds true, then there are nine chances in ten that the number of accident-spills will fall between (0, 3), (0, 4.5), and (0, 12.5) using Aptus, DOT, and American Petroleum Institute accident rates. On a time-to-event basis, these upper bound estimates are for an accident to result in a spill every 2.4, 6.7, and 10 years for American Petroleum Institute, DOT, and Aptus estimates, respectively.

13-7 d. In-transit, non-accident spills occur at a rate of 1 every 100,000 miles, according to a DOT source. Although these spill sizes are generally smaller, they were not mentioned in the DEIS. At this rate, a non-accident in-transit spill can be expected three times a year.

13-8 e. Probabilities and expected frequencies presented for urban areas apparently are based on equal likelihood of urban and rural accidents per mile traveled. This assumption is incorrect, as auto insurance rates suggest. There is a greater risk of an accident on an urban freeway than a rural interstate. Thus, the estimates presented for the risk of spill in urban areas is low.

13-5 Aptus' actual operating experience using trucks designed and built to their specifications and drivers trained to their standards was felt to be the most appropriate basis for developing a spill frequency for the Draft EIS. Other hazardous material haulers (such as oil companies) would be expected to have higher rates of accidents resulting in spills because they take fewer precautions.

13-6 Thank you for your expansion on the spill probability. This additional information does not change the conclusions reached in the Draft EIS.

13-7 For the years 1985 through 1987, Aptus experienced one non-accident spill. The incident concerned an outside transporter truck that arrived at the Aptus Coffeyville parking lot with a leaking drum. PCB material was released onto the parking lot but was less than the reportable quantity; however, Aptus reported the spill to the appropriate authorities. Aptus then quarantined the truck, initiated cleanup procedures, and did not allow the truck to leave the facility until totally decontaminated. This gives a much lower non-accident spill average (0.02 spills per 100,000 miles) than the DOT statistic you cited. Aptus' trucks and containers are specifically designed to prevent non-accident spills.

13-8 It is acknowledged that the probability of an accident resulting in a spill is greater in an urban area than in a rural area. In fact, the spill that Aptus experienced took place in an urban area. The spill frequency of 0.2/million vehicle miles traveled (VMT) is an average for all types of highway traveled and would tend to under-estimate the frequency in urban areas and over-estimate the frequency in rural areas. The statistics available to Aptus do not allow the refinement of spill probability by highway type.

Letter 13 Continued

- 13-9 f. I could find no reference to the size of a spill that would elicit a response; in reality, spills range on a continuum from microscopic to thousands of gallons.
- 13-10 g. A spill could occur at any point along a highway used by a hazardous waste transport truck. This EIS only addresses the incineration facility local area as the affected environment. Appendix B presents health risk assessments for humans. A similar appendix presenting a detailed spill risk to non-human biotic systems is appropriate.
- 13-11 3. Page 1-5, para 1, sent. 2: The statement that the high cost of transportation encourages illegal disposal is deceptive. CEQ's Environmental Quality, 1980 reports that hazardous waste incineration cost \$75-2000/metric ton, by which the per-ton cost per trip is small in comparison, especially in relation to the upper figure (which I would guess has inflated in the past eight years). It is more plausible that the high cost of legal waste disposal in general encourages illegal disposal.
- 13-12 4. Page 2-36; paras 2-3 (unscheduled truck deliveries): The policy appears to be that Aptus is willing to accept shipments from sources with the only stipulations being a post-shipment contract and payment, and a cargo and source list. This raises the possibility that the driver would not have to be certified or trained in accident/incident management, per page 2-41, para 3. This policy encourages illegal or at least substandard transport, which is more likely to result in injurious spills. The document should address and explain this issue.
- 13-13 5. Page 4-31, para 1, last line: replace "prevent" by "minimize."
- 13-14 6. If the incineration facility is built at the Aragonite site, the close proximity of the massive cooling tower and plume will be a visual affront to the wilderness character of the Cedar Mountains WSA. If the conditions mentioned in comment 1 foster deposition of toxicants in this WSA, eventual impacts on the vegetation within the WSA will detract from the wilderness character of this WSA.

In conclusion, I suggest that a more rigorous quantitative analysis be conducted on transportation risks. The EPA dispersion model used is inadequately explained and supported as a decision-making tool. Most seriously, the DEIS fails to address worst-case environmental conditions in which emissions will locally accumulate and/or deposit. The risks that seem more likely to occur will have a greater impact on the environment, and merit attention in the FEIS.

Sincerely,

 H. B. Harvey
 Ecological Statistician

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Response to Letter 13 Continued

- 13-9 Under TSCA, a spill is defined as 10 pounds. Under RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), reportable quantities vary by material. The insecticide parathion has a one pound limit as a reportable quantity.
- 13-10 The potential affected environment along the possible transportation routes would extend out for 800 miles from the alternative sites. It was necessary to limit the area considered based on the ability to predict the frequency that trucks hauling wastes would pass through an area. For practical reasons, this was placed at Salt Lake City on the east and Wendover, Utah on the west, where transportation routes could divide. Potential impacts to sensitive resources (e.g., populated areas, wetlands) outside of this area were addressed in a generic, qualitative manner. Please refer to relevant resource sections and Appendix B in the Draft EIS. The low probability of a spill into a unique or sensitive biological system and the lower significance of potential impacts did not make the level of analysis given human receptors (e.g., increased cancer risk) warranted for non-human receptors. Please refer to the Response to Comment 7-12 for further discussion of procedures following a spill into a lake or reservoir, a potentially sensitive biological system.
- 13-11 The transportation distance between the generator and the incinerator has a direct influence on costs. Why some companies elect to illegally dispose is speculative. If cost is a factor, then the geographic placement of incinerators may assist in minimizing illegal disposal.
- 13-12 Aptus maintains its own truck fleet and own drivers. All non-Aptus drivers must pass the requirements discussed on Pages 2-16 and 2-17 in the Draft EIS. All approved drivers are trained in accident/incident management. Regarding unscheduled truck deliveries, Aptus believes that the environment is better served by its willingness to hold a truck and verify its contents and destination than to turn it away. State officials are notified whenever an unscheduled truck arrives at the facility. Aptus has never had the type of "unscheduled truck delivery" which you allude to in your comment at its Coffeyville, Kansas facility.
- 13-13 Based on your comment, text revisions to Page 4-31 in the Draft EIS are included in Section 3.1 of this Final EIS.
- 13-14 Please refer to Response to Comment 5-3 for a discussion of impacts during wintertime stagnation conditions and Response to Comment 12-16 for a discussion of the potential for particle deposition. Based on the visual resource assessment presented in Section 4.2.8 of the Draft EIS, the small water vapor plumes that would be visible at the incinerator facility only during very cold weather would not significantly affect the quality of the viewshed from the Cedar Mountain Wilderness Study Area (WSA). The proposed stack would be about 100 feet above grade, while the proposed cooling tower would only be about 18 feet above grade. The plumes from the stack and cooling tower would be an estimated 100 to 300 feet long and would vary greatly depending on atmospheric conditions. Evaporation of any plumes is expected to be very rapid under most conditions. For comparison, the proposed cooling tower would be one-tenth the size of a typical power plant cooling tower and about the same size as the cooling tower currently in use at the Amax Magnesium plant at Rowley.

Letter 14

City of Wendover

WESTERN GATEWAY TO UTAH
P.O. BOX 526
WENDOVER, UTAH 84083

Response to Letter 14

April 23, 1988

Mr. Deane H. Zeller
District Manager
BIM Salt Lake District
2370 South 2300 West
Salt Lake City, Utah 84119

RE: Comments on the EIS Draft

Dear Mr. Zeller

I feel that you should hold a public hearing in Wendover for both Utah and Nevada residents. The citizens here need to be informed of the possible impacts of the Aptus Industrial and Hazardous Waste Treatment Facility.

The main hazards of toxic waste disposal seem to be associated with the transportation and handling of the hazardous wastes before being thermally disposed of in the incinerator. With this in mind I think that a possible alternative would be to build more incinerators closer to the origins of the toxic waste. This is what the military has done and might be a feasible alternative saving the cost and risks of transportation and handling of the wastes.

Thank You

Paul Wayman
City Council Wendover Utah
(801)665-7727

Thank you for your letter. On May 20, 1988, a public meeting was held in Wendover, Nevada, per your request, to discuss the proposed Aptus facility.

N-38

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Letter 15

638 4th Avenue
Salt Lake City, UT 84103
April 24, 1988

Deane H. Jeller
District Manager
BIF Salt Lake District
2370 South 2300 West
Salt Lake City, UT 84119

Dear Mr. Jeller,

On behalf of the American Lung Association of Utah I am submitting the following comments on the draft environmental impact statement for the Aptus industrial and hazardous waste treatment facility. Some of our concerns raised at the March 17, 1988, hearing are reiterated and additional concerns are presented.

1. STATEMENT OF NEED OF CAPACITY TO HANDLE UTAH GENERATED HAZARDOUS WASTES

15-1 The statement that three 50,000 TPY facilities are needed to handle Utah generated incinerable hazardous wastes given as 30,000 TPY needs to be elaborated upon or restated.

2. THE AMOUNT OF UTAH GENERATED INCINERABLE HAZARDOUS WASTES

15-2 The EIS should state the source of the 30,000 TPY estimate, especially since the figure was given as between 15,000 TPY and 30,000 TPY at the hearing. The EIS should specify what Utah generated incinerable wastes are included in the estimate. Does this figure include all incinerable hazardous wastes generated currently at all sources in Utah, including those generated and currently incinerated at Tooele Army Depot? Does it include all wastes for which there are incinerator plans at Hercules, Dugway, Hill Air Force Base and additional ones at Tooele Army Depot?

3. HAZARDOUS WASTE MINIMIZATION AND REDUCTION

15-3 It was stated on page 2-46 that alternative approaches including waste reduction or minimization were not analyzed in this EIS because they "are not relevant to Aptus' proposed project". If more active hazardous waste reduction were to occur in this state and in the country, however, the amount of hazardous wastes in Utah for which incineration capacity is needed would be less and the market for burning wastes generated in other states would be tighter. Newly proposed Congressional legislation seeks to facilitate and stimulate the reduction of hazardous wastes, as was intended by Congress with RCRA. Economics will also no doubt play a role in reduction of wastes to be burned. The EIS should provide an estimate of the amount of Utah generated incinerable hazardous wastes if moderate reduction were to occur. The 1985 U.S. Congressional Budget office report, "Hazardous waste management: recent changes and policy alternatives" provides estimates for the amount of U.S. incinerable wastes in 1990 given "waste reduction" and "no waste reduction".

4. THE AREA POPULATION THAT MIGHT BE AFFECTED

15-4 The Salt Lake area population, given as that of Salt Lake City (163,000) in 1980, is a very arbitrary figure that doesn't relate to the number of people living in the Salt Lake, Davis County area of the Wasatch Front. The Wasatch Front Regional Council gives a population figure for Salt Lake County and South Davis County as 788,906 in 1985, projected to grow to 1,060,145 in 2005. Additional population in Davis and Weber Counties should be included. This population figure is important. The draft EIS refers to the population at risk as that for which the numbers are listed in Table 3-5.

Response to Letter 15

15-1 Please refer to Response to Comment 4-1 for discussion of the need for incinerators in Utah.

15-2 The 30,000 tons per year (TPY) estimate for Utah-generated incinerable wastes was assessed from the 1985 biennial report. All Utah RCRA generators who generate more than 2,200 pounds of hazardous wastes per month are required to submit information for the biennial report to provide current data of Utah-generated hazardous waste. According to the categorized waste numbers submitted in the report, the 30,000 TPY estimate was derived by assessing what wastes could be incinerated. Facilities within the State of Utah were included in this estimate by the data that they submitted for this report. This estimate of Utah incinerable waste does not include RCRA waste, Superfund (CERCLA) waste, or waste from small quantity generators (i.e., those who generate less than the 2,200 pounds of hazardous waste per month). Detailed data on individual generators within the state can be reviewed by the public in the office of the UBSBW.

15-3 Efforts for waste reduction or minimization are encouraged in current federal legislation. The industry determines what types of waste minimization to implement during facility operation, according to its manifest. Reduction of wastes was incorporated in the 1985 biennial report, to the extent that large quantity generators are required to submit what processes they may be utilizing for waste minimization. Please refer to the Response to Comment 15-2 for information concerning the 1985 biennial report. Currently, the State of Utah does not implement incentives for waste minimization; however, possible incentives are being examined.

15-4 Please refer to Responses to Comments 4-6 and 4-7 for a discussion of population figures presented in the Draft EIS. The populations shown on Table 3-5 in the Draft EIS are background information for the socioeconomic analysis and do not represent the "population at risk."

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Letter 15 Continued

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5. PROBLEMS WITH HAZARDOUS WASTE INCINERATORS

A short list of advantages of incineration are given on page 1-4. These advantages are in comparison to disposing of the wastes untreated in the ground. The fourth advantage, that of minimizing liability, is only an advantage to the company and not to the public. Certainly not to city, county and state officials and taxpayers who must pay for the clean-up of unattributed pollution or pay in terms of health effects. The problems of incineration and a true comparison of incineration to all approaches and methods of handling the country's hazardous waste problems are not given.

2. Timothy Oppelt, in his 1987 paper, "Incineration of hazardous wastes: a critical review", Journal of the Air Pollution Control Association, 37(5): 558-566, referred to for other reasons in the draft EIS, does clearly state that there are issues relating to the use of thermal destruction methods for disposing of hazardous wastes. These issues include:

- The unknown factor of destruction effectiveness on untested/unique wastes. Current standards and technology relate to the types of wastes currently being burned. "However, the character of wastes which may be subjected to incineration in the near future will begin to change, perhaps dramatically." As the EIS acknowledges on page 4-8, the emissions will relate to the waste feed, whose precise characteristics cannot be presently determined and which would change depending on the source of the waste.
- Heavy metal emissions: Metals are not burned. Not much is known about actual emissions of metals nor are they currently directly regulated. The particulate emission limit "has proven difficult for a number of operating facilities to achieve." Newly proposed regulations may not affect this facility and may also not take care of the problem.
- Emissions of combustion byproducts (PIC's): New products are formed and emitted during combustion. The extent of the problem is not known. "The completeness of emissions data and, therefore, the adequacy of risk assessments performed using these data" has been questioned.
- Real-time performance assurance: None of the surrogates and indicators of incinerator performance being evaluated "is fully satisfactory and little evaluation has been done under true failure conditions." "None of the available real-time monitoring performance indicators appear to correlate with actual organic compound DRC." (p.581)

It would appear that there are many unknown factors with regard to hazardous waste incineration and its potential environmental effects.

6. PIC's are not mentioned in the section on air emissions. Even though they may not be known, the fact that there will be PIC's should be mentioned in the EIS.

7. HEALTH RISK ASSESSMENT

The health risk assessment is too limited. It is given only for transportation related spills, and not for the worst case spill of a large spill in the most populated area such as the Salt Lake Valley. The assessment does not address other health effects than cancer and does not address other exposures such as from the continuous emissions of the operation or from upset conditions. The health assessment is, therefore, not complete.

8. TRANSPORTATION

The projection of the number of probable accidents does not appear to take into account the dramatic increase in vehicular miles travelled expected to occur for

Response to Letter 15 Continued

Thank you for your comment. Your concerns will be considered in the final decision-making process. Please refer to Response to Comment 19-8 for a discussion of the disadvantages of incineration and Section 2.8 in the Draft EIS for a discussion of alternatives not considered in detail. There is no single approach that is the "best" for the treatment/disposal of all incinerable wastes, and it is beyond the scope of this EIS to analyze "all approaches and methods." Further, it is up to the waste generator to determine which approach(es) are suitable for his unique situation. These could range from waste minimization at the source of generation to terminal treatment technologies such as incineration. Hazardous waste incineration is an acceptable technology for disposal, and this method is expected to be used with increasing frequency across the country. Federal and state regulations do not identify a specific method to be used. During the preparation of the Draft EIS, the BLM, EPA, and USFWS concurred that the incinerator proposed by Aptus was appropriate technology for the treatment of the wastes that Aptus has identified in their TSCA and RCRA permit applications. The problems associated with incineration, and Aptus' proposed facility in particular, will be examined in greater detail by EPA and USFWS as part of their reviews of Aptus' permit applications.

