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FW Sustainability Annual Report.txt

From: [REDACTED] CIV USA IMCOM
Sent: Wednesday, April 30, 2008 2:39 PM
To: [REDACTED] J Ms CTR USA
Subject: FW: Sustainability Annual Report

Attachments: 2007_25 Year Goals.ppt

Is this what you're looking for??

-----Original Message-----

From: [REDACTED] CIV USA IMCOM
Sent: Thursday, November 15, 2007 5:21 PM
To: [REDACTED] CIV USA IMCOM
Cc: [REDACTED] CIV USA IMCOM
Subject: RE: Sustainability Annual Report

Good Morning [REDACTED]

In the upcoming Annual Report you will see that we have revisited our sustainability goals and have condensed them down to 8 goals, which I have attached. This review exercise was at the direction of our Garrison Commander and the Chair of our Installation Sustainability Board (BG Troy), to ensure that our goals were realistic, relevant and measurable.

A quick rundown of that review follows:

Air Goals:

Goal #2 (Reduce air pollutants from training without a reduction in training activity), has been removed for two reasons, one -- we lost the one Chemical unit that was responsible for providing chemical obscourants and so no longer had a smoke issue, and two, even if we did, finding an environmentally friendly obscourant was far away from our ability to influence. The two remaining air goals were combined, as were the remaining water goals. The remaining two goals were combined into one goal.

Water Goals:

Goal #12 (Develop an effective regional aquifer and watershed management program by 2012) is completed, and so came off the list. Goal #11 (Fort Lewis contributes no pollutants to groundwater and has remediated all contaminated groundwater by 2025) came off the list, as we have remediation in place and it is more a matter of time to allow these efforts to remove the contaminants. Water conservation and water reuse are mutually supportive and so the other two water goals have been combined into one goal -- (Treat all wastewaters to Class A reclaim standards by 2025 to conserve water resources and improve Puget Sound water quality)

Infrastructure (Sustainable Communities)Goal:

The Energy/Infrastructure team has split into two distinct entities. The Infrastructure Team has been renamed and is now the Sustainable Communities Team. Goal #5 (All facilities adhere to the LEED platinum standard for sustainable facilities by 2025), was really not feasible with decisions regarding LEED construction, funding, concerns about loss of scope and a lack of support for certifying our LEED construction being outside of our ability to control. In the meantime, our Planning Division began work on a new master plan. The new master plan will develop sustainable communities that densify our communities, build walkable neighborhoods, make mass transit feasible, etc. Now LEED buildings at whatever level the Army is allowing will be part of a bigger effort that is more encompassing and effective to influencing how we live and work. So goal #5 has been totally replaced.

Energy Goal:

The energy team has added an additional goal and now has 2, (Reduce total energy consumption by 30% by 2015 and sustain all activities on post using renewable energy

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sources and generate all electricity on post by 2025).

Products and Materials goal remains the same, and the Sustainable Training Lands goals remain essentially the same with some minor rewording on one of them.

Probably more than you were looking for, but take a moment and look over the attached ppt slide- it has all 8 goals on it. We are currently revisiting the associated metrics and will have those available soon, I hope.

[REDACTED]
-----Original Message-----
From: [REDACTED] CIV USA IMCOM
Sent: Thursday, November 15, 2007 5:55 AM
To: [REDACTED] L CIV USA IMCOM
Subject: RE: Sustainability Annual Report

Thanks [REDACTED]

I'm aware of one of the changes - to recycle reuse 95% of the wastewater (I think I got that right). Have there been any other significant changes in the goals?

Joe

-----Original Message-----
From: [REDACTED] L CIV USA IMCOM
Sent: Wednesday, November 14, 2007 7:48 PM
To: [REDACTED] CIV USA IMCOM
Subject: RE: Sustainability Annual Report

[REDACTED]
We try to publish these each spring, but were overcome by other events this year and got a bit delayed. This next edition, is our 5 Year Anniversary edition, and we hope to have it finalized and staffed for distribution in January.

[REDACTED]
[REDACTED] Ev Pgm Mgr
Installation Sustainability Coord
Environmental Div, Fort Lewis Public Works
[REDACTED]

Rate our service at
http://ice.disa.mil/index.cfm?fa=service_provider_list&site_id=348&service_category_id=5

-----Original Message-----
From: [REDACTED] CIV USA IMCOM
Sent: Wednesday, November 14, 2007 6:41 AM
To: [REDACTED] L CIV USA IMCOM
Subject: Sustainability Annual Report

[REDACTED]
Do you have a copy of the 2006-2007 annual report. I went to the Fort Lewis public website and found the one from 05-06 which I already have but not for the current year. I though these were published each spring.

Thanks
[REDACTED]

Environmental Engineer - Public Works Division

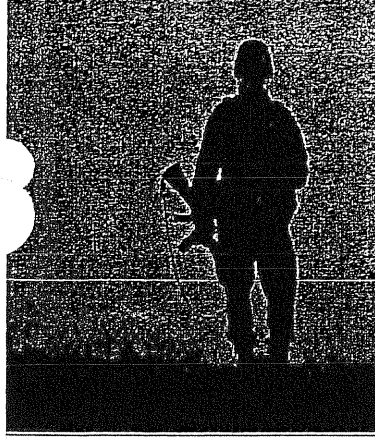
Installation Management Command - West Region

IMWE-PWD-E

PHONE [REDACTED]

DSN [REDACTED]

FAX: [REDACTED]



SUSTAINABLE FORT LEWIS

2005 – 2006 Annual Progress Report

The Installation Sustainability Program is pleased to present this Annual Report to our friends and stakeholders. This publication provides you an update on our activities since our last annual report was published in April 2005.

THE GOALS SET IN FEBRUARY 2002:

1. Reduce traffic congestion and air emissions by 85% by 2025
2. Reduce air pollutants from training without a reduction in training activity
3. Reduce stationary source air emissions by 85% by 2025
4. Sustain all activities on post using renewable energy sources and generate all electricity on post by 2025
5. All facilities adhere to the LEED™ Platinum standard for sustainable facilities by 2025
6. Cycle all material use to achieve ZERO net waste by 2025
7. Attain healthy, resilient Fort Lewis and regional lands that support training, ecosystem, cultural and economic values by 2025
8. Recover all listed and candidate federal species in South Puget Sound Region
9. Zero discharge of wastewaters to Puget Sound by 2025
10. Reduce Fort Lewis potable water consumption by 75% by 2025
11. Fort Lewis contributes no pollutants to groundwater and has remediated all contaminated groundwater by 2025
12. Develop an effective regional aquifer and watershed management program by 2012—COMPLETED

INSIDE

Stories

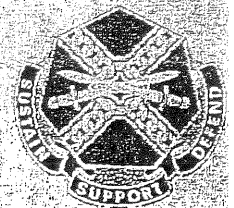
EMS update	2
WMSP goals identified	2
Post joins EPA Performance Track	2
Sustainability video highlights Fort Lewis	3
Alternatives to demolitions workshop	4
Forestry Program recertified	4
The program in the spotlight	10

ISP Team Updates

Air Quality	5
— Title V permit waived	
Energy/Infrastructure	6
— Sustainable features improve energy savings	
Products and Materials	7
— Expanding recycling and reuse	
Sustainable Training Lands	8
— Army Compatible Use Buffer approved	
Water Resources	9
— Successful program boosts clean-up efforts	

FORT LEWIS SUSTAINABILITY VISION STATEMENT

Fort Lewis is committed to supporting a strong national defense, securing the integrity of our natural and cultural heritage, and conserving our natural resources for tomorrow's generations, while seeking choices that enhance our neighboring communities' abilities to have a productive future.



Leading the Way

Environmental Management System takes shape

Fort Lewis met both Army and DOD metrics to comply with Executive Order 3148, "Greening the Government Through Leadership in Environmental Management" by 2005.

The installation accomplished self-declaration of its Environmental Management System (EMS) having met all six implementation metrics required by the Department of Defense (DOD).

The DOD metrics were developed to help installations guide progress and measure performance during implementation of their Environmental Management Systems. They include creating a policy statement, conducting a self-assessment, creating an implementation plan, creating a prioritized list of environmental aspects, conducting EMS awareness training, and completing a management review.

By self-declaring its EMS, Fort Lewis affirms that it has established a comprehensive framework for managing environmental programs and is prepared and working to expand its EMS among all agencies on the installation to reach full conformance to ISO 14001 standards by the September 2009 deadline.

Self-declaration was achieved by using a phased approach beginning with establishing an EMS in Garrison Directorates. Phase two is currently underway and focuses on bringing all resident units into conformance. Directorates, resident organizations and tactical units are expected to be in full conformance well ahead of the September 2009 deadline.

Sustainability partnership identifies joint goals

The Washington Military Sustainability Partnership (WMSP) remains committed to the mission of developing sustainable military operations among installations in Washington State.

The primary focus of the WMSP is to preserve the military's ability to train in support of its National Defense mission while managing resources in a manner that meets our present needs as well as future mission, community and environmental requirements.

In September 2005, a WMSP working group examined the goals of each organization and collaboratively developed five joint goals:

- 1: Enhance military readiness
- 2: Promote and support the continual improvement of military assets through innovation
- 3: Minimize energy consumption and utilize 100% renewable energy sources by 2040
- 4: Sustainable use of resources
- 5: Foster a sustainable ethic

With a solid framework for progress now fully established, WMSP is moving ahead with the development of the Joint Sustainability Implementation Plan (JSIP). The JSIP outlines the collaborative strategies for achieving the joint sustainability goals and identifies six potential projects that support those goals.

Potential projects include establishing a contracting strategy to support the procurement of environmentally friendly products and services; developing a regional solid waste and recycling center; and assessing military joint training capabilities at support comprehensive military training while addressing both environmental and community concerns.

Together, these projects would enhance communications, incorporate sustainable principles and planning into daily operations, and ensure efficient use of resources across military services.

Post Earns EPA Performance Track Membership

Fort Lewis personnel celebrated a major milestone in their environmental stewardship efforts when the installation was designated an EPA National Environmental Performance Track Program effective August 2005.

As the first Army installation to be accepted into the program, Fort Lewis joined more than 350 members nationwide including 10 Department of Defense facilities in their commitment to improve environmental performance.

The National Performance Track is a voluntary program designed to benefit facilities that consistently exceed regulatory requirements, work closely with their communities and excel in protecting the environment and public health.

The main benefit to Fort Lewis is access to regulatory flexibility, including the extension of the on-site hazardous waste accumulation period from 90 to 180 days, which will save more than \$100,000 annually. In addition, Fort Lewis will no longer need to renew EPA Part A/B permit applications to store hazardous waste over 90 days, saving another \$200,000.

These savings mean taxpayer money can now be diverted from compliance-based operations to activities that improve the long-term viability of the installation and its surrounding neighborhood.

Changes at Fort Lewis have been transparent because the installation has consistently met the program's requirements of proven regulatory compliance, a robust Environmental Management System, a history of top achievement and commitment for continuous improvement and a mechanism for public outreach.

Reaching Out and Sharing Resources

Fort Lewis featured in the Army's first Sustainability video

Less than one year after the Army unveiled its new Strategy for the Environment, the Office of the Assistant Chief of Staff for Installation Management (ACSIM) commissioned the production of a training video to assist Army leaders with sharing the concept of Installation Sustainability with Soldiers, civilians and family members.

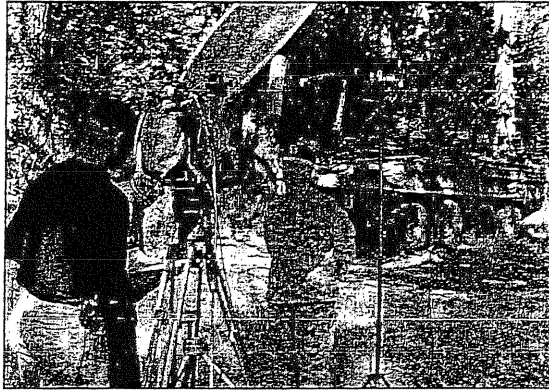
The Army's first Sustainability video titled, "Leadership: Sustain the Mission, Secure the Future"

was released in Spring 2006. It includes interviews with Army leaders and three case studies focusing on the Stryker family of vehicles, ordnance weapon systems, and facilities and infrastructure.

Fort Lewis, one of three installations featured in the video, was selected based on its leadership in Sustainability, Environmental Management Systems, and its reputation as the Stryker Brigade Center of Excellence. Anniston Army Depot, Ala. and Fort Indiantown Gap, Pa. are also featured.

In September 2005, representatives from the Office of the Director of Environmental Programs, the US Army Environmental Center and a production crew, arrived at Fort Lewis to shoot footage of the installation's many sustainability initiatives and to conduct interviews.

The group, along with Fort Lewis' environmental staff, spent months planning the script and production schedule to the finest detail. As a result, execution was

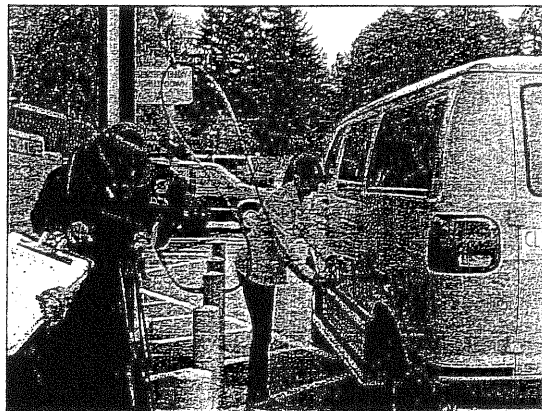


MG Collins, Deputy Commanding General/Chief of Staff, emphasizes the importance of Army leaders, Soldiers, family members and civilians in sustainability planning.

timely and efficient, and the production crew captured extensive footage of projects and initiatives relating to all five teams of the Fort Lewis Installation Sustainability Program. Because Fort Lewis is bursting with activity that reflects the Army's triple bottom line of sustainability: Mission, Community and Environment, numerous sites were selected for filming. They include: barracks construction featuring Leadership in Energy and Environmental De-

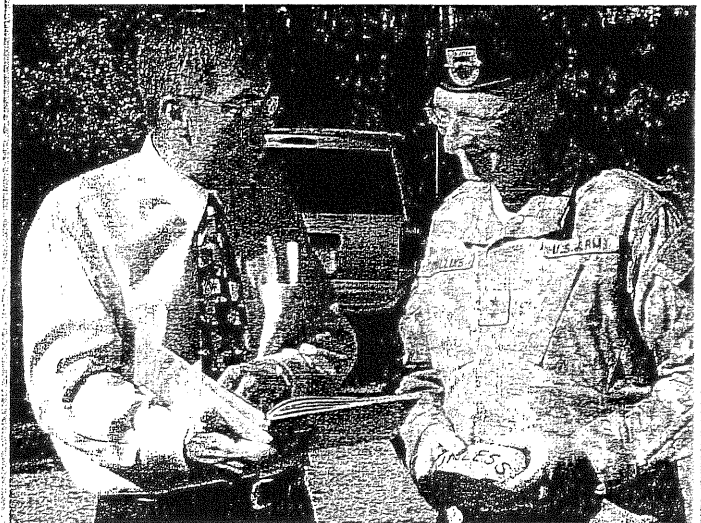
sign (LEED™) standards; Model Motor Pool; biodiesel, CNG, and E-85 alternate fueling stations; Sequalitchew Creek EcoPark and Earthworks; native prairies and ranges; the wastewater treatment plant and Sustainable Interiors Showroom; historical buildings, new family housing, the commissary and Hillside Elementary School on post.

The crew also filmed Stryker vehicle training with two Stryker Brigade Combat Teams— 2nd Cavalry Regiment at Yakima Training Center and 3rd Brigade, 2nd Infantry Division on Fort Lewis ranges. The video can be viewed by webstreaming from the Army Sustainability website <http://www.sustainability.army.mil/news/newsStory06-03.cfm>.



Public Works employee, Marnie Holder, brings her GSA vehicle to the CNG gas station on Fort Lewis for refueling.
Photo By: Brendalyn Carpenter

The Installation Sustainability Program Bids Farewell ...



During the filming of the Army Sustainability video, the Director of Public Works, Mr. Steve Perrenot, presented a memento on behalf of the Installation Sustainability Program to MG (R) James Collins, Deputy Commanding General /Chief of Staff, in recognition of his superb leadership as the Installation Sustainability Board Chairman from 2003-2005.

Expanding the Network and Improving Processes

Fort Lewis explores alternatives to demolition

...the saying "out with the old and in with the new" is used frequently, but do we ever think about what happens to the old things?

The Army has been thinking about what will happen with the 26 million tons of construction and demolition (C&D) debris that is expected to be generated from installations over the next 15 years as old facilities are torn down to make room for new buildings. They have strategically planned a sustainability program that takes into account the mission, environment and the community.

Fort Lewis is leading the way with the entire installation now fully integrated into a sustainability goal of zero net waste by 2025. The Seattle District's Corps of Engineers has directly teamed with Fort Lewis Public Works to help with this new approach to building removal.

On Oct. 11, Fort Lewis and the Seattle District hosted an Alternatives-to-Demolition open house. They were joined by employees from the U.S. Army Construction and Engineering Research Laboratory and Army Environmental Center. The goal of the open house was to begin giving contractors the tools and education they need to achieve the rates of diversion required by the new initiative.

One issue identified by the team early on



Participants at the open house examine a vintage light fixture located in a building slated for demolition at Fort Lewis.

Photo by Elizabeth Chien

was that this alternative building removal approach to demolition was very different than the traditional demolition practices employed by the contractors. The contractors were requesting information regarding how to achieve these new contract diversion levels. So an additional step that this team has taken has been to facilitate a series of educational video conferences, meetings and an alternative building removal open

house," said Elizabeth Chien, environmental engineer at the Seattle District.

Contractors will be required to meet different specifications than previous projects they have worked on. For example, every piece of material that leaves the site is required to be weighed, tracked and documented. The contractor is allowed to salvage, resell, reuse and recycle building material and keep the profits. There is also a built-in dollar incentive for the contractor to achieve more than 50 percent diversion.

Ken Smith, chief of Environmental Operations Branch at Fort Lewis Public Works, feels that this initiative will ultimately reduce the cost of operations and will have a positive affect on the environment.

"This change in business practice will allow us to manage what was once just a waste as a resource. The partnership Seattle District and Fort Lewis formed to change traditional crush and haul demolition practices is unprecedented," Smith said.

There are plans to have other open houses throughout the next year to focus on other aspects of alternatives to demolition program. — *Ashlee Richie, Seattle District, US Army Corps of Engineers*

Sustainable Forest earns recertification and revenue for local communities

Fort Lewis earned recertification of its sustainable forests in October, after a successful audit by Smartwood, a certifying organization of the Forest Stewardship Council.

The Forest Stewardship Council (FSC) is a non-profit organization that promotes sustainable forestry and wood product chain-of-custody certification worldwide.

Certification represents public recognition of Fort Lewis' progressive forestry operations, which emphasize "light-touch" timber harvests that enhance, rather than diminish, biodiversity, ecological restoration of oak and pine woodlands, and regular use of prescribed fire.

The Fort Lewis Forestry Program was first certified as a sustainable forest in April 2002—the first federally owned forest in the United States to achieve certification. However, the installation began implementing sustainable business practices long before that date.

Fort Lewis stopped using clear-cutting as a major forest management tool in the late 1980's. Most timber harvests today are light thinnings that are designed to leave the post-harvest forest more structurally diverse (e.g. variety of tree sizes, gaps in the forest canopy, well-developed shrub layers) than the pre-harvest forest.

Certification requires the Forestry Program to adhere to FSC principles and criteria that relate to conservation of natural resources such as vegetation, wildlife, soils and water during timber harvest; protection of unique areas such as old-growth forests; and economic and non-economic contributions to local community welfare.

Tree thinnings are conducted throughout the year through timber sales. In 2005, Fort Lewis timber sales generated more than \$5 million in revenue. Nearly \$ 1.5 million of that was donated to Pierce, Thurston, and Clark counties for public schools and road maintenance.

Title V Air Operating Permit waived



The Air Quality Team's aggressive and innovative initiatives produced a major benefit to the installation this year.

In July 2005, the Puget Sound Clean Air Agency (PSCAA) Board of

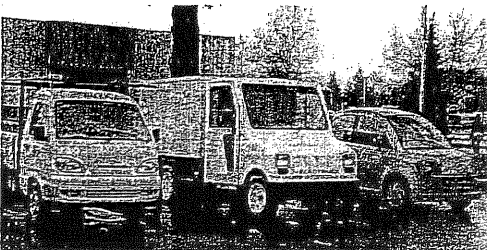
Directors unanimously approved General Regulatory Order No. 9185, which allows Fort Lewis to manage air emissions as a synthetic minor rather than a major source of air emissions.

Title V Air Operating Permits cost Fort Lewis an additional \$30,000 to \$40,000 per year to maintain and required mandatory self-reporting of any permit violations.

This new management system gives Fort Lewis the flexibility to resolve compliance issues internally as well as streamline their documentation process so that operators can do their primary mission more effectively. The installation is still required to monitor and maintain emissions data, which is subject to inspection by the PSCAA at any time.

The Air Quality Team has taken a proactive approach instituting sustainable operations designed to go beyond compliance with regulations. Members are constantly looking for innovative ways to reduce emissions, such as converting boilers from using heavy, high-sulfur fuel oil as a back-up heating fuel to using light, clean burning, low-sulfur distillate fuel oil.

In addition, the switch to the use of chemical agent resistant coatings (CARC paint) containing low volatile organic compounds contributed to a significant decrease in air emissions.



Pictured above are three of the five types of NEV's driven on Fort Lewis

Other measures include education and outreach campaigns to curtail open burning, and increased usage of alternative fuel and neighborhood electric vehicles.

2005-2006 Highlights

REDUCE TRAFFIC-RELATED AIR EMISSIONS

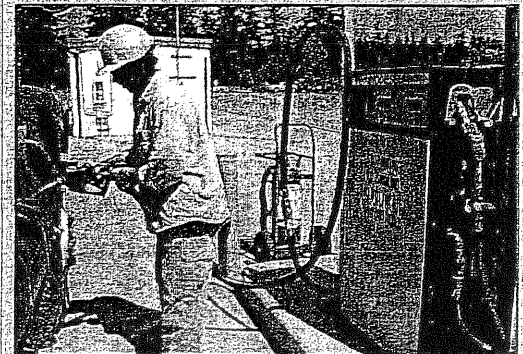
- * Increased percentage of alternate fuel/dual fuel vehicles in the on-installation GSA fleet to 40%

REDUCE TRAFFIC CONGESTION

- * Increased the post rideshare program to 19 vans and 190 participants; demand has exceeded the supply of vans from local transit agencies

REDUCE STATIONARY SOURCE AIR EMISSIONS

- * Transitioned seven boilers from #4 and #6 oils to a less-polluting #2 backup fuel oil. Seven transitions are complete; two additional boilers are pending funding to complete transition
- * Completed a feasibility study for landfill methane gas reuse; further research is required to determine the current and potential future landfill gas emissions



Fort Lewis personnel help reduce vehicle emissions by filling their GSA vehicles with alternative fuels—E85, Biodiesel, or CNG—which are available on post.

Objectives for 2006 - 2007

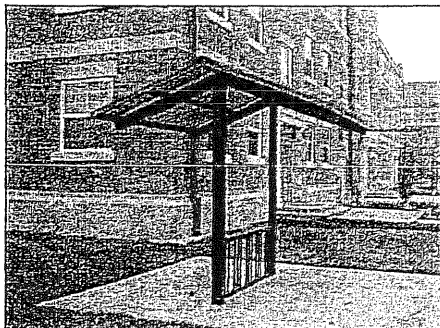
- * Complete a business plan to determine a course of action for the public/private use Alternative Fueling Station
- * Establish and implement a web page specifically for Fort Lewis personnel to learn about ridesharing and streamline registration
- Conduct a study to identify existing roads that could be dedicated to NEV, bicycle and pedestrian use only
- * Continue to replace conventional fueled vehicles with alternative fueled vehicles; increase the usage of alternative fuels

Sustainable features improve energy savings

Fort Lewis leads the Army by aggressively looking for ways to improve the economic, social, and environmental components of all current missions in an effort to achieve true sustainability.

A key component of this program is making the building environment more sustainable through the use of the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System.

LEED accredited professionals with the Seattle District, US Army Corps of Engineers (USACE) have integrated themselves into the construction process for the Fort Lewis Whole Barracks Renewal (WBR) Program to continuously improve implementation of sustainability features. They work closely with the construction phase product design teams to educate and assure



Covered bike shelters promote alternative forms of transportation

all LEED components are implemented during construction.

The FY04 Whole Barracks Renewal was the first at Fort Lewis to require independent verification of sustainable features through the LEED rating system. We are making consistent progress in building to LEED standards with the assistance from the Seattle District designers.

For example, the design build FY04 WBR project was able to

achieve a 5% energy savings over traditional construction; the FY05 WBR request for Proposal requires savings of 15%; and the recently completed Seattle District design for the FY06 WBR is projected to achieve more than 30% savings.

Increased performance comes from integrated design and challenging every design discipline to put forth and justify energy saving ideas early in the project.

As partners, Seattle District and Fort Lewis will continue to holistically improve the sustainability of the installation. The FY07 WBR Requests for Proposal will also be tailored to reduce energy use as well as meeting other Public Works sustainability goals and USACE Environmental Operating Principles.

We thank our partners from the Seattle District design team for their efforts in advancing LEED and sustainability in Fort Lewis construction projects.

2005-2006 Highlights

SUSTAIN ALL ACTIVITIES THROUGH RENEWABLE OR SELF-GENERATED ENERGY

- * Awarded the Department of Energy and Department of the Army 2005 Federal Energy Awards for energy efficiency and energy program management
- * In 2005, designed solar wall for a logistics warehouse as a market demonstration project; construction started in Jan 06 and was completed in April 06.
- * Continued energy conservation initiatives, including Direct Digital Controls and use of high efficiency condensing boilers throughout new construction
- * Purchased 10% green power

BUILD TO LEED™ STANDARDS

- * Rainwater harvesting cistern completed in major new barracks project; rainwater is currently being used to irrigate during the summer months and for flushing toilets throughout the year, which accounts for a significant reduction in potable water usage
- * Implemented a new database and tracking system to ensure LEED standards are considered in all new construction beginning with planning and throughout completion of the project; the database offers future planners a baseline for continuous improvement
- * Continued incorporating LEED principles into new project designs including ground source heat pumps, use of recycled materials, day lighting, lighting controls and under floor air distribution systems
- * Developed a comprehensive water conservation/irrigation plan to address sustainable watering practices; this is also part of the Water Resources team objectives

Objectives for 2006 - 2007

- * Reduce energy use by 2% in accordance with the Energy Policy Act of 2005
 - * Increase Fort Lewis' renewable electricity use by 5% through the use of Green Tags
 - * Harness the energy emitted from the Sequatchew Creek EcoPark (old Landfill #5); specifically, use the gas to produce electricity and to lower our electrical demand from the local utility
 - * Continue expanding Direct Digital Controls (DDCs) throughout Fort Lewis; DDCs allow remote access to building energy systems, enhancing monitoring and energy efficiency
- Initiate a hydro project to utilize potential energy at the waste water treatment plant (WWTP); the generated electricity will be used to minimize the WWTP's electricity demand from the local utility
- * Explore the possibility of wind energy generation at Fort Lewis and its subordinate commands

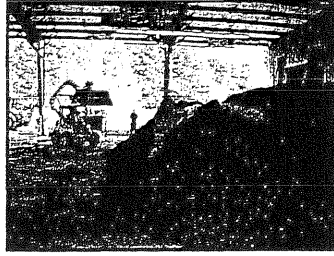
PRODUCTS AND MATERIAL MANAGEMENT TEAM-STRATEGIC GOAL 6

Team expands recycling and reuse activities

The Products and Material Team's efforts to "cycle all waste to achieve zero net waste by the year 2025," have resulted in numerous successful initiatives and projects in 2005.

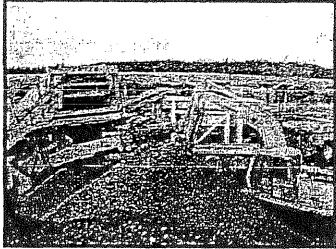
Composting

Fort Lewis is composting biosolids from the waste water treatment facility, wood waste, destructed classified document media, grass clippings, leaves and horse manure to create a soil amendment landscaping product.



Concrete and Asphalt

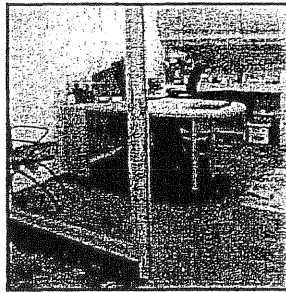
Over 9,100 tons of waste concrete and asphalt from construction projects were stockpiled at the Sequelitchew Creek Earthworks and crushed into aggregate replacement product that is now being reused for parking lot construction and road repairs.



This recycling activity results in approximately \$340,500 annual savings in disposal fees and the cost of purchasing similar material.

Sustainable Interiors Showroom (SIS)

Availability of the SIS resulted in the purchase of more than \$180,000 in recyclable and/or recycle content furnishings for several Fort Lewis units and facilities including the Soldiers Readiness Processing Site and Stone Education Center. Use of recyclable carpeting squares as replacement for existing non-recyclable floor covering is now an accepted business practice for most new projects.



At least 260,000 sq ft of recyclable carpeting was installed in 2005.

Illegal Dumping Investigator

Since April 2005, more than 1,250 illegal dump sites have been investigated and 97 have been cleaned at the owner's expense. Prevention of illegal dumping improves safety, limits disruptions to Soldier training, and reduces the post's \$350,000 annual waste clean-up costs.



