

**NDIA - 29<sup>th</sup> Environmental and Energy  
Symposium & Exhibition**



# USAREUR Facilities Class I ODC Elimination Program

Integrating Class I ODC Elimination  
with Project Programming



# USAREUR Facilities Class I ODC Elimination Program



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# USAREUR Facilities Class I ODC Elimination Program



## **DA Policy - Elimination of Class I ODCs at Army Installations**

- Policy
    - Class I ODCs must be eliminated from all facilities on Army Installations by the end of FY 2003\*
  - Installation Commanders
    - Responsible for Class I ODC Elimination
  - Tenant Commanders
    - Responsible for Complying with Installation Class I ODC Policies
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\* As of 22 Nov 2002 Elimination of Class I ODC no longer required

# USAREUR Facilities Class I ODC Elimination Program



## **Legal background**

- Class I ODCs on USAREUR Installations are restricted by
    - US Federal Laws
    - Army Regulations
    - European Union Guidelines
    - Host Nation Laws
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# USAREUR Facilities Class I ODC Elimination Program



## **Legal background**

- US-Public Law 102-484
  - Final Governing Standards (FGS)
  - European Regulations 3613/00 and 2037/00
  - German “FCKW Halon-Verbots-Verordnung”
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# USAREUR Facilities Class I ODC Elimination Program



## Background

- USAREUR, ODCSENGR – Environmental Branch
    - Develop plans and funding projects for the elimination of Ozone Depleting Chemicals (Class I ODCs) throughout Europe
  - US Army Corps of Engineers, Europe District
    - Contracting Agent
    - Technical Review
  - Buchart-Horn GmbH
    - Local Knowledge
    - Environmental Expertise
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# USAREUR Facilities Class I ODC Elimination Program



- Method
    - Single Task Order
    - USAREUR Wide
    - 3 Major Activities
      - Identification
      - Programming
      - Reporting
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# USAREUR Facilities Class I ODC Elimination Program



## Requirements

- Investigate legal and regulatory background
  - Identify Class I ODC containing equipment
  - Determine replacement & retrofitting projects
  - Estimate replacement removal costs
  - Prioritize equipment and prepare plans
  - Enter Class I ODC replacement projects into EPR
  - Prepare EPR Roll-up files
  - Submit Class I ODC Elimination Plans
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# USAREUR Facilities Class I ODC Elimination Program



## Identify Class I ODC Equipment

- The program execution included a prototype phase
    - Prototype phase tested
      - initial standards
      - procedures
    - Prototype phase allowed the Government Working Group to refine the methodology
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# USAREUR Facilities Class I ODC Elimination Program



## **Identify Class I ODC Equipment**

- 21 Base Support Battalions (BSB)
  - 120+ Installations
    - Germany
    - Belgium
    - Netherlands
    - Italy
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# USAREUR Facilities Class I ODC Elimination Program



## Identify Class I ODC Equipment

- Inspection
    - Physical inspection
    - Existing record review
  - Simultaneous Visits by Survey Teams at each BSBs
  - Approximately 1 week per BSB
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# USAREUR Facilities Class I ODC Elimination Program



## **Identify Class I ODC Equipment**

- Typical equipment
    - Refrigeration
    - Air Conditioning
    - Fire Extinguishing Units
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# USAREUR Facilities Class I ODC Elimination Program



## Identify Class I ODC Equipment

- What was found
    - 2900+/- pieces of Class I ODC containing equipment
    - Containing more than 3400 kg (7480 lbs) Class I ODCs
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# USAREUR Facilities Class I ODC Elimination Program



## Typical Equipment



Cooling Unit



Walk-in Fridge

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# USAREUR Facilities Class I ODC Elimination Program



## Typical Equipment



6 Door Refrigerator



Cooling Unit

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# USAREUR Facilities Class I ODC Elimination Program



## Project Programming

- Equipment assessment:
    - Review of maintenance records
      - Maintenance History
      - Leak Rate
      - Class I ODC Refill
      - Other
    - Visible inspection of the units
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# USAREUR Facilities Class I ODC Elimination Program



## **Project Programming**

- Equipment Condition Assessment Categories
    - Out of operation
    - Poor
    - Average
    - Good
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# USAREUR Facilities Class I ODC Elimination Program



## Project Programming

- Out of operation
    - Replaced
    - Removed
  - Poor Condition
    - Retrofitted
  - 150 pieces of equipment were replaced or retrofitted
-

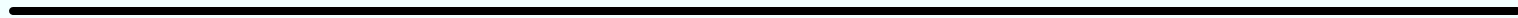
# USAREUR Facilities Class I ODC Elimination Program



## **Project Programming**

### – Cost Estimating

- Each piece of equipment
- Market Research/Current Prices
- Local Currency



# USAREUR Facilities Class I ODC Elimination Program



## **Project Programming**

- Enter Projects into EPR
  - Prepare EPR Roll-up files
  - Data entry
    - Project information
    - Narrative description
    - Regulatory information
-

# USAREUR Facilities Class I ODC Elimination Program



## Reporting

- Elimination Plans each ASGs/BSBs
  - Elimination plan contains clear guidance for Class I ODC elimination
    - Responsibilities
    - Procedures
    - Resources
    - requirements
  - Developed for use as follow up tool to track Class I ODC elimination
-