Dioxins and furans are discussed throughout the air quality sections of the Draft EIS. These are PICs as referenced in your comment. Please refer to Response to Comment 12-13 for additional discussion on PICs.

Please refer to Appendix B, Health Risk Assessment, in the Draft EIS in which three different spill scenarios are discussed. The first scenario examines risks from a 70-gallon spill of PCBs within the city limits of Salt Lake City. Also, please refer to Response to Comment 4-8 regarding cancer risk versus exposures from continuous emissions or upset conditions.

The spill probability was based on operating experience involving all types of roadways, many of which have higher traffic volumes than those which currently exist in Salt Lake City. It is agreed that the probability of an accident would increase as traffic volume increases; however, the spill frequency used in the Draft EIS is felt to be representative for the Aptus proposal and adequately assesses impacts. Also refer to Response to Comment 13-8 for further discussion of accident rates.

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Letter 15 Continued

Response to Letter 15 Continued

15-8
Cont.

all vehicles in the area in 2005 as opposed to 1980. Accident rates surely relate to the number of all vehicle miles travelled on a road stretch and not just to number of vehicle miles travelled by the incoming hazardous waste trucks.

9. WORKER EXPOSURE

15-9

On p. 4-16 it is stated that worker safety will not be threatened by plant emissions because presumably the emissions are all going up a tall stack. What about fugitive emissions? There is no mention of the existence of fugitive emissions and worker exposure to them.

10. UPSET CONDITIONS

15-10

There is not a thorough enough discussion of upset conditions. The five minute example during a specific condition does not relate to all possibilities. Upset conditions do occur and do cause problems in operating incinerators. What will the real effects be of the different kinds and durations of upset conditions? The mention of the potential for affecting area populations (including the Salt Lake City area population of 160,000) on page 3-37 should be expanded upon.

11. CUMULATIVE IMPACTS

15-11

The statement on page 4-71 regarding the number of trucks and rail cars to be used by USPCI indicates knowledge that USPCI is proposing a much larger capacity even than that of Apts (25 trucks per day for USPCI, 9 for Apts) and yet on page 4-70 it is stated that USPCI emissions are assumed to be of the same magnitude as Apts'. This is a puzzling assumption since USPCI is applying for a total capacity of burning 8) tons per hour as opposed to the 10 tons per hour proposed by Apts.

We would, again, like to thank you for the opportunity to comment on this draft EIS. This is the first EIS for a hazardous waste incinerator facility in Utah and it does begin to shed some light on the issues relating to such facilities.

Sincerely,

Nina Dougherty
Nina Dougherty
Chair, Environmental Health
Committee
American Lung Association of Utah

To further complicate the matter, the Marblehead incinerator site proposed by USPCI is not within Tooele County's West Desert Hazardous Industry Area (see Map 1-1 in the Draft EIS). Since Tooele County would not accept a request for rezoning outside of the designated area, it is expected that USPCI will identify a new site within the area at some time in the future. An incinerator at a new site would probably not use the same technology that has been proposed for the Marblehead site. Both these factors, location and technology, would affect the type, quantity, and dispersion of emissions and thus would change cumulative impacts. If and when USPCI proposes a revised project, BLM, EPA, and/or the Utah Department of Health would conduct a more formal evaluation of cumulative impacts during their respective permit reviews and should be able to make a more accurate assessment of this issue at that time.

15-9

Fugitive emissions would be a violation of the RCRA permit conditions. RCRA requires that the incinerator and all incinerator-associated equipment be monitored daily for fugitive emissions. In an effort to maintain compliance with the RCRA standards, Apts has indicated in the RCRA permit application that the incinerator would be operated under negative pressure to ensure that any fugitive emissions would be drawn through the kiln, afterburner, and air pollution control equipment. Apts also indicated in the application that fugitive emissions from storing and blending operations would be drawn through the incinerator (under negative pressure) during operation and would be drawn through a carbon filter system when the incinerator is not operating. The facility would be required to demonstrate that when loss of air pollution control equipment occurs, the emissions from waste remaining in the kiln, under worst-case situation, would not pose a threat to human health or the environment (see Response to Comment 5-5 for further discussion of upset conditions).

Apts would also maintain a health monitoring program that follows the National Institute of Occupational Safety and Health (NIOSH) protocols. All emissions, fugitive or stack, would be monitored through the medical surveillance program.

15-10

The Draft EIS did not address an entire range of upset conditions, however, the worst-case operating condition (power loss) was assessed. A list of possible process upset conditions is contained in the RCRA/TSCA application. Please refer to Response to Comment 12-1 and Table 3-1 in Section 3.2 of this Final EIS for additional clarification on upset conditions. There was no reasonable scenario that was modeled for the Draft EIS that indicated any significant impact to Salt Lake City. Please note that air quality sensitive receptor sites were located at Grantsville, Tooele, Magna, and Salt Lake City (see Map 2-2 in the Draft EIS) and that no significant air quality impacts were predicted at any of these receptors for any of the alternatives (see Tables 4-6, 4-8, and 4-10 in the Draft EIS).

15-11

Estimating emissions from hazardous waste incinerators is a complex undertaking and is influenced by many factors including the type of waste, concentrations of hazardous constituents in the waste, effectiveness of pollution control equipment, etc. The emission assumptions used in the Cumulative Impacts Section (4.7) of the Draft EIS were consistent with USPCI's permit application, which was the best available information on the Marblehead incinerator at that time. The tonnage of waste treated is not by itself a reliable indicator of emissions, because a great deal of the waste USPCI proposes to incinerate would be contaminated soils which are heavy in tonnage but contain a low percentage of hazardous constituents. Since the details upon which to reliably estimate the USPCI incinerator emissions were not readily available, the qualitative procedure used to evaluate cumulative air quality impacts in the Draft EIS was the best procedure available.

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Letter 16

Response to Letter 16



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS OGDEN AIR LOGISTICS CENTER AFPC
HILL AIR FORCE BASE UTAH 84056 5149

APR 25 1988

Mr. Deane Zeller
District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City UT 84119

Dear Mr Zeller

Several Air Force officials have reviewed the Draft Environmental Impact Statement (EIS) for the APTUS Industrial and Hazardous Waste Treatment Facility proposed to be constructed and operated in Tooele County, Utah. We have attached a copy of the letter expressing the concerns of organizations that reviewed the document. Please review these comments and consider them as you prepare the final EIS.

Thank you for your letter.

If you have any questions or require further information, please contact Mr Bill Taylor, Chief, Environmental Planning Section, 2849 ABC/DEVX, Hill AFB, UT, 84056 (801-777-6742).

Sincerely

THAYNE H. JUDD, Col, USAF
Chief, Environmental Mgt Office

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Comment Ltr (21 Mar 88)

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Letter 17

Response to Letter 17



DEPARTMENT OF THE AIR FORCE
6545TH TEST GROUP AFSC
HILL AIR FORCE BASE, UTAH 84056 5000

21 JUL 1993

TO: TIAA

Draft Environmental Impact Statement (EIS) for Aptus Industrial and Hazardous Waste Treatment Facility

2049ABG/DEV

1. Review of the draft EIS shows no serious direct impact on the UTR by this proposal.

a. The Argonite Site is in the Tooele County industrial development area.

b. The site does not directly interfere with South Range operations.

c. The power/gas lines to be extended to the site should not pose a problem.

2. The Argonite Site is approximately 18 statute miles from the Wildcat Industrial Site; the initial TAC WESP Target. There should be no conflict.

3. The Clive Site should be addressed in it's potential impact on the access road to the Wildcat/Kittycat Target Area. It appears to straddle the access road, and could impact on our access if an accident occurs at the waste site. The Clive Site is only approximately ten miles from the industrial site. There could be conflict with use of this target area. The Clive Site is under VR 1445/1446 and could provide some visual observation along these routes.

17-1

17-2

17-3

4. Table 2-6 should include an impact statement relating to the Air Force mission.

5. All references to the Wendover Bombing and Gunnery Range should be changed to the Utah Test and Training Range.

FRANCIS C. BATES, Maj, USAF
Long Range Planning

Francis C. Bates

17-1 The alternative incinerator site at Clive would be located approximately 1,000 feet west of the existing access road and should not affect use of this road even if an accident or spill occurs. The terrain at Clive would allow an affected area to be temporarily bypassed. Your concern about potential conflicts with the target area will be considered in the final decision making process.

17-2 It is not anticipated that the proposed action or either alternative would have any effect on the Air Force mission.

17-3 Based on your comment, text revisions to Page 3-15 in the Draft EIS are included in Section 3.1 of this Final EIS.

Ahh

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2-43

Letter 18

Response to Letter 18

APTUS EIS

April 26, 1988

Mr. Deane H. Zeller, District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City, Utah 84119

Subject: Comments on DRAFT ENVIRONMENTAL IMPACT STATEMENT; APTUS
INDUSTRIAL AND HAZARDOUS WASTE TREATMENT FACILITY [February 1988].

Greetings:

The following are my comments for inclusion in the Final EIS. These
Comments require corrective action in the Final EIS and in the proposed
Incinerator activity:

1. EPA CONFLICT OF INTEREST

Two government agencies (BLM and EPA) have prepared this EIS for a
private profit-motivated corporation (APTUS). The EPA was created to be
a referee on behalf of the public (is the citizens') interest, but in
this case the EPA has been a cooperating agency in the preparation of
this EIS. The EPA should review the EIS, not prepare it. The EPA review
comments should be extremely significant to the pro or con decision, but
in this case they have a conflict of interest as preparer of the EIS.

Normally, the proponent is a government agency with an identified
mission which the proposed action supports. In this case, APTUS is the
proponent, and the Aptus Corporation has paid the EPA and BLM to assume
the proponentcy. This is illegal because the EPA and BLM do not have
the mission to dispose of hazardous waste.

Since the EPA and the BLM now have a conflict of interest in this
EIS, and the proposed incinerator, they can no longer be considered the
protector of the public interest for this case, or be allowed to rule on
this EIS and the proposed incinerator. Therefore this position should
[must] be delegated to an organization[s] with demonstrated capability,
fairness and moral responsibility for protecting the public interest in
environmental matters. I recommend:

The Sierra Club
League of Woman Voters of Salt Lake City
Utah Senator Francis Farley
Conservation Dept. of the General Federation of Women's Clubs.

2. SAFE OPERATIONAL CONTROL DATA

The EIS should [but does not] provide experience data from existing
incinerators processing toxic and hazardous wastes, in order to
demonstrate an efficiency [or compliance rate] for safe incineration of
such wastes. The destruction of toxic and hazardous compounds by
combustion into nontoxic and safe products must be strictly managed by
operational controls over temperature, materials, fuel-air ratio, time
duration, flame turbulence, etc. These operational controls must be
proven to provide safe results BEFORE approval is given for the EIS or
the incinerator. The EIS must, before it is approved, demonstrate that
the operational controls for all materials to be processed are known with
high statistical confidence. Any other course would result in
experimentation with toxic air for the people of Tooele and Salt Lake
Counties to breathe.

18-1

Your comment regarding a potential conflict of interest by the
EPA as a cooperating agency in preparation of the Aptus Draft
EIS is noted.

EPA is obligated to administer aspects of the Toxic Substances
Control Act (TSCA), the Resource Conservation and Recovery Act
(RCRA), and the Clean Air Act (CAA) regarding the proposed
action. Under regulations established by the Council on
Environmental Quality (CEQ) to promote consideration of
environmental issues concurrently by federal agencies, EPA has
also participated as a cooperating agency with BLM during this
EIS process. EPA is obligated under TSCA to "prevent
unreasonable risk to public health and the environment", under
RCRA to "protect human health and the environment", and under
the CAA to comment in writing on EISs for which EPA has
"jurisdiction by law or expertise."

EISs are written on proposed major federal actions which could
have a significant impact on the human environment such as the
proposed action. These actions can either be at the
initiative of a federal agency or in response to a private
party seeking federal agency determinations. In this case the
EIS was needed to analyze the proposed land transfer and ROMs
across public lands as administered by BLM.

Although EPA does not have the mission to dispose of hazardous
waste, EPA has informed the states of the need under the
Superfund obligations for each state to obtain treatment
capacity for hazardous waste produced or disposed in the state
or obtain agreements with other states to do so by 1989. As a
matter of national policy to comply with TSCA and RCRA,
hazardous waste can be disposed in permitted facilities such
as the one under consideration in the proposed action. In
order for Aptus to obtain approval from EPA and the State of
Utah, the company must obtain a RCRA permit from the State
(subject to EPA oversight) and approval under TSCA from EPA.
Both of these actions will be the subject of additional public
review and comment. Proper disposal of hazardous waste in
RCRA and TSCA permitted facilities adhering to the strict
operational requirements should provide appropriate protection
of the public health and the human environment consistent with
EPA's statutory mission.

EPA and the BLM intend to meet their statutory obligations in
the proposed manner described in the EIS. An EIS is not a
justification document in the sense you infer. The National
Environmental Policy Act requires the EIS to be an objective
document on which a federal agency can base its decisions.
Neither BLM nor EPA have a conflict of interest in preparation
of the EIS, nor the future independent regulatory decisions
necessary to implement the proposed action.

2-44

18-1

18-2

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Letter 18 Continued

Response to Letter 18 Continued

3. REGULATIONS, REQUIREMENTS, INSPECTION, INSTRUMENTATION, PENALTIES/REWARDS

The incineration of toxic and hazardous wastes, of many and complex formulations, and in large volumes, with assured profit, is accepted as a high risk system. This system has in common with any planetary space program [also a high risk system] the fact that it cannot succeed without regulations, requirements, inspection, instrumentation, and penalties/rewards. The EIS is completely inadequate in these areas. At the Toxic Waste Incinerator Meeting held by the Tooele Planning and Zoning Commission on November 9, 1987, the EPA representative stated that this incinerator would be safe if closely monitored and inspected. A few minutes later in this meeting, the EPA revealed that they are short of funds, that the local area is controlled by the EPA office in Denver [which covers six states with a small staff], and that the EPA plans to inspect this incinerator ONLY TWICE A YEAR, WITH ADVANCE NOTICE. The Utah Division of Public Health also stated that they would not inspect this incinerator at all. This lack of close inspection, unless completely corrected, makes approval of the EIS and the incinerator morally reprehensible. Voluntary compliance in conflict with the profit motive has not, does not, will not work, and could not work at the 99.99% level needed here. It would not be fair to place some middle manager in the squeeze between obvious cost and schedule documentation, versus long term health problems of children and the aged.

18-3

4. RISK BENEFIT ANALYSIS

The EIS must provide [but does not] a Risk Benefit Analysis (RBA). The RBA must show, conclusively, that the benefit to the people of Tooele County, and also of Utah, [over a lifetime, or at least 70 years] outweighs the risks [to lifetime health, job potentials, beauty of surroundings, etc.]. The RBA is not involved with the monetary benefits to the corporation operating the incinerator. The RBA can probably be simplified and yet be adequate if it is limited to the most susceptible 1% of the population. Since the greater Tooele City- Grantsville area includes about 25,000 people, this 1% would cover about 250 people who are expected to have significantly greater health reaction to air pollution than the average person. The RBA should be performed at 50% and 95% confidence. Further, the RBA should be done for ideal operation and for typical operation where accidental and on-purpose violations occur, based on past experience. To claim that such violations will not occur would require the detail definition of the specific system of Regulations, Requirements, Inspections, Instrumentation, and Penalties/Rewards which can accomplish such a goal.

18-4

18-2

The operational experience with incineration has been documented through a variety of EPA publications. One such publication is the EPA Handbook on Permit Writer's Guide to Test Burn Data (EPA 1986a). Trial burn data from existing facilities are also available from the EPA.