2005-2006 Highlights

INTRODUCE ONLY CYCLABLE MATERIALS

- * Hosted tours of the Sustainable Interiors Showroom (SIS), a sustainable product demonstration site displaying flooring materials, office furniture, paint, and lighting from GSA vendors in the Hazardous Materials Control Center (HMCC) administrative area at building 9669

CRADLE-TO-CRADLE HM MANAGEMENT

- * Expansion of the Hazardous Materials Control Center delivery service continues. Service to customers has tripled over the past year totaling 265 customers and delivery of hazardous material products to 238 locations on Fort Lewis

REDUCE WASTE STREAM

- * Successfully completed a composting/bioremediation demonstration project
- * Participated in the National America Recycles 2005 campaign hosting a Fort Lewis Recycles Fair, tours of the Sequelitchew Creek EcoPark and Earthworks, tours of the Sustainable Interiors Showroom, and a recycling pledge card drive
- * Established new procedures to facilitate unit participation in aluminum can recycling programs. Units delivering aluminum cans to the Fort Lewis Recycle center earn revenue for their unit funds
- * Conducted a public awareness campaign to prevent illegal dumping including media coverage of the clean-up at illegal dumpsites, articles in local and regional newspapers, notices in post-wide media resources, and briefings at local community meetings

SEQUALTICHEW CREEK ECOPARK AND EARTHWORKS

- * Fort Lewis Fish and Wildlife Program supplied 1,600 native plants to landscape the EcoPark entrance; Fort Lewis' Boys Scout Troop 62, Public Works staff and others participated in a Saturday morning "planting party" in Fall 2005
- * Representatives from the Pierce County Master Gardeners and City of Tacoma TAGRO visited the EcoPark to explore future partnerships, resources and community outreach activities

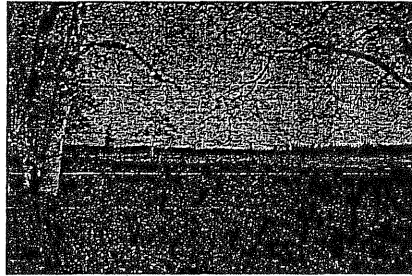
Objectives for 2006 - 2007

- * Open a new community recycling center. Develop and promote installation-wide Affirmative Procurement Program
- * Set up a Process Action Team on Green Procurement with appropriate contracting personnel
- Conduct a pilot study of lead-based paint removal from wooden buildings built during WWII. Field test equipment to remove and treat lead-based paint on-site as buildings are deconstructed allowing unlimited use of the wood materials
- * Establish policy and promote procurement of rechargeable batteries through the Hazardous Materials Control Center for use in communications and electronics equipment

Preserving Fort Lewis training lands

The Sustainable Training Lands Team spearheaded a proactive program to prevent a potential source of future major restrictions on Fort Lewis training—the listing, under the Endangered Species Act, of four prairie dependent species which currently occur on Fort Lewis.

In October 2005, the Assistant Chief of Staff for Installation Management formally approved the inclusion of Fort Lewis in the Army Compatible Use Buffer (ACUB) program.



Oak trees with prairie grassland

The Fort Lewis Project under the ACUB program is a cooperative effort between Fort Lewis, The Nature Conservancy (TNC), and the Washington State Departments of Natural Resources (WDNR) and Fish and Wildlife (WDFW).

Under the ACUB program, Fort Lewis can manage additional prairie land in the southern Puget Lowlands acquired by private land conservation groups; restore native prairie on these lands and other, already protected prairies; and begin reintroduction of the four listed candidate species: the Mardon skipper and Taylor's checkerspot, the streaked horned lark, and the Mazama pocket gopher.

In May 2006, the US Army Environmental Center received \$500,000 from the Office of the Secretary of Defense earmarked for the Fort Lewis project. Fort Lewis has prepared a cooperative agreement with the lead partner, TNC, to disburse the funds for habitat restoration and species reintroduction on ACUB land parcels. The agreement is awaiting Army and TNC approval.

TNC, with assistance from WDFW, and the US Fish and Wildlife Service, recently acquired a 127-acre prairie preserve adjacent to southern lower Weir Prairie. This property offers a nearly Scotch broom-free site that can be restored to native prairie, and it buffers a portion of the Rainier Training Area boundary from development.

Together, the ACUB program and the pending Candidate Conservation Agreement comprise a strong, proactive, regional effort to head off listing the four candidate species under the Endangered Species Act.

2005-2006 Highlights

ATTAIN FORT LEWIS AND REGIONAL LAND CONDITIONS

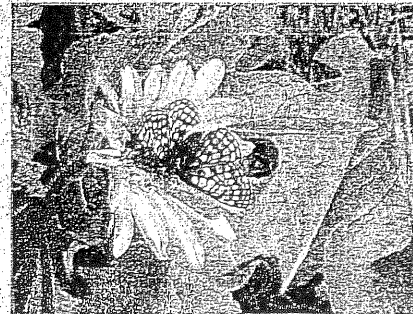
- * Established a regional brush and plant removal/replacement contract with the Seattle District Corps of Engineers in September. The contract assists Fort Lewis and regional partners in removal of Scotch broom, other invasive species and noxious weeds; it also allows for planting and/or hydroseeding of degraded training lands

IMPLEMENT MANAGEMENT PLANS

- * Continued to conduct a beta test of the Prairie Quality Ranking Protocol that was developed by Federal and State natural resource managers
- * Mowed, pulled or applied herbicide to 1581 acres of Scotch broom and other unwanted vegetation to enhance our training lands
- * Continued Integrated Training Area Management (ITAM) greenhouse program; native seeds were collected from Fort Lewis training lands and 32,400 native plant plugs were propagated
- * A total of 13,000 plugs were planted in Fall 2005 in Training Area 6 for decommissioning 1.1 miles of unneeded road
- * J. Herbert Stone Nursery, a Forestry Service nursery in Medford, OR, produced 45 pounds of Roemer's Fescue seed. The nursery started the native grass lots with seeds from Fort Lewis. Some of the seeds were used to drillseed 2.75 acres in Training Area 6 and some was used for plugs in the greenhouse

RECOVER LISTED AND CANDIDATE SPECIES

- * The Nature Conservancy and Fort Lewis ITAM are experimenting with growing and planting native species that are host plants for rare butterflies

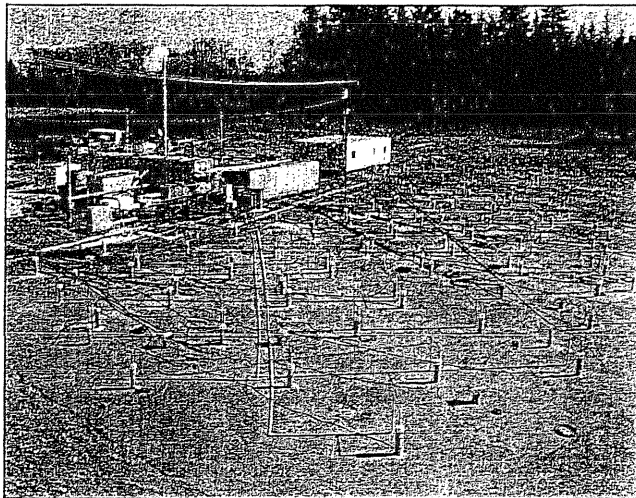


Taylor's Checkerspot Butterfly on a deltoid balsamroot

Objectives for 2006 - 2007

- * Develop a Cooperative Agreement between Fort Lewis and Washington State Department of Fish and Wildlife (WDFW) to allow a direct link for joint projects and plans
- Finalize the draft "A plan for the development of captive rearing and translocation methods for Taylor's checkerspot (*Euphydryas editha taylori*), in South Puget Sound, Washington"
- Participate in the Sequelitchew Creek EcoPark and Earthworks by simulating native prairie habitat on the earthen mounds, creating open forest and oak woodland landscapes, and creating wetland habitats

Award-winning program boosts clean-up efforts



An array of electrodes produce electrical resistance heating to remove contaminants from groundwater at the Logistics Center site.

The Fort Lewis Environmental Restoration Program (ERP) won both the FY05 Secretary of Army and the Secretary of Defense Awards for Environmental Restoration for work involving the cleanup of designated sites on Fort Lewis and Yakima Training Center. Their ongoing efforts contribute to our Water Resources sustainability initiatives.

The Water Resources Team is continually incorporating new ways to achieve sustainability goals. One of the Water Team's sustainability goals is to contribute no pollutants to groundwater and to remediate all contaminated groundwater by 2025.

Innovative technology employed under the ERP is allowing the Water Team to achieve a major target ahead of schedule—establishing a remedy in place for contaminated groundwater at the Logistics Center. The former industrial landfill received shipments of chlorinated solvents between 1940 and 1970 that eventually contaminated the groundwater underneath the site.

Under the ERP, an on-site electrical heating technology is being used to remove contaminants, recover and destroy the solvents and other hydrocarbons. This project has prevented future groundwater contamination and reduced the project clean-up timeline.

Its success is attributed to the ERP's new environmental management strategy, which has resulted in significant cost savings; increased performance in restoring land for military missions; improved ability to successfully employ innovative technologies for site investigation and cleanup; and improved community relations and regulator acceptance.

2005-2006 Highlights

ZERO DISCHARGE OF WASTEWATER

- * Preparing a plan for evaluating options for wastewater discharge and reuse

REDUCE POTABLE WATER CONSUMPTION

- * Completed a water conservation plan for pride areas for implementation in 2006
- * Implemented water conservation and storm water protection outreach plans in the Consumer Confidence Report (CCR)
- * Reclaimed water pipe (purple) has been incorporated into all new whole barracks renewal projects since FY2002, allowing reuse of rainwater for facility non-potable water needs; this is also part of the Energy and Infrastructure team's LEED standards

CONTRIBUTE NO POLLUTANTS & REMEDIATE CONTAMINATED GROUNDWATER

- * Completed main post heating oil tank inventory with new standards for above ground tanks; developing a database for oil tank inventory; the inventory process is on-going as tanks become available
- * Completed Phase II of the thermal remediation project at the Logistics Center
- * Installed/reconfigured East Gate Disposal Yard pump and treat system to improve remedy for Upper Vashon aquifer
- * Installed additional sea level aquifer monitoring wells
- * Obtained "no further action" determination on approximately 10 Fort Lewis Agreed Order sites

INTEGRATED PLANNING FOR WATER MANAGEMENT (#12)—ACHIEVED!

- * Fort Lewis continues to be an active participant on all pertinent watershed planning committees
- * In September, conducted a town hall meeting for Fort Lewis and surrounding communities to discuss the Murray Creek and Sequim Creek Watershed management plan

Objectives for 2006 - 2007

Complete Phase III of the Thermal Remediation Project at the Logistics Center

Complete the water reuse plan

- * Develop and implement a plan to promote public awareness of the need for water conservation measures

The Program in the Spotlight

Accomplishments:

The Fort Lewis Environment Restoration Program (ERP) received both the 2005 Secretary of the Army and the Department of Defense Awards for Environmental Restoration. The ERP used an innovative environmental management strategy to complete site investigation and remediation projects on Fort Lewis and its sub-installations. *Story on page 9*

Fort Lewis also received individual awards for Energy Program initiatives resulting in \$565,000 savings in energy conservation and operations and maintenance in FY 04:

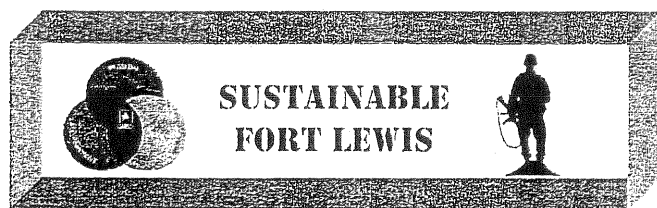
- * In August 2005, Fort Lewis was recognized at the Army Energy Forum with the **27th Annual Secretary of the Army Energy and Water Management Award**
- * In October 2005, The Department of Energy honored Fort Lewis with the **2005 Federal Energy and Water Management Award** for energy efficiency and energy program management
- * Energy Program highlights in 2005 are on page 6



Fort Lewis' sustainability initiatives have improved the installation's ability to consistently meet and/or exceed regulatory standards and has earned additional recognition from environmental and regulatory agencies:



- * August 2005, Fort Lewis was accepted into the Environmental Protection Agency's National Environmental Performance Track Program. As the first Army installation to be accepted into the program, Fort Lewis joined more than 350 members nationwide, including 10 Department of Defense facilities, in their commitment to improve environmental performance. *Story on page 2*
- * July 2005, the Puget Sound Clean Air Agency (PSCAA) Board of Directors unanimously approved a measure which allows Fort Lewis to manage air emissions as a synthetic minor rather than a major source of air emissions, eliminating Title V Air Operating Permit requirements. *Story on page 5*



For more information on the Fort Lewis Installation Sustainability Program, please contact:

Ms. Terry Austin, 253-966-6463 terry.austin1@us.army.mil
Ms. Lana Leiding, 253-966-6461 lana.leiding@us.army.mil
Ms. Brendalyn Carpenter, 253-966-1734 brendalyn.carpenter@us.army.mil
or visit www.lewis.army.mil/publicworks

Media Coverage:

The ISP and/or its individual programs were featured in radio, print and television media in Washington State and on the national level in the past year. Highlights include:

- * The Olympian newspaper featured a front page article and KING, KOMO, KIRO, and Northwest Cable News ran news briefs about Fall Clean up and our efforts to prevent illegal dumping in 2005.
- * The US Army Environmental Center Fall 2005 issue featured stories about several Fort Lewis Sustainability Initiatives — illegal dumping investigation, the Title V Air Operating Permit Waiver, native prairie conservation, and the Sequoia/Chew Creek EcoPark and Earthworks.
- * Fort Lewis' Alternatives to Demolition workshop was featured in the December 2005 issue of the Flagship, the US Army Corps of Engineers Seattle District newsletter, the article is reprinted on page 4.

Outreach:

The ISP team briefed several guests on our progress and future plans of the Installation Sustainability Program (ISP):

- * Senator Maria Cantwell, US Rep. Norm Dicks, and US Rep. Adam Smith received briefings about the ISP during regular visits to the installation.
- * Ms. Kathleen Drew, Washington State Executive Policy Advisor to Governor Christine Gregoire, was initially briefed on the Fort Lewis Sustainability initiatives during the September 2005 ISP team leaders meeting and continues her involvement through regular updates and subsequent visits.
- * A briefing to Mr. William D. Ruckelshaus, former Environmental Protection Agency Administrator and Mr. Jack Creighton, Civilian Aide to the Secretary of the Army, ended with affirmation to continue the road ahead. "What you're doing here is wonderful," said Mr. Ruckelshaus, "you're demonstrating how to run a military base in a sustainable way. I applaud you!"

The IPS team also conducted briefings and tours for several international delegations, all providing valuable information sharing and/or partnership opportunities.

Fort Lewis 25 Year Goals

(V2:2007)

Air Quality:

1. Reduce installation stationary source and non-tactical motor vehicle air emissions 85% by 2025

Energy

2. Reduce total energy consumption by 30% by 2015
3. Sustain all activities on post using renewable energy sources and generate all electricity on post by 2025

Sustainable Community

4. Create sustainable neighborhoods for a livable Fort Lewis community that enhances the Puget Sound Region

Products and Materials

5. Cycle all material use to achieve zero net waste by 2025

Sustainable Training Lands

6. Maintain the ability of Fort Lewis to meet its current and future military missions without compromising the integrity of natural and cultural resources, both on the installation and regionally
7. Recover all listed and candidate federal species in the South Puget Sound Region

Water Resources

8. Treat all wastewaters to Class A reclaim standards by 2025 to conserve water resources and improve Puget Sound water quality

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8. Treat all wastewaters to Class A reclaim standards by 2025 to conserve water resources and improve Puget Sound water quality

28

DECLARATION OF [REDACTED]

I, [REDACTED] hereby declare the following under penalty of perjury:

1. I am currently the Water Program Manager, Environmental Division, Public Works (PW), U.S. Army Garrison, Fort Lewis, Washington. I have been in this position since November 2005.

2. The Fort Lewis Waste Water Treatment Plant (WWTP) produces Class B biosolids which under Washington State law may be applied to the land under certain restrictions. Essentially they must be tested for metals, vector reduction and pathogen reduction. There is no requirement to test biosolids for TPH (Total Petroleum Hydrocarbons).

3. When I came to Fort Lewis, our method for disposing of biosolids was to send them to Fire Mountain Farms in Lewis County, Washington. Shortly after I arrived, I recommended that Fort Lewis maintain options for disposal but focus on composting to meet the installation's sustainability goals of reducing waste. Fort Lewis was starting up a large composting program, and I had hopes that this project could use the biosolids from the WWTP. Shortly thereafter, because of a contract dispute with Alkai over its failure to dewater some sludge in one of the WWTP's digesters, we began regularly testing for TPH in both the effluent and the biosolids.

4. We began testing the effluent for TPH on a monthly basis in August 2006 and continued until December 2007. We tested for both diesel and lube oil. All of the results were less than one part per million and about half of them were in the "non detect" range. On 27 November 2007, we informed the EPA that we would cease further effluent sampling of TPH as of 1 January 2008. The EPA did not object to this decision.

5. With respect to biosolids, historically, we had only tested them for metals, vector reduction and pathogen reduction prior to shipping them to a permitted reuse facility such as Fire Mountain Farms. There is no requirement to sample for TPH. Nevertheless, we began sampling TPH in June 2006 each time a drying bed is poured. The results have varied considerably from 1010 parts per million to a spike of 30,200 parts per million for the lube oil range. The average is 5926 parts per million. Tests of biosolids, that have been in the drying beds for a period of time, were considerably lower.

6. Since we stopped sending the biosolids to Fire Mountain Farms, they have been sent either to the Pierce County Landfill under a solid waste authorization issued by Tacoma Pierce County Health Department or to Earthworks, the Fort Lewis recycling center where they are converted into compost.

7. In September 2006, Fort Lewis contracted with the US Army Center for Health Promotion and Preventative Medicine (USACHPPM) to study the WWTP. The contract called for (1) an evaluation of the WWTP operations, (2) a review of the WWTP Standard Operating Procedures (SOP) and (3) development of a pretreatment program. The pretreatment portion of the contract was later terminated, and that work is now being done by CH2MHILL.

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8. The evaluation of WWTP operations resulted in a recommendation that Fort Lewis implement a pretreatment program, and the review of the SOPs resulted in a SOP Manual for the WWTP and a Laboratory Quality Assurance/Quality Control Manual. These manuals, dated August 2007, have been reviewed by the WWTP operators and have been placed at the WWTP for their use. Some of the SOPs have not yet been incorporated in the Public Works Environmental Management System (EMS).

9. In addition to the USACHPPM contract and the one awarded to CH2MHILL for pretreatment, a third contract was awarded to Malcolm Pirne to study the feasibility of treating all Fort Lewis wastewater to Class A reuse standards. One of the installation's 25 year sustainability goals is to treat All Wastewaters to Class A Reclaimed Standards to Conserve Water Resources and Improve Puget Sound Water Quality by 2025. Treating wastewater to Class A standards would allow the effluent to be used in a variety of ways including irrigation, street cleaning, dust control, sewer flushing and fire protection.

10. [REDACTED] evaluated the current water quality and the feasibility of (1) upgrading the existing plant, (2) building a new plant, (3) building satellite facilities and (4) a combination of upgrading the existing plant along with building satellite facilities. Upgrading the existing plant would require adding tertiary treatment. Primary treatment of wastewater consists of removing the solids. Secondary treatment degrades the biological content of the water, and tertiary treatment is a final stage that improves the effluent water quality, i.e. removes nutrients such as nitrogen and phosphorus. The existing WWTP provides only primary and secondary treatment plus disinfection. The [REDACTED] study was completed in December 2007; however, no action has been taken. We are currently awaiting the results of a fourth study, again by CH2MHILL, which is evaluating the feasibility of closing the WWTP and sending Fort Lewis wastewater to the Pierce County facility at Chambers Creek or having Pierce County construct and operate a new or upgraded facility at Solo Point, where the existing Fort Lewis WWTP is located. We expect the results of that study later this year.

11. Earlier this year, I received a call from Joe Stannuszek at the US Army Installation Management Command, just prior to his retirement. He asked me if I was aware that our December 2006 Discharge Monitoring Report (DMR) did not contain the results of a test for mercury. I was not aware of this fact, and upon further research I discovered that the sampling results we had received from the lab contracted to do the analysis did not contain a figure for mercury. JC Lancey who prepared the DMR apparently noticed it and footnoted the DMR but did not otherwise bring the issue to my attention. Consequently, no test result was obtained or provided in the January 2007 report as promised in the footnote. EPA apparently did not notice this either. Our results for mercury have traditionally been "non detect". For the pretreatment program, a standard method with a lower detection limit has been implemented which has resulted in very low concentrations of parts per trillion of mercury. By the time this error was brought to my attention, we had already provided mercury results for July and December 2007. I discussed this with my supervisor, and we decided that this was essentially water under the bridge and not of sufficient consequence to bring to EPA's attention.

01
[REDACTED]
[REDACTED]
[REDACTED]

7/1/2008

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REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON
BOX 339500, MAIL STOP 17
FORT LEWIS WASHINGTON 98433-9500

June 12, 2006

IMNW-LEW-PWE

EPA, Region 10
Attn: PCS Data Entry Team
1200 6th Ave, OW-133
Seattle, WA 98101

Subject: 2005 Infiltration and Inflow Annual Report for Permit No. WA-002195-4

To whom it concerns:

In accordance with the above referenced National Pollutant Discharge Elimination System permit, this is the 2005 annual Infiltration and Inflow (I&I) Report. This report summarizes measurable I&I at the treatment plant or by collection system meters for the calendar year 2005, and describes work in progress to reduce I&I into the sanitary collection system.

To analyze amounts of I&I from the collection system, a dry weather flow has been developed based on a rolling 5-year average of dry weather data. The months of June - September are used to calculate dry weather flow. Dry weather data is used from calendar years 2000 - 2005. Rainfall data is collected from the Air Force Weather Squadron stationed at Gray Army Airfield on Fort Lewis.

A dry weather flow of 984 million gallons is calculated for 2005. Any flows above this value are considered I&I for 2005. The total amount of I&I for 2005 was 148 million gallons or 13% of the total flow.

Analysis Summary: 2005 was a normal year for rainfall though the summer rainfall was slightly below average. Overall, I&I is decreasing when compared to previous years though during the heavy rains in December there were measurable increases in I&I flows. A data table and graph are attached showing raw data used to calculate I&I percentages and monitor effectiveness of the I&I program.

Status of Prevention Program: Fort Lewis Public Works is managing new construction projects to upgrade existing sewer lines for new construction. A project to slipline the main sewer line from the Logistics Center to Camp Murray is planned for fiscal year 2007.

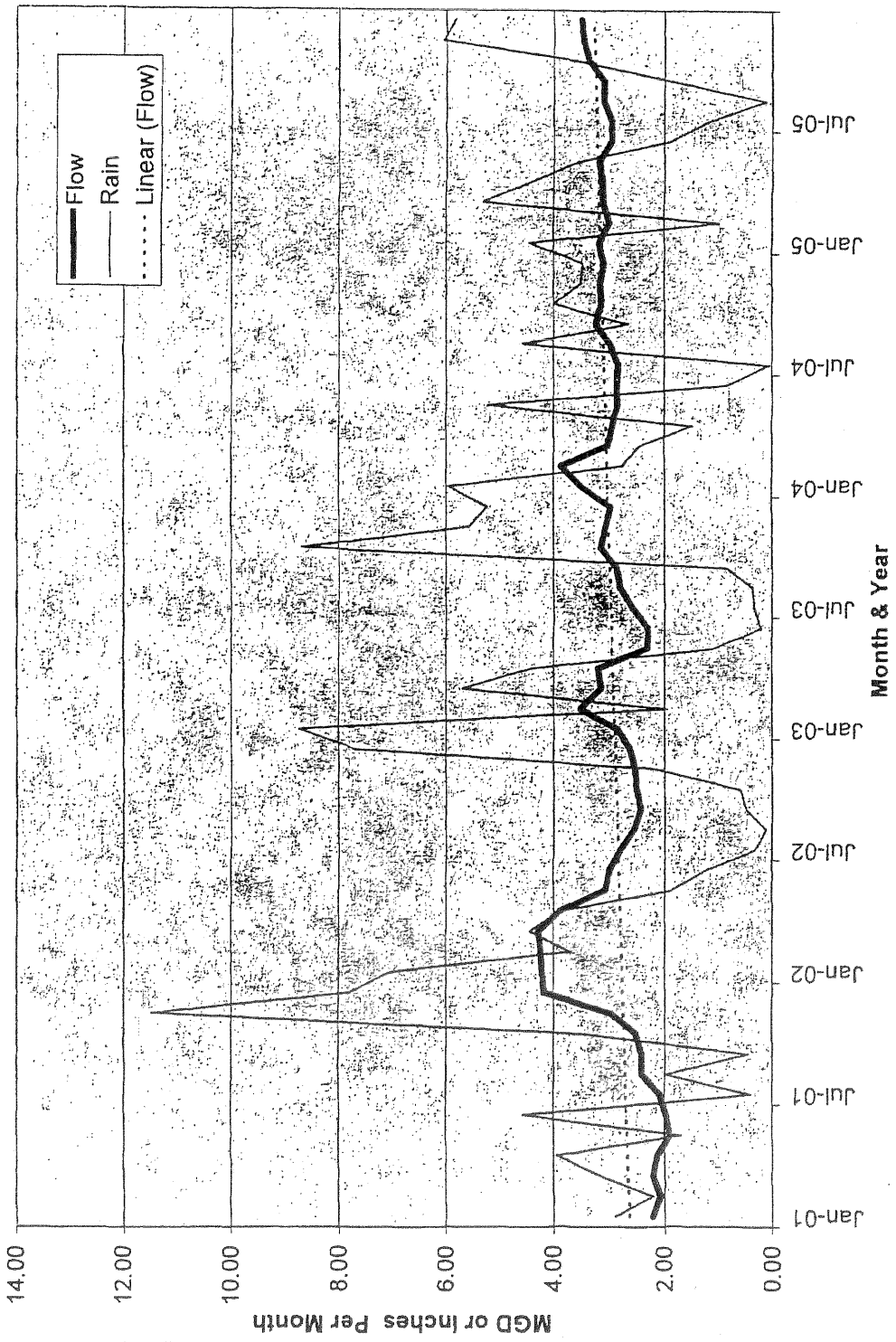
If you have questions about this report, please contact [REDACTED]

Sincerely,

[REDACTED]

enclosures

Fort Lewis WWTP Flow & Rain Data 2001-2005



Summary Table for Fort Lewis WWTP Flow and Rainfall

Month & Year	Flow 2000	Rain 2000	Flow 2001	Rain 2001	Flow 2002	Rain 2002	Flow 2003	Rain 2003	Flow 2004	Rain 2004	Flow 2005	Rain 2005
Jan	3.75	5.47	2.21	2.88	4.21	7.05	2.83	8.74	3.47	5.95	3.16	4.44
Feb	4.32	6.48	2.07	2.21	4.23	3.69	3.50	1.95	3.86	2.76	2.98	0.97
Mar	5.16	4.17	2.21	3.13	4.27	4.43	3.13	5.69	3.00	2.44	3.08	5.31
Apr	3.52	2.36	2.12	3.93	3.87	3.86	3.17	4.37	2.91	1.48	3.10	4.38
May	2.83	2.64	1.89	1.68	3.05	1.88	2.30	1.08	2.84	5.22	3.15	3.53
Jun	2.84	1.75	1.97	4.56	2.97	1.23	2.29	0.21	2.84	0.84	2.93	1.90
Jul	2.48	0.98	2.08	0.39	2.79	0.32	2.57	0.33	2.82	0.06	2.93	1.16
Aug	2.36	0.38	2.41	1.97	2.54	0.11	2.78	0.37	2.96	4.56	3.07	0.12
Sep	2.13	1.81	2.41	0.45	2.42	0.48	2.85	0.83	3.21	2.64	3.07	1.85
Oct	2.20	3.77	2.51	3.48	2.50	0.59	3.13	8.69	3.12	3.98	3.34	3.55
Nov	2.01	3.28	2.95	11.48	2.52	2.15	3.05	5.57	3.14	3.50	3.44	6.04
Dec	2.04	3.09	4.16	7.82	2.61	7.69	2.95	5.23	3.07	3.45	2.96	5.82
Annual Averages	2.97	3.02	2.42	3.67	3.16	2.79	2.88	3.59	3.10	3.07	3.10	3.26
Annual Totals	1084.05	36.18	881.78	43.98	1158.26	33.48	1050.37	43.06	1132.87	36.88	1131.89	39.07
Annual Dry Flow (MGD)	2.45		2.22		2.68		2.62		2.96		3.00	
Annual Wet Weather Rain (Inches)		26.26		31.00		25.60		35.87		22.08		26.13

Dry Weather Flow - Rolling Average

Parameter	Dry Flow Average 1995-1999	Dry Flow Average 1996-2000	Dry Flow Average 1997-2001	Dry Flow Average 1998-2002	Dry Flow Average 1999-2003	Dry Flow Average 2000-2004	Dry Flow Average 2001-2005
Avg MGD	2.92	2.69	2.49	2.72	2.55	2.68	2.70
Total MG	1067	982	908	994	931	978	984

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REPLY TO
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HEADQUARTERS, UNITED STATES ARMY GARRISON
BOX 339500, MAIL STOP 17
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June 12, 2007

IMWE-LEW-PWE

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To analyze amounts of I&I from the collection system, a dry weather flow has been developed based on a rolling 5-year average of dry weather data. The months of June - September are used to calculate dry weather flow. Dry weather data is used from calendar years 2002 - 2006. Rainfall data is collected from the Air Force Weather Squadron stationed at Gray Army Airfield on Fort Lewis.

A dry weather flow of 1039 million gallons is calculated for 2006. Any flows above this value are considered I&I for the year. The total amount of I&I for 2006 was 458 million gallons or 30.6% of the total flow.

Analysis Summary: Contrary to our past trend of reducing I&I flow, 2006 saw a significant increase from 2005. The calculated I&I flow rose from 14.3% to 31.6%. We believe one of the most significant contributing factor was that 2006 was an abnormally wet year in terms of recorded rainfall. The amount of rainfall was nearly 37.5% over past winter season rainfall data, while the annual rainfall data was a rise of approximately 49.3% over historical data. A data table and graph are attached showing raw data used to calculate I&I percentages and monitor effectiveness of the I&I program.

Status of Prevention Program: The Army Corps of Engineers is continuing to manage multimillion dollar new construction projects to upgrade existing sewer lines, as part of the Whole Barracks renewal projects in the North Fort, as well as Fort Lewis Public Works' programmed \$3.2 million dollars towards sliplining of problem main sewer lines planned for later this year.

