



Janice K. Brewer
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Henry R. Darwin
Director

ARIZONA HAZARDOUS WASTE MANAGEMENT ACT PERMIT

In accordance with the State of Arizona Administrative Code (A.A.C.), Title 18, Chapter 8, Article 2, R18-8-260 et. seq. (hereinafter called Article 2), and pursuant to the Arizona Hazardous Waste Management Act, A.R.S. § 49-921 et. seq. (hereinafter called AHWMA), this Permit is issued to the following:

FACILITY NAME: Universal Propulsion Company, Inc. (UPCO)

FACILITY ADDRESS: 25401 North Central Avenue
Phoenix, Arizona 85085-2837

FACILITY ID NUMBER: AZD 980 814 479

PROPERTY OWNER: Arizona State Land Department

FACILITY OPERATOR: Universal Propulsion Company, Inc.

The UPCO facility (the facility) is located at 25401 North Central Avenue, Phoenix, Arizona 85085, and consists of all contiguous property at the southeast quarter of Section 5, Township 4 North, Range 3 East of the Gila and Slat River Meridian, Maricopa County, Arizona. The facility consists of 160 acres of land leased from the State of Arizona. It is located at the site of a former aerospace products manufacturing plant. The former plant consisted of various manufacturing, storage, and administrative buildings and structures, and was separated into seven operational areas: A-Complex, B-Complex, C-Complex, D-Complex, E-Complex (i.e. the Storage Magazine Area), F-Complex, and the Open Burn Unit. In 2009 and 2010 UPCO removed all of these operational areas, and closed the Open Burn Unit. Prior to removal and closure, however, UPCO discovered that soils and the underlying groundwater were contaminated with perchlorate salts. Pursuant to Consent Order P-136-04 and UPCO's Hazardous Waste Permit, UPCO has initiated Corrective Action and has constructed a network of groundwater monitoring wells at and surrounding the facility. This Permit authorizes the facility to proceed with Corrective Action at one or more of the former operational areas and to continue to perform groundwater monitoring at and surrounding the facility. The Permittee is required to continue this Permit for any period necessary to comply with the corrective action requirements of this Permit.

Unless modified, applicable regulations are those which are in effect on the date of issuance of this Permit pursuant to A.A.C. R18-8-264, 270 and 271, and the conditions therein are specified pursuant to A.A.C. R18-8-270.A (40 CFR §270 Subpart C), K, L, M, N, O, P, and Q. All references to 40 CFR in this Permit refer to those regulations as adopted and modified by Article 2.

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This Permit is based on the assumption that the information contained in the Permit Application is accurate, and that the facility is constructed and operated as specified in the Permit Attachments. Any inaccuracies found in this information may be grounds for the termination, modification, or revocation and reissuance of this Permit pursuant to A.A.C. R18-8-270.A (40 CFR §270.41, 270.42 and 270.43) and A.A.C. R18-8-271.D and potential enforcement action.

The Permittee shall inform the Director of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

This Permit is effective as of June 30, 2011, and shall remain in effect for ten (10) years from this date, unless revoked and reissued, or terminated pursuant to A.A.C. R18-8-270.A (40 CFR §270.41 and 270.43) or continued in accordance with A.A.C. R18-8-270.A (40 CFR §270.51) and P (40 CFR §270.51(a)).

For the Arizona Department of Environmental Quality,

Signed this 30th day of June, 2011

by


Amanda E. Stone, Director
Waste Programs Division
Arizona Department of Environmental Quality

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PART I – GENERAL PERMIT CONDITIONS

A. EFFECT OF PERMIT

The Permittee shall perform corrective action in accordance with the requirements of this Permit and any other plans submitted and approved pursuant to this Permit.

There are no operating hazardous waste storage, treatment, or disposal units at the facility. Any storage, treatment, and/or disposal of hazardous waste not specifically authorized in this Permit is prohibited, unless exempted from Permit requirements.

Subject to Arizona Administrative Code (A.A.C.) R18-8-270.A and 40 CFR 270.4, compliance with this Permit generally constitutes compliance, for purposes of enforcement, with the Arizona Hazardous Waste Management Act (AHWMA). Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations. Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under Sections 3008(a), 3008(h), 3013, or 7003 of RCRA (42 U.S.C. 6921 et seq.); Sections 106(a), 104 or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq., commonly known as CERCLA), or any other law providing for protection of public health or the environment.

[A.A.C. R18-8-270.A and 40 CFR 270.4, 270.30(g)]

B. DEFINITIONS

For purposes of this Permit, terms used herein shall have the same meaning as those in A.A.C. R18-8-260 et seq. (40 CFR Parts 124, 260, 264, 266, 268, and 270), unless this Permit specifically provides otherwise (see alphabetized terms below); where terms are not defined in the regulations or the Permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

1. A.A.C. and C.F.R. means the Arizona Administrative Code (A.A.C.) Title 18, Chapter 8, Article 2 (A.A.C. R18-8-260 et seq.), updated March 31, 2008, which adopts and modifies portions of Title 40 Code of Federal Regulations Part 260 (40 CFR 260 et seq.), July 1, 2006 edition (Permit Attachment I).
2. AHWMA means Arizona Hazardous Waste Management Act.
3. Area of Concern or AOC defined as:
 - (a) Hazardous product storage unit or area.
 - (b) Any area where a one-time hazardous material (product or waste) spill event occurred.

- (c) Any hazardous material unit or area where management may have occurred, whether the potential for release may have existed, but where insufficient evidence was found during the RCRA Facility Assessment (RFA) to verify the existence of a definable Solid Waste Management Unit (SWMU).
4. Director means the Director of ADEQ or the Director's designee or authorized representative.
5. Example means, unless otherwise specified, that the form is a blank form that is mandatory to be used or followed. This term does not convey to the Permittee that the statements are optional to be performed or are at the users discretion. "Example" presents, unless otherwise specified, minimum acceptable.
6. Facility or Activity means any HWM facility or any other facility or activity including land or appurtenances thereto) that is subject to regulation under the RCRA program.
7. Hazardous constituent means (a) any constituent identified in A.A.C. R18-8-261.A (Appendix VIII of 40 CFR Part 261) that have been detected in groundwater in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Director has excluded them under (b), below.
- (b) The Director will exclude an appendix VIII constituent from the list of hazardous constituents specified in this Permit if he finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the Director will consider the following: (1) Potential adverse effects on groundwater quality, considering: (i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration; (ii) The hydrogeological characteristics of the facility and surrounding land; (iii) The quantity of groundwater and the direction of groundwater flow; (iv) The proximity and withdrawal rates of groundwater users; (v) The current and future uses of groundwater in the area; (vi) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality; (vii) The potential for health risks caused by human exposure to waste constituents; (viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; (ix) The persistence and permanence of the potential adverse effects; and (2) Potential adverse effects on hydraulically-connected surface water quality, considering: (i) The volume and physical and chemical characteristics of the waste in the regulated unit; (ii) The hydrogeological characteristics of the facility and surrounding land; (iii) The quantity and quality of groundwater, and the direction of groundwater flow; (iv) The patterns of rainfall in the region; (v) The proximity of the regulated unit to surface waters; (vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters; (vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on

surface-water quality; (ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and (x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under 264.93 (b), as incorporated by R18-8-264, about the use of groundwater in the area around the facility, the Director shall consider any identification of underground sources of drinking water and exempted aquifers made under 40 CFR 144.7, and any identification of uses of groundwater made pursuant to 18 AAC 9 or 11.

8. Hazardous waste means a hazardous waste as defined in R18-8-261.A (40 CFR 261.3).
9. Hazardous Waste Management facility or HWM facility means all contiguous land and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units.
10. IDW or Investigation Derived Waste or Investigative Derived Waste means media or solid waste generated during environmental site investigations and sampling activities including soil cuttings and other soil wastes; fluids from well drilling, aquifer testing, well purging, sampling, and decontamination; and disposable sampling and personal protection equipment.
11. Qualified means that the individual or group shall have the same training, education, experience, and other necessary skills, as required by this Permit, as the person(s) or group who normally performs that function has.
12. QAPP or Quality Assurance Project Plan refers to the plan (or plans) containing the policies and procedures; project organization and objectives; and the quality assurance (QA) requirements and quality control activities designed to achieve the desired type and quality of environmental data necessary to support the project objectives. The QAPP to be used by the Permittee is attached to this Permit.
13. Regulated Facility or Regulated Unit means any hazardous waste management facility or unit regulated under A.A.C. R18-8-264.A and 270.A, and 40 CFR 264 and 270.
14. Release includes the definitions of “discharge” and “disposal” as found in A.A.C. R18-8-260.A (40 CFR 260.10) and means any spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes (including hazardous constituents) into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents).
15. Shall, Must, and Will, denote a mandatory requirement.

16. Should or May denotes a recommendation or permission, respectively, which is not mandatory.
17. Solid Waste Management Unit or SWMU means any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. SWMUs include any area at a facility at which solid wastes have been routinely and systematically released.