The EIS process does not replace permit requirements under TSCA or RCRA. Not all permitting actions can occur simultaneously, therefore, the trial burn would follow the Record of Decision on the EIS. The trial burn is scheduled for February or March 1990 (see Revised Figure 2-3 in Section 3.2 of this Final EIS). The process by which the Aptus incinerator would be permitted under TSCA and RCRA is as follows: The State of Utah's Division of Environmental Health and the EPA review the engineering design and operations plan prior to facility construction. Public hearings are held on these permits. RCRA is by law a delegable program; thus, the State of Utah has primacy and, in conjunction with the EPA, determines that the operational controls are properly designed. The 3 to 6-day trial burn is analyzed by EPA and UBSM to determine if applicable DRE standards are met. If the trial burn is unsatisfactory, the facility cannot operate.

Please refer to Page 1-10 of the Draft EIS and Response to Comment 2-2 for discussions of Aptus' past history regarding compliance with TSCA permit limits for the existing Coffeyville, Kansas incinerator.

18-3

Please refer to Comment 19-1 and Response to Comment 19-1 and the response to the statement made by Nancy Fox (Section 2.3 in this Final EIS) for further discussion of monitoring.

18-4

The Draft EIS represents the risk benefit analysis for the Aptus incinerator proposal. Please refer to the air quality, transportation, health and safety, and socioeconomic sections and Appendix B in the Draft EIS for discussions of the risks and benefits to the people of Tooele County from the Aptus proposal. The EPA and State of Utah will also consider risks and benefits as part of their permitting actions for the proposed facility.

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5. INCINERATION OF OUT OF STATE TOXIC AND HAZARDOUS WASTES.

Under the Superfund Amendments Reauthorization Act of 1986 (SARA Title III). Each State must certify by November 1989 that it has adequate capacity to dispose of its own wastes for the next 20 years. This can be accomplished either through providing waste treatment within the states own boundry , or by entering into specific compacts with other states for proper disposal. The EIS must identify which states are proposed to be served by the subject incinerator, with materials and quantities, in order to provide an accurate basis for the RISK BENEFIT ANALYSIS. The RBA will include transportation accidents.

It is expected that a correct RBA will identify a negative benefit to the people of Utah derived from out of state toxic and hazardous wastes; this indicates that UTAH SHOULD NOT ACCEPT OUT OF STATE TOXIC AND HAZARDOUS WASTES. Utah should not subsidize the APTUS Corporation by accepting out of state wastes with a negative risk benefit.

The Transportation of toxic and hazardous wastes should be regulated by the state of Utah, and final approval of this EIS and this incinerator should not be granted until these controls are in place, since this will greatly effect the risks .It is recommended that trucks carrying such wastes must be single units, must be limited to 55 MPH, must be specially inspected prior to each trip, must not be allowed inside cities with populations above 50 thousand, and must be insured for the maximum damage that could be caused.



M. John Pilny
685 Pioneer Ave.
Tooele, Utah 84074

18-6

18-5

The types and quantities of hazardous wastes received from specific states are dependent entirely on the waste generators that choose to utilize the Aptus facility. This cannot be accurately estimated for the EIS beyond the 70 percent west of facility and 30 percent east of facility suggested by Aptus' market research. Please refer to Response to Comment 21-5 for a discussion of transportation accidents in other states.

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Letter 19

Response to Letter 19



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET--SUITE 500
DENVER, COLORADO 80202-2405

APR 26 1983

Ref: 8PM-EP

Mr. Deane H. Zeller
District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City, Utah 84119

Dear Mr. Zeller:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA), Section 109 of the Clean Air Act (CAA), the Toxic Substances Control Act (TSCA), and the Hazardous and Solid Waste Act (HSWA), the Region VIII Office of the Environmental Protection Agency has reviewed the Draft Environmental Impact Statement (EIS) for the Aptus Industrial and Hazardous Waste Treatment Facility, Tooele County, Utah.

EPA suggests that information for the Final EIS could be improved in several areas including changes in the dermal exposure aspects of the Health Risk Assessment, additional discussion on the options for EPA and Utah for facility inspections, aspects of USPCI's nearby project, and in the analysis of the proposed land exchange.

We have some attached detailed comments on the dermal exposure potential during the spill scenarios. EPA suggests additional references be reviewed and used to modify Appendix B (see the attached detailed comments).

Many of the public comments related to the type, frequency, and quality of inspections by the regulatory agencies. The final decisions on these matters rest with the Utah Department of Health (UDH) and EPA and will not be determined until the RCRA permit action is final. We will not be able to make these decisions in time for the final EIS. Nevertheless, the final EIS could describe the options available to UDH and EPA for inspection functions. Options under discussion include locating a full time inspector in Tooele County under the UDH to inspect this proposed facility and other hazardous waste treatment facilities. Also under consideration is the possibility of connecting Aptus' plant operations by computer to UDH and/or EPA. Further opportunity would be provided for public consideration of the inspection procedure during the subsequent RCRA permit process. Under the TSCA approval process, EPA projects that two, announced or unannounced, inspections will be accomplished per year.

19-1 Thank you for your clarification. In addition to monitoring requirements imposed by EPA and the UDSHW, Tooele County is considering requiring monitoring of groundwater quality and soil contamination as part of its Conditional Use Permit. Public input into monitoring requirements is encouraged as a part of the review of each permit application by the responsible agency.

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Letter 19 Continued

Response to Letter 19 Continued

2

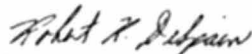
19-2

The draft EIS does not clearly define the need to exchange both the Aragonite site and the Clive site. Either the final EIS or a supplemental document should be provided to describe the lands that would become public lands for these exchanged parcels.

We suggest that the Final EIS briefly describe a related proposal by USPCI for hazardous waste fuel burning at the Marblehead Lime Facility. The attached detailed comments provide a summary of that proposal.

Based on the procedures EPA uses to evaluate the adequacy of the information in the EIS and the environmental impacts of the proposed action and alternatives, the Draft EIS for the Aptus Industrial and Hazardous Treatment Facility will be listed in the Federal Register in category LO-2. This means we have a lack of objections to the proposed action but do suggest additional information be included in the Final EIS as described in the attached detailed comments. Please contact Weston Wilson of my staff at 303/293-1620 for further explanation of these items. We look forward to participating in the Steering Committee's action to respond to the public comments received on this proposal.

Sincerely,



Robert R. DeSpain, Chief
Environmental Policy Branch
Office of Policy & Management

Enclosure

cc: Bill Sinclair, UDH, Salt Lake City
Dave Kopta, UDH, Salt Lake City
Sharla Barber, Aptus, Salt Lake City
Grev Ludwig, ~~ERT~~, Ft. Collins.

19-2

Exchange of land at both the Aragonite and Clive sites has been requested by Aptus and is being reviewed by BLM. At the time the Clive site was proposed for the Draft EIS, it represented a suitable alternative to Aptus for the Aragonite site. It was within Tooele County's West Desert Hazardous Industry Area and would be a back-up to Aragonite if environmental or other problems arose there (e.g., Conditional Use Permit not issued or sufficient groundwater not available). Tooele County has recently ruled in favor of Aptus' request for rezoning the Aragonite site, but many unknowns still exist. Aptus proposes to use exchanged lands at Clive for this project if the need develops or for some undetermined future use. The initial results of BLM's review is presented in Section 1.6 (Agency Preferred Alternative) of this Final EIS. BLM's final decision will be presented in the Record of Decision that will be issued at least 30 days following release of the Final EIS. BLM intends to prepare a supplemental environmental document analyzing the lands that would become public lands as part of the exchange.

2-48

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Letter 19 Continued

Response to Letter 19 Continued

Detailed Comments by the
U.S. Environmental Protection Agency
on the Draft Environmental Impact Statement
Aptus Industrial and Hazardous Waste Treatment Facility
Tooele County, Utah

As noted in the cover letter, we recommend that the EIS briefly describe in Section 2.7, Interrelationships with Other Projects, the proposed hazardous waste fuel burning under consideration by USPCI at the Marblehead Lime Facility. The following is a summary of that action:

Proposed Hazardous Waste Fuel Exemption Burning at USPCI's Marblehead Lime Facility

USPCI bought Marblehead Lime, near Delle, Utah, (see Map 2-1), in April 1987 and notified the Utah Department of Health (UDH) and EPA that it intended to burn hazardous waste under the hazardous waste fuel exemption as defined by RCRA (40 CFR 266.35). This provision falls under the "Energy Recovery" section of the regulations and allows facilities to burn certain hazardous waste as fuel, in furnaces and boilers only, without a RCRA permit.

USPCI burned ignitable waste and non-halogenated solvents (EPA listed wastes D001 and F00) as defined in 40 CFR 261.21 and 261.31) in July and September 1987. These wastes had been received at the Grassy Mountain Landfill and were mixed to improve the heat content. In September 1987, UDH issued a Cease and Desist Order to USPCI for burning hazardous wastes without an approval order under the Utah Air Conservation Regulations. USPCI stopped burning these wastes and submitted an application to UDH for an approval order which is currently going through the public comment period. The final Air Quality Approval Order will probably be issued in the near future. USPCI will also need a RCRA storage permit issued by EPA before it can continue burning hazardous waste under the RCRA fuel exemption at Marblehead.

EPA plans to propose new boiler and furnace regulations in June 1988 and hopes to promulgate them in June 1989. Under these revised regulations the hazardous waste fuel exemption will no longer be in effect. Essentially industrial furnaces and boilers burning hazardous wastes as fuel will have to comply with current requirements for Destruction Removal Efficiency (DRE) and obtain RCRA and HSWA permits.

19-3

Thank you for your clarification. In addition, the Utah Bureau of Air Quality recently issued a permit for USPCI to burn waste solvents at the Marblehead Lime Facility. The Bureau determined that burning waste solvents would cause no significant increases in the emissions from the facility as compared to the current burning of coal (Kopta 1988).

2-49

18-3

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Letter 19 Continued

Response to Letter 19 Continued

19-3 Cont.	<p>.if USPCI is allowed to burn hazardous waste under the current fuel exemption, they would have to cease once the new regulations are final. These air emissions will no longer be occurring by the time Aptus' incinerator begins operating. Therefore cumulative impacts are not expected from this action.</p>	
19-4	<p>p. 1-1 Last line - We suggest you add the word commercial in the last line to read: "The <u>commercial</u> facilities operating now are:..."</p>	19-4 Based on your comment, text revisions to Page 1-1 in the Draft EIS are included in Section 3.1 of this Final EIS.
19-5	<p>p. 1-3 2nd paragraph, line 6 - "These new amendments state that land disposal "...should be the least favored method for managing hazardous wastes...". The statute does <u>not</u> say that it is the method of last resort.</p>	19-5 Based on your comment, text revisions to Page 1-3 in the Draft EIS are included in Section 3.1 of this Final EIS.
19-6	<p>p. 1-4 Line 1 - We suggest that the sentence beginning, "Landfills, to the extent..." be changed to indicate that landfills have had difficulties in preventing groundwater contamination and that in order to assure that this not occur, hazardous waste landfills have indeed become more expensive.</p>	19-6 Based on your comment, text revisions to Page 1-4 in the Draft EIS are included in Section 3.1 of this Final EIS.
19-7	<p>1st paragraph - This paragraph should read as follows: "The 1984 amendments adopted a regulation under the Safe Drinking Water Act (SDWA) which bans the disposal of hazardous waste by underground injection into or above any formation which contains a potential underground source of drinking water, if the distance between the well and the aquifer is within 0.25 miles. Under SDWA, final determination of wastes that can be safely injected will be made by 1988."</p>	19-7 Please refer to Section 3.1 in the Modifications and Corrections chapter of this Final EIS for clarification of the Safe Drinking Water Act regulations.
19-8	<p>2nd paragraph - If the advantages of incineration are mentioned, the disadvantages should be included as well.</p>	19-8 The Purpose and Need section of the Draft EIS is not the appropriate place to discuss why the proposed action is not desirable. This is discussed in Chapter 4 of the Draft EIS. The Office of Technology Assessment in 1983 (Technologies and Management Strategies for Hazardous Waste Control) listed the major disadvantages of incineration as the high costs of incineration, facility construction, and operation; and delays in regulatory approvals due to public resistance in some of the areas where incinerators have been proposed.
19-9	<p>p. 1-5 Line 3 - We suggest the sentence beginning, "Based on Aptus' proposed..." be deleted since this was the source of some confusion during public testimony. It should be noted that Aptus proposes to operate at a rate of 50,750 metric tons per year.</p>	19-9 Please refer to Response to Comment 4-1 for a discussion of Aptus' proposed operating rate.
19-10	<p>Line 14 - We suggest that "responsible" be changed to "permitted."</p>	19-10 Based on your comment, text revisions to Page 1-5 in the Draft EIS are included in Section 3.1 of this Final EIS.

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Letter 19 Continued

Response to Letter 19 Continued

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19-11 p. 1-9 Line 1 - We suggest this line read: "...frequency of RCRA inspections will be determined at the time of permit approval..." Please add the following: "State regulations require that hazardous waste treatment facilities be inspected at least once per year. If Aptus receives waste from a Superfund site, the minimum number of inspections required is two per year. The State and EPA are exploring funding sources to provide more frequent RCRA inspections at this facility."

19-11 Based on your comment, text revisions to Page 1-9 in the Draft EIS are included in Section 3.1 of this Final EIS.

19-12 Line 5 -- We suggest you amend this sentence to read: "The number of TSCA inspections conducted by EPA Region VIII are projected to be twice a year. These inspections can be unannounced."

19-12 Based on your comment, text revisions to Page 1-9 in the Draft EIS are included in Section 3.1 of this Final EIS.

19-13 p. 2-12 We believe this schedule is too optimistic and that at least one year be added to this tentative schedule. Aptus cannot begin construction until it receives both its RCRA permit and TSCA approval. By state statute, the Utah Department of Health has a maximum of 270 day review period. However, this does not include periods when Aptus is responding to Notices of Deficiency (each response usually requires two to three months) or the time the state spends on public participation activities. Therefore, the RCRA permit will not be issued until at least the spring of 1989. This can easily be remedied by changing the headings in this table from "1988" to "1989" and "1989" to "1990".

19-13 The preliminary schedule listed in the Draft EIS is not a certainty. In constructing multi-million dollar plants, the schedule is an optimal goal. The schedule presented on Page 2-12 in the Draft EIS is an Aptus goal and may in actuality have been optimistic. A revised schedule incorporating recent developments is presented on Revised Figure 2-3 in Section 3.2 of this Final EIS.

19-14 Appendix B -- There are conflicting sets of information within the EIS from EPA sources regarding the analysis of dermal exposure in the Health Risk Assessment, Appendix B. The following references should be reviewed for determination of dermal dose exposure for the EIS spill scenarios:

19-14 As your comment demonstrates, estimating the dermal absorption dose of PCBs is subject to several independent variables. The variables you identify in item #2 of your comment were all considered in the analysis presented in Appendix B - Health Risk Assessment, of the Draft EIS. Several of the assumptions (liquid film thickness, skin area exposed, concentration of PCBs) used in the DEIS were more conservative (i.e., would result in higher exposure) than those you present, while others (percent absorption, density of liquid) were less conservative.

1. Animal studies have shown that the predicted absorption of PCBs are approximately 55% to 85% in 60 minutes.

2. Human dermal intake calculations for PCBs used:

- t, liquid film thickness = 0.0018 cm
- a, absorption rate of PCBs = 100%
- s, skin area exposed = 870 sq cm
- d, density of liquid = 1.6×10^3 mg/cm³
- c, concentration of PCBs

$$t \times a \times s \times d \times c = \text{mg absorbed per exposure}$$

$$= 1628 \text{ mg absorbed}$$

The percent absorption of PCBs appears to be the variable with the greatest difference in assumptions. It is felt that the 100 percent absorption you indicate is unrealistically high. The Webster et al. (1983) paper that you reference indicates a 56 percent absorption of PCBs following 16 days of exposure. Certain adjustments must be made for the 1-hour exposure period used in the DEIS. It was assumed that an exposed person's hands would be washed with soap and water or a suitable solvent within 1 hour of exposure. (Simple water washing would not be effective.) Even with immediate washing, the Webster study showed that not all PCBs would be removed.