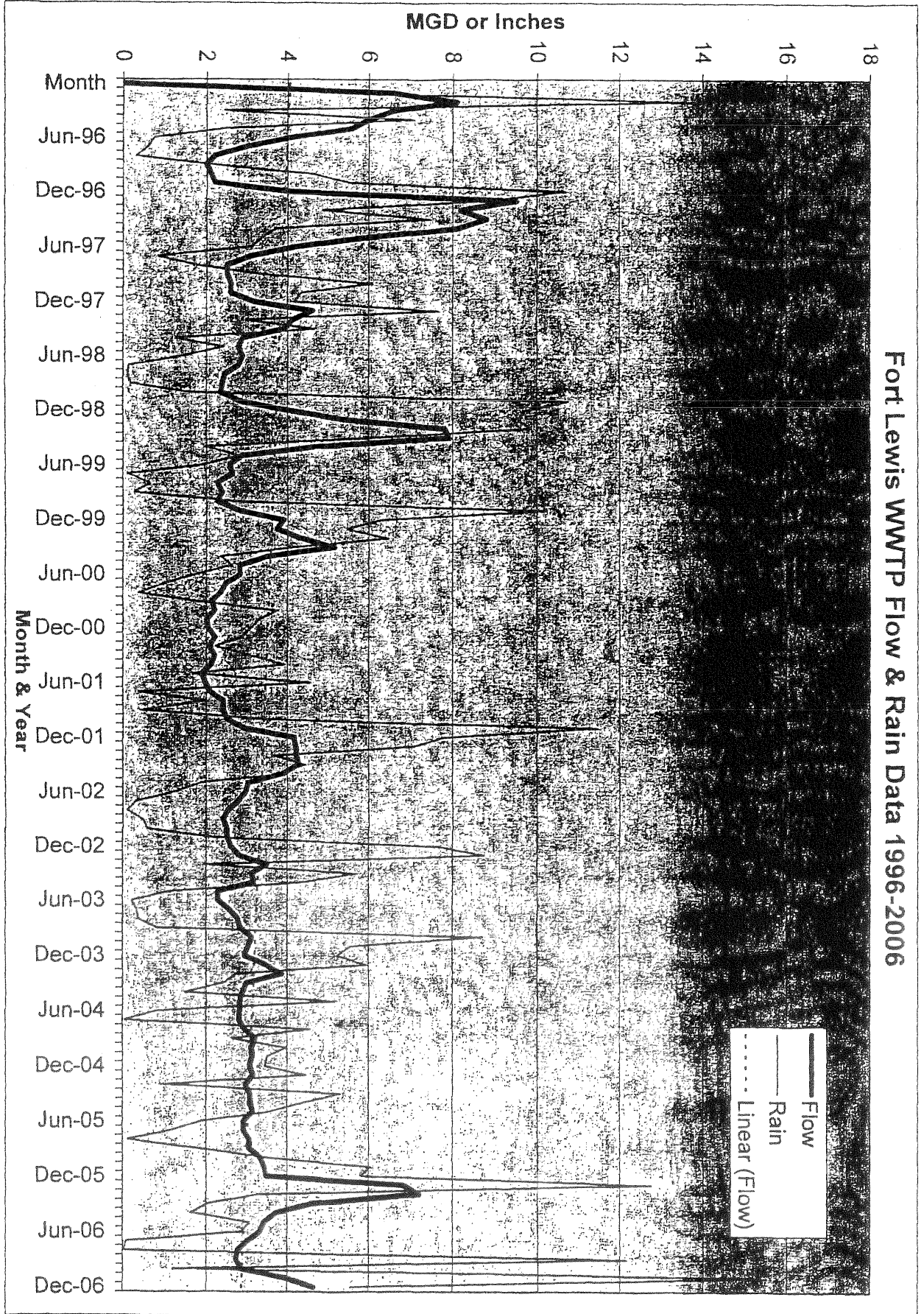
If you have questions about this report, please contact [REDACTED]

Sincerely,

[REDACTED SIGNATURE]

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Fort Lewis WWTP Flow & Rain Data 1996-2006



Summary Table for Fort Lewis WWTP Flow and Rainfall

Mon. Year	Flow 1999	Rain 1999	Flow 2000	Rain 2000	Flow 2001	Rain 2001	Flow 2002	Rain 2002	Flow 2003	Rain 2003	Flow 2004	Rain 2004	Flow 2005	Rain 2005	Flow 2006	Rain 2006
Jan	5.39	9.54	3.75	5.47	2.21	2.88	4.21	7.05	2.83	8.74	3.47	5.95	3.16	4.44	6.84	12.74
Feb	7.82	9.85	4.32	6.48	2.07	2.21	4.23	3.69	3.50	1.95	3.86	2.76	2.98	0.97	7.21	3.29
Mar	7.91	6.01	5.16	4.17	2.21	3.13	4.27	4.43	3.13	5.69	3.00	2.44	3.08	5.31	4.62	2.06
Apr	4.75	1.97	3.52	2.36	2.12	3.93	3.87	3.86	3.17	4.37	2.91	1.48	3.10	4.38	3.74	1.64
May	2.88	2.81	2.83	2.64	1.89	1.68	3.05	1.88	2.30	1.08	2.84	5.22	3.15	3.53	3.43	3.08
Jun	2.57	1.94	2.84	1.75	1.97	4.56	2.97	1.23	2.29	0.21	2.84	0.84	2.93	1.90	3.33	2.87
Jul	2.65	0.11	2.48	0.98	2.08	0.39	2.79	0.32	2.57	0.33	2.82	0.06	2.93	1.16	3.03	0.09
Aug	2.27	0.66	2.36	0.38	2.41	1.97	2.54	0.11	2.78	0.37	2.96	4.56	3.07	0.12	2.78	0.03
Sep	2.38	0.27	2.13	1.81	2.41	0.45	2.42	0.48	2.85	0.83	3.21	2.64	3.07	1.85	2.74	12.15
Oct	2.28	2.74	2.20	3.77	2.51	3.48	2.50	0.59	3.13	8.69	3.12	3.98	3.34	3.55	2.88	1.20
Nov	2.82	10.22	2.01	3.28	2.95	11.48	2.52	2.15	3.05	5.57	3.14	3.50	3.44	6.04	3.96	15.38
Dec	3.90	6.29	2.04	3.09	4.16	7.82	2.61	7.69	2.95	5.23	3.07	3.45	3.48	5.82	4.64	5.55
Annual Averages	3.97	4.37	2.97	3.02	2.42	3.67	3.16	2.79	2.88	3.59	3.10	3.07	3.14	3.26	4.10	5.01
Annual Totals	1448.53	52.41	1084.05	36.18	881.78	43.98	1158.26	33.48	1050.37	43.06	1132.87	36.88	1147.83	39.07	1496.50	60.08
Annual Dry Flow (MGD)	2.47		2.45		2.22		2.68		2.62		2.96		3.00		2.97	
Annual Wet Weather Rain (Inches)		44.65		26.26		31.00		25.60		35.87		22.08		26.13		40.22

	1996	1997	1998	1999	2000	2001**	2002	2003	2004	2005	2006		
Avg MGD	2.92	2.69	2.49	2.72	2.55	2.68	2.70	2.85	1996	1600	954	646	40%
Total MG	1067	982	908	994	931	978	984	1039	1997	1862	1015	847	45%
							164.10	457.83	1998	1158	1031	127	11%
							14.30%	30.59%	1999	1449	1067	382	26%
									2000	1087	982	105	10%
									2001**	882	810	72	8%
									2002	1155	994	161	14%
									2003	1050	931	119	11%
									2004	1132	978	154	14%
									2005	1148	984	164	14%
									2006	1497	1039	458	31%

* No 2001 Data used

Historical Wet Weather Rainfall (Oct - Mar): 29.26 37.5%
 Historical Rainfall (Annual): 40.24 49.3%

** For 2001 I/I is calculated with 2001 data only

31



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT COMMAND
UNITED STATES ARMY GARRISON, FORT LEWIS
BOX 339500, MAIL STOP 17
FORT LEWIS WASHINGTON 98433-9500

Public Works

MAY 08 2008

United States Environmental Protection Agency
Region 10
ATTN: PCS Data Entry Team
1200 Sixth Avenue, OW-133
Seattle, Washington 98101

To Whom It May Concern:

Enclosed you will find the 2007 Annual Infiltration and Inflow (I&I) Report for the Fort Lewis Wastewater Treatment Plant (Permit WA-002195-4). This report summarizes measurable I&I at the treatment plant or by collection system meters for the calendar year 2007, and describes work in progress to reduce I&I into the sanitary collection system.

To analyze amounts of I&I from the collection system, a dry weather flow has been developed based on a rolling 5-year average of dry weather data. The months of June - September are used to calculate dry weather flow. Dry weather data is used from calendar years 2003 - 2007. Rainfall data is collected from the Air Force Weather Squadron stationed at Gray Army Airfield on Fort Lewis.

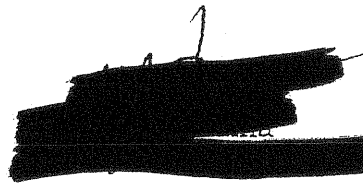
Analysis Summary: The 5-year rolling average calculated dry weather flow was 1041 million gallons for 2003-2007. Any flows above this value are considered I&I for 2007. Based on this methodology, the total amount of I&I for 2007 was 322 million gallons or 23.6% of the total flow. In accordance with the NPDES permit, I&I for 2007 was not more than 15 percent above baseline flow (previous five years) and was also less than last years I&I. Please refer to attached data.

Status of Prevention Program: The Army Corps of Engineers (ACE) is continuing to manage multimillion dollar new construction projects to upgrade existing sewer lines, as part of the Whole Barracks renewal projects in the North Fort. The Whole Barracks renewal project in North Fort is approximately 50% complete. In addition, the \$3.2 million dollars programmed for the end of 2007 to reduce I&I was awarded. Projects included replacing the existing 24-inch clay main sewer line from North Fort Lewis to the 36-inch main line at Solo Point; and replacing/sealing 14 brick sewer vaults from Prescott Avenue in Logistics Center to Interstate 5. The sewer main replacement project is approximately 60% complete. Both projects are scheduled to be completed by 1 July 2008.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person who manages the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have questions about this report, please contact 


Sincerely,


KS

Enclosures

Summary Table for Fort Lewis WWTP Flow and Rainfall

Month & Year	Flow 1999	Rain 1999	Flow 2000	Rain 2000	Flow 2001	Rain 2001	Flow 2002	Rain 2002	Flow 2003	Rain 2003	Flow 2004	Rain 2004	Flow 2005	Rain 2005	Flow 2006	Rain 2006	Flow 2007	Rain 2007
Jan	5.39	9.54	3.75	5.47	2.21	2.88	4.21	7.05	2.83	8.74	3.47	5.95	3.16	4.44	6.84	12.74	7.07	3.13
Feb	7.82	9.85	4.32	6.48	2.07	2.21	4.23	3.69	3.50	1.95	3.86	2.76	2.98	0.97	7.21	3.29	4.54	3.15
Mar	7.91	6.01	5.16	4.17	2.21	3.13	4.27	4.43	3.13	5.69	3.00	2.44	3.08	5.31	4.62	2.06	5.27	4.85
Apr	4.75	1.97	3.52	2.36	2.12	3.93	3.87	3.86	3.17	4.37	2.91	1.48	3.10	4.38	3.74	1.64	4.23	1.81
May	2.88	2.81	2.83	2.64	1.89	1.68	3.05	1.88	2.30	1.08	2.84	5.22	3.15	3.53	3.43	3.08	2.99	1.18
Jun	2.57	1.94	2.84	1.75	1.97	4.56	2.97	1.23	2.29	0.21	2.84	0.84	2.93	1.90	3.33	2.87	2.72	1.32
Jul	2.65	0.11	2.48	0.98	2.08	0.39	2.79	0.32	2.57	0.33	2.82	0.06	2.93	1.16	3.03	0.09	2.69	1.45
Aug	2.27	0.66	2.36	0.38	2.41	1.97	2.54	0.11	2.78	0.37	2.96	4.56	3.07	0.12	2.78	0.03	2.62	1.07
Sep	2.38	0.27	2.13	1.81	2.41	0.45	2.42	0.48	2.85	0.83	3.21	2.64	3.07	1.85	2.74	12.15	2.79	1.81
Oct	2.28	2.74	2.20	3.77	2.51	3.48	2.50	0.59	3.13	8.69	3.12	3.98	3.34	3.55	2.88	1.20	3.11	4.76
Nov	2.82	10.22	2.01	3.28	2.95	11.48	2.52	2.15	3.05	5.57	3.14	3.50	3.44	6.04	3.96	15.38	3.09	2.37
Dec	3.90	6.29	2.04	3.09	4.16	7.82	2.61	7.69	2.95	5.23	3.07	3.45	3.48	5.82	4.64	5.55	3.66	8.72
Annual Averages	3.97	4.37	2.97	3.02	2.42	3.67	3.16	2.79	2.88	3.59	3.10	3.07	3.14	3.26	4.10	5.01	3.73	2.97
Annual Totals	1448.53	52.41	1084.05	36.18	881.78	43.98	1158.26	33.48	1050.37	43.06	1132.87	36.88	1147.83	39.07	1496.50	60.08	1362.06	36.62
Annual Dry Flow (MGD)	2.47		2.45		2.22		2.68		2.62		2.96		3.00		2.97		2.71	
Annual Wet Weather Rain (Inches)		44.65		26.26		31.00		25.60		35.87		22.08		26.13		40.22		26.98

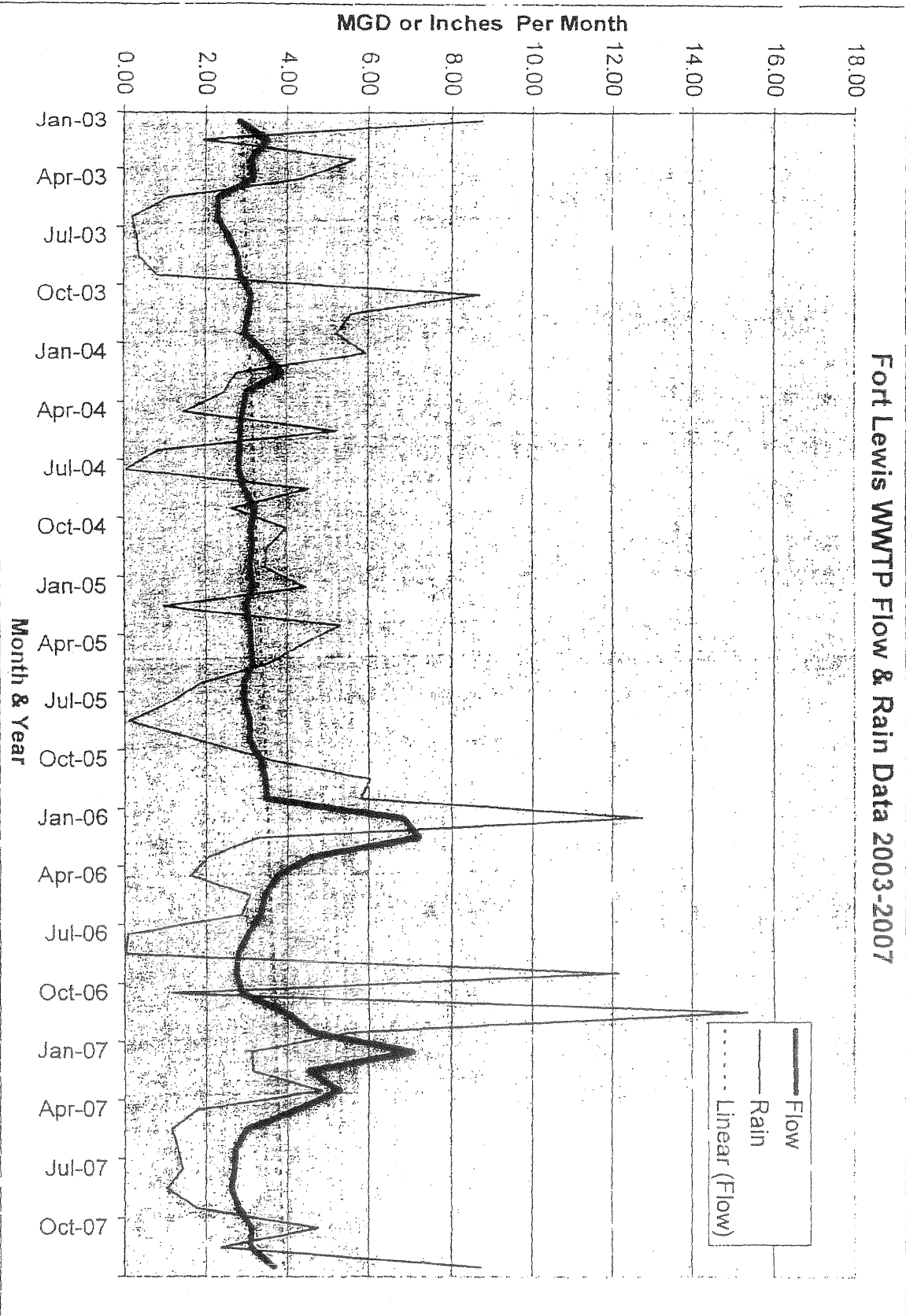
	1999	2000	2001	2002	2003	2004	2005	2006	2007	1996	1997	1998	1999	2000	2001**	2002	2003	2004	2005	2006	2007
Avg MGD	2.92	2.69	2.49	2.72	2.55	2.68	2.70	2.85	2.85	1600	1882	1158	1449	1087	882	1155	1050	1132	1148	1497	1362
Total MG	1067	982	908	994	931	978	964	1039	1041	954	1015	1031	1067	982	810	994	931	978	984	1039	1041
							164.10	457.83	321.53												
							14.3%	30.6%	23.6%												
										646	847	127	382	105	72	161	119	154	164	458	322
										40.4%	45.5%	11.0%	26.4%	9.7%	8.2%	13.9%	11.3%	13.6%	14.3%	30.6%	23.6%

* No 2001 Data used

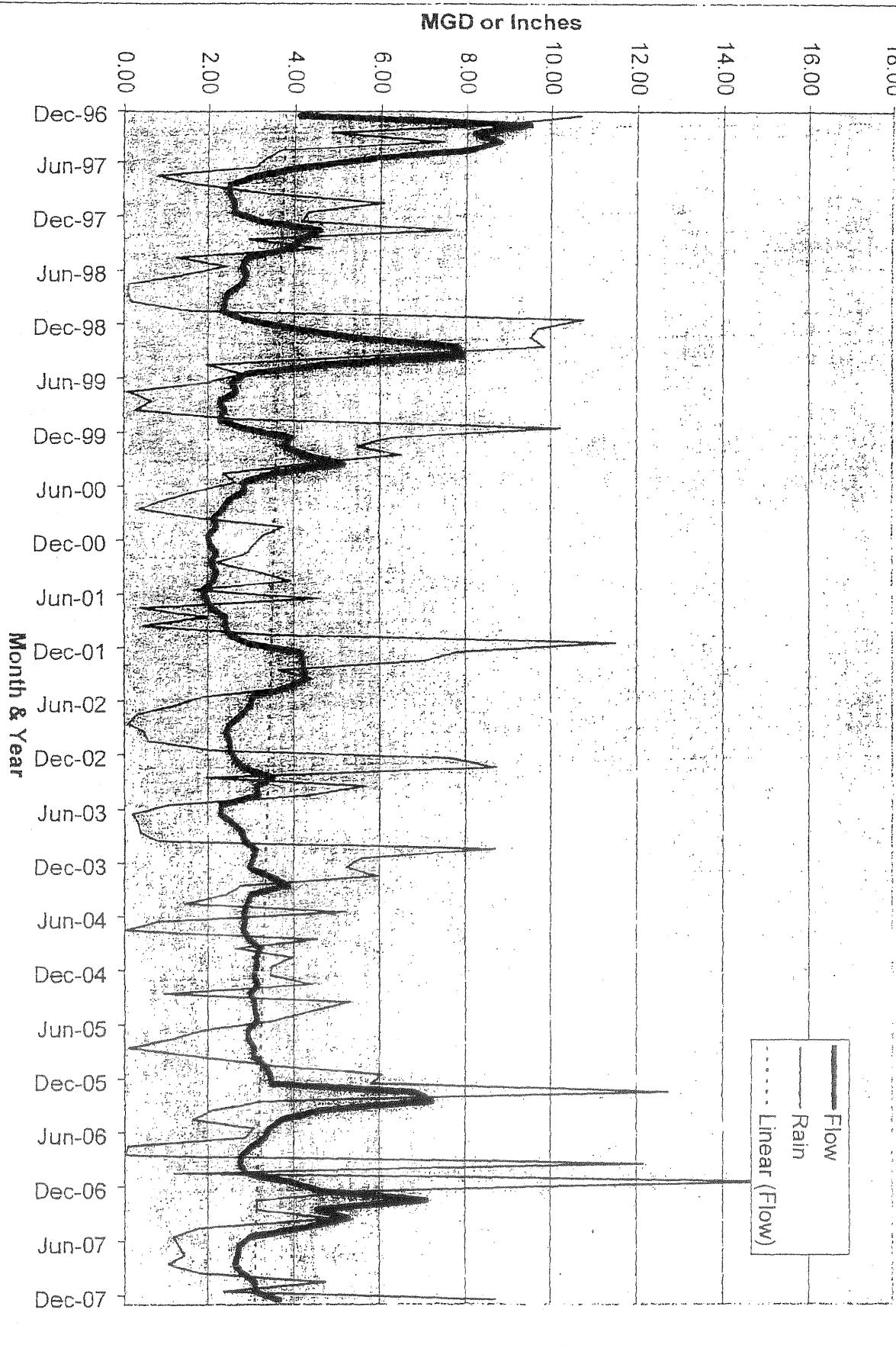
2003-2007 2007
 Historical Wet Weather Rainfall (Oct - Mar): 30.26 26.98
 Historical Rainfall (Annual): 42.94 35.62

** For 2001 W is calculated with 2001 data only

Fort Lewis WWTP Flow & Rain Data 2003-2007



Fort Lewis WWTP Flow & Rain Data 1996-2007



32

[REDACTED]

From: [REDACTED] CIV USA FORSCOM
Sent: Monday, June 30, 2008 11:21 AM
To: [REDACTED]
Cc: [REDACTED] COM FMWRC; [REDACTED]
Subject: CTR USA
WWTP Operator Certifications
Attachments: Candidate Qualification Table.doc



Candidate
Qualification Table...

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Candidate	WA Driver's License	Group III Wastewater Certification	Water Distribution Manager III (w/in 2 years)	Water Treatment Plant Operator II (w/in 2 years)
Al Long		Group II	WDM III	WTPO III
Robert Koden		Group III	WDM I	WDM I
Rhonda Rounds		Group IV		
Judith Lancy		Group III		
Ron Johnston		Group III		
Jerry Lienes		Group II		

33

Tab 33

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Army Regulation 385-10

Safety

The Army Safety Program

Headquarters
Department of the Army
Washington, DC
29 February 2000

UNCLASSIFIED

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35

SUMMARY of CHANGE

AR 385-10

The Army Safety Program

This change 1-

- o Provides risk management policy and definitions.
- o Provides authorization for collateral duty personnel to perform SASOHIs.
- o Adds Appendix B to provide Management Control Evaluation Checklist guidance for the Army Safety Program.
- o Revises paragraph 2-1, Organizational structure.
- o Adds pertinent aspects of AR 385-15.
- o Rescinds AR 385-15 upon publication of this change.
- o Moves pertinent aspects of chapter 6, Personal Clothing and Equipment, into other sections.
- o Deletes chapter 6.
- ~~o Changes the applicability and Army management control process paragraphs.~~
- o Changes paragraph 1-4, before subparagraph a.
- o Supersedes paragraph 1-4a with new text.
- o Supersedes paragraph 1-4a(1) with new text.
- o Adds paragraphs 1-4c(14) and (15).
- o Supersedes paragraph 1-4d(2) with new text.
- o Adds paragraph 1-4d(3).
- o Adds paragraph 1-4e(3).
- o Supersedes paragraph 1-4g(1) with new text.
- o Supersedes paragraph 1-4h(1) with new text.
- o Adds paragraph 1-4h(6).
- o Adds paragraph 1-4i(3).
- o Adds paragraph 1-4j(13).
- o Adds paragraph 1-4k(3).

- o Supersedes paragraph 1-4m with new text.
- o Supersedes paragraph 1-4m(2) with new text.
- o Supersedes paragraph 1-4n with new text.
- o Supersedes paragraph 1-4n(1) with new text.
- o Supersedes paragraph 1-4n(2) with new text.
- o Adds paragraphs 1-4n(5) and (6).
- o Supersedes paragraph 1-4o with new text.
- o Adds paragraph 1-4p(5).
- o Supersedes paragraphs 1-5a, b, and c with new text.
- o Supersedes paragraph 1-6 with new text.
- o Adds paragraph 1-7.
- o Supersedes paragraphs 2-1 through 2-1d(17) with new text.
- o Supersedes in paragraph 2-2, the unnumbered first paragraph.
- o Supersedes paragraph 2-2b with new text.
- o Supersedes paragraph 2-2e(2) with new text.
- o Supersedes paragraph 2-2j with new text.
- o Adds paragraphs 2-2j(1) through (5).
- o Supersedes paragraph 2-2n with new text.
- o Supersedes paragraphs 2-2n(1) and (2) with new text.
- o Adds paragraph 2-2n(3).
- o Adds paragraph 2-3d.
- o Supersedes table 3-1, Hazard severity, with new table 3-1 text from fig 2-3 of FM 100-14.
- o Supersedes table 3-2, Accident probability, with new table 3-2 text from fig 2-2 of FM 100-14.
- o Supersedes paragraph 4-1b with new text.
- o Changes paragraph 4-4d(2) in the last sentence.
- o Supersedes paragraph 5-2p with new text.

- o Rescinds chapter 6 in its entirety.
- o Adds in appendix A, section I, required publications TB MED 503, FM 101-5, FM 100-14, TB MED 575, and FM 21-20.
- o Changes In appendix A, section II, related publications AR 10-5, AR 385-14, AR 385-61, AR 708-1, and AR 710-2.
- o Adds in appendix A, section II, related publication FM 100-22.
- o Deletes In appendix A, section II, related publications AR 310-34, AR 385-26, AR 385-30, AR 385-60, AR 385-65, AR 385-80, and TB MED 501.
- o Adds in appendix A, section IV, referenced form DA Form 11-2-R.
- o Adds an appendix B.
- o Deletes in the glossary, section I, the acronyms HSC, QCS, ASA(I&L), and USAEHA.
- o Adds in the glossary, section I, the acronyms ASA(I&E) and USACHPPM.
- o Changes in the glossary, section II, the terms DA Personnel, MANPRINT, and Risk assessment.
- o Adds in the glossary, section II, the terms Control, Condition, Develop the force, Direct and resource the force, Exposure, Hazard, Probability, Project the force, Residual risk, Risk, Risk decision, Risk management, Risk management integration, Severity, and Sustain the force.
- o Adds at the back of the regulation, DA Form 11-2-R.
- o Supersedes AR 385-15, dated 15 October 1979.

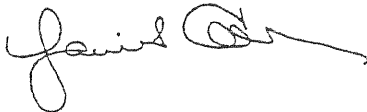
Summary of change of the 1988 revision. The revision originally published 23 May 1988 consolidates AR 385-10 and AR 385-32. It--

- o Provides expanded details on the responsibilities of commanders (chaps 1 and 2).
- o Provides guidance on internal safety office organization and structure (chap 2).
- o Details requirements for appointment of additional duty safety personnel (chap 2).
- o Adds guidance on procedures for managing protective clothing and equipment (chap 6).

Effective 29 March 2000

Safety

The Army Safety Program



Louis Caldera
Secretary of the Army

History. Army Regulation 385-10 was originally published on 23 May 1988. It was authenticated by Carl E. Vuono, General, United States Army, Chief of Staff, and Milton H. Hamilton, Administrative Assistant to the Secretary of the Army. This electronic edition publishes the basic 1988 edition and incorporates Change 1, published on 29 February 2000. Change 1 is authenticated by Louis Caldera, Secretary of the Army.

Summary. This regulation provides new

policy on Army safety management procedures with special emphasis on responsibilities and organizational concepts. It implements requirements of the Occupational Safety and Health Act of 1970 (OSHAct) as implemented in Executive Order 12196; part 1960, title 29, Code of Federal Regulations (CFRs); Department of Defense (DOD) Directive 1000.3; and DOD Instruction 6055.1.

Applicability. This regulation applies to the active Army, the Army National Guard (ARNG) of the U.S., the U.S. Army Reserve (USAR), and Army civilian employees. During mobilization, chapters and policies contained in this regulation may be modified by the proponent.

Proponent and exception authority. The proponent agency of this regulation is the Office of the Chief of Staff, Army, Army Safety Office.

Army management control process. This regulation contains management control provisions and identifies key management controls that must be evaluated.

Supplementation. Supplementation of

this regulation and establishment of command and local forms are prohibited without prior approval from HQDA (DACS-SF), WASH DC 20310-0300.

Interim changes. Interim changes to this regulation are not official unless they are authenticated by The Adjutant General. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

Suggested improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to Chief of Staff (DACS-SF) 200 Army Pentagon, Washington, DC 20310-0200.

Distribution. Distribution of this publication is made in accordance with initial distribution number (IDN) 093389, intended for command levels A, B, C, D, and E for Active Army, Army National Guard of the U.S., and U.S. Army Reserve.

Contents (Listed by paragraph and page number)

Chapter 1

Introduction, page 1

Purpose • 1-1, page 1

References • 1-2, page 1

Explanation of abbreviations and terms • 1-3, page 1

Responsibilities • 1-4, page 1

Policy • 1-5, page 4

Safety Coordinating Panel • 1-6, page 5

Deviations • 1-7, page 5

Chapter 2

Army Safety Program Structure and Activities, page 5

Organizational structure • 2-1, page 5

Operational procedures • 2-2, page 6

Prevention program procedures • 2-3, page 8

*This regulation supersedes AR 385-15, dated 15 October 1979.