C. PERMIT ACTIONS

1. Permit Modification, Revocation and Reissuance, and Termination

- (a) This Permit may be modified, revoked and reissued, or terminated for cause, as specified in A.A.C. R18-8-270.A (40 CFR 270.41, 270.42, and 270.43). The Permit may be modified by the Director at any time, following procedures in A.A.C. R18-8-271.D in order to ensure compliance with applicable state and federal requirements. The filing of a request for a Permit Modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any Permit condition.
- (b) In accordance with Arizona Revised Statutes, Title 41, Chapter 6, Article 10, a final determination regarding any Permit Modification (the approval of the Permittee's Permit Modification request, the approval of the Permittee's Permit Modification request with changes, the denial of the Permittee's Permit Modification request, or the final decision on any agency-initiated Permit Modifications) made by the Director is an appealable agency action.
[A.A.C. R18-8-270.A and 40 CFR 270.30(f), A.R.S. §41-1092 et seq.]

2. Permit Renewal

This Permit may be renewed as specified in Permit Condition I.E.2.

[A.A.C. R18-8-270.A and 40 CFR 270.30(b)]

3. Permit Expiration

This Permit shall be effective for a fixed term not to exceed ten (10) years. This Permit and all conditions herein will remain in effect beyond the Permit's expiration date, if the Permittee has submitted a timely, complete permit application for renewal and through no fault of the Permittee, the Director has not issued a new Permit. For purposes of this requirement, a complete application for renewal must be in accordance with requirements of A.A.C. R18-8-270.A, E, F, G, I, and J (40 CFR 270.10, 270.13 through 270.29)

[A.A.C. R18-8-270.A and 40 CFR 270.50(a), 40 CFR 270.51]

4 Transfers

- (a) This Permit is not transferable to a new owner or operator, except after notice to the Director. The Director may modify or revoke and reissue the Permit to change the name of the Permittee and incorporate such other requirements as necessary pursuant to A.A.C. R18-8-270.A (40 CFR 270.40). Before transferring ownership or operation of the facility during its operating life, or of a disposal facility during the post closure care period, the Permittee shall notify the new owner or operator in writing of the requirements of A.A.C. R18-8-270 (40 CFR 270) and this Permit.
- (b) Any new owner or operator must submit an ADEQ Character/Background Reference Form. The Director may deny a permit to a person if any of the following applies:
 - (i) The person fails to demonstrate sufficient reliability, expertise, integrity, and competence to operate a hazardous waste management facility;
 - (ii) The person has been convicted of or pled guilty or no contest to, a felony in any state or federal court during the five years before the date of the Permit Modification request;
 - (iii) In the case of a corporation or business entity, if any officer, director, partner, key employee, other person or business entity who holds ten percent or more of the equity or debt liability has been convicted of, or pled guilty or no contest to a felony in any state or federal court during the five years before the date of the Permit Modification request.

[A.A.C. R18-8-270.A, J, and L, and 40 CFR 270.30(l)(3); R18-8-264.A and 40 CFR 264.12(c)]

D. [reserved]

E. DUTIES AND REQUIREMENTS

1. Duty to Comply

The Permittee shall comply with all conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any Permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of AHWMA and/or RCRA and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a Permit renewal application.

[A.A.C. R18-8-270.A and 40 CFR 270.30(a)]

2. Duty to Reapply

If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new Permit at least one hundred eighty (180) days prior to Permit expiration.

[A.A.C. R18-8-270.A, 40 CFR 270.10(h), and 40 CFR 270.30(b)]

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the Permitted activity in order to maintain compliance with the conditions of this Permit.

[A.A.C. R18-8-270.A and 40 CFR 270.30(c)]

4. Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures, as are reasonable, to prevent significant adverse impacts on human health or the environment.

[A.A.C. R18-8-270.A and 40 CFR 270.30(d)]

5. Proper Operation and Maintenance

The Permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities only when necessary to achieve compliance with the conditions of this Permit.

[A.A.C. R18-8-270.A and 40 CFR 270.30(e)]

6. Property Rights

This Permit does not convey any property rights of any sort, or any exclusive privilege.

[A.A.C. R18-8-270.A, 40 CFR 270.4(b) and 270.30(g)]

7. Duty to Provide Information

The Permittee shall furnish to the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this Permit.

[A.A.C. R18-8-264.A and 270.A, and 40 CFR 264.74(a) and 270.30(h)]

8. Inspection and Entry

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents, as maybe required by law, to:

- (a) Enter at reasonable times upon the Permittee's premises where a regulated waste management unit or activity is located or conducted, or where records must be kept under the conditions of this Permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
- (c) Inspect at reasonable times any waste management unit, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
- (d) Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by AHWMA and RCRA, any substances or parameters at any location.

[A.A.C. R18-8-270.A (40 CFR 270.30(i))]

9. Monitoring and Records

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity (e.g., air emissions). The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from A.A.C. R18-8-261.A, Appendix I of 40 CFR 261 or an equivalent or better method approved by the Director. Laboratory methods must be those specified in *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*, EPA Publication SW-846 (current edition), or an equivalent or better method, or as approved by the Director.

[A.A.C. R18-8-270.A (40 CFR 270.30(j)(1))]

- (b) The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this Permit, and records of all data used to complete the application for this Permit for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application. These

periods may be extended by request of the Director at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

[A.A.C. R18-8-264.A and 270.A, and 40 CFR 264.74(b) and 270.30(j)(2)]

- (c) Pursuant to A.A.C. R18-8-270.A and 40 CFR 270.30(j)(3), records of monitoring information shall specify:

- (i) The dates, exact place, and times of sampling or measurements;
- (ii) The individual(s) who performed the sampling or measurements;
- (iii) The dates analyses were performed;
- (iv) The individual(s) who performed the analyses;
- (v) The analytical techniques or methods used; and
- (vi) The results of such analyses.

[A.A.C. R18-8-270.A (40 CFR 270.30(j)(3))]

- (d) Each parameter test that an in-state or out-of-state laboratory can perform for hazardous waste analysis must be licensed (certified) by the Arizona Department of Health Services (ADHS). Additionally, if a contract laboratory is used to perform analyses, then the Permittee shall inform the laboratory in writing that it must operate under the conditions set forth in this Permit. For notification and certification verification purposes, a copy of that letter must be included with the final analytical report.

[A.R.S. Title 36, Chapter 4.3, Article 1, 36-495.01]

10. Signatory and Certification Requirements

All applications, reports, or information submitted to or requested by the Director, his/her designee, or authorized representative, shall be signed and certified in accordance with A.A.C. R18-8-270.A (40 CFR 270.11).

[A.A.C. R18-8-270.A (40 CFR 270.30(k))]

11. Reporting Requirements

(a) Planned Changes

The Permittee shall give notice to the Director, as soon as possible, of any planned physical alterations or additions to the permitted facility. The Permittee shall give notice to the Director of any planned physical alterations or additions to the permitted facility that may be initiated by the PROPERTY OWNER, as soon as the Permittee is made aware of the planned physical alterations or additions.

[A.A.C. R18-8-270.A and 270.L (40 CFR 270.30(l)(1))]

(b) Anticipated Noncompliance

The Permittee shall give advance notice to the Director of any planned changes (e.g., physical alterations) in the Permitted facility or activity which

may result in noncompliance with Permit requirements. The Permittee shall give notice to the Director as soon as the Permittee is made aware of any planned changes (e.g., physical alterations) in the permitted facility or activity which may be initiated by the PROPERTY OWNER, and which may result in noncompliance with Permit requirements.

[A.A.C. R18-8-270.A and 270.L (40 CFR 270.30(l)(2))]

(c) Monitoring Reports

Monitoring results shall be reported at the intervals specified elsewhere in this Permit.

[A.A.C. R18-8-270.A and 270.L (40 CFR 270.30(l)(4))]

(d) Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit shall be submitted no later than fourteen (14) calendar days following each schedule date.

[A.A.C. R18-8-270.A (40 CFR 270.30(l)(5))]

(e) Other Noncompliance

The Permittee shall report all instances of noncompliance not required under A.A.C. R18-8-270.A and 40 CFR 270.30(l)(4), (l)(5) and (l)(6), at the time monitoring reports are submitted. Reports shall contain the information listed in A.A.C. R18-8-270.A and 40 CFR 270.30(l)(6).

[A.A.C. R18-8-270.K and 270.L (40 CFR 270.30(l)(10))]

12. Twenty-Four Hour Reporting

The Permittee shall report to the Director any noncompliance which may endanger health or the environment. Any such information shall be reported orally as soon as possible but not later than twenty-four (24) hours from the time the Permittee becomes aware of the circumstances. The report shall include the following:

- (a) Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.
- (b) Any information of a release or discharge of hazardous waste, or of a fire or explosion from the hazardous waste management facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:
 - (i) Name, address, and telephone number of the owner or operator;
 - (ii) Name, address, and telephone number of the facility;
 - (iii) Date, time, and type of incident;
 - (iv) Name and quantity of material(s) involved;

- (v) The extent of injuries, if any;
 - (vi) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and
 - (vii) Estimated quantity and disposition of recovered material that resulted from the incident.
- (c) A written submission of the occurrence shall also be provided within five (5) calendar days of the time the Permittee becomes aware of the circumstances. The written submission shall contain:
- (i) A description of the noncompliance and its cause;
 - (ii) The period(s) of noncompliance (including exact dates and times);
 - (iii) Whether the noncompliance has been corrected; and, if not corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

The Director may waive the five (5) day written notice requirement in favor of a written report within fifteen (15) days.