Letter 19 Continued

Response to Letter 19 Continued

19-14
Cont.

Reference for 1 and 2: Review of Dermal Absorption; PB85-170694; by USEPA, October 1984.

3. Animal studies of monkeys and guinea pigs (which are considered to approximate human absorption rates) predict absorption rates of 20% to 54%.

Reference for 3: "PCBs, Dermal Absorption, Systemic Elimination and Dermal Wash Efficiency", Journal of Toxicology and Environmental Health, 12:51-519, 1983; Wester, Bucks, Mailbach, and Anderson.

4. Dermal studies for those that work with PCBs used 100% absorption. Worker exposure was calculated to be 54,000 ug/day for PCBs, based on 70% concentration of PCBs in Askarel and 200 square centimeters exposed skin area.

Reference for 4: "Evidence for Dermal Absorption as the Major Route of Body Entry During Exposure of Transformer Maintenance and Repairmen to PCBs"; American Industrial Hygiene Association Journal, (48), March 1987.

Based on Webster's results, an assumption can be made that for concentrated PCB fluids (60 to 70 percent PCB), washing would remove 80 percent of the PCBs leaving 20 percent to be absorbed. Assuming 56 percent absorption of the remaining PCBs, about 11 percent of the PCBs in the initial exposure would be absorbed.

Using the variables you identify in item #2 would result in a PCB dose that is higher than the one estimated in the DEIS. This would be as follows:

$$0.0018 \text{ cm (thickness)} \times 11 \text{ percent (absorption)} \times 870 \text{ cm}^2 \text{ (area)} \times 1,600 \text{ mg/cm}^3 \text{ (density)} \times 65 \text{ percent (concentration)} = 179 \text{ mg absorbed.}$$

The dose per kilogram would be $179 \div 70 = 2.56 \text{ mg/kg}$. This is about 2.5 times higher than the dose of 70 mg (1 mg/kg) estimated in the DEIS. The lifetime daily dose would be $2.56 \text{ mg/kg} \times 365 \text{ days/year} \times 70 \text{ years} = 1 \times 10^{-4} \text{ mg/kg/day}$. The excess lifetime cancer risk would be $1 \times 10^{-4} \text{ mg/kg/day} \times 4.34 \text{ day/kg/mg (potency estimate)} = 4.34 \times 10^{-4}$. This compares to 1.7×10^{-4} estimated in the DEIS.

In summation, individual variables used in estimating dermal exposure could be given a range of values based on the assumptions used in the spill scenario and the interpretation of the available scientific literature. Different values for variables could result in higher or lower estimates of the dermal absorption dose of PCBs. However, it is felt that the basic conclusion of the Health Risk Assessment, that an increased cancer risk in the range of 2 to 4 in 10,000 would occur to a person who contacted spilled PCBs, still accurately represents the impact that could be expected in the event of an accident and spill.

2-5-87

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STATE OF UTAH
OFFICE OF THE GOVERNOR
SALT LAKE CITY
84114

NORMAN M. BANGERTER
GOVERNOR

April 25, 1988

Mr. Deane H. Zeller
District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City, Utah 84119

Dear Mr. Zeller:

The Resource Development Coordinating Committee has reviewed the Draft Environmental Impact Statement for the Aptus Industrial and Hazardous Waste Treatment Facility. The following comments are submitted for your consideration.

Utah Department of Health/Bureau of Solid and Hazardous Waste

Page 1-5 of the DEIS states that "approximately 1 million tons of hazardous waste is generated in Utah per year by 400 generators (who generated over 2200 pounds per month) and another 300+ small quantity generators; of the 1 million tons per year, approximately 30,000 tons are incinerable." This information was probably derived from the 4 December 1987 correspondence to John Stephenson, BLM from Brent C. Bradford, UBSHM. This information should be clarified. As stated in the correspondence, the rough estimate of 30,000 tons of Utah incinerable waste does not include PCB waste, Superfund (CERCLA) waste, or small quantity generator waste (those who generate less than 2200 lbs per month of hazardous waste).

The estimate of 30,000 tons of Utah incinerable waste was based on the information that RCRA generators (those who generate more than 2200 lbs per month of hazardous waste) submitted on the 1985 biennial reports. All Utah RCRA generators are required to submit a 1987 biennial reports on or before May 31, 1988. The 1987 biennial report information will provide current data of Utah generated hazardous waste.

Page 1-5 also discusses the Superfund Amendment Reauthorization Act of 1986 (SARA) requirement that each state must certify by November 1989 that it has adequate capacity to dispose of its own wastes for the next 20 years. State capacity certification can be accomplished by entering into disposal agreements with other states.

20-1 Based on your comment, text revisions to Page 1-5 in the Draft EIS are included in Section 3.1 of this Final EIS.

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20-1

Letter 20 Continued

Response to Letter 20 Continued

Page Two
Mr. Deane H. Zeller

20-2 Prior to suggesting that Utah would require three incinerators, with an approximate 50,000 tons per year capacity to dispose of the estimated 30,000 tons of Utah generated waste, it should be considered that the DEIS estimate of a Utah capacity requirement of three incinerators was based on an Aptus estimation that 20 percent of the waste processed at the facility would be Utah generated. In-state/out-of-state origin of potential incinerable waste is difficult to estimate and dependent on several factors (including market disposal costs and time of generation). It is UBSHM's understanding that the Aptus estimate of 20 percent Utah generated incinerable waste was based on Aptus' market evaluation that Utah facilities would generate a total amount of annual incinerable waste approximately equal to 20 percent of Aptus' market evaluation that Utah facilities would generate a total amount of annual incinerable waste approximately equal to 20 percent of Aptus' annual process design capacity. Based on the market evaluation, Aptus determined that 80 percent of the process waste would have to be generated outside of Utah for the Aptus facility to feasibly operate.

20-2 Thank you for your comment. Please refer to Response to Comment 4-1 for further discussion of Utah's incinerable waste.

20-3 The pollution equipment discussion on page 206 states that the quench tower will "cool the gas stream and spray dry dissolved solids in the process water." It should be clarified that the quench tower cools the combustion gas with a "neutralizing scrubbing solution" (alkaline water mixture) prior to entering the other pollution control equipment. The Aptus application indicated that the temperature of the influent combustion gas will evaporate all of the quench water into salt simultaneously as the quench water lowers the combustion gas temperature. Some of the combustion gas particulates will fall out of the gas with the evaporated quench water salts. These solids will be collected in the quench tower hopper.

20-3 Thank you for your clarification.

20-4 It is not clear from the DEIS what is the eventual fate of water used in the gas scrubber, wet electrostatic precipitator, and quench tower. The DEIS should clarify whether this water is all recirculated or to be disposed of somewhere.

20-4 All water would be recirculated within various components of the incinerator and pollution control systems. The only water that would leave the system would be as vapor passing out the stack. No liquid water would be discharged.

20-5 Emergency venting to the atmosphere from waste storage tanks is referred to on page 2-22, 2-24. The DEIS should identify any possible adverse environmental effects from venting the tanks.

20-5 Any venting from liquid waste storage tanks would occur only to relieve an accidental over pressure condition. This is a necessary safety measure to prevent tank leakage or rupture. The composition of any gases released in such an event would depend upon the waste material in the tank. However, given that emergency vent releases would be infrequent and short-lived, no detrimental environmental effects would be expected.

20-6 The trial burn discussion on page 2-34 states that "the RCRA trial burn would be conducted following the issuance of the draft RCRA permit." This statement should be corrected. UBSHM will review RCRA Part B Permit applications and formally correspond with the applicant for additional information modifications and/or clarifications. The UBSHM will make a completeness determination when all RCRA requirements are met. A "notice of completeness" or "notice of intent to deny" will be issued to the applicant. If a "notice of completeness" is issued, UBSHM will develop a fact sheet and draft permit. The draft permit will then be subject to a public comment period (Minimum of 45 days) and a public hearing. After the public comment period, UBSHM will prepare and make available to the public a response to the comments. The Executive Secretary of the Utah Solid and Hazardous Waste Committee will then make a final permit determination. Trial burns for new

20-6 Thank you for your clarification. Based on your comment, text revisions to Page 2-34 in the Draft EIS are included in Section 3.1 of this Final EIS.

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Letter 20 Continued

Response to Letter 20 Continued

Page Three
Mr. Deane Zeller

20-6 Cont. Facilities will be conducted after the final permit is issued. The final permit may then be modified or revoked to reflect the results of trial burn. EPA would follow similar procedures for portions of the RCRA permit issued by EPA.

20-7 With respect to spill response capability (page 2-42), the DEIS fails to address the question of how much equipment is dedicated solely to the facility. This is of concern in the event of the spill response team responding to an off-site emergency with a subsequent emergency occurring on site.

20-8 The state of Utah hazardous waste disposal fees have been increased to \$6 per ton for waste generated in-state and \$9 per ton for waste generated out-of-state. The fee rate given in the DEIS (page 3-29) should be revised accordingly for the final EIS. Tooele County receives 10 percent of the collected state disposal fees.

20-9 Page 3-3b states that Aptus plans to begin construction during July 1988. It is this office's understanding that BLM's record of decision will occur August 1988.

20-10 Figure 2-3, "Tentative Construction Schedule" should be modified to reflect BLM's record of decision or EPA requiring both a TSCA and RCRA permit prior to construction. UBSHM is required to make a permit determination within 270 days. The 270 days exclude time in which 1) UBSHM is awaiting a response from the facility; 2) the draft permit is in the public comment period; and 3) federal or other state regulatory agencies are reviewing permit.

20-11 In the discussion of the location and frequency of spills, the statement "the majority of the spills are expected to take place outside of Utah" (page 4-47) should refer back to the reasoning behind it (page 4-34).

20-12 Some references to section numbers need to be corrected: "see Mitigation Measures, Section 4.7" (page 4-71) should be Section 4.8; "unavailable adverse impacts ... Section 4.8" (page 4-73) should be Section 4.9.

If you have any questions regarding these comments please contact Phillip Burns or Connie Nakahara at (801) 538-6121.

Division of Wildlife Resources

Generally, the proposed mitigation measures outlined in the DEIS appear adequate in mitigating anticipated impacts from a wildlife resources standpoint. From a wildlife value standpoint, the four alternatives were ranked in ascending order of importance as follows:

1. Clive Alternative
2. Clive - Aragonite Alternative
3. Aragonite Alternative
4. Skunk Ridge Alternative

20-7 The regional spill response team discussed on Pages 2-41 and 2-42 of the Draft EIS would be located at the Aptus incinerator facility; however, this team is not directly affiliated with the proposed facility. In the event of an emergency at the facility, on-site personnel trained in both spill response and contingency plan implementation would initiate emergency response activities, utilizing the on-site emergency response equipment described in Table 3-2 located in Section 3.2 of this Final EIS.

The spill control equipment would consist of sumps that are manually emptied by use of a dedicated vacuum truck. Some sumps have pumps that would return waste to the spill tank. Also, spill kits would be located in all buildings and consist of:

- one 55-gallon drum with lever lock ring;
- one dust pan;
- one shop hand brush;
- one square-D handle shovel @ 2-4;
- one 18-inch push broom;
- one box 30-gallon heavy-duty trash bags;
- one drum with open top of floor dry;
- one roll of paper towels;
- one 9-foot x 12-foot heavy-duty plastic tarpaulin;
- one 5-gallon can of solvent (Occupational Safety and Health Administration (OSHA) approved container);
- one first aid kit; and
- two self-contained or air-supply breathing apparatus.

20-8 Please refer to Section 3.1 in the Modifications and Corrections chapter of this Final EIS for revisions to Pages 3-29 and 4-38.

20-9 It was Aptus' understanding that the BLM Record of Decision was to be issued during July 1988; however, construction will not begin until the Record of Decision is issued by the BLM. Aptus recognizes time constraints that may arise; the preliminary schedule provides working dates for manufacturers and a reference base for the facility. Please refer to Response to Comment 19-13 for additional information on the proposed schedule.

20-10 Please refer to Response to Comment 19-13 for a discussion of the tentative construction schedule.

20-11 Based on your comment, text revisions to Page 4-47 in the Draft EIS are included in Section 3.1 of this Final EIS.

20-12 Based on your comment, text revisions to Pages 4-71 and 4-73 in the Draft EIS are included in Section 3.1 of this Final EIS.

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Letter 20 Continued

Response to Letter 20 Continued

Page four
Mr. Deane Zeller

The fewest wildlife impacts would occur with the Clive Alternative and the most impacts would occur with the Skunk Ridge Alternative. The Division prefers and recommends the Clive Alternative over the other three.

20-13 Specifically, all disturbed areas should be reseeded (see page 2-14, paragraph 3). Allowing disturbed areas to revert to natural vegetation on their own will result in noxious weed invasion with the most likely species being halogeton and Russian thistle.

20-14 It should be noted that one peregrine falcon egg was produced at the Temple Springs WMA hack site in 1987, however, it did not hatch. (See page 3-17, paragraph 4).

Utah Geological and Mineral Survey

20-15 The document was somewhat difficult to follow with regard to mineral occurrences, geologic features and localities mentioned. It is recommended that a regional geologic map and structural cross section, probably at the same scale as Map 1-1 in the DEIS, be included as part of the final EIS. The map should show to the extent possible 1) bedrock units and structures, 2) unconsolidated and semi-consolidated Quaternary deposits, and 3) mapped and/or suspected Quaternary faults. U.S. Geological Survey Map 1-1132, "Geology of the Tooele 1x2 Quadrangle" by Moore and Sorensen (1983) covers the region in question, and could be used to construct a regional geologic map for the final EIS. Addition of a geologic map would provide much greater clarity to the final EIS.

Office of Planning and Budget

20-16 Proximity to faults should not be the only seismic criterion used to assess the geologic impacts of the proposed action (page 4-20). The possibility of ground motion, liquefaction, etc., on Basin and Fridge valley fill associated with a seismic event should receive some inquiry.

Comprehensive Emergency Management

The Division of Comprehensive Emergency Management requests review of the emergency response plan for both fixed site and transportation accidents. They would also appreciate notification of shipments when they begin.

Thank you for the opportunity to comment on this proposed action.

Sincerely,

Michael E. Christensen

Michael E. Christensen
State Planning Coordinator

REC/jd

20-13 Please refer to Response to Comment 3-1 for a discussion of noxious weed invasion.

20-14 Please refer to Response to Comment 3-2 for clarification on the peregrine falcon hack site.

20-15 During the preparation of the Draft EIS, the need for a detailed geologic map was discussed by the project team. Potential impacts to geology and minerals were not felt to be great enough to warrant the inclusion of the type of map you suggest. This is consistent with CEQ guidelines for the preparation of EISs which require the document to focus on potential significant impacts and not include overly detailed information. Also refer to U.S. Bureau of Mines comments in Letter 8.

20-16 As discussed on Pages 4-20 and 4-21 of the Draft EIS, EPA (RCRA) regulations for the siting of hazardous waste facilities were used for determining significance criteria for seismic factors. These criteria were appropriate for the analysis in the Draft EIS. Also, as noted in the text (see Page 4-21), the State of Utah may require additional geologic studies at the selected site as part of the RCRA permit process. In fact, the state has requested such studies, and these have been completed by Aptus for the Aragonite site in May of this year (Earth Fax 1988). The detailed studies showed the closest fault (Quaternary-age about 15,000 years old) to be located approximately 7,500 feet southeast of the Aragonite site on the west front of the Cedar Mountains. No evidence of Holocene-age seismic activity was observed. Additional studies could also be requested and could include site-specific data collection to address the potential for liquefaction of valley fill associated with a seismic event. The facility must be designed to withstand accelerations of 0.2 to 0.4 g, and design parameters could also be incorporated to account for any liquefaction hazards.