Contents—Continued

Department of the Army personnel • 2-4, *page 9*

Chapter 3

Safety Standards Application, *page 9*

Standards • 3-1, *page 9*

Conflicts • 3-2, *page 9*

Additional safeguards • 3-3, *page 9*

Standards publications • 3-4, *page 11*

Modification of OSHA standards • 3-5, *page 11*

Host installation standards • 3-6, *page 11*

General Services Administration facilities • 3-7, *page 11*

Violation-correction policy • 3-8, *page 11*

Abatement program • 3-9, *page 12*

Chapter 4

Safety and Occupational Health Inspections of Army Workplaces, *page 14*

Standard Army safety and occupational health inspections • 4-1, *page 14*

Department of Labor inspections • 4-2, *page 15*

Federal and State OSHA inspections of contractor workplaces • 4-3, *page 16*

Army employee hazard reporting • 4-4, *page 16*

Chapter 5

Standard Safety Staff Functions and Tasks, *page 21*

General • 5-1, *page 21*

Standard safety staff functions and tasks • 5-2, *page 21*

Appendixes

A. References, *page 22*

B. Management Control Evaluation Checklist, *page 24*

Glossary

Reproducible Forms

Chapter 1 Introduction

1-1. Purpose

a. This regulation prescribes Department of the Army (DA) policy, responsibilities, and procedures to protect and preserve Army personnel and property against accidental loss. It provides for public safety incident to Army operations and activities, and safe and healthful workplaces, procedures, and equipment. This regulation assures statutory and regulatory compliance.

b. This regulation mandates Army Safety Program policies, procedures, and guidelines into one comprehensive safety program for all DA personnel and operations worldwide.

1-2. References

Required and related publications and prescribed and referenced forms are listed in appendix A.

1-3. Explanation of abbreviations and terms

Abbreviations and special terms used in this regulation are explained in the glossary.

1-4. Responsibilities

Principal officials of Headquarters, Department of the Army are responsible to direct, resource, and evaluate the integration of risk management into the Army.

a. The Office of the Assistant Secretary of the Army (Installations and Environment)(ASA(I&E)) is the principal consultant to the Secretary of the Army for Army safety and occupational health (OH) matters. The ASA(I&E) is the Army's designated safety and occupational health official and will—

(1) Approve policies, issue directives, make recommendations, and issue guidance on Army safety and OH plans, programs, and risk management integration within Army Safety and Occupational Health Program areas.

(2) Initiate programs, actions, and taskings to ensure adherence to DA and Department of Defense (DOD) safety and OH policies.

(3) Review and evaluate programs for carrying out approved safety and OH policies and standards.

(4) Serve on boards, committees, and other groups pertaining to safety and OH, and represent the Secretary of the Army on safety and OH matters outside DA.

(5) Participate in the planning, programming, and budgeting of safety and OH activities.

(6) Serve as Functional Chief for the Safety Management Career Program.

b. The Assistant Secretary of the Army (Research, Development, and Acquisition) (ASA(RDA)) will ensure system safety procedures are implemented by Project Executive Officers and Project Managers during materiel development phases.

c. The Director of Army Safety (DASAF), Office of the Chief of Staff, Army (OCSA) will—

(1) Administer and direct an effective Army safety program to reduce the occurrence of accidents.

(2) Act as principal adviser to Chief of Staff, Army (CSA), OCSA, and Army Staff elements on all safety matters.

(3) Provide staff supervision of the U.S. Army Safety Center (USASC) and the Army Safety Office.

(4) Develop, coordinate, and disseminate Army safety program policy, direction, and guidance to all Army commands and agencies.

(5) Monitor the Army safety program effectiveness.

(6) Support major Army command (MACOM) and installation commanders in developing specific plans and programs.

(7) Collect and distribute accident data and statistics relating to injuries, occupational illnesses, and report damage related to Army operations.

(8) Support appropriate funding to provide for an effective Army accident prevention effort.

(9) Develop safety countermeasures to reduce accidents.

(10) Investigate selected Army accidents according to AR 385-40.

(11) Administer a program of specialized safety training courses for the Army.

(12) Implement statutory requirements and national standards.

(13) Serve as Chairman of the DA Explosives Safety Council.

(14) Serve as the risk management advocate on the Army Staff, synchronize the risk management actions of risk management integrating agents, and provide periodic progress reports to the Secretary of the Army and the Chief of Staff, Army.

(15) Develop Army radiation safety policy relating to the use, licensing, disposal, transportation, dosimetry, accident

reporting, safety design, and inventory control of and radiation exposure standards for ionizing and nonionizing radiation sources.

d. The Deputy Chief of Staff for Personnel (DCSPER) will—

(1) Ensure systems safety is integrated into materiel development and acquisition phases through the Manpower and Personnel Integration (MANPRINT) Program.

(2) Include safety concerns and issues on Army materiel in MANPRINT assessments and presentations at the Army systems acquisition review council (ASARC).

(3) Support safety policy and procedure development and implementation with advocacy for soldier-oriented research and development, to include issues in personnel, training, human factors engineering, and soldier survivability.

e. The Deputy Chief of Staff for Logistics (DCSLOG) will—

(1) Establish and maintain procedures for safety-of-flight restrictions for Army aircraft and safety-of-use restrictions for other Army materiel.

(2) Develop procedures for the safe transportation, storage, and packaging of Army ordnance and hazardous materials.

(3) Manage Hazardous Materials Information System.

f. The Deputy Chief of Staff for Operations and Plans (DCSOPS) will—

(1) Act as focal point for all nuclear and chemical matters in Army.

(2) Establish procedures for nuclear weapons reliability, safety, security, nuclear force management, and employment policies.

(3) Establish procedures for the Army Flight Standardization Program.

g. The Surgeon General (TSG), in support of the Army Occupational Safety and Health Program, will—

(1) Formulate policy and guidance for the Army Occupational Health Program and related issues such as ergonomics.

(2) Formulate policy and provide guidance for the Army Health Hazard Assessment Program as described in AR 40-10.

(3) Provide guidance and policy on health and safety procedures and protocols for human use testing in accordance with AR 70-25.

(4) Establish procedure for implementing occupational health aspects of Public Law 91-596 (Occupational Safety and Health Act), 29 December 1970.

(5) Develop policies for and establish health standards as necessary for occupational exposure in industrial and military unique work areas.

(6) Provide technical guidance to the Army staff, MACOMs, and Army Medical Department in the evaluation and control of actual or potential occupational health hazards in Army work areas.

(7) Ensure system safety procedures are implemented in developing medical material.

h. The Commanding General, U.S. Army Materiel Command (CG, AMC) will—

(1) Develop airworthiness qualification of Army aircraft systems (AR 70-62); safety-of-use messages and a vehicle safety recall campaign (AR 750-10); and safety program aspects of toxic chemical munitions operations and demilitarization (AR 50-6).

(2) Assure that materiel and systems acquired for the Army and other military services are free of recognized hazards and conform to OSHA standards.

(3) Hazard classify ammunition and explosives per part 173, title 49, Code of Federal Regulations (49 CFR 173) and TB 700-2.

(4) Report and investigate malfunctions involving ammunition and explosives (AR 75-1).

(5) Develop and acquire new conventional and nonconventional munitions to provide for user and public safety during the manufacture, packaging, transportation, storage, use, and disposal/demilitarization.

(6) Coordinate activities across the Army to integrate risk management into programs to sustain the force, to include coordination with other MACOMs and staff elements that share AMC's functional interest.

i. The Commander, Military Traffic Management Command (CDR, MTMC) will—

(1) Develop policy for HQDA approval for safety in operations requiring DOD compliance with Department of Transportation (DOT) hazardous materials regulations; safety in maritime operations requiring compliance with the International Maritime Dangerous Goods Code when loading vessels at MTMC terminals; exemption requests by DOD

components for shipments of hazardous materials by DOD shippers that do not comply with DOT regulations; and traffic engineer support to installations.

(2) Assure that contracts within MTMC purview include adequate safety provisions and contract compliance.

(3) Coordinate activities across the Army to integrate risk management into programs to project the force, to include coordination with other MACOMS and staff elements that share MTMC's functional interest.

j. The Commanding General, U.S. Army Training and Doctrine Command (CG, TRADOC) will—

(1) Integrate safety and occupational health procedures into all Army training guidelines and techniques to be applied in the field.

(2) Ensure that safety and occupational health training is integrated into the curricula of appropriate Army schools.

(3) Incorporate safe operating practices and physical standards in field manuals, training circulars, and other documents.

(4) Coordinate activities across the Army to integrate risk management into programs to project the force, to include coordination with other MACOMS and staff elements that share MTMC's functional interest.

(5) Integrate safety and occupational health considerations into new equipment training.

(6) Integrate safety criteria into operational testing.

(7) Develop and publish range safety policies, procedures, and standards for the Army and Marine Corps.

(8) Monitor range safety operations and procedures to assure safety adequacy.

(9) Provide range safety instruction for Army personnel.

(10) Have, as part of task analysis, Combat Development Centers identify hazards and requisite safety standards to be met in critical combat tasks.

(11) Have Combat Development Centers incorporate critical safety and health parameters in the requirements documents for new systems acquisitions and ensure operational tests verify the product provides requisite protection.

(12) Approve the adequacy of solutions to acquisition safety problems.

(13) Direct and implement Army safety policy and programs for U.S. Army Reserve Officer's Training Corps (ROTCs) units.

(14) Serve as risk management integration proponent for doctrine, training, and combat development. Coordinate with other MACOM and staff elements that share TRADOC's functional interest. Coordinate risk management integration activities, across the Army and at Joint level into programs to develop the force to include: doctrine development, requirements definition, common applications, training support, and risk management education in the Army, including Army Forces (ARFOR) component in the joint-level functions.

k. Commanding General, Forces Command (CG, FORSCOM) will—

(1) Establish safety policy, standards, and guidance for use in Army exercises, maneuvers, and tactical operations.

(2) Direct and implement Army safety policy and programs for U.S. Army Reserve (USAR) units.

(3) Coordinate activities across the Army to integrate risk management into programs to project the force, to include coordination with other MACOMS and staff elements that share FORSCOM's functional interest.

l. The Commanding General, U.S. Army Corps of Engineers (CG, USACE) will—

(1) Promulgate the safety standards to be used in Army construction (EM 385-1-1).

(2) Assure that Army standards designs and USACE administered facility/utility designs and construction conform

to statutory and regulatory fire, safety, occupant health and explosives standards, and otherwise provide a safe and healthful workplace for user personnel and materiel.

(3) Provide safety policy to other elements of the Army that manage facility/utility design and construction at their level.

(4) Include provisions for public safety at civil works facilities with public recreation and visitation mission.

m. The Commanding General, U.S. Army Medical Command, in support of the Army Occupational Safety and Health Program will:

(1) Provide direct occupational health services to supported installations and tenant activities according to AR 40-5.

(2) Provide technical assistance to installation and tenant activity commanders and MACOM commanders on risk management integration and health assessment, control, and training.

n. MACOM commanders will—

(1) Ensure the full and effective implementation of the Army safety and OH program throughout their MACOM. This includes—

(a) Providing a safe and healthful workplace and environment.

(b) Providing risk management training to military and civilian personnel, as well as providing hazard recognition and abatement training specific to the work site or activity.

(c) Establishing standing operating procedures (SOPs) that will foster safe practices and procedures.

(d) Monitoring workplaces and practices to ensure adherence to established procedures and the prompt correction of unsafe acts and

(e) Investigating accidents to determine causes and prevent recurrence.

(2) Initiate additional accident prevention measures necessary to control hazards and resource losses for which there are no prescribed or established safety standards or procedures.

(3) Establish and enforce procedures for plans that assure maximum safety during training and tactical operations.

(4) Establish procedures for expeditiously funding and fixing hazards based on risk assessment codes (RACs) on a 'worst-first' basis. Commanders of MACOMs having troop organizations will establish safety and occupational health requirements and guidance for their troops participating in exercises. They will also assure coordination and integration of their safety and occupational health efforts with those of other commands and services involved in the exercise.

(5) Develop and implement programs to integrate risk management into Army safety and occupational health program throughout their command.

(6) Establish an ergonomics program consistent with paragraph 1-4g(1).

o. Commanders at all levels will be responsible for protecting personnel, equipment, and facilities under their command; effective implementation of safety and occupational health policies; and the integration of the risk management process into their safety and occupational health program.

p. Supervisory and operating personnel who direct or affect the actions of others will—

(1) Be responsible for accident prevention to the same extent that they are responsible for production or services.

(2) Maintain a safe and healthful workplace.

(3) Assure that employees under their supervision observe appropriate safety and occupational health rules and regulations, including the use of protective clothing and equipment (PCE) provided for their protection.

(4) Promptly evaluate and take action as required to correct hazards reported by employees or identified through accident investigation. They will not initiate or support reprisal action against employees who identify hazards, raise safety concerns or engage in authorized safety and occupational health activities.

(5) Use the risk management process during the planning, preparation for, and execution of all operations for which they are responsible.

1-5. Policy

The following principles will be effectively integrated into all Army plans, programs, decision processes, operations, and activities:

a. Accidents are an unacceptable impediment to Army missions, readiness, morale, and resources: hence accident risk management will be exercised by decision makers.

b. Decision makers at every level will employ the risk management process, as specified in paragraph 2-3d of this regulation, to avoid unnecessary residual risk to missions, personnel, equipment, and the environment.

c. The acquisition of materials, equipment, facilities, and systems will maximize the use of engineering design to preclude unnecessary residual risk and control residual risks.

d. Life cycle safety considerations will be considered in the acquisition, use, and disposal of chemicals and hazardous materials so as not to endanger or compromise public health and safety.

e. Appropriate action will be taken to expeditiously correct nonconformities with mandated standards, workplace deficiencies hazards and accident causes.

f. Performance standards for military and civilian managers and supervisors will include accident prevention and OH responsibilities as a rating element. The success or shortcomings of managers or supervisory personnel in performing

safety and OH responsibilities will be considered in Army civilian employee performance appraisals, officer evaluation reports (OERs), and enlisted evaluation reports (EERs).

1-6. Safety Coordinating Panel

A Department of the Army (DA) Safety Coordinating Panel, chaired by the Director of Army Safety, will be chartered to facilitate coordination and communication between MACOMs, the Director of Army Safety, and the ARSTAF on risk management integration in Develop, Project, and Sustain the force, and safety issues having major Army-wide effect on policy, direction, and standards.

1-7. Deviations

Occasionally, the safety requirements of this regulation may be incompatible with mission accomplishment. In such cases, MACOM commanders may request that the Director of Army Safety approve deviation from the specific requirements (Chief of Staff (DACS-SF), 200 Army Pentagon, Washington, DC 20310-0200).

Chapter 2

Army Safety Program Structure and Activities

2-1. Organizational structure

All Army safety offices will be structured according to this chapter. Commanders will—

a. Designate a command safety and occupational health official to exercise staff supervision over safety and health, risk management, and accident prevention activities. Duties performed by this official will include the full range of program management responsibilities.

b. Ensure that the designated command safety and occupational health official will be a member of the commander's special staff reporting directly to the commander.

c. Ensure that designated command safety and occupational health officials meet Office of Personnel Management Standards for the positions of Occupational Safety and Health, GS 018/803.

d. Organize and staff a comprehensive safety office under the direction of a designated command safety and occupational health manager. This office will organize and administer a safety program that includes the following:

- (1) Accident reporting
- (2) Workplace safety
- (3) Transportation safety
- (4) Family and off-the-job safety
- (5) Range safety (when applicable)
- (6) Explosive safety (when applicable)
- (7) Aviation safety (when applicable)
- (8) Tactical safety (when applicable)
- (9) Radiation safety (when applicable)
- (10) System safety (when applicable)

e. Provide sufficient funds and other resources to carry out all responsibilities designated in this regulation to assure safety and OH program effectiveness. This staff will perform standard accident prevention functions and tasks as outlined in chapter 5. Safety, occupational health, fire prevention, environmental protection, and injury compensation staffs will work in close coordination on matters of mutual concern.

f. Appoint additional duty safety personnel to perform required safety and accident prevention functions in troop/industrial/administrative units not staffed with full-time safety personnel. In troop units, this includes company level or equivalent organizational component. These unit safety personnel will—

- (1) Be appointed in writing on orders.
- (2) Be a commissioned officer at battalion and higher unit levels.
- (3) Be in the rank of staff sergeant or higher at company level.
- (4) Have completed, or will complete, a local unit safety officer course.
- (5) Have 1 year or more retainability in the unit upon duty appointment.
- (6) Give their safety officer duties proper priority.
- (7) Report directly to the commander on safety-related matters.

g. Civilian collateral safety personnel will be given similar training.

h. Support efforts to develop military and civilian safety expertise through training programs, effective career development, and management procedures.

i. Provide safety, occupational health, and related loss control services to tenant and satellite commanders in support of their statutory and regulatory responsibilities. Installation commanders have responsibilities for safety of people, the

environment, and public on their installation. Local memorandum of understanding will be developed between host and tenant organizations to ensure necessary safety and OH responsibilities are addressed.

j. Provide safety services to USAR units in their geographic area of responsibility as defined in AR 5-9.

k. Establish at MACOM, installation, and community level a Safety and Occupational Health Advisory Council composed of management and military and civilian operating personnel. This council will make recommendations to the commander and perform such additional safety and occupational health tasks as the commander or the council may direct.

(1) Such councils will be chaired by the commander or the commander's designee, who will be a senior management official.

(2) Councils will meet periodically and will publish the minutes of the meetings.

(3) MACOM commanders may exempt installations having small populations from the requirements of this paragraph; however, these exemptions will document quality control measures. Such populations may be represented through participation in other command councils.

(4) Establishment of councils at other than installation level will be at MACOM discretion.

l. Authorize use of official time for employees when participating in occupational safety and health (OSH) activities, including walkaround inspections, authorized by this regulation.

2-2. Operational procedures

Leaders and managers are responsible for integrating risk management into all Army processes and operations. Safety and occupational health staffs will provide risk management training, tools and other related assistance. Leaders and managers will—

a. Ensure that physical standards for facilities and equipment meet or exceed safety and health standards established in pertinent host government, Federal, State, and local statutes and regulations and in Army regulations. Specific requirements and guidance for applying such standards are in chapter 3.

b. Ensure that the risk management process is incorporated in regulations, directives, SOPs, special orders, training plans, and operational plans to minimize accident risk and that SOPs are developed for all operations entailing risk of death, serious injury, occupational illness or property loss. The risk assessment matrix can be tailored by the commander for the type of hazard identified. For example, the matrix in this regulation should be used for hazards involving unsafe or unhealthful working conditions and other hazards associated with base operations. The risk assessment matrix in FMs 100-14 and 101-5 should be used for military training and operational hazards. Effective integration of risk management into the military decision-making process for military training and operations may be found in FMs 100-14 and 101-5.

c. Develop and implement actions to meet responsibilities contained in the accident prevention plans of higher headquarters and to provide focus and continuity to safety program efforts.

d. Post DD Form 2272 (Department of Defense Safety and Occupational Health Program) in all industrial workplaces. (See fig 2-1.)

e. Ensure that appropriate safety and occupational health training is provided as follows:

(1) All Active Army, Army National Guard (ARNG), USAR, and Army civilian employees will be provided the training and education necessary to achieve the skills listed below. This training, as a minimum, will be in accordance with subpart H, part 1960, title 29, Code of Federal Regulations (29 CFR 1960).

(a) Recognize the hazards and accident risks associated with their duties and work environment and know the procedures necessary to control these risks and work safely.

(b) Know their accident prevention related rights and responsibilities as outlined in relevant statutes and regulations.

(c) As appropriate, know the safety responsibilities of their leaders, supervisors, and commanders.

(2) Commanders, supervisors, and safety and OH staff personnel will be provided specialized training to enable them to properly execute their safety, OH, and risk management leadership and staff responsibilities.

(3) Safety education and promotional materials such as posters, films, technical publications, pamphlets, incentive items, and related materials are proven cost-effective safety awareness tools.

f. Ensure personnel are protected from reprisals for exercising lawful OSH rights. All DA personnel, both military and civilian, will be protected from coercion, discrimination, or reprisals for participation in the Army safety and OH program.

(1) Such procedures will include provisions to preserve individual anonymity of those submitting safety and health complaints when requested; to ensure prompt, impartial investigation of allegations of reprisal; and to provide corrective action when such allegations are substantiated.

(2) Under the provisions of 29 CFR 1960.46, the above protection against reprisal extends specifically to the right of an Army civilian to decline to perform an assigned task because of a reasonable belief that, under the circumstances, the task poses an imminent risk of death or serious bodily harm and that there is insufficient time to seek effective redress through normal hazard reporting and abatement procedures.

g. Establish specific plans to assure continuity of safety and OH program services during tactical operations or

mobilization. These plans will address mission definition, organizational concepts, and staffing and operational procedures required to assure maximum safety function support to the combat mission. Such plans will be developed by all organizations and commands having a combat or combat support mission (for example, TOE units, depots, ammunition plants, and area support groups).

h. Conduct annual safety and loss control program evaluations of subordinate commands using results-oriented criteria.

i. Develop effective programs to reduce injuries and illness to ensure that—

(1) All injuries and illnesses have been thoroughly investigated and the facts from the investigation have been documented on appropriate reports and forms.

(2) Accident reports and compensation claim forms have been properly completed designating the injured employee's major command and servicing civilian personnel office.

(3) Compensation claims are challenged and controverted when necessary.

j. Establish procedures to ensure required PCE for personnel are provided, used, and maintained in accordance with part 1910, title 29, Code of Federal Regulations (29 CFR 1910).

(1) *Military personnel.* PCE will be furnished to military personnel performing industrial activities similar to those performed by civilian personnel.

(2) *Funding.* When required, PCE will be funded from appropriated fund accounts available at the installation or activity. Nonappropriated fund activities will provide PCE from their own funds unless authorized by appropriated fund sources or provided for in a host-tenant agreement.

(3) *Issuance of special clothing and equipment to Army civilians.*

(a) Special clothing and equipment include clothing and equipment needed for the protection of personnel to perform their assigned tasks efficiently under extreme conditions or situations. These include but are not limited to heat, cold, wetness, pressure, environmental pollution (for example, toxic or hazardous gases, vapors, fumes, or materials); deleterious animal, insect, parasitic, or amoebic life; or any combination of these conditions..

(b) Commanders are authorized to requisition and issue special clothing and equipment on a temporary loan basis from any inventories, other than those of the Army Stock fund, to all direct-hire civilian employees. The following criteria must be met:

1. The use of special clothing and equipment would serve a military purpose.

2. The purchase of such clothing and equipment from commercial sources would not be practicable or would cause undue hardship on the individual concerned.

3. The clothing and equipment issued would be returned to the issuing organization when no longer required.

(4) *Environmental differential pay.* Environmental differential pay for civilian employees, when warranted, does not relieve the commander of the responsibility to provide appropriate PCE and to continue efforts to eliminate or reduce any hazardous conditions that justify such pay. Conversely, the requirement to wear PCE in any particular work environment does not, of itself, provide justification for environmental differential pay.

(5) *Use of PCE by visitors and transients.* For all activities in which official visitors and transients may be potentially exposed to hazards, the host, guide, or area supervisor will conduct a risk assessment of the work location to determine the appropriate protective measures. If the host, guide, or area supervisor can reduce the hazard(s) to an acceptable level without requiring the use of PCE, those measures may be employed (that is, eliminate foot hazards-no safety shoes). However, if it is determined that a safe level of risk cannot be obtained by using these procedures, then the host, guide, or area supervisor will be responsible for providing and assuring the proper use of PCE and the official visitors and transients will be required to wear the specified PCE.

k. Establish and operate an effective explosives safety program to include—

(1) Exercising supervision over subordinate organizations to ensure that effective explosives safety procedures are implemented and maintained to include specific plans to correct violations of explosives safety standards.

(2) Publishing a command program to implement HQDA ammunition and explosives safety standards and to identify responsibilities for all subordinate organizations (including tenants) that store, handle, use, or transport explosives.

(3) Ensuring qualified safety personnel (GS/GM-018 or GS/GM-803) review explosives safety site plans, safety

submissions, and facility designs for new or modified explosives sites or facilities within the safety arcs of explosives operations.

(4) Ensuring qualified occupational safety personnel review explosives safety waivers and exemptions for facilities and equipment and provide the commander with essential risk data regarding the deficient situation.

l. Ensure that effective range safety procedures are implemented and sustained to include safety office review of all new range construction and all range waivers.

m. Publish command procedures to implement effective family, sports, and recreation safety programs and identify responsibilities for all subordinate organizations and installations.

n. Use the risk management process to establish and operate an effective water safety program to include—

(1) *Water-related activities.*

(a) Establish and operate a safety program for water operations and water recreational activities and publicize appropriate to the geographic area.

(b) Provide for inspection of water operations and recreational facilities, equipment, and adjacent areas on Army owned or leased properties. Such inspections will assure that safety and health requirements are met.

(c) Provide sufficient lifesaving equipment, communication equipment, first aid facilities, protective devices, and other equipment as shown in TB MED 575 at Army-controlled water operations and water recreational activities areas.

(d) Issue standing operating procedures for water operations and water recreational activities. Assure that all water operations and recreational facilities and equipment comply with safety and occupational health requirements. Army boats and lifesaving equipment must comply with U.S. Coast Guard and State or host country requirements.

(e) Inform personnel of the hazards of swimming alone, in cold water, after drinking, during hours of darkness, or in unauthorized areas.

(f) Provide water safety briefings before the start of any water operations and the swimming season.

(2) *Water operations.*

(a) Train persons involved in water operations on accident prevention measures.

(b) Identify military nonswimmers. Provide swimming instructions or water survival training for persons who will be involved in water operations. See FM 21-20 for detailed guidance.

(c) Ensure that equipment used for water crossing operations is pre-dipped to detect water leakage.

(3) *Water recreation activities.*

(a) When possible, provide swimming instruction and water survival training for persons who engage in water recreational activities.

(b) Ensure that Red Cross certified or equivalent lifeguards will be on duty at Army water recreational areas at all times during hours of operation.

2-3. Prevention program procedures

a. Inspections and surveys. Inspections and surveys of operations and facilities will be conducted annually or more often (chap 4). Inspection procedures will emphasize use of interviews, operational reviews, performance testing, and similar techniques designed to detect high risks of both a behavior and environmental character at the earliest possible time. Standard Army Safety and Occupational Health Inspection (SASOHI) procedures outlined in chapter 4 implement 29 CFR 1960.26 provisions and will be used in inspections/surveys. Installations will have the appropriate diagnostic equipment consistent with their mission to collect the essential information for analysis.

b. Reports of unsafe or unhealthful conditions. All Army personnel will be advised of their right and responsibility to report unsafe or unhealthful conditions. Reports to their supervisors will normally expedite corrective actions. Such reports may be submitted directly to unit safety personnel, installation safety offices, or other appropriate points of contact such as inspectors general. To provide an additional channel for such reports when employees find routine channels ineffective, commanders will conform to Army Employee Hazard Reporting System procedures outlined in chapter 4.

c. Department of Labor (DOL) inspections and investigations of Army working conditions. In accordance with the provisions of Executive Order 12196 and DODI 6055.1, and within the scope of the Public Law 91-596, OSHA, and National Institute for Occupational Safety and Health (NIOSH) officials, acting as representatives of the Secretary of Labor, are authorized to conduct announced or unannounced inspections of all Army civilian workplaces except those identified as military- unique workplaces. Procedures for these inspections are in chapter 4.

d. Risk management. Risk Management is the Army's principal risk reduction process to assist leaders in identifying and controlling hazards and making informed decisions.

(1) Every commander, leader and manager is responsible for protecting the force and persons affected by Army

operations. The five-step process is the commander's principal risk reduction process to identify and control hazards and make informed decisions.

- (a) Identify hazards.
 - (b) Assess hazards.
 - (c) Develop controls and make risk decisions.
 - (d) Implement controls.
 - (e) Supervise and evaluate.
- (2) The standard for risk management is leadership at the appropriate level of authority making informed decisions to control hazards or accept risks.
- (3) In those circumstances where local resources are not available to control residual risks, leaders will make conscious decisions to either accept the risk or elevate the risk decision to the next higher level of leadership.
- (4) The risk management process supplements, but does not supersede, the compliance requirements of federally mandated standards, this regulation or any other regulation.

2-4. Department of the Army personnel

All DA personnel, military and civilian, will—

- a. Comply with safety and occupational health rules, regulations, and standards.
- b. Use and maintain PCE provided for their protection.
- c. Report any unsafe and unhealthful working conditions and accidents to their immediate supervisor.

Chapter 3 Safety Standards Application

3-1. Standards

a. All standards established by DOL pursuant to sections 6 and 19 of Public Law 91-596 are adopted as Army safety standards and will be complied with in applicable Army workplaces. Army workplaces are generally comparable to private sector workplaces.

b. The U.S. Army Corps of Engineer safety and health requirements publication (EM 385-1-1) applies to all Army construction operations incorporating part 1926, title 29, Code of Federal Regulations (29 CFR 1926).

c. Commanders will apply OSHA and other non-DA regulatory or consensus safety and health standards to military-unique equipment, systems, operations, or workplaces, in whole or in part, insofar as practicable. When military design, specifications, or requirements render compliance infeasible, or when no regulatory or consensus standard exists for such military application, commanders will request development and publishing of special military standards, rules, or regulations prescribing Occupational Safety and Health measures from the Army Safety Office (HQDA).

d. Certain operations are subject to mandatory safety standards or rules that derive from separate, specific statutory authority. The application of special functional standards does not exempt any workplace from other appropriate safety criteria. Thus, a workplace in a munitions facility subject to special explosives safety standards is also subject to OSHA safety criteria for machine guarding, guard rails, eye protection, and so forth. Any publication that sets forth job safety requirements for such a workplace must take this into account.

e. In workplaces overseas where the Status of Forces Agreement (SOFA) requires that U.S. Armed Forces comply with host country law which prescribes different safety standards, the latter standards take precedence if stricter. If host country law is less strict or nonexistent, Army requirements will apply.

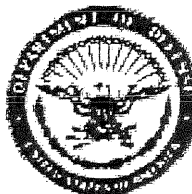
3-2. Conflicts

When standards in Army publications conflict with a legal standard such as the OSHA Act, or provide a lower degree of protection, the legal standard will apply. When the Army standards are equal to or exceed such requirements in providing workplace safety, the Army requirement will apply.

3-3. Additional safeguards

Whenever possible, commanders will evaluate the level of safety provided by established safety and occupational health standards to determine if additional safeguards are required. Priority for these reviews will be given to activities with high loss potential.