[A.A.C. R18-8-270.A (40 CFR 270.30(l)(6))]

13. Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts in the Permit application, or submitted incorrect information in a Permit application or in any report to the Director, the Permittee shall promptly submit such facts or information.

[A.A.C. R18-8-270.A and 270.L (40 CFR 270.30(l)(11))]

F. CONFIDENTIAL INFORMATION

The Permittee may claim confidential any information required to be submitted by this Permit.

[A.A.C. R18-8-270.A and H (40 CFR 270.12)]

G. DOCUMENTS TO BE MAINTAINED

The Permittee shall maintain, until corrective action is completed as approved by the Director and certified by an independent, Arizona Registered Professional Engineer (P.E.), the following documents and all amendments, revisions and modifications to these documents:

1. Inspection schedules, as required by A.A.C. R18-8-264.A, 40 CFR 264.15(b) and this Permit;
2. Emergency Contingency Plan, as required by A.A.C. R18-8-264.A, 40 CFR 264.53(a) and this Permit;

3. Operating record, as required by A.A.C. R18-8-264.A, 40 CFR 264.73 and this Permit;
4. Annually-adjusted cost estimate for facility corrective action and a copy of the corresponding financial assurance mechanism, as required by A.A.C. R18-8-264.A, 40 CFR 264.101 and this Permit;
5. All other documents required by Permit Condition I.E.9 (Monitoring and Records).
6. Groundwater Monitoring Plan (Attachment C), QAPP (Attachment E) and QAPP Addendum (Attachments E and F) and all groundwater monitoring records as required by A.A.C. R18-8-264.A, 40 CFR 264.100, and this Permit.
7. Corrective action plans and reports as required by A.A.C. R18-8-264.A, 40 CFR 264.100 and 264.101, and this Permit.

These documents shall be maintained at the Goodrich Interiors facility, 3414 South 5th Street, Phoenix, Arizona 85040.

H. PERMIT MODIFICATIONS

1. General Conditions

For Permit Modifications (including re-application), the Permittee shall follow A.A.C. R18-8-270.A and 40 CFR 270.42 and A.A.C. R18-8-270.G for any fees to be submitted with the application for Permit Modification.

2. Facility Mailing List

The Permittee shall obtain from ADEQ and use an updated facility mailing list, pursuant to A.A.C. R18-8-270.A and 40 CFR 270.42 when processing all Permittee-requested Permit Modifications.

[A.R.S. 49-941, A.A.C. R18-8-271.I(c)]

3. Changes to Key Employee(s)

For the following key personnel changes, the Permittee shall also submit an ADEQ Character/Background Reference Form:

- (a) Signatories – See Permit Condition I.E.10 (Signatory and Certification Requirements);
- (b) Emergency Coordinator – See Permit Attachment C (Contingency Plan).

[A.R.S. 49-922.C; A.A.C. R18-8-270.J, and 40 CFR 270.14(b)(20)]

PART II – GENERAL FACILITY CONDITIONS

A. DESIGN AND OPERATION OF FACILITY

The Facility is described in Permit Attachment A. Permittee shall construct, maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned, sudden or non-sudden release of hazardous waste constituents and perchlorate to air, soil, or surface water which could threaten human health or the environment.

[A.A.C. R18-8-264.A and 40 CFR 264.31]

B. SECURITY

The Permittee shall comply with the security provisions of A.A.C. R18-8-264.A, 40 CFR 264.14(b)(2) and those contained in the Permit Attachment B (Security Plan).

C. GENERAL INSPECTION REQUIREMENTS

The Permittee shall inspect the groundwater monitoring wells at each monitoring event and the results shall be recorded on Exhibit B-3 (Monitor Well and Fencing Inspection Log) in Permit Attachment B (Security Plan). The Permittee shall inspect the facility fence and gates at least quarterly and the results shall be recorded on Exhibit B-3 (Monitor Well and Fencing Inspection Log) in Permit Attachment B (Security Plan). The Permittee shall verify site security and remedy any deterioration or malfunction discovered by an inspection, as required by A.A.C. R18-8-264.A and 40 CFR 264.15(c). Records of inspection shall be kept, as required by A.A.C. R18-8-264.A and 40 CFR 264.15(d).

D. CONTINGENCY PLAN

1. Implementation of Plan

The Permittee shall immediately carry out the provisions of the Contingency Plan (Permit Attachment C), and follow the emergency procedures described by A.A.C. R18-8-264.A and G, and 40 CFR 264.56 whenever there is a release, fire, or explosion involving hazardous waste or hazardous materials or to a situation that poses the risk of such an occurrence which could threaten human health or the environment.

[A.A.C. R18-8-264.A (40 CFR 264.51(b))]

2. Copies of Plan

The Permittee shall maintain and distribute copies of the Contingency Plan pursuant to 40 CFR 264.53.

[A.A.C. R18-8-264.A (40 CFR 264.53)]

3. Amendments to Plan

The Permittee shall review and immediately amend, if necessary, the Contingency Plan. Any amendment shall be subject to Permit Condition I.H.

[A.A.C. R18-8-264.A (40 CFR 264.54)]

4. Emergency Coordinator

A trained emergency coordinator shall be available at all times in case of an emergency. Any change to the names, addresses, and phone numbers of all persons qualified to act as emergency coordinators listed in the Contingency Plan shall be supplied to the Director as a modification pursuant to Permit Condition I.H.

[A.A.C. R18-8-264.A (40 CFR 264.55)].

E. RECORD KEEPING AND REPORTING

In addition to the record keeping and reporting requirements specified elsewhere in this Permit, A.A.C. R18-8-264.A, and 40 CFR 264.77, the Permittee shall maintain a written operating record at the facility or at the location specified in Permit Condition I.G.

[A.A.C. R18-8-264.A (40 CFR 264.73)]

F. COST ESTIMATE FOR CORRECTIVE ACTION

The most recent corrective action cost estimate is specified in Permit Attachment G (Financial Assurance), Exhibit G-1.

1. The Permittee must maintain the current corrective action cost estimate in the operating record.
2. The Permittee must adjust the corrective action cost estimate for inflation within sixty (60) days prior to the anniversary date of the establishment of the financial instrument(s).
3. After selection of the remedy by the Director, the Permittee must revise the corrective action cost estimate whenever there is a change in the corrective action scope of activities.
4. All adjustments or revisions to the corrective action cost estimate shall be submitted to ADEQ as a Class 1 Permit Modification request requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit).
[A.A.C. R18-8-264.A (40 CFR 264.101) and A.A.C. R18-8-270.A, M, N, and O (40 CFR 270.32)]

G. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

A copy of the Permittee's financial assurance mechanism is at Permit Attachment G, Exhibit G-2. The Permittee shall maintain in the operating record documentation of financial assurance in at least the amount of the cost estimate required by Permit Conditions II.F and

II.I.1 or II.I.2 (as appropriate). Any change in the financial assurance mechanism shall be submitted to ADEQ as a Class 1 Permit Modification request requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit).

[A.A.C. R18-8-264.A (40 CFR 264.101) and A.A.C. R18-8-270.A, M, N, and O (40 CFR 270.32)]

H. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

The Permittee shall comply with A.A.C. R18-8-264.A and 40 CFR 264.148 whenever necessary.

I. SCHEDULE OF COMPLIANCE

1. By March 15, 2012, the Permittee shall submit a Class 1 Permit Modification request requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit) to update the Permittee's cost estimate and financial assurance mechanism. The Permit Modification request will contain:

- (a) A cost estimate that is reflective of the recommended remedy contained in the Permittee's CMS Report required under Condition IV.I.1, and an executed and effective financial assurance mechanism in the amount of the cost estimate and selected from the options specified in A.A.C. R18-8-264.A (40 CFR 264.143(a) through (f)), or
- (b) A default cost estimate and an executed and effective financial assurance mechanism for the default cost estimate.
 - (i) The default cost estimate must be sufficient to:
 - a. Perform a groundwater remedy that meets the remedial objective of restoring groundwater throughout the site to the 14 ug/l perchlorate standard within 30 years;
 - b. Perform a soils remedy that is sufficient to conform to the residential soil remediation level requirements of the Soil Remediation Standards Rule (Title 18, Chapter 7, Article 2),
 - c. Provide for the continued long-term access, inspections, operations, maintenance, and closure of all remediation equipment, monitoring equipment, and facility security equipment and structures.