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Letter 21

Response to Letter 21

Administration 702 885 6670
Air Quality 885 5863
Construction Grants 885 5870

RICHARD H. BRYAN, Governor

STATE OF NEVADA

Groundwater 702 885 6670
Waste Management 885 6670
Water Pollution 885 6670



DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF ENVIRONMENTAL PROTECTION

201 South Fall Street
Carson City, Nevada 89710

April 26, 1988

Mr. Deane H. Zeller
District Manager
BLM Salt Lake District
2370 South 2300 West
Salt Lake City, UT 84119

Dear Mr. Zeller:

21-1 [The siting of a hazardous waste incinerator has ramifications which go beyond state borders. The draft Environmental Impact Statement (EIS) that was prepared by ERT for the Bureau of Land Management (BLM) does not adequately consider the effects to public health or the environment outside of Utah. It is the responsibility of a Federal agency to consider all ramifications and to take a neutral stance in a draft EIS. The possible land exchange offered to the Bureau of Land Management appears to be the carrot being dangled in exchange for this draft EIS.

My specific comments to your proposal are as follows:

1. Capacity Assurance:

21-2 [The issue of siting and capacity assurance may be inappropriate in a Bureau of Land Management Environmental Impact Statement. The issue of siting and capacity assurance is presently being addressed by the States and EPA and is not as simple as providing incinerators in each state or entering into regional compacts as identified on pages ii and 4-68.

Total waste management capacity in a state plays an important role in determining the need for capacity assurance. The State of Nevada feels that an important indicator regarding siting assurance is the ratio of importation vs exportation, for example the State of Nevada has permitted capacity of 200,000 Tons and 1,600 Tons of manifested waste in 1986 for a ratio of 125:1. The siting of a 50,000 ton incinerator in Nevada would increase that

21-1 Please refer to Response to Comment 13-10 for a discussion of impacts outside of the State of Utah.

21-2 It is agreed that the issues of siting (regional location of incinerators or alternatives) and capacity assurance (number and size of incinerators or alternatives) are very complicated and dealt with by a process that is separate from the EIS process. BLM is not endorsing incinerators or the Aptus proposal in this EIS. Please refer to Response to Comment 4-1 for further discussion of this issue and clarification of the Draft EIS sections you reference.

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Page - 2 -

ratio to 156:1. Applying this to Utah, the draft EIS identifies that a 50,000 ton facility would incinerate only 10,000 tons of Utah incinerable wastes and that three such facilities are needed in the State of Utah. This theory if applied to the nation would require each state to have incinerator siting capacity ratio of 5:1 to that which is generated in each state. At this ratio it would be expected that government subsidies would be necessary to maintain the environmental controls to protect public health and the environment.

2. Waste Generation Data

The data on pages 1-3 through 1-5 regarding waste generation and need in the Draft EIS should be clarified. The EIS identifies that Utah generated 1 million tons of hazardous waste in 1985 and that 30,000 tons of that 1 million are incinerable, further, the EIS reports that the Congressional Budget Office estimates hazardous waste generation at 286 million tons nationwide. With no references, the EIS states that 1.7 million tons of wastes were incinerated in 1981 and relates this figure to an estimate that 24 to 36 million tons of wastes may be incinerable and that 82 additional incinerators are needed nationwide. Additionally, the estimate of 82 additional incinerators was preliminary on the part of EPA.

Chemical Waste Management, Inc. reported on March 4, 1988 to the State/EPA capacity assurance work group that incinerator capacity needs were being met by present and proposed incinerators. Please see attached Chemical Waste Management, Inc. documentation from that briefing.

3. Transportation:

Page 1-5 identifies that the high cost of transportation "not only serves to encourage the illegal practice of disposal" leading one to believe that the construction and operation of such a facility would encourage Utah generators to utilize this facility rather than illegally disposing of their wastes. As this facility proposes to bring wastes into the State of Utah at a ratio of 5:1, I suggest that the more appropriate location would be in California.

Section 4.2.5 of the draft EIS identifies that 70% of the wastes managed at the site will be transported to the site from the west coast states, thereby making Nevada the major transportation corridor through which the wastes will be transported. Six of the estimated 9 trucks per day will be moving through Nevada. The EIS does not break this transportation down into corridors but it is a reasonable assumption that half of the transportation could be from

21-3

Please refer to Responses to Comments 4-1 and 7-2, for discussions of the need for the proposed incinerator. The Chemical Waste Management, Inc. (CWM) information that you reference, indicates adequate incinerator capacity for liquids but a shortfall for solids capacity in 1991. The Aptus facility would incinerate both liquids and solids. Other National Governor's Association work group participants were less convinced about the adequacy of future capacity than was CWM. Further, EPA has indicated in their analysis of land disposal restrictions for hazardous wastes that "there is not enough commercial fluidized bed or rotary kiln incineration capacity for wastes requiring these technologies" (EPA 1986b, 1986c, and 1988).

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Letter 21 Continued

Response to Letter 21 Continued

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Southern California, a quarter from northern California and the remaining quarter from the Northwest. Using this assumption, 3 trucks per day would move through southern Nevada, 1.5 across central Nevada and 1.5 down through northern Nevada.

21-4 In sections 4.2.5, 4.3.5 and 4.4.5, the draft EIS summarizes the transportation risk for the various alternatives and reports that 13 accidents resulting in a spill of hazardous waste will occur during the life of the facility (30 years). This is based upon operational data at APTUS operated facilities in Kansas and Minnesota from the period 1985 through 1987 where one accident occurred in 4,848 million miles of transportation. It is not statistically sound to equate vehicle safety and spill potential to a 2 year review of APTUS records and further study should be made which applies local conditions along major transportation corridors as identified in section b. above.

21-5 The draft EIS states on pages 4-34 and 4-47 that approximately 13 transportation accidents resulting in a release of hazardous waste will occur during the operating life of the facility. However, the EIS emphasizes that due to the siting location (near the Nevada border) that only 1.76 spills will occur inside the State of Utah. I find it difficult to believe that a Federal Agency would dismiss significant impacts based upon limited impacts to one state and not address the remaining states through which lie the transportation corridors. For example a spill of waste in Nevada would most likely occur on Public Lands administered by the Bureau of Land Management and that the potential for a spill on that land is potentially 3.8 spills during the operating life.

4. Water Resources:

21-6 Section 4.2.3 of the draft EIS reports that potential surface water contamination is minimal due to limited exposure to water resources in Utah. Again this stance does not consider the importance of transportation corridors and the exposure potential to surface waters along these corridors. The transportation corridors in Nevada traverse and/or cross the following major water systems:

- i. The White river system in Lincoln and Nye Counties including the Pahrnaget and Sunnyside Wildlife Management Areas;
- ii. The Duck creek system in White Pine County;
- iii. The Humboldt river System in Elko, Lander, Eureka, Humboldt, Pershing and Churchill Counties

21-4 Please refer to Response to Comment 13-5 for a discussion of spill frequency. Further, no data base is known for specialized hazardous waste haulers operating along major transportation corridors in Nevada.

21-5 Please refer to Response to Comment 13-10 for a discussion of impacts outside of the State of Utah. As you correctly stated, and as was indicated in the Draft EIS, about 11 spills over the life of the project are expected to occur in the states surrounding Utah and within approximately 800 miles of the incinerator site. It is very difficult to predict the haul routes taken and the expected number of trucks per day on those segments beyond the Nevada border or Salt Lake City. If one makes the conservative assumption that the average haul distance in Nevada would be 400 miles (distance from Henderson to Reno) x 6 trucks per day, about 5.3 spills would be expected to take place in Nevada over the life of the project. The remaining 5.7 spills would take place in other states. It is impossible to predict where these spills might occur, who might own the affected property, and whether a sensitive receptor might be affected. Significant impacts would not be expected for every spill.

21-6 Various probabilities for spills at surface water resources (e.g., rivers, lakes, wetlands) are presented below. These probabilities are applicable to water resources (or other sensitive areas) occurring anywhere along the transportation corridors.

	Traffic Volume (trucks per day)	Area of Exposure (miles of roadway at risk)		
		1	2	4
	1.5	.0033	.0066	.0131
	3.0	.0066	.0131	.0263
	6.0	.0131	.0263	.0526

Source: ERT. Based on the formula: area of exposure x trucks/day x 365 days/year x 30 years project life x spill frequency (0.2/million VMT) = number of spills in an area over the life of the project.

Thus, the number of spills over the life of the project at a specific location ranges from about 0.003 to 0.053 or one spill every 9,090 years to one spill every 570 years. This is felt to be minimal exposure of any given water resource.

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Page - 4 -

- including the Louisa Wildlife Management Area
- iv. The Salmon river system in Elko County;
- v. The Ogden river system in Humboldt County;
- vi. The Virgin Creek system in Humboldt County including the Sheldon National Wildlife Area; and
- vii. The Truckee River System in Washoe County which supports the endangered Cut-throat fish in Pyramid Lake.

Due to the potential for spills in these water systems the Significant Impact Summary should identify the impact.

5. Biological Resources:

Section 4-30 of the draft EIS identifies that "Hazardous spills from a trucking accident would be significant if a spill occurred in the proximity a surface water resource, potentially affecting aquatic plant or animal life" The EIS goes on to identify that due to the limited access along I-80 to the water resources of Utah that only "1 spill every 160 years" would occur and that combined with the APTUS clean-up and response capability would prevent Significant Impacts. Additionally, this section cites that an estimate of one spill every 2,000 years within the Timpie Peregrine falcon area is adequately low enough so as to not warrant further consideration. These considerations to biological resources do not address the transportation corridor issue as stated in section 4 above. Further consideration should be given to these resources outside the State of Utah.

I urge you to consider the above comments in the processing of your EIS. Please contact me if you have any questions regarding this matter.

Sincerely,

L.H. Dodgson
 Lewis H. Dodgson, P.E.
 Administrator

HHB:td

- cc: Roland Westergard
- Easty Lundberg, State of Utah
- Vernie Russe
- Ed Spang

21-6
 Cont.

2-60

21-7

21-7

Please refer to Responses to Comments 21-6 and 13-10 for discussions of the probability of spills along the transportation corridors and the consideration of biological resources outside of the State of Utah.

2.3 Public Hearing Comments and Responses

This section presents the comments that were received at the two public hearings held for the Aptus Draft EIS on March 16 and 17, 1988 in Tooele and Salt Lake City, Utah, respectively. The verbal comments have been abstracted to reduce the volume of the transcripts. Complete copies of the hearing transcripts are available for review in the BLM office identified in the introduction to Section 2.2 of this Final EIS. Table 2-2 identifies the individuals who presented their comments, the hearings that they attended, and the index number for each statement. Formal responses have been prepared only for those comments or questions that address the accuracy and/or adequacy of the Draft EIS. However, the BLM has reviewed all statements, opinions, and concerns; these have been considered in the decision-making process.

The reader is reminded that this being an abbreviated Final EIS, it is necessary to use the Draft EIS in conjunction with the Final EIS in order to fully understand the analysis that was conducted for the proposed Aptus waste treatment facility.

TABLE 2-2
PUBLIC HEARING COMMENTS

Reference Number	Source of Verbal Comments
March 16, 1988 Tooele, Utah 7:00 p.m.	
1.	Pat Sackett - representing Utah Wildlife Federation
2.	John Pilny
3.	Dan Bauer - representing Sol-Aire Salt
4.	Gene Ekenstam - representing Tooele County Wildlife Federation
5.	Gary Resnick
6.	Frank Dorman
7.	Mike Hansen
March 17, 1988 Salt Lake City, Utah 7:00 p.m.	
1.	June Wickham - representing Utah Environment Center
2.	Mark Precup - representing Sierra Club
3.	Nina Dougherty - representing American Lung Association of Utah
4.	Karen Hoggan - representing Salt Lake Community Action Program
5.	Don R. Christensen - representing The Naure Conservancy
6.	Nancy Fox

PUBLIC HEARING COMMENTS AND RESPONSES

Comments

Responses

March 16, 1988
Tooele, Utah
7:00 p.m.

1. Pat Sackett - representing Utah Wildlife Federation

Concerned that the proposed annual monitoring of the facility by the state would not be sufficient, and the emission testing programs would not test for hazardous non-priority pollutants. Recommends that recycling and waste exchanges be utilized as alternatives to incineration. Objections to the proposed incineration facility include: maintenance of rotary kiln seals; production of fly-ash; use of scrubbers and electrostatic precipitators; and temperature maintenance for dioxin and furan destruction. Requests to know the amount of heavy metal emissions and information concerning the possibility of synergistic reactions. Would like to see the efficiency rating of 99.9999 percent for the facility maintained during operation. Concerned with potential contamination of the area proposed for reclamation, following facility closure. Questions the standards of equipment replacement or repair. Opposes any land exchange between the BLM and Aptus, and supports the No Action Alternative. Finds that the EIS lacks validity on the weather and wind conditions because they were quoted from the Salt Lake City Airport, and that the data presented on ground transportation of hazardous wastes is in error. Believes that the potential for accidents is much higher than the EIS shows, according to other incinerator facilities. Opposes the location of the Aptus incineration facility within the community and believes that the community is not receiving any economic benefit from the facility.

2. John Pilny

Opposes the incinerator facility because of health concerns, environmental issues, and facility hazards. Concerned that the long-term effects of the air emissions will be detrimental to the health of the Tooele County and Salt Lake residents. Believes that only hazardous waste from the State of Utah should be handled at the proposed facility, and that other states should process their own hazardous wastes. Feels that an on-site monitor should be present daily. Does not think that the EIS adequately addresses the combined effects of the existing air quality problems in the Salt Lake area with the proposed facility emissions.

1. Pat Sackett

Thank you for your statement. Your concerns will be considered in the final decision-making process. Please refer to Comment 19-1 and the response to the statement by Nancy Fox for discussions of monitoring, Page 4-12 in the Draft EIS for a discussion of metals emissions, Responses to Comments 2-1 and 5-2 for a discussion of the meteorological data used in the air quality analysis, and Responses to Comments 13-5 and 13-8 for discussions of the frequency of truck accidents resulting in spills.

No studies are available that would allow the evaluation of the synergistic effects of the various pollutants that would be emitted by the Aptus facility in the concentrations that have been predicted. This limitation applies to all industrial facilities and not just the proposed Aptus incinerator.

2. John Pilny

Thank you for your statement. Your concerns will be considered in the final decision-making process, and the majority of your comments are responded to as part of the written comments you submitted. Please refer to Letter 18 in Section 2.2 of this Final EIS. Your comment on the adequacy of the air quality analysis is noted; however, BLM believes that the analysis presented in Sections 4.2.1, 4.3.1, and 4.4.1 of the Draft EIS accurately represents the air quality impacts that would be expected from an incinerator located at each of the three alternative sites. Please note that air quality sensitive receptor sites were located at Grantsville, Tooele, Magna, and Salt Lake City (see Map 2-2 in the Draft EIS) and that no significant air quality impacts were predicted at any of these receptors for any of the alternatives (see Tables 4-6, 4-8, and 4-10 in the Draft EIS). Please refer

PUBLIC HEARING COMMENTS AND RESPONSES (CONTINUED)

Comments

Responses

Additional statement:

Believes that the risks and calculated estimates of accident rates in the EIS are not indicative of what is actually present or potentially occurring. Feels that the EIS did not take all variables into account when calculating these statistics, and believes that additional safety factors should be considered.

to responses to Letter 5 for additional discussion of the air quality analysis. Please refer to Responses to Comments 13-5 and 13-8 and the following response to the statement by Gene Ekenstam for discussions of accident rates associated with the Aptus proposal.

3. Dan Bauer - representing Sol-Aire Salt

Commented that Sol-Aire is considering a salt refinery installation in Tooele County, with an estimate of 150 personnel required. Concerned that the EIS may have overlooked mentioning the facility. The facility is proposed to be larger than the current Sol-Aire operation at Lake Point, and will probably increase the amount of truck and rail shipments.