DEPARTMENT OF DEFENSE SAFETY AND OCCUPATIONAL HEALTH PROTECTION PROGRAM



THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, EXECUTIVE ORDER 12196 AND 29 CFR 1960 REQUIRE THE HEADS OF FEDERAL AGENCIES TO ESTABLISH PROGRAMS TO PROTECT THEIR PERSONNEL FROM JOB SAFETY AND OCCUPATIONAL HEALTH HAZARDS.

1. THE DEPARTMENT OF DEFENSE (DDO) DESIGNATED AGENCY SAFETY AND OCCUPATIONAL HEALTH OFFICIAL IS THE ASSISTANT SECRETARY OF DEFENSE (FOR MANAGEMENT AND PERSONNEL)

2. THE DEPARTMENT OF THE ARMY
DDO COMPONENT
DESIGNATED SAFETY AND OCCUPATIONAL HEALTH OFFICIAL IS
ASACELLI, WASH, DC
NAME ADDRESS

3. THE FT OWENS
NAME OF INSTALLATION/FACILITY
SAFETY AND OCCUPATIONAL HEALTH DEBONNEE IS
MR. THCKER, SAFETY MANAGER
TITLE

4. THE FT OWENS
NAME OF INSTALLATION/FACILITY
SAFETY POINT OF CONTACT IS
MR. JONES, 555-0826
NAME TELEPHONE NUMBER

5. THE FT OWENS
NAME OF INSTALLATION/FACILITY
OCCUPATIONAL HEALTH POINT OF CONTACT IS
MR. G. HALL, 555-0102
NAME TELEPHONE NUMBER
MAPA CLINIC, FT OWENS
NAME OF INSTALLATION/FACILITY

WHAT IS THE RESPONSIBILITY TO:

1. COMPLY WITH APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OSHA/DOO/DOO COMPONENT SAFETY AND OCCUPATIONAL HEALTH STANDARDS
2. SET UP PROCEDURES FOR SUBMITTING AND RESPONDING TO EMPLOYEE REPORTS OF unsafe and unhealthy working conditions.
3. ACQUIRE, MAINTAIN, AND REQUIRE the use of approved personal protective equipment and safety equipment.
4. INSPECT ALL WORKPLACES with participation by union employee representatives to identify potential hazards.
5. ESTABLISH PROCEDURES TO ASSURE that no worker is subject to reprisals, interference, coercion, discrimination, or reprisal for exercising his/her rights under the DOD safety and occupational health program.
6. POST HAZARDS of unsafe or unhealthy working conditions found during inspections.
7. ASSURE PROMPT ABatement of hazardous conditions. Workers exposed to the conditions shall be informed of the abatement plan. Immediate danger conditions shall be made immediately.
8. SET UP A MANAGEMENT INFORMATION SYSTEM to keep records of occupational accidents, injuries, illnesses and their causes and to keep annual summaries of injuries and illnesses for a minimum of 30 days at each installation/facility.
9. CONDUCT SAFETY AND OCCUPATIONAL HEALTH TRAINING for managers, supervisors, workers and worker representatives.

DDO PERSONNEL HAVE THE RESPONSIBILITY TO:

1. COMPLY with all applicable OSHA/DOO/DOO component safety and occupational health standards.
2. COMPLY with FT OWENS
NAME OF INSTALLATION/FACILITY policies and directives relative to the safety and occupational health program.
3. USE personal protective equipment and safety equipment provided by your installation/facility.
4. REPORT hazardous conditions, injuries, illnesses or other health hazards to your supervisor or to the safety or occupational health point of contact for your installation/facility.

DDO PERSONNEL AND CIVILIAN EMPLOYEE REPRESENTATIVES HAVE THE RIGHT TO:

1. HAVE ACCESS to applicable OSHA/DOO/DOO component policies, installation/facility data and fitness statistics, and safety and occupational health program procedures.
2. COMMENT on standards proposed by DOO/DOO component.
3. REPORT AND REQUEST INSPECTIONS OF UNSAFE AND UNHEALTHFUL WORKING CONDITIONS to appropriate officials who provide, in order of preference, the necessary inspection, the safety or occupational health point of contact, the safety and occupational health program for your installation/facility, the installation/facility commander, the safety and occupational health director for your DDO component, the safety and occupational health director for DOD, and the Secretary of Labor. However, the Secretary of Labor encourages personnel to use DOD procedures for reporting hazardous conditions as the most expeditious means to achieve abatement. The hazard report form provided by your installation/facility should be used for the purpose. Anonymity, when requested, is assured.
4. PARTICIPATE in the installation/facility safety and occupational health program. Civilian workers shall be authorized official time to participate in the activities provided by the DOD safety and occupational health program.

OTHER INFORMATION:

1. When the safety or occupational health staff or contact for your installation/facility is notified by a worker of a hazardous working condition, he/she will make an inspection of the working and health and report the results of the inspection in writing to the worker making the report.
2. Inspector General channels may be used to investigate complaints from either DOD civilian or military personnel concerning alleged acts of reprisals or interference due to participation in safety and occupational health activities. For DOD civilian personnel, allegations of reprisals may also be treated by them in accordance with applicable appeal procedures or administrative or negotiated grievance procedures.
3. For further information about the installation/facility safety and occupational health program, procedures, standards, requirements, Federal laws, or other related matters, contact the safety or occupational health point of contact for your installation/facility as noted on this form.
4. How well you carry out your safety and occupational health responsibilities will be an important factor in the success of the program.

DD FORM 2272, FEB 67

Figure 2-1. Sample DD Form 2272

36

LEXSTAT 29 CFR 1910.146

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*** THIS SECTION IS CURRENT THROUGH THE FEBRUARY 7, 2008 ISSUE OF ***
*** THE FEDERAL REGISTER ***

TITLE 29 -- LABOR
SUBTITLE B -- REGULATIONS RELATING TO LABOR
CHAPTER XVII -- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LA-
BOR
PART 1910 -- OCCUPATIONAL SAFETY AND HEALTH STANDARDS
SUBPART J -- GENERAL ENVIRONMENTAL CONTROLS

Go to the CFR Archive Directory

29 CFR 1910.146

§ 1910.146 Permit-required confined spaces.

(a) Scope and application. This section contains requirements for practices and procedures to protect employees in general industry from the hazards of entry into permit-required confined spaces. This section does not apply to agriculture, to construction, or to shipyard employment (Parts 1928, 1926, and 1915 of this chapter, respectively).

(b) Definitions.

Acceptable entry conditions means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

Attendant means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

Authorized entrant means an employee who is authorized by the employer to enter a permit space.

Blanking or blinding means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

Confined space means a space that:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- (2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and
- (3) Is not designed for continuous employee occupancy.

Double block and bleed means the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

Emergency means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

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36

Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry permit (permit) means the written or printed document that is provided by the employer to allow and control entry into a permit space and that contains the information specified in paragraph (f) of this section.

Entry supervisor means the person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.

Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- (1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);
- (2) Airborne combustible dust at a concentration that meets or exceeds its LFL;

NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.

- (3) Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent;
- (4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of this part and which could result in employee exposure in excess of its dose or permissible exposure limit;

NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

- (5) Any other atmospheric condition that is immediately dangerous to life or health.

NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets that comply with the Hazard Communication Standard, § 1910.1200 of this part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Hot work permit means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

Immediately dangerous to life or health (IDLH) means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

NOTE: Some materials -- hydrogen fluoride gas and cadmium vapor, for example -- may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

Inerting means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

NOTE: This procedure produces an IDLH oxygen-deficient atmosphere.

Isolation means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

Line breaking means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Non-permit confined space means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Oxygen deficient atmosphere means an atmosphere containing less than 19.5 percent oxygen by volume.

Oxygen enriched atmosphere means an atmosphere containing more than 23.5 percent oxygen by volume.

Permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:

- (1) Contains or has a potential to contain a hazardous atmosphere;
- (2) Contains a material that has the potential for engulfing an entrant;
- (3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or
- (4) Contains any other recognized serious safety or health hazard.

Permit-required confined space program (permit space program) means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

Permit system means the employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Prohibited condition means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

Rescue service means the personnel designated to rescue employees from permit spaces.

Retrieval system means the equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

Testing means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

NOTE: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

(c) General requirements. (1) The employer shall evaluate the workplace to determine if any spaces are permit-required confined spaces.

NOTE: Proper application of the decision flow chart in Appendix A to § 1910.146 would facilitate compliance with this requirement.

(2) If the workplace contains permit spaces, the employer shall inform exposed employees, by posting danger signs or by any other equally effective means, of the existence and location of and the danger posed by the permit spaces.

NOTE: A sign reading "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" or using other similar language would satisfy the requirement for a sign.

(3) If the employer decides that its employees will not enter permit spaces, the employer shall take effective measures to prevent its employees from entering the permit spaces and shall comply with paragraphs (c)(1), (c)(2), (c)(6), and (c)(8) of this section.

(4) If the employer decides that its employees will enter permit spaces, the employer shall develop and implement a written permit space program that complies with this section. The written program shall be available for inspection by employees and their authorized representatives.

(5) An employer may use the alternate procedures specified in paragraph (c)(5)(ii) of this section for entering a permit space under the conditions set forth in paragraph (c)(5)(i) of this section.

(i) An employer whose employees enter a permit space need not comply with paragraphs (d) through (f) and (h) through (k) of this section, provided that:

(A) The employer can demonstrate that the only hazard posed by the permit space is an actual or potential hazardous atmosphere;

(B) The employer can demonstrate that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry;

(C) The employer develops monitoring and inspection data that supports the demonstrations required by paragraphs (c)(5)(i)(A) and (c)(5)(i)(B) of this section;

(D) If an initial entry of the permit space is necessary to obtain the data required by paragraph (c)(5)(i)(C) of this section, the entry is performed in compliance with paragraphs (d) through (k) of this section;

(E) The determinations and supporting data required by paragraphs (c)(5)(i)(A), (c)(5)(i)(B), and (c)(5)(i)(C) of this section are documented by the employer and are made available to each employee who enters the permit space under the terms of paragraph (c)(5) of this section or to that employee's authorized representative; and

(F) Entry into the permit space under the terms of paragraph (c)(5)(i) of this section is performed in accordance with the requirements of paragraph (c)(5)(ii) of this section.

NOTE: See paragraph (c)(7) of this section for reclassification of a permit space after all hazards within the space have been eliminated.

(ii) The following requirements apply to entry into permit spaces that meet the conditions set forth in paragraph (c)(5)(i) of this section.

(A) Any conditions making it unsafe to remove an entrance cover shall be eliminated before the cover is removed.

(B) When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.

(C) Before an employee enters the space, the internal atmosphere shall be tested, with a calibrated direct-reading instrument, for oxygen content, for flammable gases and vapors, and for potential toxic air contaminants, in that order. Any employee who enters the space, or that employee's authorized representative, shall be provided an opportunity to observe the pre-entry testing required by this paragraph.

(D) There may be no hazardous atmosphere within the space whenever any employee is inside the space.

(E) Continuous forced air ventilation shall be used, as follows:

(1) An employee may not enter the space until the forced air ventilation has eliminated any hazardous atmosphere;

(2) The forced air ventilation shall be so directed as to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space;

(3) The air supply for the forced air ventilation shall be from a clean source and may not increase the hazards in the space.

(F) The atmosphere within the space shall be periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere. Any employee who enters the space, or that employee's authorized representative, shall be provided with an opportunity to observe the periodic testing required by this paragraph.

(G) If a hazardous atmosphere is detected during entry:

- (1) Each employee shall leave the space immediately;
- (2) The space shall be evaluated to determine how the hazardous atmosphere developed; and
- (3) Measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place.

(H) The employer shall verify that the space is safe for entry and that the pre-entry measures required by paragraph (c)(5)(ii) of this section have been taken, through a written certification that contains the date, the location of the space, and the signature of the person providing the certification. The certification shall be made before entry and shall be made available to each employee entering the space or to that employee's authorized representative.

(6) When there are changes in the use or configuration of a non-permit confined space that might increase the hazards to entrants, the employer shall reevaluate that space and, if necessary, reclassify it as a permit-required confined space.

(7) A space classified by the employer as a permit-required confined space may be reclassified as a non-permit confined space under the following procedures:

(i) If the permit space poses no actual or potential atmospheric hazards and if all hazards within the space are eliminated without entry into the space, the permit space may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards remain eliminated.

(ii) If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed under paragraphs (d) through (k) of this section. If testing and inspection during that entry demonstrate that the hazards within the permit space have been eliminated, the permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated.

NOTE: Control of atmospheric hazards through forced air ventilation does not constitute elimination of the hazards. Paragraph (c)(5) covers permit space entry where the employer can demonstrate that forced air ventilation alone will control all hazards in the space.

(iii) The employer shall document the basis for determining that all hazards in a permit space have been eliminated, through a certification that contains the date, the location of the space, and the signature of the person making the determination. The certification shall be made available to each employee entering the space or to that employee's authorized representative.

(iv) If hazards arise within a permit space that has been declassified to a non-permit space under paragraph (c)(7) of this section, each employee in the space shall exit the space. The employer shall then reevaluate the space and determine whether it must be reclassified as a permit space, in accordance with other applicable provisions of this section.

(8) When an employer (host employer) arranges to have employees of another employer (contractor) perform work that involves permit space entry, the host employer shall:

(i) Inform the contractor that the workplace contains permit spaces and that permit space entry is allowed only through compliance with a permit space program meeting the requirements of this section;

(ii) Apprise the contractor of the elements, including the hazards identified and the host employer's experience with the space, that make the space in question a permit space;

(iii) Apprise the contractor of any precautions or procedures that the host employer has implemented for the protection of employees in or near permit spaces where contractor personnel will be working;

(iv) Coordinate entry operations with the contractor, when both host employer personnel and contractor personnel will be working in or near permit spaces, as required by paragraph (d)(11) of this section; and

(v) Debrief the contractor at the conclusion of the entry operations regarding the permit space program followed and regarding any hazards confronted or created in permit spaces during entry operations.

(9) In addition to complying with the permit space requirements that apply to all employers, each contractor who is retained to perform permit space entry operations shall:

(i) Obtain any available information regarding permit space hazards and entry operations from the host employer;

(ii) Coordinate entry operations with the host employer, when both host employer personnel and contractor personnel will be working in or near permit spaces, as required by paragraph (d)(11) of this section; and

(iii) Inform the host employer of the permit space program that the contractor will follow and of any hazards confronted or created in permit spaces, either through a debriefing or during the entry operation.

(d) Permit-required confined space program (permit space program). Under the permit space program required by paragraph (c)(4) of this section, the employer shall:

(1) Implement the measures necessary to prevent unauthorized entry;

(2) Identify and evaluate the hazards of permit spaces before employees enter them;

(3) Develop and implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following:

(i) Specifying acceptable entry conditions;

(ii) Providing each authorized entrant or that employee's authorized representative with the opportunity to observe any monitoring or testing of permit spaces;

(iii) Isolating the permit space;

(iv) Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards;

(v) Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards; and

(vi) Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.

(4) Provide the following equipment (specified in paragraphs (d)(4)(i) through (d)(4)(ix) of this section) at no cost to employees, maintain that equipment properly, and ensure that employees use that equipment properly:

(i) Testing and monitoring equipment needed to comply with paragraph (d)(5) of this section;

(ii) Ventilating equipment needed to obtain acceptable entry conditions;

(iii) Communications equipment necessary for compliance with paragraphs (h)(3) and (i)(5) of this section;

(iv) Personal protective equipment insofar as feasible engineering and work practice controls do not adequately protect employees;

(v) Lighting equipment needed to enable employees to see well enough to work safely and to exit the space quickly in an emergency;

(vi) Barriers and shields as required by paragraph (d)(3)(iv) of this section;

(vii) Equipment, such as ladders, needed for safe ingress and egress by authorized entrants;

(viii) Rescue and emergency equipment needed to comply with paragraph (d)(9) of this section, except to the extent that the equipment is provided by rescue services; and

(ix) Any other equipment necessary for safe entry into and rescue from permit spaces.

(5) Evaluate permit space conditions as follows when entry operations are conducted:

(i) Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin, except that, if isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer), pre-entry testing shall be performed to the extent feasible before entry is authorized and, if entry is authorized, entry conditions shall be continuously monitored in the areas where authorized entrants are working;

(ii) Test or monitor the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations; and

(iii) When testing for atmospheric hazards, test first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors.

(iv) Provide each authorized entrant or that employee's authorized representative an opportunity to observe the pre-entry and any subsequent testing or monitoring of permit spaces;

(v) Reevaluate the permit space in the presence of any authorized entrant or that employee's authorized representative who requests that the employer conduct such reevaluation because the entrant or representative has reason to believe that the evaluation of that space may not have been adequate;

(vi) Immediately provide each authorized entrant or that employee's authorized representative with the results of any testing conducted in accord with paragraph (d) of this section.

NOTE: Atmospheric testing conducted in accordance with Appendix B to § 1910.146 would be considered as satisfying the requirements of this paragraph. For permit space operations in sewers, atmospheric testing conducted in accordance with Appendix B, as supplemented by Appendix E to § 1910.146, would be considered as satisfying the requirements of this paragraph.

(6) Provide at least one attendant outside the permit space into which entry is authorized for the duration of entry operations;

NOTE: Attendants may be assigned to monitor more than one permit space provided the duties described in paragraph (i) of this section can be effectively performed for each permit space that is monitored. Likewise, attendants may be stationed at any location outside the permit space to be monitored as long as the duties described in paragraph (i) of this section can be effectively performed for each permit space that is monitored.

(7) If multiple spaces are to be monitored by a single attendant, include in the permit program the means and procedures to enable the attendant to respond to an emergency affecting one or more of the permit spaces being monitored without distraction from the attendant's responsibilities under paragraph (i) of this section;

(8) Designate the persons who are to have active roles (as, for example, authorized entrants, attendants, entry supervisors, or persons who test or monitor the atmosphere in a permit space) in entry operations, identify the duties of each such employee, and provide each such employee with the training required by paragraph (g) of this section;

(9) Develop and implement procedures for summoning rescue and emergency services, for rescuing entrants from permit spaces, for providing necessary emergency services to rescued employees, and for preventing unauthorized personnel from attempting a rescue;

(10) Develop and implement a system for the preparation, issuance, use, and cancellation of entry permits as required by this section;

(11) Develop and implement procedures to coordinate entry operations when employees of more than one employer are working simultaneously as authorized entrants in a permit space, so that employees of one employer do not endanger the employees of any other employer;

(12) Develop and implement procedures (such as closing off a permit space and canceling the permit) necessary for concluding the entry after entry operations have been completed;

(13) Review entry operations when the employer has reason to believe that the measures taken under the permit space program may not protect employees and revise the program to correct deficiencies found to exist before subsequent entries are authorized; and

NOTE: Examples of circumstances requiring the review of the permit space program are: any unauthorized entry of a permit space, the detection of a permit space hazard not covered by the permit, the detection of a condition prohibited by the permit, the occurrence of an injury or near-miss during entry, a change in the use or configuration of a permit space, and employee complaints about the effectiveness of the program.

(14) Review the permit space program, using the canceled permits retained under paragraph (e)(6) of this section within 1 year after each entry and revise the program as necessary, to ensure that employees participating in entry operations are protected from permit space hazards.

NOTE: Employers may perform a single annual review covering all entries performed during a 12-month period. If no entry is performed during a 12-month period, no review is necessary.

Appendix C to § 1910.146 presents examples of permit space programs that are considered to comply with the requirements of paragraph (d) of this section.

(e) Permit system. (1) Before entry is authorized, the employer shall document the completion of measures required by paragraph (d)(3) of this section by preparing an entry permit.

NOTE: Appendix D to § 1910.146 presents examples of permits whose elements are considered to comply with the requirements of this section.

(2) Before entry begins, the entry supervisor identified on the permit shall sign the entry permit to authorize entry.

(3) The completed permit shall be made available at the time of entry to all authorized entrants or their authorized representatives, by posting it at the entry portal or by any other equally effective means, so that the entrants can confirm that pre-entry preparations have been completed.

(4) The duration of the permit may not exceed the time required to complete the assigned task or job identified on the permit in accordance with paragraph (f)(2) of this section.

(5) The entry supervisor shall terminate entry and cancel the entry permit when:

(i) The entry operations covered by the entry permit have been completed; or

(ii) A condition that is not allowed under the entry permit arises in or near the permit space.

(6) The employer shall retain each canceled entry permit for at least 1 year to facilitate the review of the permit-required confined space program required by paragraph (d)(14) of this section. Any problems encountered during an entry operation shall be noted on the pertinent permit so that appropriate revisions to the permit space program can be made.

(f) Entry permit. The entry permit that documents compliance with this section and authorizes entry to a permit space shall identify:

(1) The permit space to be entered;

(2) The purpose of the entry;

(3) The date and the authorized duration of the entry permit;

(4) The authorized entrants within the permit space, by name or by such other means (for example, through the use of rosters or tracking systems) as will enable the attendant to determine quickly and accurately, for the duration of the permit, which authorized entrants are inside the permit space;

NOTE: This requirement may be met by inserting a reference on the entry permit as to the means used, such as a roster or tracking system, to keep track of the authorized entrants within the permit space.

(5) The personnel, by name, currently serving as attendants;

(6) The individual, by name, currently serving as entry supervisor, with a space for the signature or initials of the entry supervisor who originally authorized entry;

(7) The hazards of the permit space to be entered;

(8) The measures used to isolate the permit space and to eliminate or control permit space hazards before entry;

NOTE: Those measures can include the lockout or tagging of equipment and procedures for purging, inerting, ventilating, and flushing permit spaces.

(9) The acceptable entry conditions;

(10) The results of initial and periodic tests performed under paragraph (d)(5) of this section, accompanied by the names or initials of the testers and by an indication of when the tests were performed;

(11) The rescue and emergency services that can be summoned and the means (such as the equipment to use and the numbers to call) for summoning those services;

(12) The communication procedures used by authorized entrants and attendants to maintain contact during the entry;

(13) Equipment, such as personal protective equipment, testing equipment, communications equipment, alarm systems, and rescue equipment, to be provided for compliance with this section;

(14) Any other information whose inclusion is necessary, given the circumstances of the particular confined space, in order to ensure employee safety; and

(15) Any additional permits, such as for hot work, that have been issued to authorize work in the permit space.

(g) Training. (1) The employer shall provide training so that all employees whose work is regulated by this section acquire the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this section.

(2) Training shall be provided to each affected employee:

(i) Before the employee is first assigned duties under this section;

(ii) Before there is a change in assigned duties;

(iii) Whenever there is a change in permit space operations that presents a hazard about which an employee has not previously been trained;

(iv) Whenever the employer has reason to believe either that there are deviations from the permit space entry procedures required by paragraph (d)(3) of this section or that there are inadequacies in the employee's knowledge or use of these procedures.

(3) The training shall establish employee proficiency in the duties required by this section and shall introduce new or revised procedures, as necessary, for compliance with this section.

(4) The employer shall certify that the training required by paragraphs (g)(1) through (g)(3) of this section has been accomplished. The certification shall contain each employee's name, the signatures or initials of the trainers, and the dates of training. The certification shall be available for inspection by employees and their authorized representatives.

(h) Duties of authorized entrants. The employer shall ensure that all authorized entrants:

(1) Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

(2) Properly use equipment as required by paragraph (d)(4) of this section;

(3) Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space as required by paragraph (i)(6) of this section;

(4) Alert the attendant whenever:

(i) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation, or

(ii) The entrant detects a prohibited condition; and

(5) Exit from the permit space as quickly as possible whenever:

(i) An order to evacuate is given by the attendant or the entry supervisor,

(ii) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation,

(iii) The entrant detects a prohibited condition, or

(iv) An evacuation alarm is activated.

(i) Duties of attendants. The employer shall ensure that each attendant:

(1) Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

(2) Is aware of possible behavioral effects of hazard exposure in authorized entrants;

(3) Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants under paragraph (f)(4) of this section accurately identifies who is in the permit space;

(4) Remains outside the permit space during entry operations until relieved by another attendant;

NOTE: When the employer's permit entry program allows attendant entry for rescue, attendants may enter a permit space to attempt a rescue if they have been trained and equipped for rescue operations as required by paragraph (k)(1) of this section and if they have been relieved as required by paragraph (i)(4) of this section.

(5) Communicates with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space under paragraph (i)(6) of this section;

(6) Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions;

(i) If the attendant detects a prohibited condition;

(ii) If the attendant detects the behavioral effects of hazard exposure in an authorized entrant;

(iii) If the attendant detects a situation outside the space that could endanger the authorized entrants; or

(iv) If the attendant cannot effectively and safely perform all the duties required under paragraph (i) of this section;

(7) Summon rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards;

(8) Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:

(i) Warn the unauthorized persons that they must stay away from the permit space;

(ii) Advise the unauthorized persons that they must exit immediately if they have entered the permit space; and

(iii) Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space;

(9) Performs non-entry rescues as specified by the employer's rescue procedure; and

(10) Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

(j) Duties of entry supervisors. The employer shall ensure that each entry supervisor:

(1) Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;

(2) Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;

(3) Terminates the entry and cancels the permit as required by paragraph (e)(5) of this section;

(4) Verifies that rescue services are available and that the means for summoning them are operable;

(5) Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and

(6) Determines, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

(k) Rescue and emergency services.

(1) An employer who designates rescue and emergency services, pursuant to paragraph (d)(9) of this section, shall:

(i) Evaluate a prospective rescuer's ability to respond to a rescue summons in a timely manner, considering the hazard(s) identified;

Note to paragraph (k)(1)(i): What will be considered timely will vary according to the specific hazards involved in each entry. For example, § 1910.134, Respiratory Protection, requires that employers provide a standby person or persons capable of immediate action to rescue employee(s) wearing respiratory protection while in work areas defined as IDLH atmospheres.

(ii) Evaluate a prospective rescue service's ability, in terms of proficiency with rescue-related tasks and equipment, to function appropriately while rescuing entrants from the particular permit space or types of permit spaces identified;

(iii) Select a rescue team or service from those evaluated that:

(A) Has the capability to reach the victim(s) within a time frame that is appropriate for the permit space hazard(s) identified;

(B) Is equipped for and proficient in performing the needed rescue services;

(iv) Inform each rescue team or service of the hazards they may confront when called on to perform rescue at the site; and

(v) Provide the rescue team or service selected with access to all permit spaces from which rescue may be necessary so that the rescue service can develop appropriate rescue plans and practice rescue operations.

Note to paragraph (k)(1): Non-mandatory Appendix F contains examples of criteria which employers can use in evaluating prospective rescuers as required by paragraph (k)(1) of this section.

(2) An employer whose employees have been designated to provide permit space rescue and emergency services shall take the following measures:

(i) Provide affected employees with the personal protective equipment (PPE) needed to conduct permit space rescues safely and train affected employees so they are proficient in the use of that PPE, at no cost to those employees;

(ii) Train affected employees to perform assigned rescue duties. The employer must ensure that such employees successfully complete the training required to establish proficiency as an authorized entrant, as provided by paragraphs (g) and (h) of this section;

(iii) Train affected employees in basic first-aid and cardiopulmonary resuscitation (CPR). The employer shall ensure that at least one member of the rescue team or service holding a current certification in first aid and CPR is available; and

(iv) Ensure that affected employees practice making permit space rescues at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative permit spaces. Representative permit spaces shall, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which rescue is to be performed.

(3) To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems shall meet the following requirements.

(i) Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which the employer can establish presents a profile small enough for the successful removal of the entrant. Wristlets may be used in lieu of the chest or full body harness if the employer can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.

(ii) The other end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device shall be available to retrieve personnel from vertical type permit spaces more than 5 feet (1.52 m) deep.

(4) If an injured entrant is exposed to a substance for which a Material Safety Data Sheet (MSDS) or other similar written information is required to be kept at the worksite, that MSDS or written information shall be made available to the medical facility treating the exposed entrant.

(1) Employee participation. (1) Employers shall consult with affected employees and their authorized representatives on the development and implementation of all aspects of the permit space program required by paragraph (c) of this section.

(2) Employers shall make available to affected employees and their authorized representatives all information required to be developed by this section.

NOTE: Appendices A through F serve to provide information and non-mandatory guidelines to assist employers and employees in complying with the appropriate requirements of this section.

APPENDIX A TO § 1910.146 -- PERMIT-REQUIRED CONFINED SPACE DECISION FLOW CHART

Display Image

APPENDIX B TO § 1910.146 -- PROCEDURES FOR ATMOSPHERIC TESTING

Atmospheric testing is required for two distinct purposes: evaluation of the hazards of the permit space and verification that acceptable entry conditions for entry into that space exist.

(1) Evaluation testing. The atmosphere of a confined space should be analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres that may exist or arise, so that appropriate permit entry procedures can be developed and acceptable entry conditions stipulated for that space. Evaluation and interpretation of these data, and development of the entry procedure, should be done by, or reviewed by, a technically qualified professional (e.g., OSHA consultation service, or certified industrial hygienist, registered safety engineer, certified safety professional, certified marine chemist, etc.) based on evaluation of all serious hazards.

(2) Verification testing. The atmosphere of a permit space which may contain a hazardous atmosphere should be tested for residues of all contaminants identified by evaluation testing using permit specified equipment to determine that residual concentrations at the time of testing and entry are within the range of acceptable entry conditions. Results of testing (i.e., actual concentration, etc.) should be recorded on the permit in the space provided adjacent to the stipulated acceptable entry condition.

(3) Duration of testing. Measurement of values for each atmospheric parameter should be made for at least the minimum response time of the test instrument specified by the manufacturer.

(4) Testing stratified atmospheres. When monitoring for entries involving a descent into atmospheres that may be stratified, the atmospheric envelope should be tested a distance of approximately 4 feet (1.22 m) in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress should be slowed to accommodate the sampling speed and detector response.

(5) Order of testing. A test for oxygen is performed first because most combustible gas meters are oxygen dependent and will not provide reliable readings in an oxygen deficient atmosphere. Combustible gasses are tested for next because the threat of fire or explosion is both more immediate and more life threatening, in most cases, than exposure to toxic gasses and vapors. If tests for toxic gasses and vapors are necessary, they are performed last.

APPENDIX C TO § 1910.146 -- EXAMPLES OF PERMIT-REQUIRED CONFINED SPACE PROGRAMS

Example 1.

Workplace. Sewer entry.

Potential hazards. The employees could be exposed to the following:

Engulfment.

Presence of toxic gases. Equal to or more than 10 ppm hydrogen sulfide measured as an 8-hour time-weighted average. If the presence of other toxic contaminants is suspected, specific monitoring programs will be developed.