The cost estimate will be calculated using industry recognized cost estimation software. All costs for the default cost estimate must be based upon the costs to hire a third party to conduct the work. Conservative assumptions must be used when sufficient data is not available to justify a lower cost alternative. In calculating the cost estimate, the Permittee presumes the impact from perchlorate impacted groundwater at C- Complex and New Burn area is similar to Waterbore. ADEQ sampling results indicate the perchlorate concentration at MW-19 is 54,000 ug/l;

- (ii) The cost estimate will include:
 - a. Costs for groundwater extraction and treatment downgradient of MW-1;
 - b. Costs for remediation of perchlorate impacted soils at Waterbore, New Burn, and C- Complex;
 - c. Costs for groundwater monitoring for a period of thirty years. Costs will assume that all wells are sampled semiannually;
- 2. The Permittee shall modify the cost estimate and financial assurance mechanism to reflect the Director's Remedy Selection (See Permit Condition IV.J for the remedy selection process). This update shall be submitted within 45 days of notification by the Director, and shall be submitted as a Class 1 Permit Modification request requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit).
[A.A.C. R18-8-264.A (40 CFR 264.101) and A.A.C. R18-8-270.A, M, N, and O (40 CFR 270.32)]

J. GENERAL WASTE ANALYSIS

For any solid waste generated at the facility, the Permittee shall determine if the waste is a hazardous waste in accordance with R18-8-261.A (40 CFR 261.11). If the waste is determined to be hazardous, the Permittee shall manage the waste in accordance with R18-8-261.A (40 CFR 261.11). All analyses performed shall be done in accordance with Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, EPA Publication SW-846 (current edition), or equivalent or better methods as approved by the Director. If the Permittee uses a contract laboratory to perform analyses, each parameter test that the in-state or out-of-state laboratory performs for hazardous waste analysis must be licensed (certified) by the Arizona Department of Health Services (ADHS).

[A.A.C. R18-8-261.A (40 CFR 261.11) and A.R.S. Title 36, Chapter 4.3, Article 1, Section §36-495.01]

PART III – GROUNDWATER MONITORING

A. GROUNDWATER MONITORING PLAN

The Permittee shall conduct groundwater monitoring, well field measurements, sampling, analysis, and reporting according to parameters and frequencies specified in Attachment D (Groundwater Monitoring Plan [GWMP]), Attachment E (QAPP), and Attachment F (QAPP Addendum). The Permittee shall use this GWMP, QAPP, and QAPP Addendum until revisions of these plans are approved by ADEQ as necessary to comply with the requirements of A.A.C. R18-8-264.A, 40 CFR 264.97 and 264.99 [see R18-8-264.A (40 CFR 264.100(d))]. Revisions to these documents are considered modifications of this Permit pursuant to Permit Condition I.H (subject to appeal, see Condition I.C.1.(b) of this Permit).

- 1 The Permittee is responsible for control of contaminant plume migration and the remediation of all contaminants attributed to the Permittee, within and outside property boundaries, and shall revise the GWMP, QAPP, and QAPP Addendum, as needed, to comply.
- 2 Based on data collected from groundwater monitoring or other investigation results required by this Permit, the Permittee shall make changes to the GWMP, QAPP, and QAPP Addendum as necessary in order to protect human health and the environment. Such changes may include the addition of monitoring wells or change to monitoring frequency.

[A.A.C. R18-8-101 (40 CFR 264.101)]
3. If the Permittee believes the monitoring or corrective action program no longer satisfies the requirements of the regulations, the Permittee shall, within 90 days of the determination, submit a Permit Modification request requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit), to make any appropriate changes to the program that will satisfy the regulations. The Permit Modification request shall be submitted in accordance with Permit Condition I.H.

[A.A.C. R18-8-264.A (40 CFR 264.99(h) – (j))]

B. WELL LOCATIONS, INSTALLATION, AND CONSTRUCTION

The Permittee shall design, install, and maintain a groundwater monitoring system to comply with applicable requirements of A.A.C. R18-8-264.A (40 CFR 264 Subpart F) and as specified below.

1. The Permittee shall maintain groundwater monitoring wells at the locations specified on Table 1 in Permit Attachment F. Well locations will be added as directed by ADEQ, or at the discretion of the Permittee, using installation methods and procedures approved by the Director. Wells may only be removed from the network or modified following the Director's written approval.

2. All wells removed from the groundwater monitoring system shall be abandoned in accordance with procedures approved by the Arizona Department of Water Resources. Well abandonment methods and certification shall be submitted to ADEQ within 90 days from the date the well is removed from the network.
3. Any changes to the GWMP, QAPP, and QAPP Addendum must be made as a Permit Modification request, requiring the Director's approval (subject to appeal, see Condition I.C.1(b) of this Permit), and submitted in accordance with Permit Condition I.H.

C. SAMPLING AND ANALYSIS

The Permittee shall follow the following techniques and procedures when obtaining and analyzing groundwater samples to provide a reliable indication of groundwater quality.

[A.A.C. R18-8-264.A (40 CFR 264.97(d) and (e))]

1. Groundwater samples shall be collected from the wells identified in Table 1 (UPCO Monitor Well Information) and Table 2 (Private Well Information) of Permit Attachment F (QAPP Addendum). Groundwater samples shall be collected, preserved, and shipped in accordance with the procedures specified in Permit Attachments D, E, and F (Groundwater Monitoring Plan, QAPP, and QAPP Addendum).
2. The Permittee shall ensure that the frequency of sample collection and the wells to be sampled are in accordance with Table 3 of Permit Attachment F (QAPP Addendum).
3. Groundwater samples shall be tracked and controlled using the chain-of-custody procedure specified in Permit Attachment F (QAPP Addendum).
4. Samples shall be analyzed according to Permit Attachment F (QAPP Addendum) or the most current final version of EPA Test Methods for Evaluating Solid Waste SW-846. For those constituents that have established Maximum Contaminant Levels (MCL), Preliminary Remediation Goals (PRG), or Arizona Health-Based Guidance Level (HBGL), the analytical method chosen must be capable of achieving a Practical Quantitation Limit (PQL) below the established MCL, PRG, or HBGL.
5. Depth to water level measurements will be collected once per month at all wells identified in Table 1 (UPCO Monitor Well Information). Water level measurements will be performed in accordance with the specifications of Permit Attachment F (QAPP Addendum).

D. REPORTING AND RECORDKEEPING

1. The Permittee shall enter all monitoring, testing, and analytical data obtained pursuant to this Permit in the operating record. The data must include all computations and data validation.
[A.A.C. R18-8-264.A (40 CFR 264.73(b)(6))]
2. By January 15, April 15, July 15, and October 15, the Permittee shall submit to ADEQ a quarterly report providing water level and groundwater quality data collected in the previous calendar quarter (“the Quarterly Report”). Information to be contained in the Quarterly Report is detailed in Permit Attachment D.
3. On or before March 1 of each year, the Permittee shall submit an Annual Groundwater Monitoring Report (“the Annual Report”) to ADEQ. The Annual Report shall provide comprehensive documentation of the previous year’s groundwater monitoring activities. Information to be contained in the Annual Report is detailed in Permit Attachment D.

E. MANAGEMENT OF IDW

1. All IDW must be collected, containerized, and stored in closed containers. To the greatest extent possible, fluids, soils, and solid wastes such as Personal Protection Equipment must be containerized separately from each other. Soil shall be placed in roll-off containers or drums. Fluids shall be placed in drums or tanks. PPE, disposable sampling equipment, and other refuse that are not classified as hazardous waste and are generated during field work shall be placed in sealed containers.
2. If kept on site, containers of IDW shall be stored in a secure location, with the containers labeled with information needed for future handling purposes. Permittee shall record the date, type, and quantity of IDW for inclusion in the facility operating reports. In no event shall IDW remain stored in containers on site for greater than ninety (90) calendar days.
3. Permittee shall perform a waste determination on all IDW. The determination may be based on laboratory analysis, MSDS or other similar information provided by the manufacturer, or by using generator knowledge.
4. IDW shall be removed for disposal within ninety (90) calendar days of generation. IDW fluids shall be transported in closed containers. IDW soils will be transported in closed containers or in covered loads so as to minimize loss. IDW solid waste (other than soils) shall be kept in sealed containers and transported to a landfill or commercial solid waste receptacle as appropriate.

**PART IV – CORRECTIVE ACTION FOR SOLID WASTE
MANAGEMENT UNITS – SCHEDULE OF COMPLIANCE**

A. AUTHORITY

RCRA Section 3004(u), as amended by the HSWA, and A.A.C. R18-8-264.A (40 CFR 264.101 and 40 CFR Subpart S) requires that Permits issued after November 8, 1984, address corrective action for releases of hazardous waste and hazardous waste constituents from any Solid Waste Management Unit (SWMU) at the facility, regardless of when the waste was placed in the unit.

When the Permittee discovers a new SWMU or an area of concern (AOC) at the facility, or determines a release has occurred, the facility will be governed by the conditions of this Permit Part (hereinafter referred to as the “Corrective Action Schedule of Compliance” or “CASOC”).

B. SUMMARY OF PREVIOUS CORRECTIVE ACTION ACTIVITIES

1. RCRA Facility Assessment

In December 1993, EPA contracted with Science Applications International Corporation (SAIC) to conduct a RCRA Facility Assessment (RFA). The RFA identified and assessed 22 Solid Waste Management Units (SWMUs) and other areas of concern at the facility.

2. RCRA Facility Investigation Work Plans

RCRA Facility Investigation (RFI) Work Plans were written for operational areas after a detailed review of facility operational history. These RFI work plans were used to guide soil characterization efforts which included numerous subsurface borings and surface samples. Surface and subsurface borings advanced during 2004 and 2005 provided initial sample results. Supplemental sampling in 2004, 2005, and 2008 provided additional characterization data.

3. RCRA Facility Investigation Report

A Draft RCRA Facility Investigation Report was submitted to ADEQ on May 1, 2009. The Draft Report described historic operations at the facility, described the study area, summarized the results of previous investigations and the results of the investigations described in the RFI Work Plans, described the hydrogeologic investigations at the site, discussed the nature and extent of contamination in soils and groundwater, described the physical characteristics of the study area, presented the Permittee’s conceptual site model, and presented a report summary with conclusions and recommendations for future work.