3. Dan Bauer

Thank you for your statement. The information you provided will be considered in the final decision-making process; however, it does not change any of the analysis or conclusions that were presented in the Draft EIS.

4. Gene Ekenstam - representing Tooele County Wildlife Federation

Opposes the Aptus treatment facility because of potential effects to wildlife species. Feels that the proposed facility would require expansion due to a large amount of hazardous and industrial wastes from the surrounding western states. Concerned about the loss of wildlife habitat, current grazing allotments, recreational activities, and other wildlife-related projects potentially affected by the project. Feels that any construction activities would disturb the Puddle Valley antelope herd to possibly relocating. Believes that a large hazardous waste spill could significantly affect the waterfowl and other wildlife within the area, and a resultant explosion could create a range fire destroying vegetation utilized for wildlife forage and habitat. Concerned that a spill could also jeopardize major watersheds and water supplies. Supports the No Action Alternative.

4. Gene Ekenstam

Thank you for your statement. Your concerns will be considered in the final decision-making process. The concerns you have raised are addressed in the respective sections of the Draft EIS. BLM feels that the estimated accident rates presented in Section 4.2.5 of the Draft EIS are representative of those that could be expected for the Aptus proposal. It is estimated that 13 truck accidents resulting in spills would occur during the 30-year life of the project. This is based on actual operating experience. It must be kept in mind that other accidents not resulting in spills would also be expected. Please refer to Responses to Comments 13-5 and 13-8 for further discussion of accident rates.

Additional statement:

Concerned about a toxic waste spill into Great Salt Lake and how it may affect the industry currently located surrounding the lake. Concerned that the county's population and economy will suffer because of the facility location. Feels that the calculated transportation accident rates in the EIS are not representative of what would really exist.

5. Gary Resnick

Concerned with compliance with air emission standards. Suggests using a monitoring device measuring critical parameters and providing a hard copy data read-out to track potential failure rates, with specified penalties. Believes that Tooele County and Utah should receive appropriate compensation from other states for allowing the incineration of their wastes within the state.

5. Gary Resnick

Thank you for your statement. Your concerns will be considered in the final decision-making process.

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PUBLIC HEARING COMMENTS AND RESPONSES (CONTINUED)

Comments	Responses
<p>6. Frank Dorman</p> <p>Believes that often the design of projects is sufficient; however, maintenance becomes the problem with assuring proper functioning. Feels that the proposed project area is the best place for the facility, but does not believe that incineration is the best possible method.</p>	<p>6. Frank Dorman</p> <p>Thank you for your statement. Your concerns will be considered in the final decision-making process.</p>
<p>7. Mike Hansen</p> <p>Questions who would be responsible for the costs associated with medical, employment, and workman's compensation for bystanders or those that are first to arrive on the scene of an accident involving hazardous waste. Feels that this information should be added to the EIS.</p>	<p>7. Mike Hansen</p> <p>Thank you for your statement. Please refer to Section 4.2.10 in the Draft EIS for a discussion of liability issues.</p>

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PUBLIC HEARING COMMENTS AND RESPONSES (CONTINUED)

Comments	Responses
<p>March 17, 1988 Salt Lake City, Utah 7:00 p.m.</p>	
<p>1. June Wickham - representing Utah Environment Center</p> <p>Feels that the EIS does not sufficiently explain the distribution of Utah's hazardous waste to be disposed of, and would like information on where the remaining 20,000 tons per year of Utah waste will be processed. Concerned that permitting of the incinerator facility will remove motivations to dispose of hazardous and industrial wastes using alternative methods, such as recycling and waste exchange. Asks that the citations for minor violations at the Coffeyville facility be presented in further detail. Asks if all water sources in the area will be identified, and will sampling wells be installed adjacent to the project site to monitor for potential groundwater contamination? Quotes the EIS as stating on Page 3-3, that there are no site-specific wind data available for the alternatives and therefore, questions the wind rose graph. Also states that the EIS air data from Dagway are not separated into stability classes for climatic characterization and modeling. Will funding exist for state-monitoring of air toxics or who will be responsible? Feels that the population numbers cited for Salt Lake City are a misrepresentation of data and Salt Lake County numbers should have been used. Feels that potential air toxics effects should address systemic or chronic problems. States that on Page 4-9 of the EIS, the estimated time for any upset conditions would be approximately 5 minutes, questions this information. Will the trial burn include metal emission data? Supports the Clive Alternative.</p>	<p>1. June Wickham</p> <p>Thank you for your statement. Your comments are responded to as part of the written comments you submitted. Please refer to Letter 4 in Section 2.2 of this Final EIS. Also, please refer to Comment 19-1 and the response to the statement by Nancy Fox for discussions of monitoring.</p>
<p>2. Mark Precup - representing Sierra Club</p> <p>Concerned that the Wilderness Study Area is within the 1 to 1.7 kilometers listed in the EIS as being the area of maximum concentration of pollutants for the Aragonite Alternative. Requests that it be stated in the EIS that the Clive Alternative be listed as having fewer potential impacts than the Aragonite Alternative. Feels that particulate deposition is not adequately addressed, especially with heavy metals deposition in soils, and that the air quality model should include analysis of particulate deposition. Believes that incomplete combustion was not addressed. Concerned that the EIS does not fully address cumulative impacts relating to present levels combined with anticipated levels. Concerned that during potential upset conditions, emissions will exceed those stated in the EIS and that a positive pressure may build within the kiln during facility power loss. Questions the net importation of hazardous waste into Utah and where the remaining 20,000 tons of Utah's waste will be processed.</p>	<p>2. Mark Precup</p> <p>Thank you for your statement. The majority of your comments are responded to as part of the written comments you submitted. Please refer to Letter 12 in Section 2.2 of the Final EIS. Table 2-6 in the Draft EIS compares the concerns and impacts for each of the alternatives considered; Section 1.5 in this Final EIS presents the BLM's preferred alternative. Your definition of cumulative impacts is not consistent with the one used in the Draft EIS. The impacts associated with anticipated project effects and existing conditions are discussed in Sections 4.2 through 4.5 in the Draft EIS. The cumulative impacts discussed in Section 4.7 of the Draft EIS are limited to the combined effects of the interrelated projects (Section 2.7 in the Draft EIS) and the Aptus proposal; none of these effects are currently existing but could exist in the future. Please refer to Response to Comment 4-1 for further discussion of incinerating Utah-generated wastes.</p>

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PUBLIC HEARING COMMENTS AND RESPONSES (CONTINUED)

Comments

Responses

3. Nina Dougherty - representing American Lung Association of Utah

Concerned about potential exposure to toxic air pollutants. Feels that the issue of wind-blown contaminated dust is not addressed in the EIS. Believes that the state needs to ensure monitoring and proper operational procedures for the facility. Questions the validity of the EIS concerning estimated hazardous waste from Utah and needed facilities to process the waste. States that the 30,000 tons of waste per year is not characterized and that the discussion of the proposed wastes is confusing. Feels that the population numbers for Salt Lake City are not representative of the population closer to the site. States that some disadvantages and problems were not covered in the EIS, specifically those listed in the Oppelt 1987 reference. Concerned that not enough is known about metals emissions and that the figures listed in the EIS may not be relative. Feels that the EIS does not discuss alternatives to incineration, such as waste reduction. Questions the number of recreation users in the Cedar Mountains and the characterization of the three alternatives as being identical. Supports the Clive Alternative.

4. Karen Hoggan - representing Salt Lake Community Action Program

Believes that the state and federal governments should provide incentives to minimize industrial waste. Would like the EIS to address the storage of materials onsite prior to incineration, specifically the length of time of storage and the amount of materials likely to be stored. Would also like an explanation of the transfer of materials on the facility site.

5. Don R. Christensen - representing The Nature Conservancy

Believes that plant species utilized for revegetation following closure should be native shrub species that are found currently onsite and not introduced grass species.

3. Nina Dougherty

Thank you for your statement. The majority of your comments are responded to as part of the written comments you submitted. Please refer to Letter 15 in Section 2.2 of this Final EIS. In addition, please refer to the responses to comments in Letters 5, 12, and 13 for further discussion on air quality issues. Comment 19-1 and Response to Comment 19-1 discuss monitoring. The number of visitor-use days for the Cedar Mountain area presented on Page 3-32 in the Draft EIS represent the BLM's most recent information on this area and is believed to accurately represent recreation use. As shown on Table 2-6 in the Draft EIS impacts associated with the three alternative sites are the same for certain resources and different for others.

4. Karen Hoggan

Thank you for your statement. Wastes would be stored at the facility an average of 30 days before they are incinerated. If the incinerator is shut down for maintenance or repair, wastes could be stored up to 90 days. The facility would have storage capacity for 540,000 gallons of liquid waste, 20,000 gallons of sludge, 1,000 cubic yards of soil, and 3,000 drums. Based on operating experience at the Coffeyville, Kansas facility, this capacity would be about 20 percent filled at any given time. The proposed Aptsu facility would be a hazardous waste transfer facility in that if non-incinerable wastes are received as part of a shipment, they would be manifested and transferred to another permitted facility for proper disposal. This would include the slag that would be generated by the incinerator.

5. Don R. Christensen

Thank you for your statement. The seed mixture presented in Appendix A of the Draft EIS is intended for the restoration of disturbed ROW. The intent of this restoration is to stabilize the ROW to prevent erosion, inhibit the invasion of noxious weeds, and provide a suitable environment for native species, especially shrubs, to reoccupy the ROW. The species and seed application rates selected by BLM are ones that they have found to be suitable for ROW restoration in similar elevation and precipitation zones in the Salt Lake District.

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PUBLIC HEARING COMMENTS AND RESPONSES (CONTINUED)

Comments	Responses
<p>6. Nancy Fox</p> <p>Feels that the EIS did not address the concern of monitoring. Would the analysis be completed onsite, and how would the monitoring of incomplete combustion be completed? Questions how often monitoring of the facility would be undertaken following the trial burn.</p>	<p>6. Nancy Fox</p> <p>Thank you for your statement. Please refer to Section 1.3 in the Draft EIS and Comment 19-1 and Response to Comment 19-1 in Section 2.2 of this Final EIS for discussions of monitoring. For clarification, monitoring can be divided into three separate activities.</p> <ul style="list-style-type: none">• <u>Monitoring</u> by Aptus of operating parameters of the incinerator, such as carbon monoxide, oxygen, combustion temperature, waste feed rate, and combustion gas velocity. This will be required under the RCRA and TSCA permits.• <u>Reporting</u> by Aptus of incinerator operating performance and any spills of hazardous wastes to appropriate agencies.• <u>Inspection</u> of the facility and its operating records by the Utah Bureau of Solid and Hazardous Waste and the EPA. The frequency of this inspection will be established as part of the RCRA and TSCA permits and is expected to be at least once per year for RCRA and twice per year for TSCA. <p>Thus, there would be continuous onsite monitoring of combustion efficiency to ensure required destruction and removal of hazardous wastes. If the incinerator exceeds its preset operating parameters, the automatic shut-down sequence would be triggered. Adjustments or repairs would then be made to the incinerator before it was restarted.</p>

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MODIFICATIONS AND CORRECTIONS

3.0

3.0 MODIFICATIONS AND CORRECTIONS

3.1 Text Revisions to the Draft EIS

Section 3.1 presents page by page text corrections to the Draft EIS in tabular form. Column 1 indicates the page in the Draft EIS on which the correction occurs; Column 2 indicates the paragraph in which the correction occurs (P represents a partial paragraph at the top of the page); Column 3 indicates the line within the paragraph; and Columns 4 and 5 present the text as it occurs in the Draft EIS ("Is") and how it should be corrected or modified ("Should Be").

MODIFICATIONS AND CORRECTIONS

Page	Paragraph	Line	Is:	Should Be:
ii	3	2	...Conservation and Recovery Act (RCRA) state that land disposal should be a method of last resort.	...Conservation and Recovery Act (RCRA) state that land disposal should be the least favored method of managing hazardous wastes.
ii	3	8	...Amendments also banned the disposal of hazardous waste by underground injection into or above any formation that contains a potential underground source of drinking water, if the distance between the well and the aquifer is within one-quarter mile.	...Amendments adopted a regulation under the Safe Drinking Water Act (SDWA) which bans the disposal of hazardous waste by underground injection into or above any formation which contains a potential underground source of drinking water, if the distance between the well and the aquifer is within 0.25 mile.
iii	1	11	...year, approximately 30,000 tons are incinerable. Approximately 80 percent of the wastes (or 40,600 tons per year) transported to the proposed Aptus incinerator would be from California, Oregon, Washington, Idaho, Wyoming, and Colorado. The other 20 percent (or 10,150 tons per year) would be from Utah. Based on the proposed Aptus capacity and transport scenario, three such incinerators would be required in Utah to incinerate Utah's annual 30,000 tons of incinerable wastes.	...year, approximately 30,000 tons are incinerable. This estimate of Utah incinerable waste does not include PCB waste, Superfund (CERCLA) waste, or waste from small quantity generators who produce less than 2,200 pounds per month of hazardous waste. Based on Aptus' proposed operating rate of 50,750 metric tons per year, Aptus could process all the incinerable wastes produced by all Utah generators; however, it is unlikely that Aptus could capture all of the Utah market. This is a decision that can be made only by the generators, based on free-market considerations. It has been estimated that approximately 80 percent of the wastes (or 40,600 tons per year) transported to the proposed Aptus incinerator would be from California, Oregon, Washington, Idaho, Wyoming, and Colorado. The other 20 percent (or 10,150 tons per year) would potentially be from Utah.
iv	3	3	...be allowed to revert to natural vegetation.	...be revegetated to aid in inhibiting the invasion of noxious weed species.
1-1	3	6	...264 million tons of hazardous waste generated per year. The facilities operating now are...	...264 million tons of hazardous waste generated per year. The commercial facilities operating now are...
1-3	2	6	...1990. These new amendments state that land disposal should be a method of last resort.	...1990. These new amendments state that land disposal should be the least favored method for managing hazardous wastes.
1-4	1	1	...systems. Landfills, to the extent they can be proven safe, have become more expensive as a means to dispose of waste.	...systems. As a result of these requirements to aid in the prevention of groundwater contamination, landfills have become more expensive as a means to dispose of waste.

3-2

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MODIFICATIONS AND CORRECTIONS (CONTINUED)

Page	Paragraph	Line	Is:	Should Be:
1-4	1	1-5	The 1984 amendments banned the disposal of hazardous wastes by underground injection into or above any formation which contains a potential underground source of drinking water, if the distance between the well and the aquifer is within 0.25 mile. Final determination of wastes that can be safely injected will be made by 1988.	The 1984 amendments adopted a regulation under the Safe Drinking Water Act (SDWA) which bans the disposal of hazardous waste by underground injection into or above any formation which contains a potential underground source of drinking water, if the distance between the well and the aquifer is within 0.25 mile. Under SDWA, final determination of wastes that can be safely injected will be made by 1988.
1-5	1	3	...per year, approximately 30,000 tons are incinerable. Based on Aptus' proposed operating rate of 50,750 metric tons per year and a similar transport scenario (20 percent of capacity used for Utah waste), Utah would require three similar incinerators to process the 30,000 metric tons per year of incinerable waste generated in Utah.	...per year, approximately 30,000 tons are incinerable. This estimate of Utah incinerable waste does not include PCB waste, Superfund (CERCLA) waste, or waste from small quantity generators who produce less than 2,200 pounds per month of hazardous waste. Based on Aptus' proposed operating rate of 50,750 metric tons per year, Aptus could process all the incinerable wastes produced by all Utah generators; however, it is unlikely that Aptus could capture all of the Utah market. This is a decision that can be made only by the generators, based on free-market considerations.
1-5	2	1	If responsible treatment, storage, and transfer facilities are not...	If permitted treatment, storage, and transfer facilities are not...
1-7	Table 1-1	2	Plan (MFP)	Delete
		3	Issue FLPMA right-of-way (ROW) grants Natural gas pipeline, railroad spur, electric and telephone lines	Issue right-of-way (ROW) grants Natural gas pipeline, railroad spur, electric and telephone lines, access roads
1-9	1	1	...frequency of RCRA inspections (at least once a year) would be identified at the time of permit approval and would be carried out by personnel from the Bureau of Solid and Hazardous Waste of the Department of Health and/or EPA as required to maintain reasonable assurance that the facility is in compliance with the RCRA permit conditions. EPA will conduct inspections under TSCA; however, the frequency of inspections has not been determined since the permit is not yet issued (Modi 1987a).	...frequency of RCRA inspections will be determined at the time of permit approval and would be implemented by personnel from the Utah Bureau of Solid and Hazardous Waste of the Department of Health and/or EPA, as required, to maintain reasonable assurance that the facility is in compliance with RCRA permit conditions. State regulations require that hazardous waste treatment facilities be inspected at least once per year. The minimum number of inspections required for facilities receiving waste from a Superfund site is two per year. The State and EPA are currently assessing various funding sources to provide additional RCRA inspections, if permit requirements mandate. The number of TSCA inspections conducted by EPA Region VIII are projected to be twice a year and may be unannounced. The frequency of inspections under TSCA will be determined at the time of permit approval.