Presence of explosive/flammable gases. Equal to or greater than 10% of the lower flammable limit (LFL).

Oxygen Deficiency. A concentration of oxygen in the atmosphere equal to or less than 19.5% by volume.

A. Entry Without Permit/Attendant

Certification. Confined spaces may be entered without the need for a written permit or attendant provided that the space can be maintained in a safe condition for entry by mechanical ventilation alone, as provided in § 1910.146(c)(5). All spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. Any employee required or permitted to pre-check or enter an enclosed/confined space shall have successfully completed, -as a minimum, the training as required by the following sections of these procedures. A written copy of operating and rescue procedures as required by these procedures shall be at the work site for the duration of the job. The confined Space Pre-Entry Check List must be completed by the LEAD WORKER before entry into a confined space. This

list verifies completion of items listed below. This check list shall be kept at the job site for duration of the job. If circumstances dictate an interruption in the work, the permit space must be re-evaluated and a new check list must be completed.

Control of atmospheric and engulfment hazards.

Pumps and Lines. All pumps and lines which may reasonably cause contaminants to flow into the space shall be disconnected, blinded and locked out, or effectively isolated by other means to prevent development of dangerous air contamination or engulfment. Not all lateral to sewers or storm drains require blocking. However, where experience or knowledge of industrial use indicates there is a reasonable potential for contamination of air or engulfment into an occupied sewer, then all affected lateral shall be blocked. If blocking and/or isolation requires entry into a permit-required confined space must be implemented.

Surveillance. The surrounding area shall be surveyed to avoid hazards such as drifting vapors from the tanks, piping, or sewers.

Testing. The atmosphere within the space will be tested to determine whether dangerous air contamination and/or oxygen deficiency exists. Detector tubes, alarm only gas monitors and explosion meters are examples of monitoring equipment that may be used to test permit space atmospheres. Testing shall be performed by the LEAD WORKER who has successfully completed the Gas Detector training for the monitor he will use. The minimum parameters to be monitored are oxygen deficiency, LFL, and hydrogen sulfide concentration. A written record of the pre-entry test results shall be made and kept at the work site for the duration of the job. The supervisor will certify in writing, based upon the results of the pre-entry testing, that all hazards have been eliminated. Affected employees shall be able to review the testing results. The most hazardous conditions shall govern when work is being performed in two adjoining, connecting spaces.

Entry Procedures. If there are not non-atmospheric hazards present and if the pre-entry tests show there is no dangerous air contamination and/or oxygen deficiency within the space and there is no reason to believe that any is likely to develop, entry into and work within may proceed. Continuous testing of the atmosphere in the immediate vicinity of the workers within the space shall be accomplished. The workers will immediately leave the permit space when any of the gas monitor alarm set points are reached as defined. Workers will not return to the area until a SUPERVISOR who has completed the gas detector training has used a direct reading gas detector to evaluate the situation and has determined that it is safe to enter.

Rescue. Arrangements for rescue services are not required where there is no attendant. See the rescue portion of section B., below, for instructions regarding rescue planning where and entry permit is required.

B. Entry Permit Required

Permits. Confined Space Entry Permit. All spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. Any employee required or permitted to pre-check or enter a permit-required confined space shall have successfully completed, as a minimum, the training as required by the following sections of these procedures. A written copy of operating and rescue procedures as required by these procedures shall be at the work site for the duration of the job. The Confined Space Entry Permit must be completed before approval can be given to enter a permit-required confined space. This permit verifies completion of items listed below. This permit shall be kept at the job site for the duration of the job. If circumstances cause an interruption in the work or a change in the alarm conditions for which entry was approved, a new Confined Space Entry Permit must be completed.

Control of atmospheric and engulfment hazards.

Surveillance. The surrounding area shall be surveyed to avoid hazards such as drifting vapors from tanks, piping or sewers.

Testing. The confined space atmosphere shall be tested to determine whether dangerous air contamination and/or oxygen deficiency exists. A direct reading gas monitor shall be used. Testing shall be performed by the SUPERVISOR who has successfully completed the gas detector training for the monitor he will use. The minimum parameters to be monitored are oxygen deficiency, LFL and hydrogen sulfide concentration. A written record of the pre-entry test results shall be made and kept at the work site for the duration of the job. Affected employees shall be able to review the testing results. The most hazardous conditions shall govern when work is being performed in two adjoining, connected spaces.

Space Ventilation. Mechanical ventilation systems, where applicable, shall be set at 100% outside air. Where possible, open additional manholes to increase air circulation. Use portable blowers to augment natural circulation if needed. After a suitable ventilating period, repeat the testing. Entry may not begin until testing has demonstrated that the hazardous atmosphere has been eliminated.

Entry Procedures. The following procedure shall be observed under any of the following condition: 1.) Testing demonstrates the existence of dangerous or deficient conditions and additional ventilation cannot reduce concentrations to safe levels; 2.) The atmosphere tests as safe but unsafe conditions can reasonably be expected to develop; 3.) It is not feasible to provide for ready exit from spaces equipped with automatic fire suppression systems and it is not practical or safe to deactivate such systems; or 4.) An emergency exists and it is not feasible to wait for pre-entry procedures to take effect.

All personnel must be trained. A self contained breathing apparatus shall be worn by any person entering the space. At least one worker shall stand by the outside of the space ready to give assistance in case of emergency. The standby worker shall have a self contained breathing apparatus available for immediate use. There shall be at least one additional worker within sight or call of the standby worker. Continuous powered communications shall be maintained between the worker within the confined space and standby personnel.

If at any time there is any questionable action or non- movement by the worker inside, a verbal check will be made. If there is no response, the worker will be moved immediately. Exception: If the worker is disabled due to falling or impact, he/she shall not be removed from the confined space unless there is immediate danger to his/her life. Local fire department rescue personnel shall be notified immediately. The standby worker may only enter the confined space in case of an emergency (wearing the self contained breathing apparatus) and only after being relieved by another worker. Safety belt or harness with attached lifeline shall be used by all workers entering the space with the free end of the line secured outside the entry opening. The standby worker shall attempt to remove a disabled worker via his lifeline before entering the space.

When practical, these spaces shall be entered through side openings -- those within 3 1/2 feet (1.07 m) of the bottom. When entry must be through a top opening, the safety belt shall be of the harness type that suspends a person upright and a hoisting device or similar apparatus shall be available for lifting workers out of the space.

In any situation where their use may endanger the worker, use of a hoisting device or safety belt and attached lifeline may be discontinued.

When dangerous air contamination is attributable to flammable and/or explosive substances, lighting and electrical equipment shall be Class 1, Division 1 rated per National Electrical Code and no ignition sources shall be introduced into the area.

Continuous gas monitoring shall be performed during all confined space operations. If alarm conditions change adversely, entry personnel shall exit the confined space and a new confined space permit issued.

Rescue. Call the fire department services for rescue. Where immediate hazards to injured personnel are present, workers at the site shall implement emergency procedures to fit the situation.

Example 2.

Workplace. Meat and poultry rendering plants.

Cookers and dryers are either batch or continuous in their operation. Multiple batch cookers are operated in parallel. When one unit of a multiple set is shut down for repairs, means are available to isolate that unit from the others which remain in operation.

Cookers and dryers are horizontal, cylindrical vessels equipped with a center, rotating shaft and agitator paddles or discs. If the inner shell is jacketed, it is usually heated with steam at pressures up to 150 psig (1034.25 kPa). The rotating shaft assembly of the continuous cooker or dryer is also steam heated.

Potential Hazards. The recognized hazards associated with cookers and dryers are the risk that employees could be:

1. Struck or caught by rotating agitator;
2. Engulfed in raw material or hot, recycled fat;

3. Burned by steam from leaks into the cooker/dryer steam jacket or the condenser duct system if steam valves are not properly closed and locked out;
4. Burned by contact with hot metal surfaces, such as the agitator shaft assembly, or inner shell of the cooker/dryer;
5. Heat stress caused by warm atmosphere inside cooker/dryer;
6. Slipping and falling on grease in the cooker/dryer;
7. Electrically shocked by faulty equipment taken into the cooker/dryer;
8. Burned or overcome by fire or products of combustion; or
9. Overcome by fumes generated by welding or cutting done on grease covered surfaces.

Permits. The supervisor in this case is always present at the cooker/dryer or other permit entry confined space when entry is made. The supervisor must follow the pre-entry isolation procedures described in the entry permit in preparing for entry, and ensure that the protective clothing, ventilating equipment and any other equipment required by the permit are at the entry site.

Control of hazards. Mechanical. Lock out main power switch to agitator motor at main power panel. Affix tag to the lock to inform others that a permit entry confined space entry is in progress.

Engulfment. Close all valves in the raw material blow line. Secure each valve in its closed position using chain and lock. Attach a tag to the valve and chain warning that a permit entry confined space entry is in progress. The same procedure shall be used for securing the fat recycle valve.

Burns and heat stress. Close steam supply valves to jacket and secure with chains and tags. Insert solid blank at flange in cooker vent line to condenser manifold duct system. Vent cooker/dryer by opening access door at discharge end and top center door to allow natural ventilation throughout the entry. If faster cooling is needed, use a portable ventilation fan to increase ventilation. Cooling water may be circulated through the jacket to reduce both outer and inner surface temperatures of cooker/dryers faster. Check air and inner surface temperatures in cooker/dryer to assure they are within acceptable limits before entering, or use proper protective clothing.

Fire and fume hazards. Careful site preparation, such as cleaning the area within 4 inches (10.16 cm) of all welding or torch cutting operations, and proper ventilation are the preferred controls. All welding and cutting operations shall be done in accordance with the requirements of 29 CFR Part 1910, Subpart Q, OSHA's welding standard. Proper ventilation may be achieved by local exhaust ventilation, or the use of portable ventilation fans, or a combination of the two practices.

Electrical shock. Electrical equipment used in cooker/dryers shall be in serviceable condition.

Slips and falls. Remove residual grease before entering cooker/dryer.

Attendant. The supervisor shall be the attendant for employees entering cooker/dryers.

Permit. The permit shall specify how isolation shall be done and any other preparation needed before making entry. This is especially important in parallel arrangements of cooker/dryers so that the entire operation need not be shut down to allow safe entry into one unit.

Rescue. When necessary, the attendant shall call the fire department as previously arranged.

Example 3.

Workplace. Workplaces where tank cars, trucks, and trailers, dry bulk tanks and trailers, railroad tank cars, and similar portable tanks are fabricated or serviced.

A. During fabrication. These tanks and drybulk carriers are entered repeatedly throughout the fabrication process. These products are not configured identically, but the manufacturing processes by which they are made are very similar.

Sources of hazards. In addition to the mechanical hazards arising from the risks that an entrant would be injured due to contact with components of the tank or the tools being used, there is also the risk that a worker could be injured by breathing fumes from welding materials or mists or vapors from materials used to coat the tank interior. In addition,

many of these vapors and mists are flammable, so the failure to properly ventilate a tank could lead to a fire or explosion.

Control of hazards.

Welding. Local exhaust ventilation shall be used to remove welding fumes once the tank or carrier is completed to the point that workers may enter and exit only through a manhole. (Follow the requirements of 29 CFR 1910, Subpart Q, OSHA's welding standard, at all times.) Welding gas tanks may never be brought into a tank or carrier that is a permit entry confined space.

Application of interior coatings/linings. Atmospheric hazards shall be controlled by forced air ventilation sufficient to keep the atmospheric concentration of flammable materials below 10% of the lower flammable limit (LFL)(or lower explosive limit (LEL), whichever term is used locally). The appropriate respirators are provided and shall be used in addition to providing forced ventilation if the forced ventilation does not maintain acceptable respiratory conditions.

Permits. Because of the repetitive nature of the entries in these operations, an "Area Entry Permit" will be issued for a 1 month period to cover those production areas where tanks are fabricated to the point that entry and exit are made using manholes.

Authorization. Only the area supervisor may authorize an employee to enter a tank within the permit area. The area supervisor must determine that conditions in the tank trailer, dry bulk trailer or truck, etc. meet permit requirements before authorizing entry.

Attendant. The area supervisor shall designate an employee to maintain communication by employer specified means with employees working in tanks to ensure their safety. The attendant may not enter any permit entry confined space to rescue an entrant or for any other reason, unless authorized by the rescue procedure and, and even then, only after calling the rescue team and being relieved by as attendant by another worker.

Communication and observation. Communications between attendant and entrant(s) shall be maintained throughout entry. Methods of communications that may be specified by the permit include voice, voice powered radio, tapping or rapping codes on tank walls, signalling tugs on a rope, and the attendant's observation that work activities such as chipping, grinding, welding, spraying, etc. which require deliberate operator control continue normally. These activities often generate so much noise that the necessary hearing protection makes communication by voice difficult.

Rescue procedures. Acceptable rescue procedures include entry by a team of employee-rescuers, use of public emergency services, and procedures for breaching the tank. The area permit specifies which procedures are available, but the area supervisor makes the final decision based on circumstances. (Certain injuries may make it necessary to breach the tank to remove a person rather than risk additional injury by removal through an existing manhole. However, the supervisor must ensure that no breaching procedure used for rescue would violate terms of the entry permit. For instance, if the tank must be breached by cutting with a torch, the tank surfaces to be cut must be free of volatile or combustible coatings within 4 inches (10.16 cm) of the cutting line and the atmosphere within the tank must be below the LFL.

Retrieval line and harnesses. The retrieval lines and harnesses generally required under this standard are usually impractical for use in tanks because the internal configuration of the tanks and their interior baffles and other structures would prevent rescuers from hauling out injured entrants. However, unless the rescue procedure calls for breaching the tank for rescue, the rescue team shall be trained in the use of retrieval lines and harnesses for removing injured employees through manholes.

B. Repair or service of "used" tanks and bulk trailers.

Sources of hazards. In addition to facing the potential hazards encountered in fabrication or manufacturing, tanks or trailers which have been in service may contain residues of dangerous materials, whether left over from the transportation of hazardous cargoes or generated by chemical or bacterial action on residues of non-hazardous cargoes.

Control of atmospheric hazards. A "used" tank shall be brought into areas where tank entry is authorized only after the tank has been emptied, cleansed (without employee entry) of any residues, and purged of any potential atmospheric hazards.

Welding. In addition to tank cleaning for control of atmospheric hazards, coating and surface materials shall be removed 4 inches (10.16 cm) or more from any surface area where welding or other torch work will be done and care

taken that the atmosphere within the tank remains well below the LFL. (Follow the requirements of 29 CFR 1910, Subpart Q, OSHA's welding standard, at all times.)

Permits. An entry permit valid for up to 1 year shall be issued prior to authorization of entry into used tank trailers, dry bulk trailers or trucks. In addition to the pre-entry cleaning requirement, this permit shall require the employee safeguards specified for new tank fabrication or construction permit areas.

Authorization. Only the area supervisor may authorize an employee to enter a tank trailer, dry bulk trailer or truck within the permit area. The area supervisor must determine that the entry permit requirements have been met before authorizing entry.

APPENDIX D TO § 1910.146 -- SAMPLE PERMITS

APPENDIX D-1 Display Image

APPENDIX D-2 Display Image

APPENDIX E TO § 1910.146 -- SEWER SYSTEM ENTRY

Sewer entry differs in three vital respects from other permit entries; first, there rarely exists any way to completely isolate the space (a section of a continuous system) to be entered; second, because isolation is not complete, the atmosphere may suddenly and unpredictably become lethally hazardous (toxic, flammable or explosive) from causes beyond the control of the entrant or employer, and third, experienced sewer workers are especially knowledgeable in entry and work in their permit spaces because of their frequent entries. Unlike other employments where permit space entry is a rare and exceptional event, sewer workers' usual work environment is a permit space.

(1) Adherence to procedure. The employer should designate as entrants only employees who are thoroughly trained in the employer's sewer entry procedures and who demonstrate that they follow these entry procedures exactly as prescribed when performing sewer entries.

(2) Atmospheric monitoring. Entrants should be trained in the use of, and be equipped with, atmospheric monitoring equipment which sounds an audible alarm, in addition to its visual readout, whenever one of the following conditions are encountered: Oxygen concentration less than 19.5 percent; flammable gas or vapor at 10 percent or more of the lower flammable limit (LFL); or hydrogen sulfide or carbon monoxide at or above 10 ppm or 35 ppm, respectively, measured as an 8-hour time-weighted average. Atmospheric monitoring equipment needs to be calibrated according to the manufacturer's instructions. The oxygen sensor/broad range sensor is best suited for initial use in situations where the actual or potential contaminants have not been identified, because broad range sensors, unlike substance-specific sensors, enable employers to obtain an overall reading of the hydrocarbons (flammables) present in the space. However, such sensors only indicate that a hazardous threshold of a class of chemicals has been exceeded. They do not measure the levels of contamination of specific substances. Therefore, substance-specific devices, which measure the actual levels of specific substances, are best suited for use where actual and potential contaminants have been identified. The measurements obtained with substance-specific devices are of vital importance to the employer when decisions are made concerning the measures necessary to protect entrants (such as ventilation or personal protective equipment) and the setting and attainment of appropriate entry conditions. However, the sewer environment may suddenly and unpredictably change, and the substance-specific devices may not detect the potentially lethal atmospheric hazards which may enter the sewer environment.

Although OSHA considers the information and guidance provided above to be appropriate and useful in most sewer entry situations, the Agency emphasizes that each employer must consider the unique circumstances, including the predictability of the atmosphere, of the sewer permit spaces in the employer's workplace in preparing for entry. Only the employer can decide, based upon his or her knowledge of, and experience with permit spaces in sewer systems, what the best type of testing instrument may be for any specific entry operation.

The selected testing instrument should be carried and used by the entrant in sewer line work to monitor the atmosphere in the entrant's environment, and in advance of the entrant's direction of movement, to warn the entrant of any deterioration in atmospheric conditions. Where several entrants are working together in the same immediate location, one instrument, used by the lead entrant, is acceptable.

(3) Surge flow and flooding. Sewer crews should develop and maintain liaison, to the extent possible, with the local weather bureau and fire and emergency services in their area so that sewer work may be delayed or interrupted and entrants withdrawn whenever sewer lines might be suddenly flooded by rain or fire suppression activities, or whenever

flammable or other hazardous materials are released into sewers during emergencies by industrial or transportation accidents.

(4) Special Equipment. Entry into large bore sewers may require the use of special equipment. Such equipment might include such items as atmosphere monitoring devices with automatic audible alarms, escape self-contained breathing apparatus (ESCBAs) with at least 10 minute air supply (or other NIOSH approved self-rescuer), and water-proof flashlights, and may also include boats and rafts, radios and rope stand-offs for pulling around bends and corners as needed.

NON-MANDATORY APPENDIX F -- RESCUE TEAM OR RESCUE SERVICE EVALUATION CRITERIA

(1) This appendix provides guidance to employers in choosing an appropriate rescue service. It contains criteria that may be used to evaluate the capabilities both of prospective and current rescue teams. Before a rescue team can be trained or chosen, however, a satisfactory permit program, including an analysis of all permit-required confined spaces to identify all potential hazards in those spaces, must be completed. OSHA believes that compliance with all the provisions of § 1910.146 will enable employers to conduct permit space operations without recourse to rescue services in nearly all cases. However, experience indicates that circumstances will arise where entrants will need to be rescued from permit spaces. It is therefore important for employers to select rescue services or teams, either on-site or off-site, that are equipped and capable of minimizing harm to both entrants and rescuers if the need arises.

(2) For all rescue teams or services, the employer's evaluation should consist of two components: an initial evaluation, in which employers decide whether a potential rescue service or team is adequately trained and equipped to perform permit space rescues of the kind needed at the facility and whether such rescuers can respond in a timely manner, and a performance evaluation, in which employers measure the performance of the team or service during an actual or practice rescue. For example, based on the initial evaluation, an employer may determine that maintaining an on-site rescue team will be more expensive than obtaining the services of an off-site team, without being significantly more effective, and decide to hire a rescue service. During a performance evaluation, the employer could decide, after observing the rescue service perform a practice rescue, that the service's training or preparedness was not adequate to effect a timely or effective rescue at his or her facility and decide to select another rescue service, or to form an internal rescue team.

A. Initial Evaluation

I. The employer should meet with the prospective rescue service to facilitate the evaluations required by § 1910.146(k)(1)(i) and § 1910.146(k)(1)(ii). At a minimum, if an off-site rescue service is being considered, the employer must contact the service to plan and coordinate the evaluations required by the standard. Merely posting the service's number or planning to rely on the 911 emergency phone number to obtain these services at the time of a permit space emergency would not comply with paragraph (k)(1) of the standard.

II. The capabilities required of a rescue service vary with the type of permit spaces from which rescue may be necessary and the hazards likely to be encountered in those spaces. Answering the questions below will assist employers in determining whether the rescue service is capable of performing rescues in the permit spaces present at the employer's workplace.

1. What are the needs of the employer with regard to response time (time for the rescue service to receive notification, arrive at the scene, and set up and be ready for entry)? For example, if entry is to be made into an IDLH atmosphere, or into a space that can quickly develop an IDLH atmosphere (if ventilation fails or for other reasons), the rescue team or service would need to be standing by at the permit space. On the other hand, if the danger to entrants is restricted to mechanical hazards that would cause injuries (e.g., broken bones, abrasions) a response time of 10 or 15 minutes might be adequate.

2. How quickly can the rescue team or service get from its location to the permit spaces from which rescue may be necessary? Relevant factors to consider would include: the location of the rescue team or service relative to the employer's workplace, the quality of roads and highways to be traveled, potential bottlenecks or traffic congestion that might be encountered in transit, the reliability of the rescuer's vehicles, and the training and skill of its drivers.

3. What is the availability of the rescue service? Is it unavailable at certain times of the day or in certain situations? What is the likelihood that key personnel of the rescue service might be unavailable at times? If the rescue service becomes unavailable while an entry is underway, does it have the capability of notifying the employer so that the employer can instruct the attendant to abort the entry immediately?

4. Does the rescue service meet all the requirements of paragraph (k)(2) of the standard? If not, has it developed a plan that will enable it to meet those requirements in the future? If so, how soon can the plan be implemented?
5. For off-site services, is the service willing to perform rescues at the employer's workplace? (An employer may not rely on a rescuer who declines, for whatever reason, to provide rescue services.)
6. Is an adequate method for communications between the attendant, employer and prospective rescuer available so that a rescue request can be transmitted to the rescuer without delay? How soon after notification can a prospective rescuer dispatch a rescue team to the entry site?
7. For rescues into spaces that may pose significant atmospheric hazards and from which rescue entry, patient packaging and retrieval cannot be safely accomplished in a relatively short time (15-20 minutes), employers should consider using airline respirators (with escape bottles) for the rescuers and to supply rescue air to the patient. If the employer decides to use SCBA, does the prospective rescue service have an ample supply of replacement cylinders and procedures for rescuers to enter and exit (or be retrieved) well within the SCBA's air supply limits?
8. If the space has a vertical entry over 5 feet in depth, can the prospective rescue service properly perform entry rescues? Does the service have the technical knowledge and equipment to perform rope work or elevated rescue, if needed?
9. Does the rescue service have the necessary skills in medical evaluation, patient packaging and emergency response?
10. Does the rescue service have the necessary equipment to perform rescues, or must the equipment be provided by the employer or another source?

B. Performance Evaluation

Rescue services are required by paragraph (k)(2)(iv) of the standard to practice rescues at least once every 12 months, provided that the team or service has not successfully performed a permit space rescue within that time. As part of each practice session, the service should perform a critique of the practice rescue, or have another qualified party perform the critique, so that deficiencies in procedures, equipment, training, or number of personnel can be identified and corrected. The results of the critique, and the corrections made to respond to the deficiencies identified, should be given to the employer to enable it to determine whether the rescue service can quickly be upgraded to meet the employer's rescue needs or whether another service must be selected. The following questions will assist employers and rescue teams and services evaluate their performance.

1. Have all members of the service been trained as permit space entrants, at a minimum, including training in the potential hazards of all permit spaces, or of representative permit spaces, from which rescue may be needed? Can team members recognize the signs, symptoms, and consequences of exposure to any hazardous atmospheres that may be present in those permit spaces?
2. Is every team member provided with, and properly trained in, the use and need for PPE, such as SCBA or fall arrest equipment, which may be required to perform permit space rescues in the facility? Is every team member properly trained to perform his or her functions and make rescues, and to use any rescue equipment, such as ropes and backboards, that may be needed in a rescue attempt?
3. Are team members trained in the first aid and medical skills needed to treat victims overcome or injured by the types of hazards that may be encountered in the permit spaces at the facility?
4. Do all team members perform their functions safely and efficiently? Do rescue service personnel focus on their own safety before considering the safety of the victim?
5. If necessary, can the rescue service properly test the atmosphere to determine if it is IDLH?
6. Can the rescue personnel identify information pertinent to the rescue from entry permits, hot work permits, and MSDSs?
7. Has the rescue service been informed of any hazards to personnel that may arise from outside the space, such as those that may be caused by future work near the space?
8. If necessary, can the rescue service properly package and retrieve victims from a permit space that has a limited size opening (less than 24 inches (60.9 cm) in diameter), limited internal space, or internal obstacles or hazards?

9. If necessary, can the rescue service safely perform an elevated (high angle) rescue?

10. Does the rescue service have a plan for each of the kinds of permit space rescue operations at the facility? Is the plan adequate for all types of rescue operations that may be needed at the facility? Teams may practice in representative spaces, or in spaces that are "worst-case" or most restrictive with respect to internal configuration, elevation, and portal size. The following characteristics of a practice space should be considered when deciding whether a space is truly representative of an actual permit space:

(1) Internal configuration.

(a) Open -- there are no obstacles, barriers, or obstructions within the space. One example is a water tank.

(b) Obstructed -- the permit space contains some type of obstruction that a rescuer would need to maneuver around. An example would be a baffle or mixing blade. Large equipment, such as a ladder or scaffold, brought into a space for work purposes would be considered an obstruction if the positioning or size of the equipment would make rescue more difficult.

(2) Elevation.

(a) Elevated -- a permit space where the entrance portal or opening is above grade by 4 feet or more. This type of space usually requires knowledge of high angle rescue procedures because of the difficulty in packaging and transporting a patient to the ground from the portal.

(b) Non-elevated -- a permit space with the entrance portal located less than 4 feet above grade. This type of space will allow the rescue team to transport an injured employee normally.

(3) Portal size.

(a) Restricted -- A portal of 24 inches or less in the least dimension. Portals of this size are too small to allow a rescuer to simply enter the space while using SCBA. The portal size is also too small to allow normal spinal immobilization of an injured employee.

(b) Unrestricted -- A portal of greater than 24 inches in the least dimension. These portals allow relatively free movement into and out of the permit space.

(4) Space access.

(a) Horizontal -- The portal is located on the side of the permit space. Use of retrieval lines could be difficult.

(b) Vertical -- The portal is located on the top of the permit space, so that rescuers must climb down, or the bottom of the permit space, so that rescuers must climb up to enter the space. Vertical portals may require knowledge of rope techniques, or special patient packaging to safely retrieve a downed entrant.

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Social Security Administration: See Employees' Benefits, 20 CFR chapter III.

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Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (*29 U.S.C. 653, 655, 657*); Secretary of Labor's Order No. 12-71 (*36 FR 8754*), 8-76 (*41 FR 25059*), 9-83 (*48 FR 35736*), 1-90 (*55 FR 9033*), 6-96 (*62 FR 111*), 3-2000 (*65 FR 50017*), or 5-2007 (*72 FR 31159*), as applicable.

Sections 1910.141, 1910.142, 1910.145, 1910.146, and 1910.147 also issued under 29 CFR part 1911.]