4. Groundwater Modeling Work Plans

Work Plans and technical memoranda on the performance of groundwater flow modeling were submitted on June 2009, February 19, 2010, and June 2010. These documents discuss the conceptual site model, present the modeling code, summarize the data requirements and the parameter development process for the groundwater flow model, and discuss the model calibration process.

5. Development of the Groundwater Protection Level (GPL)

A Work Plan was submitted September 3, 2008 (Proposed Approach for Developing Groundwater Protection Level for Perchlorate in Soil at the Universal Propulsion Company, Inc.), amended by letter on June 18, 2009. As a result, UPCO proposed a site-specific GPL of 16.2 milligrams per kilogram for perchlorate in soil. This level was accepted by ADEQ on October 22, 2009 (REF: HWP-2186).

C. SPECIFIC CORRECTIVE ACTION REQUIREMENTS

1. Permittee shall prepare an updated construction diagram for proposed monitor well MW-19 showing that the well is screened across the water table. This updated construction diagram must be submitted no later than 30 calendar days after the effective date of this Permit.
2. Permittee shall install groundwater monitoring well MW-19 pursuant to the work plan submitted to ADEQ on May 21, 2010. MW-16 and MW-17 shall be installed pursuant to the work plan submitted to ADEQ on April 10, 2009. MW-16, -17, and -19 shall be installed no later than 60 calendar days after the effective date of this Permit.
3. A well installation report for the new monitor wells (MW -16, -17, and -19) shall be submitted no later than 90 calendar days after the effective date of this Permit.
4. MW-16, -17, and -19 shall be sampled immediately after well development and then at a frequency in accordance with the GWMP, QAPP, and QAPP addendum. The sampling results shall be incorporated into a revised RI Final Report.
5. Pursuant to the MW-19 work plan dated May 21, 2010, the Corrective Measures Study will initially presume the impact from perchlorate impacted groundwater at C-Complex and the New Burn is similar to the Waterbore Area.
6. Updates to the GWMP, QAPP, and QAPP addendum to reflect the new monitor wells (MW-16, MW-17, and MW-19) shall be submitted within 90 calendar days after the effective date of this Permit.
7. The Director may require groundwater monitoring wells to be installed at C-Complex and/or the New Burn area(s) in the corrective action process. The Director

shall notify the Permittee of this requirement following review of the Permittee's Corrective Measures Study Workplan (see Condition IV.I.3), or Corrective Measures Study Report (see Condition IV.I.6), or Corrective Measures Implementation Program Plan (see Condition IV.K), which will be submitted as Class 1 Permit Modification requests requiring the Director approval (subject to appeal, see Condition I.C.1.(b) of this Permit).

8. A revised RFI Final Report reflecting the installation and initial sampling events at the new monitor wells (MW-16, MW-17, and MW-19) shall be submitted no later than 120 calendar days after the effective date of this Permit.
9. Any remedy proposed by the Permittee must achieve a groundwater clean up goal or remedial action objective for perchlorate of fourteen (14) micrograms per liter.
10. Any remedy proposed by the Permittee shall achieve a clean up level for soils that is in accordance with the Arizona Soil Remediation Standards rule (A.A.C. Title 18, Chapter 7, Article 2). A site-specific groundwater protection level (GPL) for perchlorate of sixteen (16) milligrams per kilogram has been established.
11. If perchlorate is found in excess of fourteen (14) micrograms per liter in any well tested by the Permittee, or confirmed by ADEQ, in any active private domestic well in the area bounded by Central Avenue, 7th Street, Yearling Road, and Jomax Road, the Permittee will supply an alternative drinking water source to the private well owner at the request of the private well owner. The alternative drinking water shall be supplied to the private well owners' residence from a bottled water distributor agreed upon by the private well owner and the Permittee, at no cost to the private well owner. The amount to be provided will be the amount requested by the private well owner, but shall not exceed 40 gallons per week. The Permittee agrees to provide the alternative water source until perchlorate levels within the well being replaced are below 14 micrograms per liter.
[A.A.C. R18-8-264.A (40 CFR 264.101) and A.A.C. R18-8-270.A, M, N, and O (40 CFR 270.32)]

D. GENERAL CORRECTIVE ACTION REQUIREMENTS

1. Record Keeping

As stated in Permit Condition I.E.9 (Monitoring and Records), all raw data, such as laboratory reports, drilling logs, bench-scale or pilot-scale data, and other supporting information gathered or generated during activities undertaken pursuant to this CASOC shall be maintained at the facility, or alternate location specified in the Permit, during the term of this Permit.

2. Reporting, Notifications and Submittals

- (a) The Permittee shall submit to the Director signed monthly progress reports of all activities (i.e., SWMU Assessment, Interim Corrective Measures, RCRA

Facility Investigation, Corrective Measures Study, Corrective Measures Implementation) conducted pursuant to the provisions of this CASOC, These reports shall contain:

- (i) A description of the work completed;
 - (ii) Summaries of all findings, including summaries of laboratory data;
 - (iii) Summaries of all problems or potential problems encountered during the reporting period and actions taken to correct the problems; and
 - (iv) Projected work for the next reporting period with a detailed schedule for this work.
- (b) Copies of other reports (e.g., inspection reports), drilling logs and laboratory data shall be made available to the Director upon request.
- (c) The Director may require the Permittee to conduct new or more extensive assessments, investigations, or studies, as needed, based on information provided in these progress reports or other supporting information. These assessments, investigations or studies may be required following review of the Permittee's Corrective Measures Study Workplan (see IV.I.3), or Corrective Measures Study Report (see IV.I.6), or Corrective Measures Implementation Program Plan (See IV.K), which will be submitted as Class 1 Permit Modification requests requiring the Director approval (subject to appeal, see Condition I.C.1.(b) of this Permit).
- (d) The Permittee shall ensure that all plans, reports, notifications, and other submissions to the Director required by this Permit are signed, certified, and submitted in accordance with Permit Condition I.E.10 (Signatory and Certification Requirements), and other applicable conditions. Technical work submitted to the Director shall be stamped by a professional Geologist and/or Engineer, as appropriate, registered in the State of Arizona.

3. Contamination that has Migrated Beyond the Facility Boundary

The Permittee shall implement corrective actions beyond the Facility boundary where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the Director that, despite the Permittee's best efforts, as determined by the Director, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the Facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for completion of off-site corrective action will be required. Any determination by the Director requiring the Permittee to address such releases, including any associated financial responsibility requirements, will be made as a Permit Modification request, requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit).

4. Quality Assurance and Control

When performing Corrective Action, the Permittee shall meet the minimum requirements below for any sampling and sample testing:

(a) Sample Collection and Management

A sampling plan submitted by the Permittee shall include all elements of EPA SW-846, and A.A.C.R18-8-260 et seq. (40 CFR Part 260, et seq.), not limited to:

- (i) Specifying the sampler and sampler procedure for use;
- (ii) Specifying sampling points based on a statistical basis, logic, and strategy;
- (iii) Trip blanks, duplicates, spikes, splits, and other field control samples; and
- (iv) Sample management procedures for the field notebook, collection form, preservatives and capping, and other chain-of-custody components.

(b) Laboratory Analysis and Chain-of-Custody

Throughout all sample analysis activities, the Permittee shall ensure the use of Director-approved quality assurance, quality control, and chain-of-custody procedures

In addition, the Permittee shall:

- (i) Inform the Director's Project Coordinator which laboratories will be used by the Permittee.
- (ii) Ensure that all laboratories used by the Permittee for its analyses participate in a quality assurance/quality control program equivalent to that described in EPA SW-846. As part of such a program, and upon request by the Director, such laboratories shall perform analyses of a reasonable number of known samples provided by the Director to demonstrate the quality of the analytical data.
- (iii) Ensure that the laboratory used is licensed by the Arizona Department of Health Services (ADHS) to perform the specific analyses for the specific analyte(s) of concern.

(c) Evaluation of Sampling Data

The Permittee shall ensure that sampling plans contain provisions for review of all field and laboratory QA/QC notes and results, and shall use EPA SW-846 to evaluate all data developed in compliance with this Permit. Sampling plans must demonstrate the use of representative samples and must

include parameters sufficient to identify migration of hazardous waste, hazardous constituents, and perchlorate to the environment.

5. Project Coordinator

Within fifteen (15) calendar days of the effective date of this Permit, the Permittee shall designate a Project Coordinator and shall notify ADEQ in writing of the Project Coordinator it has selected. The Permittee's Project Coordinator shall be responsible for overseeing the implementing of corrective action at the Facility in accordance with this CASOC and for designating a person to act in his/her absence. ADEQ will also designate a Project Coordinator. All communications between the Permittee and ADEQ, and all documents, reports, approvals, and other correspondence concerning the activities performed pursuant to this Permit shall be directed through the Project Coordinators. The Permittee must provide at least seven (7) calendar days written notice to ADEQ prior to changing the Project Coordinator.