6-1

MODIFICATIONS AND CORRECTIONS (CONTINUED)

Page	Paragraph	Line	Is:	Should Be:
2-14	2	2	...consistent with their intended use. Some areas on the facility site would be landscaped while others would be allowed to revert to natural vegetation.	...consistent with their intended use. Some areas on the facility site would be landscaped, while others would be revegetated to aid in inhibiting the invasion of noxious weed species.
2-34	3	5	...the issuance of the draft RCRA permit.	...the issuance of the final RCRA permit.
3-5	2	15	...AFLC 1985).	...USAFLC 1985).
3-15	1	5	...mountains to the east and the Wendover Bombing and Gunnery Range to the west.	...mountains to the east and the Utah Test and Training Range to the west.
3-17	4	9	...peregrine pair was observed using the site in Spring 1987. No eggs were produced in 1987, however, it is likely the hack site will contain a breeding pair of peregrines in Spring 1988 (Benton 1987, BLM 1987).	...peregrine pair was observed using the site in Spring 1987. One egg was produced but did not hatch. It is likely the hack site will contain a breeding pair of peregrines in Spring 1988 (Benton 1987, BLM 1987).
3-29	1	1-3	<u>Hazardous Waste Fee.</u> Currently there is a \$3 per ton commercial disposal fee for hazardous wastes disposed of in Tooele County, implemented by the State of Utah. Tooele County...	<u>Hazardous Waste Fee.</u> Currently there is a \$6 per ton in-state commercial disposal fee for hazardous wastes disposed of in Tooele County, implemented by the State of Utah. The out-of-state fee is \$9 per ton. Tooele County...
4-6	4	2	...facility was conducted under BLM...	...facility was conducted by BLM...
4-11	3	4-5	...acceptable ambient concentration level, gives the relative significance of the potential for significant impacts.	...acceptable ambient concentration level, gives the relative potential for significant impacts.
4-12	1	1		Add: Dioxins and furans are products of incomplete combustion (PICs) formed during incineration of hazardous wastes.
4-20	1	1	...was evaluated by ERT through conducting...	...was evaluated through conducting...
	1	7	...for HCl assuming the higher emissions of the TSCM feed...	...for HCl assuming the higher emissions of the TSCA feed...

3-4

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87.

MODIFICATIONS AND CORRECTIONS (CONTINUED)

Page	Paragraph	Line	Is:	Should Be:
4-25	1	3-11	...within 0.5 mile of the Great Salt Lake. Assuming a probability of 6×10^{-6} spills per mile over the 30-year life of the project (see Section 4.2.10), 0.065 spills would be expected along this stretch of I-80 during the 30 years. One chance in 160,000 of a toxic spill occurring is calculated for this area, which would be considered minimal. If a spill were to occur along the stretch of I-80 within 0.5 mile of the Great Salt Lake, spill response coordination would be the responsibility of the State Highway Patrol, and Aptus would be responsible for any cleanup.	...within 0.5 mile of the Great Salt Lake. Assuming a probability of 6×10^{-6} spills per mile over the 30-year life of the project (see Section 4.2.10), 0.065 spills would be expected to occur along this 10-mile stretch of I-80 during the 30 years, or 1 spill every 500 years. If a spill were to occur along the stretch of I-80 within 0.5 mile of the Great Salt Lake, the State Highway Patrol would be responsible for spill response coordination, and Aptus would implement cleanup activities. The low spill frequency combined with Aptus' emergency cleanup capabilities would prevent significant impacts to water resources along the Great Salt Lake.
4-31	1	6	...prevent exposure of sensitive species	...minimize exposure of sensitive species
4-38	4	3-7	...per year. Currently, there is a \$3 per ton commercial disposal fee for hazardous waste imposed by the State of Utah. Tooele County currently receives 10 percent of the commercial disposal fee. Consequently, Tooele County would receive approximately \$21,000 in revenue (70,000 tons/year x \$3/ton x 10 percent), and therefore representing a beneficial impact on the local area economy.	...per year. Currently, there is a \$6 per ton in-state commercial disposal fee for hazardous waste imposed by the State of Utah. The fee for out-of-state wastes is \$9 per ton. Tooele County currently receives 10 percent of the commercial disposal fee. Consequently, Tooele County would receive approximately \$42,630 in revenue (10,150 tons/year x \$6/ton x 10 percent + 40,600 tons/year x \$9/ton x 10 percent), and therefore representing a beneficial impact on the local area economy.
4-47	1	7	...however, the majority of spills are expected to take place outside of Utah (1.79 spills in Utah versus 12.8 spills for all areas, including Utah).	...however, based on the calculations presented on Page 4-34 of the Draft EIS, the majority of spills are expected to take place outside of Utah (1.79 spills in Utah versus 12.8 spills for all areas, including Utah).
4-71	2	8	...Engineer. (See Mitigation Measures, Section 4.7.)	...Engineer (see Mitigation Measures, Section 4.8).
4-73	1	9	...in unavoidable adverse impacts that are discussed in Section 4.8.	...in unavoidable adverse impacts that are discussed in Section 4.9.
B-8	7	3	...Environmental Protection Agency b TRC...	...Environmental Protection Agency by TRC...

3-5

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3.2 New and Revised Tables, Figures, and Maps

Section 3.2 presents complete new and revised tables, figures, and maps that serve as clarification or expansion of the analysis presented in the Draft EIS. Two new tables that are referenced in responses to comments in Section 2.2 of this Final EIS are shown in numerical order, followed by a revised figure and a map clarification. Map 3-1 is presented to clarify an error on Map 2-2 in the Draft EIS concerning the northern boundary of the Cedar Mountains Wilderness Study Area (WSA) and its relationship to the Aragonite and Clive facility sites..

TABLE 3-1
PROPOSED APTUS HAZARDOUS WASTE INCINERATOR
UPSET CONDITIONS AND EMERGENCY SHUTDOWN PROCEDURES

1. Upset Conditions:

- low oxygen in the waste gas;
- low temperature of the waste gas from the afterburner chamber; or
- sustained high carbon monoxide in the waste gas.

Response:

Shutdown of all waste feeds.

- all solid, semi-solid, and liquid waste feeding will stop;
- the clean fuel burners will start to maintain waste gas temperature; and
- waste feeding can resume only after the problem has been corrected.

2. Upset Conditions:

- loss of power;
- loss of induced draft fan;
- high temperature of waste gas to the gas cleaning system; or
- sustained positive pressure in the incinerator.

Response:

Complete shutdown of the incinerator.

- the induced draft fan will stop;
- all waste feeding will stop;
- the emergency vent will open;
- a water seal will fill to prevent flow of hot gases to the gas cleaning system; and
- the clean fuel burners will start to maintain waste gas temperature.

TABLE 3-1 (CONTINUED)

3. Upset Coinditions:

- low flow in various systems.

Response:

Start standby pumps.

4. Upset Condition:

- burner system or combustion air malfunction.

Response:

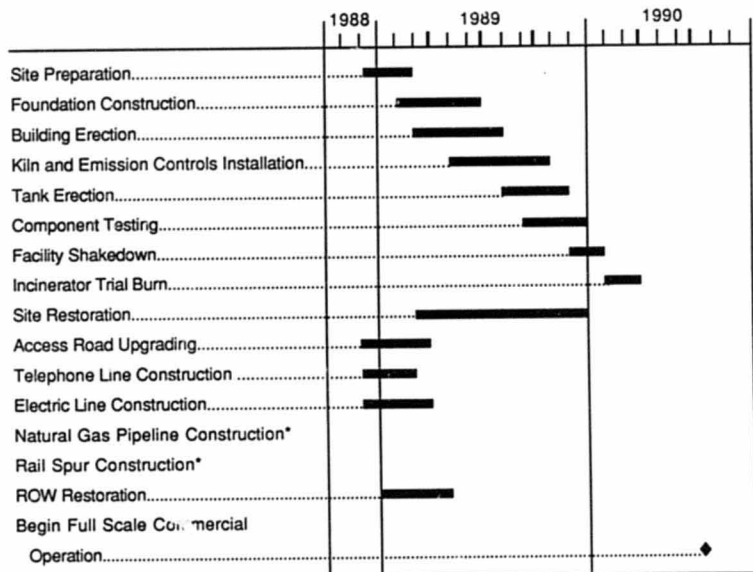
Cut off feed to individual burner.

Note: All of the plant operating parameters are continuously monitored by a computer. The computer is programmed with various interlocks to ensure that the plant is operated within the permitted limits and also to ensure that the system will always fail safe when problems occur. All of the emergency shutdown controls are automated. A manual panic button is provided to enable manual shutdown from the control room and/or other strategic locations. Many alarm functions are provided to warn the plant operators when various operating parameters start to deviate from the desired conditions. This normally enables the operator to correct the situation and prevent problems that could lead to an automatic shutdown.

During a complete shutdown the combustion air fan continues to run and the kiln continues to rotate in order to ensure proper burnout and complete destruction of any residual waste solids in the kiln. In the event of a power failure an emergency generator will start to provide power for the kiln drive, combustion air fan, circulating pumps, and induced draft fan. This enables the emergency vent to be closed within minutes after a power failure.

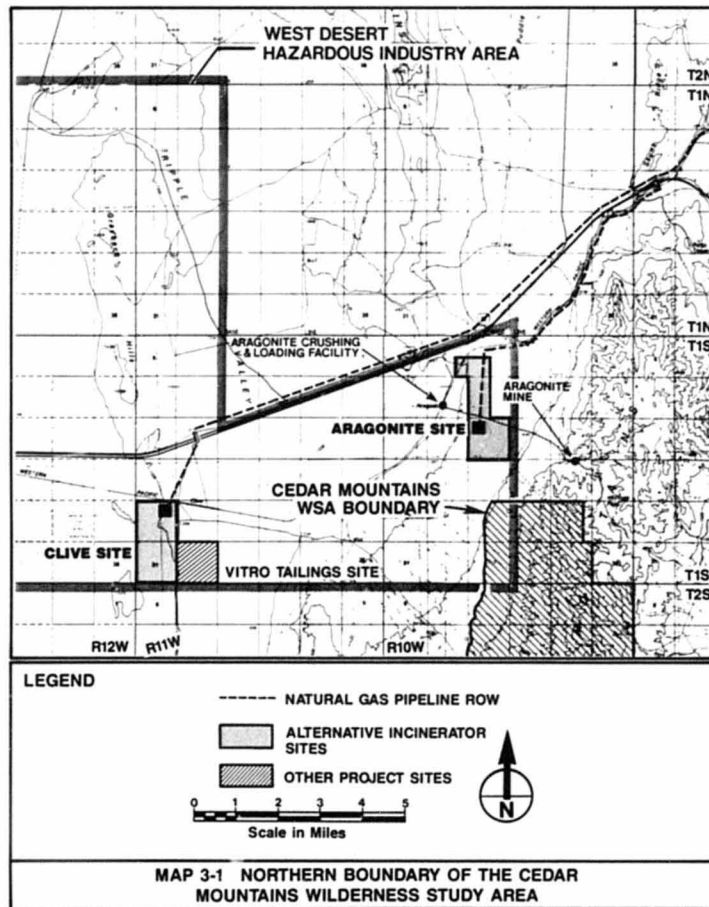
TABLE 3-2
EMERGENCY EQUIPMENT INFORMATION

Emergency Equipment Type	Brief Description	Outline of Capabilities
Fire extinguishers	Red cylinder, 2.5 to 20 pounds	Content CO ₂ and dry chemicals with wide range of extinguishing capabilities including: paper, electrical, and chemical.
SCBA cabinets	Yellow 3-foot x 3-foot	Provide emergency breathing with Scott air packs.
Fire alarm boxes	Red 1-foot x 1.5-foot	Part of plant fire protection system.
Fire protection switches	Red push-buttons and butterfly switches	Part of plant fire protection system.
Gas release alarm	Yellow 1-foot x 1.5-foot	Part of plant alerting system.
Acid suit cabinets	Light green 2-foot x 7-foot	Provide personal protection equipment.
Safety showers	Green light, yellow piping	Provide emergency wash-out.
Eyewash stations	Yellow with black caps	Provide emergency wash-out.
Sprinkler system	Heads are red	Water deluge.
Hydrant houses	Red housing 8-foot x 8-foot x 6-foot	Water deluge.



*May be constructed two to three years following facility start-up.
 Note: Construction schedule is contingent on acquisition of required permits.

Revised Figure 2-3. Tentative Construction Schedule



APPENDICES

4.0

RHW

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4.0 APPENDICES

4.1 Mitigation Measures and Restoration Requirements

4.1.1 Mitigation Measures

The following mitigation measures have been developed to mitigate the significant adverse impacts that were identified in Sections 4.2, 4.3, and 4.4 of the Draft EIS. An additional mitigation measure is recommended (Measure D) for Biological Resources concerning on-site revegetation procedures. Mitigation measures will be specific requirements of Aptus as part of their ROWs grants and will be enforced by a BLM Authorized Officer. For each mitigation measure presented below, the measure is outlined and its effectiveness is assessed. Not all mitigation measures will be completely effective in reducing potential significant impacts below the significance threshold. This will result in unavoidable adverse impacts that were discussed in Section 4.9 of the Draft EIS. All measures would be applied to any of the three site alternatives analyzed in this document except where noted otherwise. In addition to the mitigation measures contained in this Final EIS and Plan Amendment, the BLM will attach standard and special ROW stipulations to its ROW grant. These stipulations will contain generic measures that are applied to all ROWs as well as site-specific measures whose need may be identified at the time the ROW centerline is surveyed. The required surveys for cultural resources, for example, may identify the need for site-specific stipulations. As noted in several of the following measures, the BLM Federal Authorized Officer will direct the detailed implementation of certain mitigation measures.

Measure 1: Water Resources. In the event of a spill of organic contaminants in a shallow groundwater area penetrating to the depth of and contaminating the groundwater, alternatives for remediation will be evaluated and implemented. Methods could include a waste recovery pumping system or a recovery system coupled with a water treatment

system. These could consist of pumping of the waste and/or contaminated groundwater; followed by treatment systems such as physical separation of the water, air stripping, or carbon filtration; and finally reinjection of the treated water back into the aquifer.

Effectiveness. This measure will ensure that groundwater resources are not significantly affected by a spill of organic wastes.

Measure 2: Water Resources. The water supply well at the Skunk Ridge site will be located so that its drawdown of the aquifer will not affect other existing wells in the vicinity. This determination will be made by the Utah State Engineer.

Effectiveness: This measure will ensure that no existing water users are significantly affected by the operation of Aptus' water supply well if the facility is located at the Skunk Ridge site.