NOTES TO DECISIONS: COURT AND ADMINISTRATIVE DECISIONS SIGNIFICANTLY DISCUSSING SECTION --

Cagle's, Inc. (1999, OSHRC ALJ) 1999 CCH OSHD P31947

Omaha Paper Stock Co. (2001, OSHRC) 19 BNA OSHC 1584, 2001 CCH OSHD P32482, affd (2002, CA8 Neb) 304 F3d 779, 19 BNA OSHC 2039, 2002 CCH OSHD P32605

S.K. Wellman Friction Co. (1999, OSHRC ALJ) 18 BNA OSHC 1884, 1999 CCH OSHD P31881

City of Des Moines v Empl. Appeal Bd. (2006, Iowa) 722 NW2d 183, 21 BNA OSHC 1720

13526 words

37

[REDACTED]

From: [REDACTED] R CIV USA FORSCOM
Sent: Monday, June 30, 2008 7:10 PM
To: [REDACTED]
Cc: [REDACTED]

Subject: Due Out-Flora Outfall Issues

Follow Up Flag: Follow up
Flag Status: Yellow

Attachments: Picture 031 Flora Outfall Tank.JPG



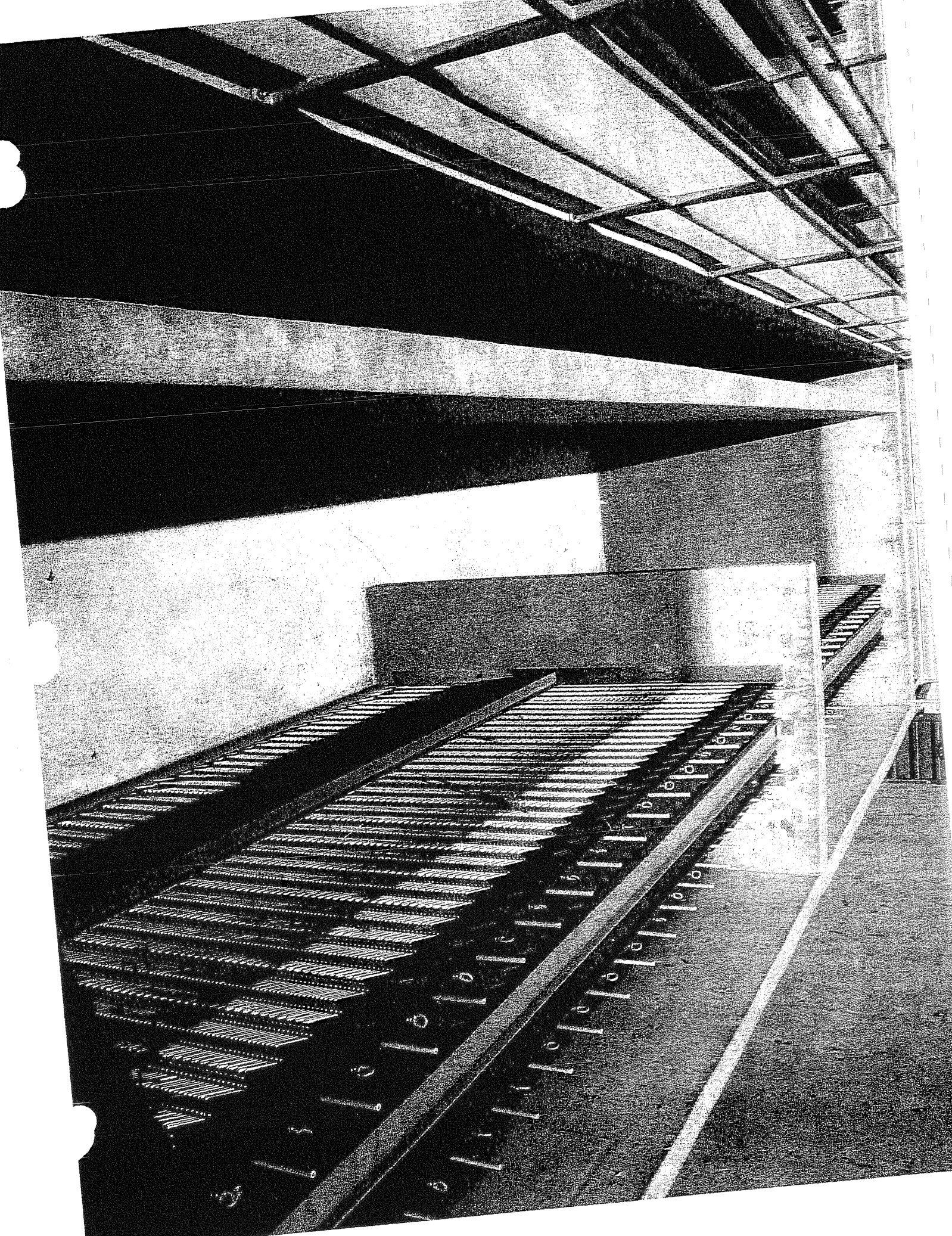
Picture 031 Flora
Outfall Tank... [REDACTED]

Results of Site Visit: I went out to take a look at the Flora outfall today. Attached is a picture where [REDACTED] was working on the day in question. As you can see, it resembles a small swimming pool rather than a tank. It clearly meets the definition of confined space and is on the PW list of confined spaces. When empty, it does not meet the definition of a permit required confined space. It is not 20 feet deep. It is 10-12 feet deep. The Water & Sewer Shop does not have 20 foot ladders. They have two 16 footers. On the other side of the catwalk there is another identical tank. This is where [REDACTED] was working on the day in question. They both had pressure washers going so it would have been noisy. Someone could have taken the ladder without her noticing. If he or she did take it, the person probably innocently assumed [REDACTED] would just call over to Mr. Huff and have him let her use his. She clearly could have done this. She might not have been able to get [REDACTED]'s attention immediately if his pressure washer were going. She might have just chosen to climb out herself. It would not have been that difficult. I'm pretty sure I could have done it. Looking at the picture, there is a concrete wall that extends partially across the tank and there is a two to three foot opening. Using both arms and feet to brace oneself, a person could shimmy up to the top with his or her back up against the wall as [REDACTED] describes.

Problem with our discussion in allegation 5(b): The outfall described in the second paragraph of 5(b), reference ROI-II Exhibit 170, is not the outfall where the Cynthia Winston allegation took place. That exhibit describes the Solo Point outfall where the WWTP discharges to Puget Sound. The Winston episode took place at the Flora outfall which is part of the storm water system. This system is totally separate from the WWTP. It's probably at least three miles away as the crow flies and much further by road.

v/r
[REDACTED]

Tak
37



Johnson, Cassandra T Ms OGC

From: Hart, Stephen R CIV USA FORSCOM
Sent: Tuesday, July 01, 2008 7:15 PM
To: Johnson, Cassandra T Ms OGC
Subject: Due Out-Flora Outfall Visit

Attachments: Picture 031 Flora Outfall Tank.JPG

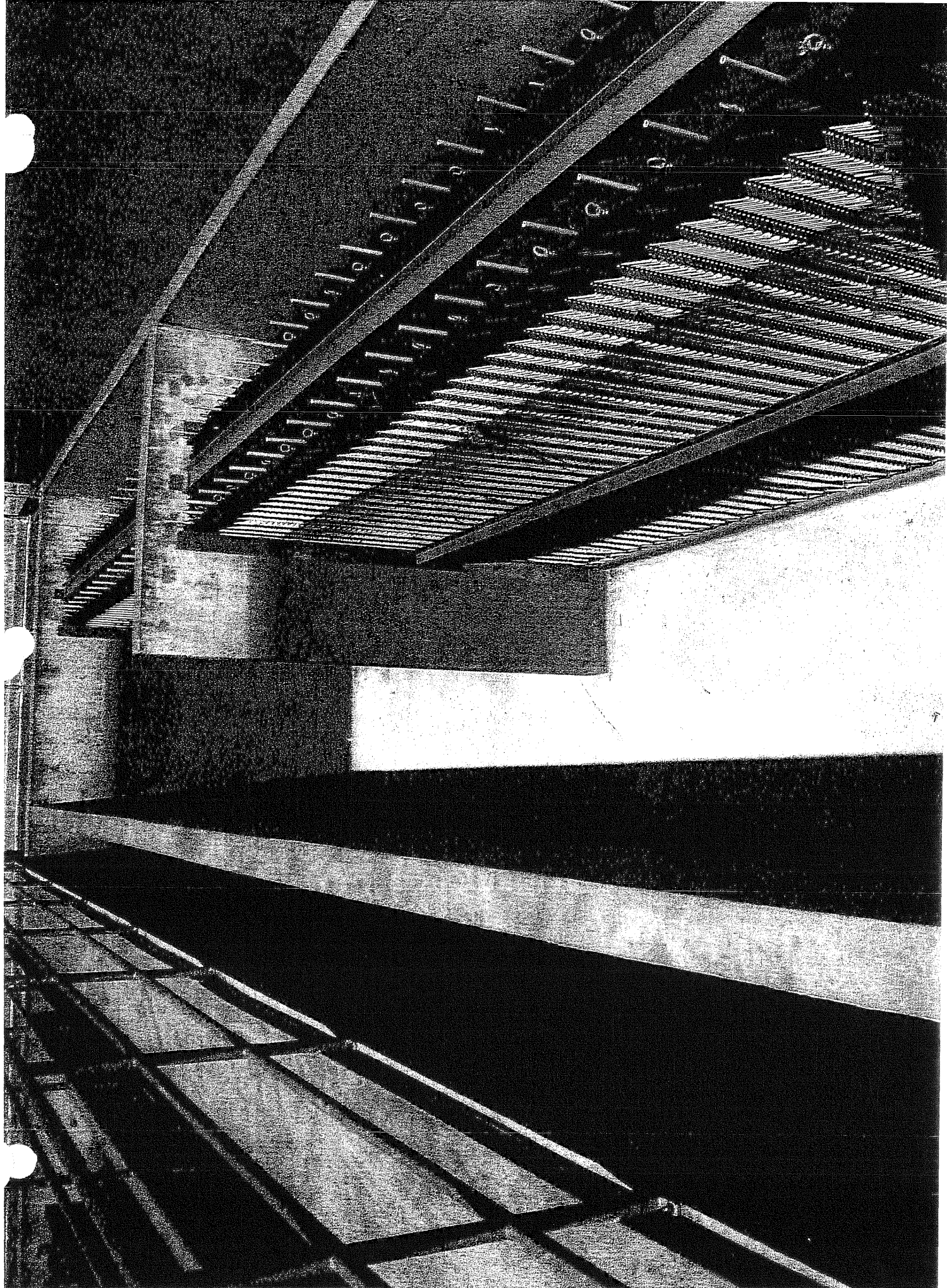


Picture 031 Flora
Outfall Tank...

Cassandra:

Results of Site Visit: I went out to take a look at the Flora outfall yesterday. It is a storm water treatment facility and not part of the WWTP. It is located near the Fort Lewis museum at least two miles from the WWTP. Attached is a picture of the "tank" where Cynthia Winston was working on the day in question. As you can see, it resembles a small swimming pool rather than a tank. It is actually called a storm water primary influent clarifier chamber. It clearly meets the definition of confined space and is on the PW list of confined spaces. When empty, it does not meet the definition of a permit required confined space. It is not 20 feet deep. It is 10-12 feet deep. The Water & Sewer Shop does not have 20 foot ladders. They have two 16 footers. On the other side of the catwalk there is another identical tank. This is where Mr. Huff was working on the day in question. They both had pressure washers going so it would have been noisy. Someone could have taken the ladder without her noticing. If an unknown person did take it, he or she probably innocently assumed Ms. Winston would just call over to Mr. Huff and have him let her use his. She clearly could have done this. She might not have been able to get Mr. Huff's attention immediately if his pressure washer were going. So, she might have just chosen to climb out herself. It would not have been that difficult. I'm pretty sure I could have done it. Looking at the picture, there is a concrete wall that extends partially across the tank and there is a two to three foot opening. Using both arms and feet to brace oneself, a person could shimmy up to the top with his or her back up against the wall as Ms. Winston describes.

v/r
Steve



Johnson, Cassandra T Ms OGC

From: Hart, Stephen R CIV USA FORSCOM
Sent: Friday, July 25, 2008 10:49 AM
To: Johnson, Cassandra T Ms OGC
Subject: Flora Outfall Confined Space

Attachments: Ellerbrock Email-Flora Outfall.rtf



Ellerbrock
Email-Flora Outfall..

Cassandra:

The PW confined space guy went out to the outfall and evaluated the space in question. He determined that although it was a confined space, it was not a permit required confined space and therefore did not have any entry requirements or require signage. His opinion is attached.

v/r
Steve

From: Ellerbrock, Gary Mr CIV USA IMCOM
Sent: Wednesday, July 23, 2008 3:51 PM
To: Hart, Stephen R CIV USA FORSCOM
Subject: FW: Flora Outfall

Steve,

I hope this answers some or all of your questions on this subject. If not, please feel free to request more information.

I went through the Dupont and Flora Oil/Water Separator and Outfall process onsite with Al Long as escort on the morning of 22 July beginning at 0900 to approx 1100. The area of concern is the Oil/Water Separator which is an open top, non-lidded structure approx 12-16 feet deep. They are open to the atmosphere and similar in configuration to Lap Pools for swimming. During the rainy season, they are mostly filled with storm water runoff consisting of dirt, some small debris and oils from road/vehicle residue. The Oil/Water Separator has a cleanable filtering wall that removes the oil and debris and allows the cleaned side to go to the Sound either directly or indirectly.

The determination of a confined space as per Subpart J (General Environmental Controls), of the OSHA Standard 29 CFR Part 1910.146 (b) Definitions.

"Confined space means a space that:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- (2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and
- (3) Is not designed for continuous employee occupancy."

"Non-permit confined space means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm."

The Oil/Water Separators, whether full or empty, present the above conditions and would be considered to be Non-permit required confined spaces (NPRCS).

In order to designate spaces as Permit required confined spaces (PRCS), they would need to contain any hazard capable of causing death or serious physical harm such as engulfment, electrocution, explosive or lethal atmospheres, mechanical or hydraulic mechanisms etc.

This system is not considered a Permit required confined space (PRCS) and signage or an attendant are not required during entry.

Thanks for your information request,
Gary

Gary Ellerbrock

Quality Control Specialist
PW O&M Division Fort Lewis, WA
Tel: 253-967-4787
Cell: 253-405-0102
Fax: 253-966-4288

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From: Ellerbrock, Gary Mr CIV USA IMCOM
Sent: Monday, July 21, 2008 4:08 PM
To: Hart, Stephen R CIV USA FORSCOM
Subject: RE: Flora Outfall

I'm sorry Steve, not yet.
I'll push for tomorrow.
Gary

Gary Ellerbrock
Quality Control Specialist
PW O&M Division Fort Lewis, WA
Tel: 253-967-4787
Cell: 253-405-0102
Fax: 253-966-4288

How are we doing? Rate our service at:
http://ice.disa.mil/index.cfm?fa=card&service_provider_id=101443&site_id=348&service_category_id=5

From: Hart, Stephen R CIV USA FORSCOM
Sent: Monday, July 21, 2008 1:32 PM
To: Ellerbrock, Gary Mr CIV USA IMCOM
Subject: Flora Outfall

Gary:

Have you had any luck getting over to the Flora Outfall to look at the confined space we talked about last week?

Thanks,

38

[REDACTED]

From: [REDACTED] R CIV USA FORSCOM
Sent: Saturday, June 28, 2008 4:23 PM
To: [REDACTED] OGC
Cc: [REDACTED]
Subject: Due Out-Ladder Removal Allegation

Follow Up Flag: Follow up
Flag Status: Red

[REDACTED] a:

[REDACTED] s Ladder Removal Allegation (Ex 43). Talked to [REDACTED] and [REDACTED]. [REDACTED] is no longer an employee at Fort Lewis. He retired. Based on [REDACTED] s statement, [REDACTED] does not appear to have been there at the time. [REDACTED] told me that he is familiar with the Flora outfall. It is not near the WWTP but near the Fort Lewis museum. There are several large tanks that are pressure washed once per year in the summer when there is no water in them. They would be classified as a confined spaces, but only permit-required confined spaces when there is water in them. He has no recollection of the incident alleged by [REDACTED]. His comment was that he would have had no reason to take the ladder. [REDACTED] recalls cleaning the tanks and that [REDACTED] was "in and out" but has no recollection of the ladder incident. He does not recall whether there was more than one 20 foot ladder at the outfall. I also talked to Jeff Houston at the Water Treatment Plant. He recalls hearing about the incident and recalls being there for a short period of time right when [REDACTED] left for his emergency. His recollection is that there was only one ladder. It appears this allegation lack sufficient corroboration, and if there was only one ladder, [REDACTED] was probably using it.

v/r
Steve

Tar
38

39

[REDACTED]

From: [REDACTED] Ms OGC
Sent: Thursday, October 23, 2008 12:47 PM
To: [REDACTED] Ms OGC
Subject: FW: Allegation 5 051808

-----Original Message-----

From: [REDACTED] R CIV USA FORSCOM
Sent: Wednesday, May 23, 2008 2:45 PM
To: J [REDACTED];
B [REDACTED] USA;
W [REDACTED] FORSCOM;
'Olmscheid, Melvin M' IMCOM
Subject: RE: Allegation 5 051808

[REDACTED]:
Here are my comments on Allegation 5.

7. PW conducted special training sessions for all shops in the water utilities sections on 16 October 2007. Training highlighted safety procedures for any repair work, to include the WWTP. Prior to the more formal instruction on 16 October, a number of lunch box training sessions were held throughout the shops in which a variety of safety subjects were discussed. Training videos, handouts and talking papers were used during these discussions. In addition, special confined space training was conducted on 30 July 2007 which led to all WWTP operators being certified for work in confined space areas. Air monitoring device training was included as part of the certification. By the way, they did use [REDACTED]'s 40" plasma and some of the training videos. [REDACTED] attended the training on October 16.

40

[REDACTED]

From: [REDACTED] J CIV USA AMC
Sent: Friday, November 14, 2008 12:54 PM
To: [REDACTED] T Ms OGC
Cc: [REDACTED] R CIV USA FORSCOM; [REDACTED] A Ms OGC; [REDACTED] R CIV USA SA; [REDACTED] J CIV USA AMC
Subject: RE: Real Final draft of OSC narrative report to OSC--Fort Lewis (UNCLASSIFIED)

Follow Up Flag: Follow up
Flag Status: Red

[REDACTED]

Please see explanation for your question (What about TRC and FC?) regarding the pH excursions:

5. p. 24--need to complete reference/significance, sy---"What about TRC and FC? The NPDES permit limitations for TRC are less than 0.5 mg/L [ROI-I, Exhibit 3, p. 4, para IC1c] and for FC, a weekly average of less than 400 colonies per 100 ml of effluent, and a monthly average of less than 200 colonies per 100 ml of effluent [ROI-I, Exhibit 3, p. 4, para IC1c]."

First, note that we did review all the TRC and FC results reported in the monthly DMR's to determine if Fort Lewis had been in compliance with their permit limits. However, the TRC and FC results were not considered during the pH episodes because that data would not have been relevant.

We evaluated TSS and BOD for the pH excursions because they are by far more directly affected by pH during the treatment process. A TSS and BOD removal reduction during the pH excursions would indicate that an elevated level of pollutants may have passed through the plant.

Chlorine residual and FC would not be reliable indicators. The disinfection process is automatic and performed at the final stage of treatment. Any momentary real time decline in chlorine residual during the pH excursions would automatically be compensated for by the WWTP's automatic disinfection control system. Essentially, chlorine residual data would not indicate a pass through of pollutants during the pH excursions because the instantaneous control system would keep the residual within preset limits. (It is possible that massive amount of pollutants could overwhelm the operating capabilities of the disinfection process but there was no indication that this occurred from any of the WWTP's data).

Regarding FC, the automatic disinfection system keeps the FC count down so if the chlorine residual data is not going to show anything, certainly neither will the FC data. More importantly, the FC samples are grab samples taken once a day so the limited amount of FC data during the pH excursions would not be sufficient to draw any supportable conclusions.

Regards,

[REDACTED]

[REDACTED]

[REDACTED] DSN [REDACTED]

-----Original Message-----

From: [REDACTED] CIV USA SA
Sent: Friday, October 31, 2008 2:29 PM
To: [REDACTED] T Ms OGC
Cc: [REDACTED] R CIV USA FORSCOM; [REDACTED] CIV USA AMC; [REDACTED] A Ms OGC
Subject: RE: Real Final draft of OSC narrative report to OSC--Fort Lewis (UNCLASSIFIED)

41

EPA/625/R-04/108
September 2004

Guidelines for Water Reuse

U.S. Environmental Protection Agency

Municipal Support Division
Office of Wastewater Management
Office of Water
Washington, DC

Technology Transfer and Support Division
National Risk Management Research Laboratory
Office of Research and Development
Cincinnati, OH

U.S. Agency for International Development
Washington, DC

Tah
41

Notice

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Foreword

In an effort to help meet growing demands being placed on available water supplies, many communities throughout the U.S. and the world are turning to water reclamation and reuse. Water reclamation and reuse offer an effective means of conserving our limited high-quality freshwater supplies while helping to meet the ever growing demands for water.

For many years, effluent discharges have been accepted as an important source for maintaining minimum stream flows. The investment in treatment technologies required to meet restrictive discharge limits has led an increasing number of industries and communities to consider other uses for their treated wastewater effluents as a means to recover at least a part of this investment. Further, as sources of water supplies have become limited, there has been greater use and acceptance of reclaimed wastewater effluents as an alternative source of water for a wide variety of applications, including landscape and agricultural irrigation, toilet and urinal flushing, industrial processing, power plant cooling, wetland habitat creation, restoration and maintenance, and groundwater recharge. In some areas of the country, water reuse and dual water systems with purple pipe for distribution of reclaimed water have become fully integrated into local water supplies.

The *2004 Guidelines for Water Reuse* examines opportunities for substituting reclaimed water for potable water supplies where potable water quality is not required. It presents and summarizes recommended water reuse guidelines, along with supporting information, as guidance for the benefit of the water and wastewater utilities and regulatory agencies, particularly in the U.S. The document updates the *1992 Guidelines* document by incorporating information on water reuse that has been developed since the 1992 document was issued. This revised edition also expands coverage of water reuse issues and practices in other countries. It includes many new and updated case studies, expanded coverage of indirect potable reuse and industrial reuse issues, new

information on treatment and disinfection technologies, emerging chemicals and pathogens of concern, economics, user rates and funding alternatives, public involvement and acceptance (both successes and failures), research activities and results, and sources of further information. It also includes as an updated matrix of state regulations and guidelines, and a list of state contacts. This information should be useful to states in developing water reuse standards, and revising or expanding existing regulations. It should also be useful to planners; consulting engineers and others actively involved in the evaluation, planning, design, operation or maintenance of water reclamation and reuse facilities.

Benjamin H. Grumbles
Assistant Administrator for Water U.S. EPA

Paul Gilman
Assistant Administrator for Research & Development
U.S. EPA

Jacqueline E. Schafer
Deputy Assistant Administrator
Bureau for Economic Growth, Agriculture and Trade
U.S. Agency for International Development



Contents

Chapter		Page
1	INTRODUCTION	1
	1.1 Objectives of the Guidelines	1
	1.2 Water Demands and Reuse	1
	1.3 Source Substitution	2
	1.4 Pollution Abatement	3
	1.5 Treatment and Water Quality Considerations	3
	1.6 Overview of the Guidelines	4
	1.7 References	5
2	TYPES OF REUSE APPLICATIONS	7
	2.1 Urban Reuse	7
	2.1.1 Reclaimed Water Demand	8
	2.1.2 Reliability and Public Health Protection	9
	2.1.3 Design Considerations	10
	2.1.3.1 Water Reclamation Facilities	10
	2.1.3.2 Distribution System	10
	2.1.4. Using Reclaimed Water for Fire Protection	12
	2.2 Industrial Reuse	13
	2.2.1 Cooling Water	13
	2.2.1.1 Once-Through Cooling Water Systems	13
	2.2.1.2 Recirculating Evaporative Cooling Water Systems	13
	2.2.1.3 Cooling Water Quality Requirements	15
	2.2.2 Boiler Make-up Water	16
	2.2.3 Industrial Process Water	17
	2.2.3.1 Pulp and Paper Industry	17
	2.2.3.2 Chemical Industry	17
	2.2.3.3 Textile Industry	17
	2.2.3.4 Petroleum and Coal	20
	2.3 Agricultural Reuse	20
	2.3.1 Estimating Agricultural Irrigation Demands	21
	2.3.1.1 Evapotranspiration	21
	2.3.1.2 Effective Precipitation, Percolation and Surface Water Runoff Losses	21
	2.3.2 Reclaimed Water Quality	22
	2.3.2.1 Salinity	23
	2.3.2.2 Sodium	23
	2.3.2.3 Trace Elements	24
	2.3.2.4 Chlorine Residual	24
	2.3.2.5 Nutrients	24
	2.3.3 Other System Considerations	26
	2.3.3.1 System Reliability	26

	2.3.3.2	Site Use Control	26
	2.3.3.3	Monitoring Requirements	26
	2.3.3.4	Runoff Controls	26
	2.3.3.5	Marketing Incentives	27
	2.3.3.6	Irrigation Equipment	27
2.4		Environmental and Recreational Reuse	27
	2.4.1	Natural and Man-made Wetlands	28
	2.4.2	Recreational and Aesthetic Impoundments	30
	2.4.3	Stream Augmentation	30
2.5		Groundwater Recharge	31
	2.5.1	Methods of Groundwater Recharge	32
	2.5.1.1	Surface Spreading	32
	2.5.1.2	Soil-Aquifer Treatment Systems	35
	2.5.1.3	Vadose Zone Injection	37
	2.5.1.4	Direct Injection	38
	2.5.2	Fate of Contaminants in Recharge Systems	38
	2.5.2.1	Particulate Matter	39
	2.5.2.2	Dissolved Organic Constituents	39
	2.5.2.3	Nitrogen	40
	2.5.2.4	Microorganisms	40
	2.5.3	Health and Regulatory Considerations	41
2.6		Augmentation of Potable Supplies	41
	2.6.1	Water Quality Objectives for Potable Reuse	42
	2.6.2	Surface Water Augmentation for Indirect Potable Reuse	44
	2.6.3	Groundwater Recharge for Indirect Potable Reuse	45
	2.6.4	Direct Potable Water Reuse	46
2.7		Case Studies	48
	2.7.1	Water Reuse at Reedy Creek Improvement District	49
	2.7.2	Estimating Potable Water Conserved in Altamonte Springs due to Reuse	50
	2.7.3	How Using Potable Supplies to Supplement Reclaimed Water Flows can Increase Conservation, Hillsborough County, Florida	51
	2.7.4	Water Reclamation and Reuse Offer an Integrated Approach to Wastewater Treatment and Water Resources Issues in Phoenix, Arizona.	54
	2.7.5	Small and Growing Community: Yelm, Washington	55
	2.7.6	Landscape Uses of Reclaimed Water with Elevated Salinity; El Paso, Texas	57
	2.7.7	Use of Reclaimed Water in a Fabric Dyeing Industry	58
	2.7.8	Survey of Power Plants Using Reclaimed Water for Cooling Water	58
	2.7.9	Agricultural Reuse in Tallahassee, Florida	60
	2.7.10	Spray Irrigation at Durbin Creek WWTP Western Carolina Regional Sewer Authority	60
	2.7.11	Agricultural Irrigation of Vegetable Crops: Monterey, California	62
	2.7.12	Water Conserv II: City of Orlando and Orange County, Florida	62
	2.7.13	The Creation of a Wetlands Park: Petaluma, California	64
	2.7.14	Geysers Recharge Project: Santa Rosa, California	64
	2.7.15	Advanced Wastewater Reclamation in California	65
	2.7.16	An Investigation of Soil Aquifer Treatment for Sustainable Water	66
	2.7.17	The City of West Palm Beach, Florida Wetlands-Based Water Reclamation Project	67

Chapter	Page
2.7.18	Types of Reuse Applications in Florida 69
2.7.19	Regionalizing Reclaimed Water in the Tampa Bay Area 70
2.8	References 71
3	TECHNICAL ISSUES IN PLANNING WATER REUSE SYSTEMS 77
3.1	Planning Approach 77
3.1.1	Preliminary Investigations 78
3.1.2	Screening of Potential Markets 78
3.1.3	Detailed Evaluation of Selected Markets 79
3.2	Potential Uses of Reclaimed Water 80
3.2.1	National Water Use 81
3.2.2	Potential Reclaimed Water Demands 81
3.2.3	Reuse and Water Conservation 85
3.3	Sources of Reclaimed Water 86
3.3.1	Locating the Sources 86
3.3.2	Characterizing the Sources 87
3.3.2.1	Level of Treatment and Processes 87
3.3.2.2	Reclaimed Water Quality 88
3.3.2.3	Reclaimed Water Quantity 89
3.3.2.4	Industrial Wastewater Contributions 90
3.4	Treatment Requirements for Water Reuse 90
3.4.1	Health Assessment of Water Reuse 91
3.4.1.1	Mechanism of Disease Transmission 91
3.4.1.2	Pathogenic Microorganisms and Health Risks 92
3.4.1.3	Presence and Survival of Pathogens 95
3.4.1.4	Pathogens and Indicator Organisms in Reclaimed Water 96
3.4.1.5	Aerosols 98
3.4.1.6	Infectious Disease Incidence Related to Wastewater Reuse 100
3.4.1.7	Chemical Constituents 102
3.4.1.8	Endocrine Disrupters 104
3.4.2	Treatment Requirements 106
3.4.2.1	Disinfection 107
3.4.2.2	Advanced Wastewater Treatment 109
3.4.3	Reliability in Treatment 113
3.4.3.1	EPA Guidelines for Reliability 113
3.4.3.2	Additional Requirements for Reuse Applications 115
3.4.3.3	Operator Training and Competence 118
3.4.3.4	Quality Assurance in Monitoring 118
3.5	Seasonal Storage Requirements 118
3.5.1	Identifying the Operating Parameters 120
3.5.2	Storage to Meet Irrigation Demands 121
3.5.3	Operating without Seasonal Storage 122
3.6	Supplemental Water Reuse System Facilities 122
3.6.1	Conveyance and Distribution Facilities 122
3.6.1.1	Public Health Safeguards 124
3.6.1.2	Operations and Maintenance 127
3.6.2	Operational Storage 128
3.6.3	Alternative Disposal Facilities 129
3.6.3.1	Surface Water Discharge 130
3.6.3.2	Injection Wells 130

Chapter		Page
	3.6.3.3 Land Application	131
3.7	Environmental Impacts	132
	3.7.1 Land Use Impacts	132
	3.7.2 Stream Flow Impacts	133
	3.7.3 Hydrogeological Impacts	134
3.8	Case Studies	134
	3.8.1 Code of Good Practices for Water Reuse	134
	3.8.2 Examples of Potable Water Separation Standards from the State of Washington	135
	3.8.3 An Example of using Risk Assessment to Establish Reclaimed Water Quality	136
3.9	References	137
4	WATER REUSE REGULATIONS AND GUIDELINES IN THE U.S.	149
4.1	Inventory of Existing State Regulations and Guidelines	149
4.1.1	Reclaimed Water Quality and Treatment Requirements	153
	4.1.1.1 Unrestricted Urban Reuse	153
	4.1.1.2 Restricted Urban Reuse	154
	4.1.1.3 Agricultural Reuse - Food Crops	155
	4.1.1.4 Agricultural Reuse – Non-food Crops	156
	4.1.1.5 Unrestricted Recreational Reuse	157
	4.1.1.6 Restricted Recreational Reuse	158
	4.1.1.7 Environmental – Wetlands	159
	4.1.1.8 Industrial Reuse	159
	4.1.1.9 Groundwater Recharge	160
	4.1.1.10 Indirect Potable Reuse	161
4.1.2	Reclaimed Water Monitoring Requirements	162
4.1.3	Treatment Facility Reliability	162
4.1.4	Reclaimed Water Storage	164
4.1.5	Application Rates	164
4.1.6	Groundwater Monitoring	165
4.1.7	Setback Distances for Irrigation	165
4.2	Suggested Guidelines for Water Reuse	165
4.3	Pathogens and Emerging Pollutants of Concern (EPOC)	172
4.4	Pilot Testing	172
4.5	References	173
5	LEGAL AND INSTITUTIONAL ISSUES	175
5.1	Water Rights Law	175
	5.1.1 Appropriative Rights System	176
	5.1.2 Riparian Rights System	176
	5.1.3 Water Rights and Water Reuse	176
	5.1.4 Federal Water Rights Issues	177
5.2	Water Supply and Use Regulations	178
	5.2.1 Water Supply Reductions	178
	5.2.2 Water Efficiency Goals	178
	5.2.3 Water Use Restrictions	179
5.3	Wastewater Regulations	179
	5.3.1 Effluent Quality Limits	180
	5.3.2 Effluent Flow Limits	180