E. **NOTIFICATION AND ASSESSMENT OF NEWLY IDENTIFIED SWMU(s) OR AOC(s)**

1. Notification of Newly Identified SWMU(s) or AOC(s)

The Permittee shall notify the Director in writing of any newly identified SWMUs or AOCs (i.e., a unit not specifically identified during the RFA), discovered during the course of the groundwater monitoring, field investigations, environmental audits, or other means, no later than fifteen (15) calendar days after its discovery. The notification shall include, at a minimum, the location of the SWMU or AOC and all available information pertaining to the nature of the release (e.g., media affected, hazardous constituents and perchlorate released, magnitude of release).

2. Request for SWMU Assessment Plan

After such notification, the Director may require in writing, that the Permittee prepare a SWMU Assessment Plan and a proposed schedule of implementation and completion of the SWMU Assessment Plan for any additional SWMU(s) or AOC(s) discovered subsequent to the issuance of this Permit. This plan will be submitted as a Class 1 Permit Modification request requiring the Director approval (subject to appeal, see Condition I.C.1.(b) of this Permit).

3. Content and Submittal of SWMU Assessment Plan

Within sixty (60) calendar days after receipt of the Director's request for a SWMU Assessment Plan, the Permittee shall prepare and submit a SWMU Assessment Plan for determining past and present operations at the unit, as well as any sampling and analysis of groundwater, land surface and subsurface strata, and surface water or air, as necessary to determine whether a release of hazardous waste including hazardous constituents and perchlorate from such unit(s) occurred, is likely to have occurred, or

is likely to occur. The SWMU Assessment Plan must demonstrate that the sampling and analysis program, if applicable, is capable of yielding representative sampling and must include parameters sufficient to identify migration of hazardous waste including hazardous constituents and perchlorate from the newly discovered SWMU(s) to the environment.

4. Review and Approval or Disapproval of SWMU Assessment Plan

After the Permittee submits the SWMU Assessment Plan, the Director shall either approve or disapprove the plan in writing. If the Director disapproves of the SWMU Assessment Plan, the Director shall either:

- (a) Notify the Permittee in writing of the SWMU Assessment Plan deficiencies and specify a due date for submittal of a revised SWMU Assessment Plan, or
- (b) Revise the SWMU Assessment Plan and notify the Permittee of the revisions. The Director-revised SWMU Assessment Plan becomes the approved SWMU Assessment Plan, and constitutes the approval of the Class 1 Permit Modification request specified in Condition E.2, above (subject to appeal, see Condition I.C.1.(b) of this Permit).
- (c) The approved SWMU Assessment Plan shall be incorporated into Permit Attachment H (CASOC - Approved Workplans and Reports).

5. Implementation of the SWMU Assessment Plan

The Permittee shall implement the SWMU Assessment Plan within fifteen (15) calendar days of receiving written approval.

6. Content and Submittal of SWMU Assessment Report (SAR)

The Permittee shall submit a SWMU Assessment Report (SAR) to the Director no later than thirty (30) calendar days from completion of work specified in the approved SWMU Assessment Plan. The Report will be submitted as Class 1 Permit Modification request, requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit). The SAR shall describe all results obtained from the implementation of the approved SWMU Assessment Plan. At a minimum, the SAR shall provide the following information for each newly identified SWMU:

- (a) The location of the newly identified SWMU in relation to other SWMUs;
- (b) The type and function of the unit;
- (c) The general dimensions, capacities, and structural description of the unit, including any available drawings;
- (d) The period during which the unit was operated;

- (e) The specifics on all wastes that have been or are being managed at the SWMU, to the extent available; and
- (f) The results of any sampling and analysis required for the purpose of determining whether releases of hazardous waste including hazardous constituents and perchlorate have occurred, are occurring, or are likely to occur from the unit.

7. SAR Approval and Determination of Further RFI Action

- (a) Based on the results of the SAR, the Director shall determine the need for further investigations at specified unit(s) covered in the SWMU Assessment, and may require the Permittee to prepare an RFI Work Plan for such investigations. If the Director determines that investigations are needed, the Director shall incorporate his determination into the SAR approval. The SAR and SAR Approval shall constitute approval of the Permittee's Class 1 Permit Modification request. The final approved SAR shall then be incorporated into Permit Attachment H (CASOC - Approved Workplans and Reports).
- (b) The RFI Work Plan described in Condition IV.E.7.(a) will be reviewed for approval pursuant to Condition H (RCRA Facility Investigation Work Plan and Report), as specified by the Director. The RFI Work Plan will be submitted to the Director as a Class 1 Permit Modification request, requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit).

F. NEWLY DISCOVERED RELEASES AND THREATS TO HEALTH AND THE ENVIRONMENT

1. Notification Requirements

The Permittee shall notify the Director, in writing, of any release(s) of hazardous waste, including hazardous constituents and perchlorate, from its historic or current operations, discovered during the course of groundwater monitoring, field investigation, environmental auditing, or other activities undertaken after commencement of the RFI, no later than fifteen (15) calendar days after their discovery. Such newly discovered releases may be from newly identified units, from units for which, based on the findings of the RFA, the Director had previously determined that no further investigation was necessary, or from units investigated as part of RFI.

In the event the Permittee identifies a current and/or potential threat to human health or the environment, the Permittee shall immediately notify the Director orally, and in writing within seven (7) calendar days, summarizing immediacy and magnitude of these threats.

2. Interim Measures for Current or Potential Threats

Within forty-five (45) calendar days of notifying the Director, the Permittee shall submit to the Director an Interim Measures (IM) Work Plan, pursuant to Condition IV.G of this Permit (Interim Measures) that identifies interim measures which mitigate this threat and are consistent with, and integrated into, any long term solution at the facility. The Work Plan shall be submitted as a Class 1 request, requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit). The approved IM Work Plan constitutes approval of the Permit Modification request. The approved IM Work Plan shall be incorporated into Permit Attachment H (CASOC – Approved Workplans and Reports).

3. Further Investigations

The Director may require further investigation of newly identified release(s). A plan for such investigation will be submitted by the Permittee as a Class 1 Permit Modification request, requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit). The Plan shall be reviewed pursuant to Condition IV.H (RCRA Facility Investigation Work Plan and Report) of this Permit.

G. INTERIM MEASURES

1. Determination that Interim Measures are Needed

If during the course of any activity initiated under this CASOC, the Director or Permittee determines that a release or potential release of hazardous waste, including hazardous constituents and perchlorate from a SWMU poses an actual, imminent, or potential threat to human health or the environment, the Director and Permittee may determine that interim measures are necessary. Interim stabilization measures consistent with final remedy may be deployed during ongoing investigations. The following factors should be considered in this determination:

- (a) Time required to develop and implement a final remedy;
- (b) Actual and potential exposure to the environment (e.g., animals, ecosystems) and/or human receptors;
- (c) Actual and potential contamination of drinking water supplies and sensitive ecosystems;
- (d) Potential for further degradation of the medium absent interim measures;
- (e) Presence of hazardous waste in containers that may pose a threat of release;
- (f) Presence and concentration of hazardous waste (including hazardous constituents and perchlorate, in soils having potential to migrate to ground or surface water);

- (g) Weather conditions that may affect the current levels of contamination;
- (h) Risks of fire, explosions, or accident; and
- (i) Other situations that may pose threats to human health and the environment.

2. Specifying Interim Measures and Actions

- (a) When it is determined that interim measures are needed, an Interim Measures (IM) Work Plan shall be developed that will include, but not be limited to, the following elements:
 - (i) What interim measures need to be taken;
 - (ii) Specific action(s) that must be taken to implement the interim measure;
 - (iii) Schedule for their implementation; and
 - (iv) Parameters or measurements by which to judge the completion of the measures.
- (b) Either the Director or the Permittee shall develop the IM Work Plan as follows:
 - (i) The Director may notify the Permittee in writing of the need to perform specific interim measures. If the Permittee concurs, the Permittee shall begin to implement the interim actions within fifteen (15) calendar days after receiving notification. Interim Measures do not require a public comment period until the measures are incorporated into the Corrective Measures Study (CMS) Work Plan and Report Described in Condition IV.I of this Permit.
 - (ii) The Director may notify the Permittee in writing that the Permittee is required to develop an IM Work Plan. In this event, the Permittee shall submit the IM Work Plan within thirty (30) calendar days after request. The IM Work Plan shall be submitted as a Class 1 Permit Modification request, requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit).

3. Review and Approval or Disapproval of IM Work Plan

After the Permittee submits the IM work plan, the Director shall either approve or disapprove the IM Work Plan in writing. If the Director disapproves the IM Work Plan, the Director shall either:

- (a) Notify the Permittee in writing of the IM Work Plan's deficiencies and specify a due date for submittal of a revised Plan, or
- (b) Revise the IM Work Plan (this revised Work Plan becomes the approved IM Work Plan) and notify the Permittee of the revisions. The approved IM Work

Plan constitutes approval of the Class 1 Permit Modification request specified in Condition IV.G.2.(b)(ii). The final approved IM Work Plan shall then be incorporated into Permit Attachment H (CASOC – Approved Workplans and Reports).

4. Implementation of the IM Work Plan

The Permittee shall implement interim actions within fifteen (15) calendar days after receiving approval or notification of any revisions requested by the Director.

H. RCRA FACILITY INVESTIGATION (RFI) WORK PLAN AND REPORTS

1. Submittal of RFI Work Plan

The Permittee has submitted an RFI Work Plan as described in Permit Condition IV.B (Summary of Previous Corrective Action Activities). Additional RFI Work Plans may be required by the Director in the future to address updated information (e.g., newly-identified SWMUs) needed to determine potential or actual impacts on human health and the environment.