Measure 3: Cultural Resources. Potential adverse impacts to cultural resources will be mitigated in the following manner. Prior to construction, an intensive Class III (100 percent) cultural resource survey will be conducted on all affected federal land that has not previously been surveyed. Survey on non-federal lands will be conducted as specified by the Authorized Officer after consultation with the State Historic Preservation Officer (SHPO). During the survey, information will be gathered on all newly discovered and previously recorded archaeological sites to determine their potential eligibility to the National Register of Historic Places. Limited testing of some sites may be necessary in order to determine their eligibility. Following the survey, an inventory report will be prepared and submitted to the BLM Authorized Officer for review and comment. The report will contain the results of the inventory, and all sites will be evaluated for potential eligibility to the National Register. The report will include a proposed mitigation plan for all sites that are considered to be potentially eligible for inclusion on the National Register. The

mitigation plan may include avoidance of sites, data collection, site-specific control of access and construction, monitoring recommendations, and salvage excavation.

Based on the above mitigation plan, the Authorized Officer will submit a treatment plan to the SHPO and to the Advisory Council on Historic Preservation. Following the consultation period, the treatment plan will be implemented. All field work must be completed before construction can begin in a given area. Monitoring will be implemented during construction where required by the treatment plan. Any sites located during construction or as the result of monitoring will be evaluated and a treatment plan will be developed as needed.

Effectiveness: The cultural resources treatment plan will ensure that the data which help determine a resource's significance will not be destroyed or lost and the effects of construction and operation on cultural resources are fully considered as required by law. While implementation of the treatment plan will avoid most significant impacts to cultural resources, it may not be possible to mitigate all impacts.

Additional Mitigation Measures

The mitigation measures presented in the preceding section were developed in response to specific significant impacts that were identified earlier in this chapter. To supplement these measures, additional mitigation measures not linked to significant impacts were also developed. These measures would further reduce the overall impacts of the project and are presented below.

Measure A: Visual Resources. Facility structures will be painted with non-reflective paint of compatible earthtone colors.

Effectiveness. This measure will reduce the visual contrast of the proposed structures.

Measure B: Biological Resources. A site-specific Construction, Operation, and Management (COM) Plan for rights-of-way, which describes specific construction and restoration techniques and establishes guidelines in sensitive biological areas, will be developed by Aptus and approved by the BLM prior to construction initiation.

Effectiveness. This measure will minimize impacts to vegetation and wildlife resources.

Measure C: Biological Resources. Construction of the natural gas pipeline in the vicinity of the critical pronghorn fawning area will be avoided from May through July.

Effectiveness. This measure will avoid disturbance to pronghorn during fawning activities.

Measure D: Biological Resources. Revegetation procedures will be implemented by Aptus on the facility site following facility construction to restore any disturbed areas not designated for landscaping. Seed mixtures, methods of dispersal, mulching, and monitoring will be designed to prevent the invasion of noxious weeds.

Effectiveness: Revegetation areas on the facility site, previously disturbed by construction activities, will aid in inhibiting the invasion of noxious weeds such as halogeton and Russian thistle.

4.1.2 Restoration Requirements for Rights-of-Way

The following measures outline the procedures that would be used for ROW restoration following construction. A site-specific COM Plan would be developed by Aptus and approved by the BLM prior to construction initiation. The COM Plan would address appropriate reclamation procedures for various locations along the project ROW,

describe specific construction and restoration techniques, and establish guidelines to minimize impacts to vegetation or wildlife resources. In areas of minimal vegetative potential specific guidelines may be waived at the discretion of the BLM Authorized Officer.

Restoration Goal

Restoration and revegetation of sites with more than five percent vegetal cover would be implemented to meet the following objectives:

1. stabilize the disturbed areas to minimize soil erosion and off-site sedimentation, and
2. return the disturbed areas to a pre-disturbance condition.

Site Clearing

All construction would be executed to minimize the cumulative area of disturbance, thereby reducing the total area impacted and that which would require revegetating. All woody vegetation cleared along the ROWs would be piled to the side of the ROW for later use in site preparation.

Topsoil Removal, Handling, and Storage

The surface soil material would be stripped to a minimum depth of 8 inches both from the disturbed areas during construction and from disturbed areas that would be used throughout the life of the project. The topsoil would be deposited in an area separate from all construction activities and labeled to distinguish it from other deposited earthen materials. Unsuitable materials such as large cobbles and rocks that occur in the stripped topsoil would be separated from the topsoil and backfilled into excavated areas or disposed of in other areas approved by the BLM Authorized Officer. Some disturbed areas may not contain adequate topsoil quantities for successful restoration; consequently, also at the direction of the BLM Authorized Officer, additional topsoil would be removed from areas with excess topsoil and transported to areas with deficient quantities to increase restoration potential.

Trenching, Overburden Removal, Storage, and Replacement

Materials excavated from the pipeline trench would be deposited separately from the topsoil within the ROW. Following placement of the

pipeline in the trench, the trench would be backfilled. All disturbed portions of the ROW would then be regraded to meet the configuration of the adjacent undisturbed land.

Runoff and Erosion Control

The applicant would attempt to minimize disturbance to natural drainage channels. No significant drainage channels or floodplains would be crossed; however, when crossing minor drainage channels, construction and restoration activities would be implemented in such a way as to maintain the hydraulic integrity of the channel. The natural gas pipeline would be buried to a minimum depth of 4 feet below the present bottom of all drainage channels. Surface runoff and erosion would be controlled onsite during and after construction so that a minimum of off-site sedimentation occurs. Runoff control measures such as water bars would be placed on regraded slopes, in general, and specifically along the disturbed ROW to control and minimize runoff across and down the disturbed areas. The following waterbar spacing guide (see Table 4-1) would be utilized in determining the spacing of such structures, and the need for additional waterbars would be determined by the BLM Authorized Officer. The waterbars would be constructed such that diverted water would be directed and discharged onto undisturbed areas. The waterbars would be constructed with gradients of approximately one percent, but no greater than two percent perpendicular to slope.

The time between site clearing and construction and the initiation of restoration procedures would be minimized to reduce the amount of soil loss due to erosion. Similarly, the time and the distance the natural gas pipeline trench is open would be minimized to reduce the opportunity of significant in-trench water flow in response to a precipitation event or snowmelt. In the event the trench must be open for a great down-slope distance, ditch plugs, which would consist of small earthen dams within the trench, would be used to divert water out of the trench. The need for and application of the plugs would be decided by the BLM Authorized Officer. These structures would minimize

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TABLE 4-1

WATERBAR SPACING GUIDELINE
(SPECIFIC GUIDELINES TO BE DETERMINED
BY THE BLM AUTHORIZED OFFICER)

Slope (%)	Spacing (ft)
5	150
10	100
20	50
30	40
40	30
50	20
60	15
70	10

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the potential for significant concentrations of flow within the trench. Such structures may also serve to facilitate the movement of livestock and wildlife across the trench.

Topsoil Replacement and Seedbed Preparation

Disturbed areas that would subsequently receive topsoil would be ripped using subsoilers. The stockpiled topsoil would then be deposited evenly over the disturbed area to be restored. The re-distributed topsoil would be scarified by disking on the contour if possible to reduce compaction and increase infiltration capacity. Where applicable, the previously piled vegetation would be spread over the cleared ROW and disked into the topsoil. All topsoil removal, excavation, construction, backfilling, topsoil replacement, and seedbed preparation would be accomplished contemporaneously.

Seeding

The seed mix presented in Table 4-2, or an equivalent mixture depending on seed availability and approval by the BLM Authorized Officer, would be applied using a rangeland drill or a deep furrowing seeder on the contour. The drill would cover seeds with approximately 0.5 inch but not greater than 1 inch of soil. A weighted roller would be pulled behind the seeder to surround the seed with a firm seed bed. The seed mix is designed to provide successful revegetation on all soils within the mixed desert shrub and grassland communities. Seed mixtures for the pinyon-juniper community would be determined by the BLM Authorized Officer. On steep slopes or on soils with a high coarse fragment content, seed broadcasting may be required. In such cases the seed mix would be applied at 2.5 times that shown in Table 4-2. The broadcast seed would be applied using a rotary spreader mounted on a tractor and covered with soil by pulling a flexible cultipacker or a chain behind the tractor. The seed mix would be planted in late October or early November. Seeding may be required for three consecutive years following disturbance, depending upon the success of reseeding.

Mulching

Native certified weed-free hay would be applied to the disturbed areas after seeding at a rate of 2 tons per acre. The hay would be crimped into the soil surface using a serrated disk crimper.

Monitoring and Maintenance

A monitoring plan would be initiated to evaluate restoration success. Any significant problems encountered during monitoring would be immediately mitigated under the direction of the BLM Authorized Officer, including revegetation failure, noxious weed invasion, or erosion.

TABLE 4-2
 PRESCRIBED SEED MIXTURE FOR RESTORATION
 OF DISTURBED RIGHTS-OF-WAY¹

Species	Cultivar or Variety	Seed Application Rate (PLS lbs/ac) ²
Grasses		
Hicrest wheatgrass		3.0
Thickspike wheatgrass	Critana	2.5
Bottlebrush squirreltail		1.5
Mammoth wildrye	Volga	1.5
Sand dropseed		0.25
Forbs		
Gooseberry-leaf globemallow		0.5
Yellow sweetclover	Madrid	0.5
Shrubs		
Fourwing saltbush		1.0
Prostrate summercypress		0.5
Fringed sagebrush		0.02
		TOTAL 11.27

Alternate Species ³	Cultivar or Variety	Replacement
Grasses		
Crested wheatgrass	Ephraim	Hicrest wheatgrass
Alkali sacaton		Any grass
Galleta	Viva	Any grass
Russian wildrye	Vinall	Mammoth wildrye
Forbs		
Desert marigold		Gooseberry leaf globemallow
White evening primrose		Same as above
Shrubs		
Budsage		Fringed sage
Shadscale		Fourwing saltbush
Mat saltbush		Fourwing saltbush

TABLE 4-2 (CONTINUED)

¹Seed mix based on objectives previously listed, species adaptation to the site conditions of the project, usefulness of species for site stabilization and livestock and wildlife use, species success in revegetation efforts, and current seed availability and cost.

²Application rates are for drilled seed. If seed broadcasting is required, these rates would be increased by a factor of 2.5. PLS=pure live seed.

³Species that would be used to replace the prescribed species in the event that they are not commercially available in suitable quantities or are too expensive. The substitution will be at the discretion of the BLM Authorized Officer.

4.2 Consultation Letters on Threatened or Endangered Species



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
UTAH STATE OFFICE
324 SOUTH STATE, SUITE 301
T. LAKE CITY, UTAH 84111-2303

IN REPLY REFER TO

6840
(U-933)

AUG 31 1987

Memorandum

To: State Supervisor, Fish and Wildlife Enhancement,
U.S. Fish and Wildlife Service, Salt Lake City, Utah

From: Deputy State Director, Lands and Renewable Resources

Subject: Request for Species List

In accordance with the Endangered Species Act, we request that you provide us a list of the species that may occur within the project area as described in the attachment. Contact Margaret Kelsey (524-3138) if you have questions.

Thank you.

A handwritten signature in cursive script, appearing to read "Neil H. Sandberg".

Attachment
Public Scoping Document for
the NEI Industrial Waste
Treatment Facility EIS



United States Department of the Interior

Fish and Wildlife Service
Fish and Wildlife Enhancement
2060 Administration Building
1745 West 1700 South
Salt Lake City, Utah 84104-5110



IN REPLY REFER TO

(FWE)

September 18, 1987

To: Deputy State Director, Lands and Renewable Resources
Bureau of Land Management, Salt Lake City, Utah

From: State Supervisor, Fish and Wildlife Enhancement
Fish and Wildlife Service, Salt Lake City, Utah

Subject: Species List for NEI Industrial Water Treatment Facility

We have reviewed your memorandum of August 31, 1987 concerning the subject Environmental Impact Statement. It appears that listed endangered species, may occur in the area of influence of this action.

To comply with Section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies or their designees are required to obtain from the Fish and Wildlife Service (Service) information concerning any species or critical habitat, listed or proposed to be listed, which may be present in the area of a proposed construction project. Therefore, we are furnishing you the following list of species:

Listed

Bald eagle
Peregrine falcon

Haliaeetus leucocephalus
Falco peregrinus

Section 7(c) also requires the Federal agency proposing a major Federal action significantly affecting the quality of the human environment to conduct and submit to the Service a biological assessment to determine the effects of the proposal on listed and proposed species. The biological assessment shall be completed within 180 days after the date on which initiated or a time mutually agreed upon between the agency and the Service. Before physical modification/alteration of a major Federal action is begun the assessment must be completed. If the biological assessment is not begun within 90 days, this list should be verified with us prior to initiation of the assessment. We do not feel that we can adequately assess the effects of the proposed action on listed species without a complete assessment.

When conducting a biological assessment a thorough review of the project and the potential impacts of the project on threatened and endangered species within the immediate project area as well as the area of influence must be made.

Specific concerns the Service has about this project and its potential impacts on threatened and endangered species are as follows:

Bald eagle

Utah has one of the largest wintering populations of bald eagles in the United States. Rush Valley and the adjacent Skull Valley to the west have been identified as major concentration areas for eagles. Our concern would be the release of toxic materials into the environment. The effects of DDT and other similar chemicals have reduced the numbers of bald eagles substantially in the past.

Peregrine falcon

A Peregrine falcon hawk tower is currently located at Timpie Point on the north end of the Stansbury Mountains. Our concern here would also be the release of toxic materials into the environment that would negatively affect this species.

The Fish and Wildlife Service can enter into formal Section 7 consultation only with another Federal agency. State, county or any other governmental or private organizations can participate in the consultation process, help prepare information such as the biological assessment, participate in meetings, etc.

After your agency has completed and reviewed the assessment, it is your responsibility to determine if the proposed action "may affect" any of the listed species. If the determination is "may affect" for listed species you must request in writing formal consultation from the State Supervisor, Fish and Wildlife Enhancement Office, U.S. Fish and Wildlife Service at the address given above. At that time you should provide this office a copy of the biological assessment and any other relevant information that assisted you in reaching your conclusion.

Your attention is also directed to Section 7(d) of the Endangered Species Act, as amended, which underscores the requirement that the Federal agency or the applicant shall not make any irreversible or irretrievable commitment of resources during the consultation period which, in effect, would deny the formulation or implementation of reasonable and prudent alternatives regarding their actions on any endangered or threatened species.

If we can be of further assistance, please advise us. The Fish and Wildlife Service representative who will provide you with technical assistance is Robert Benton, FTS 588-4430.

Robert A. Ruesink

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ABBREVIATIONS AND ACRONYMS

BLM	Bureau of Land Management
Btu	British thermal unit
CAA	Clean Air Act
CBO	Congressional Budget Office
CERCLA	Comprehensive Environmental Response, Comprehension, and Liability Act
CEQ	Council on Environmental Quality
CO ₂	Carbon dioxide
COM Plan	Construction, Operation, and Management Plan
DOT	Department of Transportation
DRE	destruction removal efficiency
EIS	environmental impact statement
EPA	Environmental Protection Agency
ft	feet
HCl	hydrogen chloride
I-80	Interstate 80
kV	kilovolts
lb/hr	pounds per hour
MFP	Management Framework Plan
NAAQS	National Ambient Air Quality Standards
NEI	National Electric, Inc.
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NIOSH	National Institute of Occupational Safety and Health
NO _x	nitrogen oxides
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PIC	product of incomplete combustion
POHC	principal organic hazardous constituents
PLS	Pure live seed
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
ROW	right-of-way
SARA-Title III	Superfund Amendment and Reauthorization Act - Title III
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Office
SO ₂	sulfur dioxide
STEL	Short-Term Exposure Limit
TLV	Threshold Limit Value
TPY	tons per year
TSCA	Toxic Substance Control Act
TSP	total suspended particulate
UBSHW	Utah Bureau of Solid and Hazardous Waste
UDOT	Utah Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USPCI	U.S. Pollution Control, Inc.
VMT	vehicle miles traveled
WSA	Wilderness Study Area