# USAREUR Facilities Class I ODC Elimination Program



## Reporting

- Elimination Plans consist of 7 Chapters:
    - Information about the Installation
    - Elimination Team
    - Inventory
    - Rules and Regulations
    - Recovery and Turn in
    - Responsibilities
    - Funding Resources
-

# USAREUR Facilities Class I ODC Elimination Program



## Summary

- USAREUR, ODCSENGR successfully conducted an integrated Class I ODC inventory and elimination program at 21 BSBs in 4 Countries
  - Identification, planning and programming activities were combined into a single task order resulting in
    - Rapid Execution
    - Consistency in Reporting/Procedures
    - Solid Basis for Class II survey and Class I resurvey
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# USAREUR Facilities Class I ODC Elimination Program



## **Future Outlook - USAREUR**

- Class II ODC Elimination Program
  - Verify Progress of Class I Elimination Program
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# USAREUR Facilities Class I ODC Elimination Program

Integrating Class I ODC Elimination  
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# USAREUR Facilities Class I ODC Elimination Program



## **Retrofitting Work Sequence of Activities**

- A valve is attached to the flow tube. Valve remains in place for future use.
  - R 12, or R 502 is pumped from the reservoir.
  - Oil is removed from the reservoir and filter.
  - New oil is installed according to the freon selected.
  - Close off oil system and low pressure pump for final refrigerant evacuation.
  - The cooling system is then cleaned and dried.
  - New freon (R 401a, or R402a) is pumped in.
  - Standard practice is to fill the gases removed from the refrigeration unit tanks into separate cylinders. Once full, these cylinders are transported to an incineration facility for destruction.
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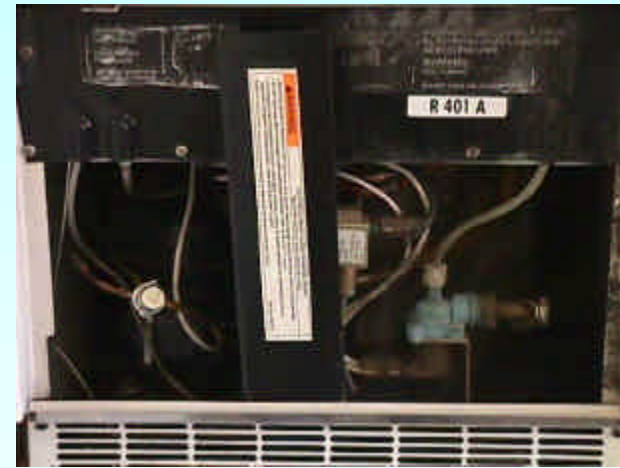
# USAREUR Facilities Class I ODC Elimination Program



## Retrofitting Work Sequence of Activities



Typical valve



Typical valve & label



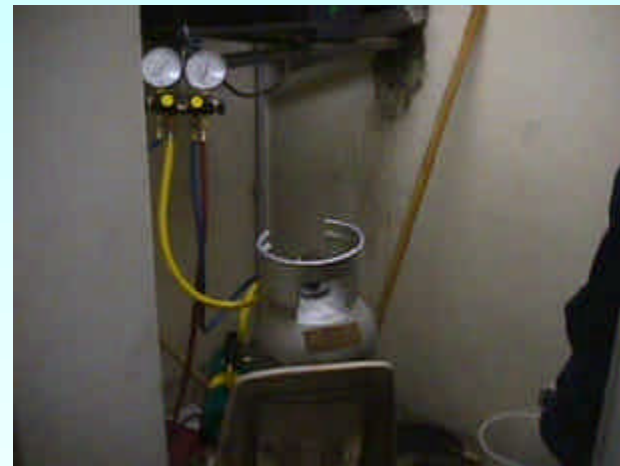
# USAREUR Facilities Class I ODC Elimination Program



## Retrofitting Work Sequence of Activities



Pump Equipment set up



Pumping ODC to cylinder

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# USAREUR Facilities Class I ODC Elimination Program



## Retrofitting Work Sequence of Activities



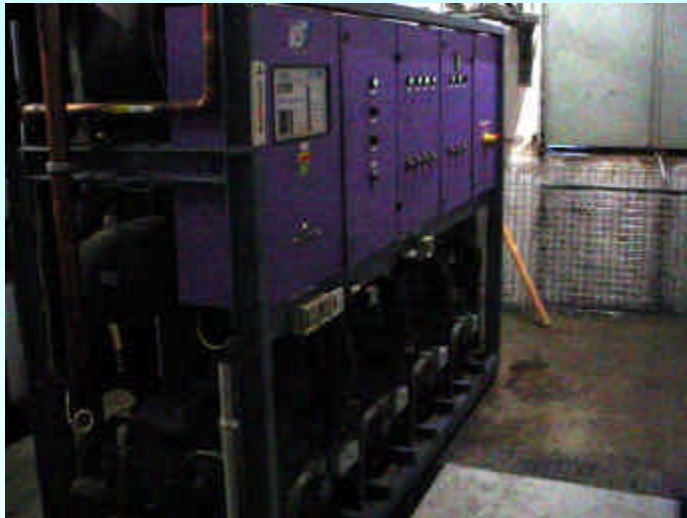
Refill unit w/new refrigerant

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# USAREUR Facilities Class I ODC Elimination Program



## Typical Equipment



Centralized cooling facility



Cooling Room

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