2. Content and Submittal of RFI Work Plan

Within sixty (60) days after receiving a request from the Director, the Permittee shall submit a complete RFI Work Plan to the Director. The RFI Work Plan shall be submitted as a Class 1 Permit Modification request, requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit). The Work Plan shall address in detail SWMUs, releases of hazardous waste, hazardous constituents, perchlorate, and media of concern which require further investigations.

- (a) The Work Plan shall describe the objectives of the investigation and the overall technical and analytical approach to completing all actions necessary to characterize the nature, direction, rate, movement, and concentration of releases of hazardous waste (including hazardous constituents and perchlorate) from specific units or groups of units, and their actual or potential receptors. The Work Plan shall detail all proposed activities and procedures to be conducted at the facility, the schedule for implementation and completing such investigations, the qualifications of personnel performing or directing the investigations, including contractor personnel, and the overall management of the RFI.
- (b) The Plan shall discuss sampling and data collection quality assurance and data management procedures listed in Condition D.4 of this Permit Part (Quality Assurance and Control), including formats for documenting and tracking data and other results of investigation, and health and safety procedures.

3. Review and Approval or Disapproval of RFI Work Plan

The Director shall review the RFI Work Plan for proper content and those RFI Work Plan elements applicable to the facility. After review, the Director will either approve or disapprove the RFI Work Plan in writing. If the Director disapproves the RFI Work Plan, the Director shall either:

- (a) Notify the Permittee in writing of the RFI Work Plan's deficiencies and specify a due date for submittal of a revised RFI Work Plan; or
- (b) Revise the RFI Work Plan and notify the Permittee of the revisions. This modified RFI Work Plan becomes the approved RFI Work Plan and constitutes approval of the Class 1 Permit Modification request in IV.H.2 (subject to appeal, see Condition I.C.1.(b) of this Permit).

The Director shall also review for approval as part of the RFI Work Plan any plans developed addressing further investigations of newly identified SWMUs (Condition F of this Permit Part).

If approved, the RFI Workplan will be incorporated into Permit Attachment H (CASOC – Approved Workplans and Reports). If the Director approves the RFI Workplan, the Permittee shall, within ninety (90) calendar days of receipt of approval, send a Class 1 Permit Modification notice to all individuals on the facility mailing list maintained by the Director in accordance with R18-8-270.A and 270.I(c)(1)(ix) and (x) [40 CFR 124.10(c)(1)(ix) and (x)]. The notice shall include a summary of the approved RFI Workplan and describe the change made to Permit Attachment H (CASOC – Approved Workplans and Reports).

4. Implementation of RFI Work Plan

No later than thirty (30) calendar days after the Permittee has received written approval from the Director for the RFI Work Plan, the Permittee shall begin implementing the RCRA Facility Investigation according to the schedules and procedures specified in the RFI Work Plan.

5. Content and Submittal of RFI Final Report

Within sixty (60) calendar days after the completion of the RFI Work Plan or other schedule approved by the Director, the Permittee shall submit:

(a) RFI Final Report

The RFI Final Report shall be submitted as a Class 1 Permit Modification request, requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit). The RFI Final Report shall describe the procedures, methods, and results of all facility investigations of SWMUs and their releases, including information on the type and extent of contamination at the

facility, sources and migration pathways, and actual or potential receptors. The RFI Final Report shall present all information gathered under the approved RFI Work Plan. The RFI Final Report must contain adequate information to support further corrective action decisions at the facility.

(b) Determination of No Further Actions with Modification

Based on the results of the RFI and other relevant information, the Permittee may submit an RFI-based determination of No Further Action with a proposed Class 3 Permit Modification request to the Director requesting termination of any Corrective Action required. The NFA determination and proposed Class 3 Permit Modification (subject to appeal, see Condition I.C.1(b) of this Permit), will be processed pursuant to requirements of Permit Parts I.C.1 and I.H) must contain information demonstrating that there are no releases of hazardous wastes, hazardous constituents, and perchlorate, from SWMUs at the facility that pose a threat to human health and the environment. It must also include information required in R18-8-270.A (40 CFR 270.42(c), which incorporates by reference 40 CFR 270.13 through 270.21, 270.62, and 270.63), and state if:

- (i) Contamination is found to be non-existent;
- (ii) Contaminant levels and subsequent risks are less than background levels (i.e. levels are naturally occurring);
- (iii) Contamination results from releases originating from outside the facility or from a source not related to the Permittee's historic operations or current remediation efforts at the site;
- (iv) Groundwater is neither a current or potential source of drinking water, impacts potentially vulnerable Class I groundwaters, nor is potentially usable for other human purposes;
- (v) Contamination is located adjacent to industrialized, non-residential areas.

6. Review and Approval or Disapproval of RFI Final Report

The Director shall review the RFI Final Report submittal (including the NFA Determination, if applicable), and either approve or disapprove the Report.

- (a) If the Director disapproves the Report, the Director shall notify the Permittee in writing of the Report's deficiencies and specify a due date for submittal of the revised Report.
- (b) RFI Final Report without NFA Determination: If the Director approves the Report, the approval constitutes approval of the Permit Modification request of Condition IV.H.5(a) (subject to appeal, see Condition I.C.1.(b) of this Permit). The Permittee shall, within ninety (90) calendar days of receipt of approval, send a Class 1 Permit Modification notice to all individuals on the

facility mailing list maintained by the Director in accordance with A.A.C. R18-8-271.A and 271.I(c)(1)(ix) and (x) [40 CFR 124.10(c)(1)(ix) and (x)]. The notice shall include a summary of the approved RFI Final Report and describe the change made to Permit Attachment H (CASOC – Approved Workplans and Reports).

- (c) RFI Final Report with NFA Determination: If, based upon review of the Permittee's NFA determination and proposed Class 3 Permit Modification request, the results of the RFI, and other information (including comments received during the public comment period), the Director determines that releases or suspected releases which were investigated either are non-existent or do not pose a threat to human health and the environment, the Director may grant the requested modification (subject to appeal, see Condition I.C.1.(b) of this Permit). However, the NFA approval does not preclude the Director from initiating other modifications to the CASOC according to procedures in 40 CFR 270.41 (Director-initiated Permit Modifications, and subject to appeal, see Condition I.C.1.(b)) that may rescind the determination or require the Permittee to perform:
 - (i) Continued or periodic monitoring of air, soil, groundwater, or surface water, when site-specific circumstances indicate that releases of hazardous wastes (including hazardous constituents and perchlorate) are likely to occur, if necessary to protect human health and the environment;
 - (ii) Further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates a release or likelihood of a release from a SWMU is likely to pose a threat to human health or the environment.

Upon approval of the RFI Final Report with NFA Determination and Class 3 Permit Modification request, the RFI Final Report and NFA Determination will be incorporated into Permit Attachment H (CASOC – Approved Workplans and Reports).

I. CORRECTIVE MEASURES STUDY

1. Call-in of the Corrective Measures Study

- (a) For existing SWMUs: Within forty-five (45) calendar days after the Director's written approval of the RFI Report required by Condition IV.C.8, (reviewed and approved in accordance with Condition IV.H), the Permittee shall submit a CMS Workplan and Class 1 Permit Modification request requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit) in accordance with Condition IV.I.2, below.

- (b) For newly-identified SWMUs: If the Director has reason to believe, after review of the RFI Final Report, that a SWMU has released concentrations of hazardous constituents and perchlorate in excess of any action level, or determines that contaminations present at levels below those action levels pose a threat to human health and the environment given site specific exposure conditions, the Director may require a Class 1 Permit Modification, for a Corrective Measures Study (CMS), and shall so notify the Permittee in writing.

2. Content and Submittal of the CMS Workplan

The Permittee shall submit a Class 1 Permit Modification request requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit) and CMS Workplan to the Director within forty-five (45) calendar days after notification of the requirement to conduct a CMS. The CMS Workplan shall provide the following information:

- (a) Description of general approach to investigate and evaluate potential remedies;
- (b) Definition of the overall study objectives;
- (c) The specific plans and factors for evaluating remedies to ensure compliance with remedy standards, as stated in Permit Condition IV.J (Remedy Selection);
- (d) The schedules for conducting the study; and
- (e) Proposed format for presentation of the information.

3. Review and Approval or Disapproval of CMS Workplan

The Director shall review the CMS Workplan to ensure it contains all necessary contents.

- (a) If the Director disapproves the CMS Workplan, the Director shall either:
 - (i) Notify the Permittee in writing of the Workplan's deficiencies and specify a due date for submittal of a revised Workplan, or
 - (ii) Revise the CMS Workplan and notify the Permittee of the revisions. This modified CMS Workplan becomes the approved CMS Workplan, and the approval to the Permit Modification request specified in Condition IV.I.2).
- (b) If the Director approves the CMS Workplan, the Permittee shall, within ninety (90) calendar days of receipt of approval, send a Class 1 Permit Modification notice to all individuals on the facility mailing list maintained

by the Director in accordance with R18-8-270.A and 270.I(c)(1)(ix) and (x) [40 CFR 124.10(c)(1)(ix) and (x)]. The notice shall include a summary of the approved CMS Workplan and describe the change made to Permit Attachment H (CASOC – Approved Workplans and Reports).