Chapter		Page
5.4	Safe Drinking Water Act – Source Water Protection	180
5.5	Land Use and Environmental Regulations	181
	5.5.1 General and Specific Plans	181
	5.5.2 Environmental Regulations	182
	5.5.2.1 Special Environmental Topics	183
5.6	Legal Issues in Implementation	183
	5.6.1 Construction Issues	183
	5.6.1.1 System Construction Issues	184
	5.6.1.2 Onsite Construction Issues	184
	5.6.2 Wholesaler/Retailer Issues	184
	5.6.2.1 Institutional Criteria	185
	5.6.2.2 Institutional Inventory and Assessment	185
	5.6.3 Customer Issues	186
	5.6.3.1 Statutory Customer Responsibilities	186
	5.6.3.2 Terms of Service and Commercial Arrangements	187
5.7	Case Studies	187
5.7.1	Statutory Mandate to Utilize Reclaimed Water: California	187
5.7.2	Administrative Order to Evaluate Feasibility of Water Reclamation: Fallbrook Sanitary District, Fallbrook, California	188
5.7.3	Reclaimed Water User Agreements Instead of Ordinance: Central Florida	188
5.7.4	Interagency Agreement Required for Water Reuse: Monterey County Water Recycling Project, Monterey, California	189
5.7.5	Public/Private Partnership to Expand Reuse Program: The City of Orlando, Orange County and The Private Sector – Orlando, Florida	190
5.7.6	Inspection of Reclaimed Water Connections Protect Potable Water Supply: Pinellas County Utilities, Florida	191
5.7.7	Oneida Indian Nation/Municipal/State Coordination Leads to Effluent Reuse: Oneida Nation, New York	191
5.7.8	Implementing Massachusetts' First Golf Course Irrigation System Utilizing Reclaimed Water: Yarmouth, Massachusetts	196
5.8	References	198
6	FUNDING WATER REUSE SYSTEMS	199
	6.1 Decision Making Tools	199
	6.2 Externally Generated Funding Alternatives	200
	6.2.1 Local Government Tax-Exempt Bonds	200
	6.2.2 State and Federal Financial Assistance	201
	6.2.2.1 State Revolving Fund	201
	6.2.2.2 Federal Policy	202
	6.2.2.3 Other Federal Sources	202
	6.2.2.4 State, Regional, and Local Grant and Loan Support	203
	6.2.3 Capital Contributions	203
	6.3 Internally Generated Funding Alternatives	204
	6.3.1 Reclaimed Water User Charges	204
	6.3.2 Operating Budget and Cash Reserves	205
	6.3.3 Property Taxes and Existing User Charges	205
	6.3.4 Public Utility Tax	206
	6.3.5 Special Assessments or Special Tax Districts	206
	6.3.6 Impact Fees	206

6.4	Incremental Versus Proportionate Share Costs	206
6.4.1	Incremental Cost Basis	206
6.4.2	Proportionate Share Cost Basis	207
6.5	Phasing and Participation Incentives	208
6.6	Sample Rates and Fees	209
6.6.1	Connection Fees	209
6.6.2	User Fees	209
6.7	Case Studies	209
6.7.1	Unique Funding Aspects of the Town of Longboat Key Reclaimed Water System	209
6.7.2	Financial Assistance in San Diego County, California	212
6.7.3	Grant Funding Through the Southwest Florida Water Management District.....	212
6.7.4	Use of Reclaimed Water to Augment Potable Supplies: An Economic Perspective (California)	213
6.7.5	Impact Fee Development Considerations for Reclaimed Water Projects: Hillsborough County, Florida	215
6.7.6	How Much Does it Cost and Who Pays: A Look at Florida's Reclaimed Water Rates	216
6.7.7	Rate Setting for Industrial Reuse in San Marcos, Texas	218
6.8	References	219
7	PUBLIC INVOLVEMENT PROGRAMS	221
7.1	Why Public Participation?	221
7.1.1	Informed Constituency	221
7.2	Defining the "Public"	222
7.3	Overview of Public Perceptions	222
7.3.1	Residential and Commercial Reuse in Tampa, Florida	223
7.3.2	A Survey of WWTP Operators and Managers	223
7.3.3	Public Opinion in San Francisco, California	223
7.3.4	Clark County Sanitation District Water Reclamation Opinion Surveys	223
7.4	Involving the Public in Reuse Planning	224
7.4.1	General Requirements for Public Participation	226
7.4.1.1	Public Advisory Groups or Task Forces	228
7.4.1.2	Public Participation Coordinator	229
7.4.2	Specific Customer Needs	229
7.4.2.1	Urban Systems	229
7.4.2.2	Agricultural Systems	229
7.4.2.3	Reclaimed Water for Potable Purposes	230
7.4.3	Agency Communication	230
7.4.4	Public Information Through Implementation	231
7.4.5	Promoting Successes	231
7.5	Case Studies	231
7.5.1	Accepting Produce Grown with Reclaimed Water: Monterey, California	231
7.5.2	Water Independence in Cape Coral – An Implementation Update in 2003	232
7.5.3	Learning Important Lessons When Projects Don't Go as Planned	234
7.5.3.1	San Diego, California	234
7.5.3.2	Public Outreach May not be Enough: Tampa, Florida	235

Chapter		Page
	7.5.4 Pinellas County, Florida Adds Reclaimed Water to Three R's of Education	236
	7.5.5 Yelm, Washington, A Reclaimed Water Success Story	237
	7.5.6 Gwinnett County, Georgia – Master Plan Update Authored by Public	237
	7.5.7 AWWA Golf Course Reclaimed Water Market Assessment	238
7.6	References	240
8	WATER REUSE OUTSIDE THE U.S.	241
8.1	Main Characteristics of Water Reuse in the World	241
8.2	Water Reuse Drivers	242
	8.2.1 Increasing Water Demands	243
	8.2.2 Water Scarcity	243
	8.2.3 Environmental Protection and Public Health	245
8.3	Water Reuse Applications – Urban and Agriculture	245
8.4	Planning Water Reuse Projects	246
	8.4.1 Water Supply and Sanitation Coverage	247
	8.4.2 Technical Issues	247
	8.4.2.1 Water Quality Requirements	249
	8.4.2.2 Treatment Requirements	252
	8.4.3 Institutional Issues	253
	8.4.4 Legal Issues	253
	8.4.4.1 Water Rights and Water Allocation	253
	8.4.4.2 Public Health and Environmental Protection	254
	8.4.5 Economic and Financial Issues	254
8.5	Examples of Water Reuse Programs Outside the U.S.	255
	8.5.1 Argentina	255
	8.5.2 Australia	255
	8.5.2.1 Aurora, Australia	255
	8.5.2.2 Mawson Lakes, Australia	256
	8.5.2.3 Virginia Project, South Australia	256
	8.5.3 Belgium	257
	8.5.4 Brazil	258
	8.5.4.1 Sao Paulo, Brazil	258
	8.5.4.2 Sao Paulo International Airport, Brazil	259
	8.5.5 Chile	259
	8.5.6 China	260
	8.5.7 Cyprus	261
	8.5.8 Egypt	261
	8.5.9 France	262
	8.5.10 Greece	262
	8.5.11 India	263
	8.5.12.1 Hyderabad, India	264
	8.5.12 Iran	264
	8.5.13 Israel	265
	8.5.14 Italy	266
	8.5.15 Japan	267
	8.5.16 Jordan	267
	8.5.17 Kuwait	268
	8.5.18 Mexico	269
	8.5.19 Morocco	271

Chapter	Page
8.5.20.1 Drarga, Morocco	271
8.5.20 Namibia	272
8.5.21 Oman	272
8.5.22 Pakistan	273
8.5.23 Palestinian National Authority	274
8.5.24 Peru	275
8.5.25 Saudi Arabia	275
8.5.26 Singapore	276
8.5.27 South Africa	277
8.5.28 Spain	278
8.5.28.1 Costa Brava, Spain	278
8.5.28.2 Portbou, Spain	279
8.5.28.3 Aiguamolls de l'Emporda Natural Preserve, Spain	279
8.5.28.4 The City of Victoria, Spain	279
8.5.29 Sweden	279
8.5.30 Syria	280
8.5.31 Tunisia	280
8.5.32 United Arab Emirates	282
8.5.33 United Kingdom	282
8.5.34 Yemen	283
8.5.35 Zimbabwe	284
8.6 References	284
APPENDIX A STATE REUSE REGULATIONS AND GUIDELINES	289
APPENDIX B STATE WEBSITES	441
APPENDIX C ABBREVIATIONS AND ACRONYMS	443
APPENDIX D INVENTORY OF RECLAIMED WATER PROJECTS	445

42

[REDACTED]
From: [REDACTED] R CIV USA FORSCOM
Sent: Friday, May 02, 2008 6:14 PM
To: [REDACTED] Ms OGC
Subject: RE: Please call regarding SOPs/Fort Lewis OSC investigation

Follow Up Flag: Follow up
Flag Status: Red

Attachments: PWU-102.pdf



PWU-102.pdf (388 KB)
[REDACTED]

I have copies of all the WWTP SOPs. There are nine of them. They are:

- PWU-101 WWTP Section Emergency Operations Plan revised 08/16/05
- PWU-102 Protocol for Bioassay Sampling revised 6/11/07
- PWU-103 WWTP QA/QC Manual revised 04/07/00
- PWU-105 WWTP Daily Operating Procedures 05/03/07
- PWU-106 WWTP Section Spill Contingency Plan revised 08/05/05
- PWU-107 Waste Water Section Hazard Communications Plan revised 10/26/04
- PWU-108 Laboratory Standard Operating Procedure revised 10/25/04
- PWU-109 Sanitary Dump Station Operating Procedure 09/29/00
- PWU-111 WWTP Analytical Sampling Plan revised 12/21/04

103, 105 and 108 can be found in the Powell 15-6 report attached to Judith Lancy's statement.

The 1995 O&M Manual is not an SOP and not part of our EMS (Environmental Management System). It's status is unclear. It was simply a product we got from a contractor that was used down at the plant. Last year USACHPM was contracted to review plant operations and make recommendations. They apparently took the only copy of the manual with them.

I'm not sure which of these, if any, you need. Only two have been updated since the complaint was filed and you have one of them. I'm attaching the other. I'm out Monday, but I'll call you Tuesday and see what else you need.

v/r
[REDACTED]

-----Original Message-----

From: [REDACTED] T Ms OGC
Sent: Friday, May 02, 2008 9:28 AM
To: [REDACTED] n R CIV USA FORSCOM
Subject: Please call regarding SOPs/Fort Lewis OSC investigation
Importance: High

S [REDACTED]

Any luck on closing the loop on the SOPs? Please advise so I can finish up Allegation 4 and send it out for comments.

Thanks.
[REDACTED]

Tak
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43



REPLY TO
ATTENTION OF

IMNW-LEW-PW

20 May 2008

MEMORANDUM FOR [REDACTED]

[REDACTED] Fort Lewis, WA 98433-9500

SUBJECT: Notice of Proposed Suspension

1. This is notice that I propose to suspend you from duty without pay for seven (7) calendar days from your position as Maintenance Mechanic Supervisor, WS-4749-14, for negligent performance of supervisory duties.
2. The specific reasons for this proposed suspension are as follows:
 - a. On or about 23 December 2005 a vacancy announcement for the position of Utility Systems Repairer-Operator Supervisor, WS-4742-10, was issued at your request with a closing date of 27 December 2005. Although one of your employees, [REDACTED], was called and notified of the announcement by [REDACTED], your secretary, none of the other employees at the Waste Water Treatment Plant (WWTP) were informed of the announcement. Given the time of year (Christmas) and the length of time the position was to be open (five days, three of which were holidays), you should have taken measures to ensure that all qualified employees were notified or taken action to have the closing date extended long enough for other WWTP employees to be informed and given an opportunity to apply for the job. Your failure, to ensure that other employees were informed and had a reasonable opportunity to apply, created the appearance of favoritism and also gave an improper advantage in the hiring action to [REDACTED]. Furthermore, rather than supporting and promoting our mission and the efficiency of the service, your actions compromised it.
 - b. On or about 2 April 2006, [REDACTED] temporary promotion became permanent without further competition. Although you were permitted to do that under applicable personnel regulations, you failed to inform the WWTP employees of this information for several months. I believe that this action generated an internal atmosphere in which you were viewed as operating in a less than truthful manner in your official relationships with the WWTP employees. Your conduct combined with [REDACTED] lack of qualifications (as discussed below) and the fact other employees were not given an opportunity to apply for the position, added to the appearance of favoritism and adversely affected the morale of the WWTP.
 - c. [REDACTED] did not hold a Group III Waste Water Certification at the time you temporarily promoted him or when he was permanently promoted to the supervisory position. He was therefore not qualified for the position. Your failure to ensure the selectee had the proper certification required corrective action, impacts your subordinate's career, and reflects adversely

Tdr
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12

on the organization. You were negligent in performing your supervisory duties when on 28 December 2005 selected [REDACTED] to fill Vacancy Announcement number WTEU05004308 based on his "knowledge, skills, and experience" and then permanently promoted him on or about 2 April 2008 to the position without verifying he possessed the required Washington State Group III Waste Water Certificate.

3. You were aware that a Washington State Group III Waste Water Certificate was required for the position when you received the job analysis for the position and at the time the job was advertised. On 23 December 2005, [REDACTED] Human Resources Specialist, Civilian Personnel Operations Center, Fort Huachuca, Arizona, sent you and [REDACTED] Human Resources Specialist, Fort Lewis Civilian Personnel Advisory Center, by email, the job analysis you used to fill the position, Utility Systems Repairer-Operator Supervisor, WS-4742-10. Ms. [REDACTED] wrote in her email to you, [REDACTED] "This is the Job Analysis we used before for [sic] same job description. Unless I hear otherwise, I will use this Job Analysis for the above recruitment (for temp promotion)." The specialized experience portion of the Job Analysis read:

"...Must possess and maintain a Group III waste water certification issued by the State of Washington..."

Later that same day, [REDACTED] sent you and [REDACTED] another email with an attachment containing an advance copy of the vacancy announcement for the position, Utility Systems Repairer-Operator Supervisor, WS-4742-10. The qualifications portion of the Department of the Army vacancy announcement read:

"...NOTE: Must possess and maintain a Group III waste water certification issued by the State of Washington..."

As the hiring manager for the position, you were required to review and approve the job analysis and the vacancy announcement for the recruitment action. In fulfilling this responsibility, you were required to identify the basic duties, responsibilities, skills, education, training and other factors that were important in evaluating and distinguishing the highly qualified candidates. I believe you responded to [REDACTED] by telephone and approved the job analysis and vacancy announcement for use. You were or certainly should have been fully aware of the conditions of employment you approved as the hiring manager for the position you were recruiting to fill. It was, therefore, your responsibility to ensure that whomever you selected for this position had the required certification and met the condition of employment prior to being selected and appointed permanently.

4. In addition to the above, in proposing this action I have taken into consideration:

a. The nature of your position as a supervisor and hiring official and the seriousness of your offense. You are a management official and a supervisor and, as such, are held to a higher standard. As a leader, you must ensure that you personally adhere to the Army's hiring policies,

rules and regulations. Your actions reflect on your subordinates' work attitudes and on their perception of fairness in the organization. Your negligent actions resulted in the selection and permanent placement of an individual who was unqualified for the job because he did not meet a condition of employment. Unfortunately, a corrective action was required that had a significant impact on the career and pay of the selectee.

b. The effect of the offense on my trust and confidence in you as a supervisor. I am disappointed that you failed to exercise close and proper scrutiny of the candidates to ensure the selectee met all the requirements for the position. As a result, the organization and the Army has been exposed to legitimate criticism over this hiring action.

c. Rehabilitative potential. I have also taken into consideration your highly successful work record and length of service of over 32 years. You need to understand that your misconduct was extremely serious. I have had no other employees at this directorate engage in similar misconduct, I believe the penalty I am proposing is what I would propose for other supervisors in similar circumstances. Given your position and level of responsibility, and the impact on the organization in the hiring actions involving [REDACTED], I feel your negligent performance of duties warrants a seven (7) calendar day suspension from pay and duty.

5. You have the right to reply to this notice of proposed suspension orally, in writing, or both orally and in writing, and you may be represented by an attorney or another representative of your choice. Your reply, if any, must be received not later than 14 calendar days from your receipt of this notice. You may submit any and all reasons why this proposed action should not be effected. You also have the right to submit affidavits from witnesses and other documentary evidence in support of your reply. If you are otherwise in a duty status, you are entitled to a reasonable amount of official time in which to prepare your reply. You should contact me for use of this official time. If you need additional time in which to prepare your reply, you may request an extension of the reply period. Your request must be in writing, stating the reason for the request, and be submitted to: [REDACTED], Garrison St., [REDACTED] WA 98433-9500. You or your designated representative may review the material relied upon to support the reasons for this proposed action in my office. If you desire to reply in writing to this notice of proposed suspension, your reply should be submitted to [REDACTED], address as above. If you desire to reply orally, you should contact me to make an appointment for you with [REDACTED] nt. As soon as possible after your reply is received, or after the expiration of the 14-calendar-day time limit if you do not reply, you will be furnished a written decision. Your reply, if any, will be fully considered in arriving at a decision.

IMNW-LEW-PW
SUBJECT: Notice of Proposed Suspension

6. Although he cannot represent you, [REDACTED], will assist you upon request and provide you with any available information concerning the regulations and procedures involved in this action.

[REDACTED]

Acknowledgement of Receipt Copy	
Signature:	<u>[Handwritten Signature]</u>
Date:	<u>5/20/03</u>

44



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
HEADQUARTERS, UNITED STATES ARMY GARRISON
BOX 339500, MAIL STOP 17
FORT LEWIS WASHINGTON 98433-9500

IMNW-LEW-PW

9 July 2008

MEMORANDUM FOR Mr. [REDACTED] Directorate of Public Works, Operations
& Maintenance Division, Fort Lewis, WA 98433-9500

SUBJECT: Notice of Decision

1. This is in reference to memorandum, IMNW-LEW-PW, subject: Notice of Proposed Suspension, dated and received by you on 20 May 2008. This memorandum proposed your suspension for seven (7) calendar days from your position as Maintenance Mechanic Supervisor, WS-4749-14, for negligent performance of supervisory duties.

2. Paragraph 5 of the referenced memorandum informed you of the right to answer the notice of proposed suspension orally, in writing, or both. It also informed you of your right to be represented and to submit affidavits from witnesses and/or other documentary evidence in support of your reply. You met with me on 2 June 2008 to present your oral reply and provided me with a copy of your written reply. A summary of your written reply follows:

a. Regarding the specification that you created the appearance of favoritism and gave an improper advantage to [REDACTED] when you failed to ensure that other employees were informed of and had a reasonable opportunity to apply for the position of Utility Systems Repairer-Operator Supervisor, you stated you did not instruct your former secretary, M [REDACTED], to assist [REDACTED] in applying for the position, but that she may have taken that task upon herself, as the employees in Public Works are often assisted by administrative assistants with submitting resumes into the RESUMIX system. You specifically denied instructing [REDACTED] to tell only [REDACTED] and no other employees about the open position, and reiterated the fact that the phone records do not support [REDACTED]'s claim that you had phoned her with such instructions. You stated that you chose the minimum length of time for the job announcement due to the urgency to fill the position and that because RESUMIX is available 24 hours a day, you did not believe the short opening would create a disadvantage to anyone. You pointed out that the Civilian Personnel Operations Center (CPOC) did not indicate a problem with the timing of the announcement. You also stated Mr. Long was the only Public Works employee that had both water and waste water treatment state certifications. You stated that the CPOC or CPAC told you that Mr. Long had one year to upgrade his waste water certification from a Group II to a Group III level.

b. Regarding the specification that your negligent actions adversely affected the morale of the Waste Water Treatment Plant, you stated that it was [REDACTED]'s inability to upgrade his waste water certification that adversely affected the organization and his career, not your actions. Further, you indicated that poor morale existed in the organization before you assumed supervisory duties due to prior disciplinary actions,

To
4.

employee tensions, and policies with which the employees did not agree. You stated you believed your actions were proper, but that while you did not have the intention of creating the appearance of favoritism, you realize that you are held to a higher standard in your position.

c. Additionally, you stated you now realize you could have handled the hiring action differently. You have subsequently implemented changes in the job announcement process including forwarding job announcements to the Employee Services Section of Public Works and to the Operations & Maintenance Division Supervisor so they can be posted, as well as posting job announcements on the bulletin board outside your secretary's office.

3. I have given objective consideration to the Notice of Proposed Suspension, thoroughly reviewed the supporting documentation, and carefully considered your written and oral reply. While I find the incidents described in paragraph 2 (b) and (c) of the Notice of Proposed Suspension are fully supported by a preponderance of the evidence and are sustained in their entirety, I have determined the incident described in paragraph 2 (a) cannot be conclusively verified or denied.

4. In addition to the above, in determining the penalty to be imposed I have taken into consideration:

a. The effect of the offense on your ability to perform your job and on my confidence in you as a supervisor. I believe you were less than candid in your official relationships with your employees when you failed to inform the Waste Water Treatment Plant employees for several months that you had removed the temporary limitations on [REDACTED] temporary promotion which, in effect, placed [REDACTED] in the Utility Systems Repairer-Operator Supervisor, WS-4742-10, position on a permanent basis. Your negligence did adversely affect the morale of your employees and reflected poorly on the organization as a whole. Your actions eroded the plant's performance and efficiency, and have negatively impacted the organization's mission.

b. Notoriety of the offense and its impact on the agency's reputation. Your negligent actions resulted in the selection and placement of an individual who was unqualified for the job because he did not meet a condition of employment either at the time he was temporarily promoted or when he was subsequently permanently promoted to the position. As a result, this incident exacerbated an already bad situation in the Waste Water Treatment Plant, and further complicated charges by other employees of improper hiring practices in Public Works. Although this incident is not directly related to those other actions, the loss of confidence in the supervisory chain is apparent.

5. In making my decision regarding the penalty in this matter, I have considered the following factors in mitigation and have reached the following conclusions:

a. Nature and seriousness of the offense. Although there is the appearance of favoritism, I have no conclusive proof that you directed [REDACTED] to notify only [REDACTED] of the open announcement. In regards to the certification requirements listed on [REDACTED]

IMNW-LEW-PW
SUBJECT: Notice of Decision

the position description and in the vacancy announcement, I find the requirements somewhat ambiguous. Therefore, I believe it is conceivable you were confused by the wording because the announcement stated the candidate must be able to attain (within two years) a Water Treatment Plant Operator II Certification (which [REDACTED] did possess), which could have created confusion as to the time period the candidate had to attain the Group III Waste Water Certification after being hired.

b. The nature of your position as a supervisor and hiring official and the seriousness of your offense. As the hiring manager for the position, you were required to review and approve the job analysis and the vacancy announcement for the recruitment action. I believe you were unfamiliar with the aspects of the hiring process and your WG/WL background did not adequately prepare you to work through some of the issues associated with the hiring action. However, this does not excuse your actions and you are expected to know and understand the Army's hiring policies, rules and regulations.

c. Past formal disciplinary record. You have no prior disciplinary record.

d. Your service record. I considered your 32 years of government service. In reviewing your performance history, I note that you received "Exceptional" performance ratings annually from 1995 through 2006.

e. Rehabilitative Potential. I believe you have good rehabilitative potential. I based this on your good work history, service record and especially on your oral reply in which you were regretful of the outcome, your role, and your statement when you said you have implemented changes to your recruitment processes when working through hiring actions to ensure this does not happen again.

f. Consistency of penalty. Although I have had no other employees engage in this type of misconduct, I believe my decision is consistent with what I would impose on other employees under similar circumstances.

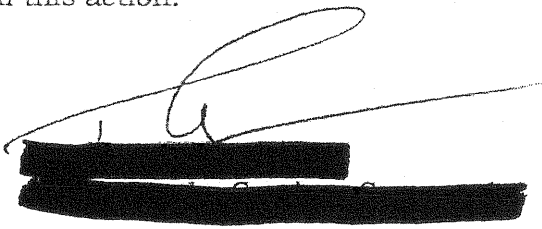
6. After considering all available information, I do believe that your actions were serious and that discipline is clearly warranted; however, there were several mitigating factors as noted above. Therefore, it is my decision to mitigate the proposed penalty and suspend you from duty for four (4) calendar days. This suspension will be served within 60 calendar days of your receipt of this memorandum. Coordinate directly with your supervisor to arrange for the specific dates. A copy of the Standard Form 50, Notification of Personnel Action, reflecting this action will be provided to you in the near future.

7. If you are dissatisfied with this decision, you may file a grievance under the Department of Defense Administrative Grievance System (AGS) procedures. These procedures are outlined in Fort Lewis Regulation 690-10. Under these procedures, you may elect to request an informal problem-solving procedure or you may elect to file a formal grievance. If you elect the informal problem-solving procedure, you must present the problem to your first-line supervisor within 15 calendar days of your receipt of this memorandum. If the problem is not resolved during this informal


IMNW-LEW-PW
SUBJECT: Notice of Decision

problem-solving procedure, you may file a formal grievance within 15 calendar days of the conclusion of this informal procedure. However, if you elect to file a formal grievance without using the informal problem-solving procedure, your formal grievance must be submitted within 15 calendar days after the date of your receipt of this memorandum, be in writing, identify the specific issue(s) and the personal relief you seek, and be addressed to: COL Cynthia A. Murphy, Garrison Commander, Fort Lewis USAG, P.O. Box 339500, Fort Lewis, WA 98433.

8. Although he cannot represent you, Mr. Anderson W. Corley, Human Resources Specialist in the Fort Lewis Civilian Personnel Advisory Center, 967-5036, will assist you upon request and provide you with any available information concerning the regulations and procedures involved in this action.



A handwritten signature in black ink is written over a thick black redaction bar. Below the signature, another thick black redaction bar covers the printed name of the signatory.

Acknowledgement of Receipt Copy	
Signature:	
Date:	7/15/00

1. Name (Last, First, Middle)

2. Social Security Number

3. Date of Birth

4. Effective Date

03-02-2008

FIRST ACTION

SECOND ACTION

4-A. Code 713	5-B. Nature of Action Chg to Lower Grade, Level or Band	6-A. Code	6-B. Nature of Action
5-C. Code QGM	5-D. Legal Authority Reg 432.101.	6-C. Code	6-D. Legal Authority
5-E. Code	5-F. Legal Authority	6-E. Code	6-F. Legal Authority

7. FROM: Position Title and Number

UTILITY SYSTEMS REPAIRER-OPERATOR SUPERVISOR
200383 - 971285

15. TO: Position Title and Number

MAINTENANCE MECHANIC (UTILITY SYSTEM REPAIRER)
181264 - 1362272

8. Pay Plan WS	9. Occ. Code 4742	10. Grade/Level 10	11. Step/Rate 03	12. Total Salary \$34.77	13. Pay Basis PH	16. Pay Plan WG	17. Occ. Code 4749	18. Grade/Level 09	19. Step/Rate 05	20. Total Salary/Award \$27.85	21. Pay Basis PH
12A. Basic Pay \$34.77	12B. Locality Adj. \$0.00	12C. Adj. Basic Pay \$34.77	12D. Other Pay	20A. Basic Pay \$27.85	20B. Locality Adj. \$0.00	20C. Adj. Basic Pay \$27.85	20D. Other Pay				

14. Name and Location of Position's Organization
US ARMY GARRISON FORT LEWIS
PUBLIC WORKS
OPERATIONS & MAINTENANCE DIVISION
WWTP & WATER TREATMENT PLANT BRANCH
FORT LEWIS, WA AQCC22. Name and Location of Position's Organization
US ARMY GARRISON FORT LEWIS
PUBLIC WORKS
OPERATIONS & MAINTENANCE DIVISION
WWTP & WATER TREATMENT PLANT BRANCH
FORT LEWIS, WA AQCC

EMPLOYEE DATA

23. Veterans Preference 2	1 - None 2 - 5-Point 3 - 10-Point/Disability 4 - 10-Point/Compensable 5 - 10-Point/Other 6 - 10-Point/Compensable/30%	24. Tenure 1	0 - None 1 - Permanent 2 - Conditional 3 - Indefinite	25. Agency Use	26. Veterans Preference for RIF X YES NO
27. FEGLI W0	Basic + Option B (5x)	28. Annuitant Indicator 9	Not Applicable	29. Pay Rate Determinant 0	
30. Retirement Plan 1	CSRS	31. Service Comp. Date (Leave) 06-07-1973	32. Work Schedule F	Full-Time	33. Part-Time Hours Per Biweekly Pay Period

POSITION DATA

34. Position Occupied 1	1 - Competitive Service 2 - Excepted Service 3 - SES General 4 - SES Career Reserved	35. FLSA Category N	E - Exempt N - Nonexempt	36. Appropriation Code 13207851X42	37. Bargaining Unit Status AR5955
38. Duty Station Code 530763053	39. Duty Station (City - County - State or Overseas Location) FORT LEWIS / PIERCE / WASHINGTON	40. Agency Data jtb	41. PON# OA	42.	43.
44. TDA DATA BA/W12KAA/052C/07	45. Remarks RPA # 07DEC9EULDPWXX466908.				

46. Employing Department or Agency
US Army Installation Mgmt Agency (ARBA)

50. Signature/Authentication and Title of Approving Official

7. Agency Code
ARBA48. Personnel Office ID
228949. Approval Date
03-04-2008

HUMAN RESOURCES ASSISTANT (OA)

5-Part 50-316

TURN OVER FOR IMPORTANT INFORMATION

Editions Prior to 7/91 Are Not Usable After 6/30/93
NSN 7540-01-333-6238

45



U.S. OFFICE OF SPECIAL COUNSEL
1301 Clay Street, Suite 1220N
Oakland, California 94612-5217
Tel: (510) 637-3464
Fax: (510) 637-3474

San Francisco Bay Area Field Office

November 14, 2008

[REDACTED]

Staff Judge Advocate Office

[REDACTED]

Fort Lewis, WA 98433-9500

Re: Joint OSC Complaints Nos. MA-072141, -2144, -2145, -2146, -2147, -2148

Dear [REDACTED]:

Today, the Office of Special Counsel closed all of its complaint files regarding the appointment of Veith Long to the position of Utility Systems Repairer-Operator Supervisor, WS-4742-10, at the Water Treatment Plant. We are satisfied that Ft. Lewis has corrected the personnel action by demoting [REDACTED] to a nonsupervisory Utility Systems Repairer-Operator position and suspending the responsible official.

Thank you for your cooperation in this matter.

Sincerely,

[REDACTED]

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