4. Implementation of CMS Workplan

The Permittee shall implement the CMS Workplan no later than fifteen (15) calendar days after the Permittee has received written approval from the Director for the CMS Workplan. The CMS shall be conducted in accordance with the approved CMS Workplan.

5. Content and Submittal of CMS Report

No later than March 15, 2012 (see Condition IV.C.9), the Permittee shall submit a Class 1 Permit Modification request requiring the Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit) and the CMS Report. (For newly-discovered SWMU's, the Permit Modification request and CMS Report shall be submitted within sixty (60) calendar days after the completion of the CMS tasks). The CMS Report must contain adequate information to support the Director in the remedy selection decision-making process and shall include, at a minimum:

- (a) A summary of results of investigations, and any bench-scale or pilot tests conducted for each remedy studied;
- (b) A description and evaluation of each remedial alternative which passed through the initial screening of corrective measure technologies;
- (c) All information gathered under the approved CMS Plan with Performance standards streamlined;
- (d) The recommended corrective measure(s), and a justification for selection of the corrective measure(s) recommended.

6. Review and Approval or Disapproval of CMS Report and Remedy

The Director shall approve, approve with modifications, or disapprove the CMS Report and will advise the Permittee of the determination in writing. The Director shall select the remedy according to Condition J (Remedy Selection) of this Permit Part. In all cases, the Director may require the Permittee to evaluate additional remedies or particular elements of the proposed remedies.

- (a) If the Director disapproves the CMS Report, the Director shall notify the Permittee in writing of deficiencies in the CMS Report and specify a due date for submittal of a revised draft CMS Report.

- (b) If the Director approves or approves with modifications (subject to appeal, see Condition I.C.1.(b) of this Permit), the CMS Report, the approved CMS Report constitutes approval of the Permit Modification request of Condition I.5). The CMS Report will be incorporated into Permit Attachment H (CASOC – Approved Workplans and Reports). If the Director approves the CMS Report, the Permittee shall, within ninety (90) calendar days of receipt of approval, send the Class 1 Permit Modification notice to all individuals on the facility mailing list maintained by the Director in accordance with R18-8-270.A and 270.I(c)(1)(ix) and (x) [40 CFR 124.10(c)(1)(ix) and (x)]. The notice shall include a summary of the approved CMS Report and describe the change made to Permit Attachment H (CASOC – Approved Workplans and Reports).
- (c) Within forty-five (45) calendar days of receipt of the Director's approval, or approval with modifications, of the proposed corrective measure(s), the Permittee shall submit a corrective Measures Implementation (CMI) Program Plan for the remedy selected pursuant to Permit Condition IV.K (Corrective Measures Implementation).

J. REMEDY SELECTION

1. Remedy Standards

Based on results of the CMS and any further evaluations of additional remedies, the Director shall select a remedy from the remedial alternatives evaluated in the CMS that will protect human health and the environment; meet the concentration levels of hazardous constituents and perchlorate in each medium that the remedy must achieve to be protective of human health and the environment; control the course(s) of release(s) so as to reduce or eliminate, to the maximum extent practicable, further releases that might pose a threat to human health and the environment; and meet all applicable waste management requirements.

The Director's selection of a remedy is subject to appeal, see Condition I.C.1.(b) of this Permit. Should the Permittee exercise its right to appeal the Director's selection of a remedy, all further obligations regarding the implementation of a remedy are stayed until such a time as the administrative appeal has concluded and the Director has issued a final decision accepting, rejecting, or accepting with modifications the Administrative Law Judge's decision (see A.R.S. §41-1092.08).

2. Technical Evaluation Factors of Remedy

In approving the recommended remedy(s) which meets the standards for remedies established above, the Director shall consider the following evaluation factors, as appropriate:

- (a) Long-term reliability and effectiveness

To establish the degree of certainty that the remedy will prove successful, evaluate the:

- Magnitude of residual risks in terms of amounts and concentrations of waste remaining following remedy implementation, considering the persistence, toxicity, mobility and propensity to bio-accumulate of such hazardous wastes including hazardous constituents and perchlorate;
- Type and degree of long-term management required, including monitoring, operation and maintenance;
- Exposure potential of humans and environmental receptors to remaining wastes, considering potential threats to human health/environment associated with excavation, transportation, re-disposal or containment;
- Long-term reliability of the engineering and institutional controls, including uncertainties associated with land disposal of untreated wastes and residuals;
- Potential need for replacement of the remedy.

(b) Reduction of toxicity, mobility, and volume

The degree to which a potential remedy employs treatment that reduces toxicity, mobility, or volume of hazardous wastes (including hazardous constituents and perchlorate) that shall be considered include:

- The treatment processes the remedy(s) employs and materials it would treat;
- Amount of hazardous wastes (including hazardous constituents and perchlorate) that would be destroyed or treated;
- The degree to which the treatment is irreversible; and
- The residuals that will remain following treatment, considering the persistence, toxicity, mobility and propensity to bio-accumulate of such hazardous wastes (including hazardous constituents and perchlorate).

(c) Short-term effectiveness.

Assess potential remedy(s) for short-term effectiveness considering:

- Magnitude of reduction of existing risks;

- Short-term risks that might be posed on the community, workers, or environment during implementation of such remedy, including potential threats to human health and the environment associated with excavation, transportation, re-disposal or containment; and
- Time until full protection is achieved.

(d) Implementability.

The ease or difficulty of implementing a potential remedy(s) may be assessed by considering the following types of factors:

- Degree of difficulty associated with constructing the technology;
- Expected operational reliability of the technologies;
- Need to coordinate/obtain necessary approvals and permits from other agencies;
- Availability of necessary equipment and specialists; and
- Available capacity, location of needed treatment, storage and disposal services.

(e) Cost.

The types of costs assessed include:

- Capital, and Operation and Maintenance costs;
- Net present value of capital and operation and maintenance costs; and
- Potential future remedial action costs.

K. CORRECTIVE MEASURES IMPLEMENTATION (CMI) PROGRAM PLAN

1. Content and Submittal of CMI Program Plan

Within forty-five (45) calendar days after receipt of the Director's Remedy Selection, the Permittee shall submit a Class 1 Permit Modification request, requiring Director's approval (subject to appeal, see Condition I.C.1.(b) of this Permit) and a draft Corrective Measures Implementation (CMI) Program Plan. All corrective action requirements of 40 CFR 264.99(h) and 264.100 shall be addressed, not limited to:

- (a) Details of specific remedies (i.e. remove-and-treat or treat-in-place) to be taken which achieve compliance with the standards, and a description of remedy's technical features that are necessary to achieve the standards, not limited to:
 - (i) Requirements for quality sampling and analysis; including a plan for CMI groundwater monitoring that demonstrates an effective post-closure compliance or assessment monitoring program;
 - (ii) Requirements for removal, decontamination, closure, or post-closure of units, equipment, devices or structures used to implement remedy;
 - (iii) Requirements for achieving compliance with concentration limits and levels;
- (b) Basic standards including, but not limited to:
 - (i) List of hazardous constituents and perchlorate;
 - (ii) All concentration levels or limits of hazardous constituents and perchlorate in each medium (i.e. soil, groundwater) that the remedy must achieve to protect human health and environment;
 - (iii) Compliance points and compliance period;
 - (iv) Management of hazardous waste.
- (c) A schedule for initiating and completing all major technical features and milestones of remedy, and required length of Corrective Actions taken, including when CMI groundwater monitoring is initiated in lieu of post-closure groundwater compliance or assessment monitoring;
- (d) Requirements for submission of semi-annual reports, other information, and modifications if above regulations cannot be met.

2. Review and Approval or Disapproval of CMI Program Plan

The Director shall approve, approve with modifications, or disapprove the draft CMI Plan and will advise the Permittee of its determination in writing.

- (a) If the Director disapproves of the CMI Program Plan, the Director shall notify the Permittee in writing of deficiencies in the CMI Program Plan and specify a due date for submittal of a revised CMI Program Plan.
- (b) If the Director approves (or approves with modifications) the CMI Program Plan, the CMI Program Plan will be incorporated into Permit Attachment H (CASOC – Approved Workplans and Reports). If the Director approves the CMI Program Plan, the Permittee shall, within ninety (90) calendar days of receipt of approval, send the Class 1 Permit Modification notice to all individuals on the facility mailing list maintained by the Director in accordance with R18-8-270.A and 270.I(c)(1)(ix) and (x) [40 CFR

124.10(c)(1)(ix) and (x)]. The notice shall include a summary of the approved CMI Program Plan and describe the change made to Permit Attachment H (CASOC – Approved Workplans and Reports). The Director's approval of the CMI Program Plan constitutes approval of the Permit Modification request.

- (c) Within forty-five (45) calendar days of receipt of Director's approval, or approval with modifications, of the proposed corrective measure(s), the Permittee shall submit to the Director a final CMI Program Plan consistent with the Director's written notification.

3. Implementation of CMI Program Plan

No later than fifteen (15) calendar days after the Permittee has received written approval from the Director for the CMI Program Plan, the Permittee shall begin to implement the CMI Program Plan according to the schedules and procedures specified in the CMI Program Plan.