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# Y-12 National Security Complex Subsurface Investigation Program Summary

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This document has been reviewed by a y-12 ADC/UCNI RO and  
Has been determined to be UNCLASSIFIED and contains no  
UCNI. This review does not constitute clearance for Public  
Release.

*August 2011*

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Date: 07/25/2011



# Y-12's Program Summary

## Procedures and Automated Website

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- **Y-12 has two procedures for excavation and penetration work**
  - **Plant procedure: Safe Conduct of Excavation/Penetration**
    - How to evaluate if a permit is needed
    - How to do the excavation/penetration safely
  - **Engineering Procedure: Initiation, Review, Issue, and Termination of Excavation/Penetration**
    - Requirements and responsibilities of each Engineering group for each phase of the permit

# Y-12's Program Summary

## Procedures and Automated Website (Continued)

- **Y-12 has an Automated Excavation/Penetration Permit Website**
  - Allows anyone with access to the Y-12 internal website to request a permit for excavation or penetration
  - Validates charge number
  - Allows electronic drawings or sketches to be uploaded by requester, engineering reviewers and the Utility Surveyors
  - Area reserved for comments for use by:
    - Requester description
    - Discipline reviewer
      - Utility check off area
    - Utility Surveyor
    - Permit Coordinator

# Y-12's Program Summary

## Phases

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- **Phases**
  - **Permit Request**
  - **Permit Coordinator Review**
  - **Engineering Disciplines Review**
    - Civil
    - Structural
    - Electrical
    - Mechanical
    - Fire Protection
  - **Utility Surveyors Review and Utility Scans**
  - **Permit Coordinator Final Review**
  - **Requester Review and Approvals**
  - **Section Manager/Responsible Field Engineer ??what does he do??**
  - **Requester Closeout**

# Y-12's Program Summary

## Requester

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- **Submits the permit request**
  - **Defines type of permit, location and special requirements**
  - **Attaches a drawing or sketch detailing the work area with dimensions for the area highlighted**
  - **Provides a details of the work to be done**
    - Depth of excavation or penetrations
    - Anchor size and type for penetrations
  - **Ensures the work area is marked in the field to match the submitted drawings for the permit**

# Y-12's Program Summary

## Permit Coordinator Review

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- **Evaluates the request**
  - Ensures the attachments are appropriate
- **Contacts the requester to verify the site is marked prior to scheduling an initial walk down**
- **Schedules the initial walk down with the requester**
- **Writes a field report**
  - Who to contact
  - How the field was marked
  - Any visual utilities
  - Personnel Protective Equipment requirements

# Y-12's Program Summary

## Permit Coordinator Review (Continued)

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- **Submit the permit request to the be reviewed by proper engineering disciplines, using the automated website.**
  - Is this work for a project?
  - Is this maintenance work?
  - What building is the work in?
- **Schedule the utility surveyors for the utility survey**

# Y-12's Program Summary

## Engineering Discipline Review

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- **Reviews Permit (Assignment notification via automatic email)**
- **Reviews permit request**
  - Reviews the requesters attachments
- **Reviews historical information**
  - Prepare electronic maps of pertinent information
- **Reviews electronic base maps**
- **Performs field walks down each of the work area**
  - Prepares walk down report

# Y-12's Program Summary

## Engineering Discipline Review (Continued)

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- **Utility checks boxes for each utility will be checked yes or unknown for each utility that they are responsible for reviewing**
- **Uploads all supporting documents, maps, sketches or drawings**
- **Makes any necessary comments**
- **Marks complete for their discipline (Website authentication controls access and logs user approvals)**

# Y-12's Program Summary

## Utility Surveyors Review and Field Work

- **Reviews permit once disciplines review is completed (notification via automatic email)**
- **Reviews the requesters attachments**
  - Description of the work
  - Reviews the disciplines comments and other attachments
- **Prepares the vehicle for field work**
  - Proper paint for marking utilities
  - Equipment needed for task
    - GPR (Ground Penetrating Radar)
      - GSSI

# Y-12's Program Summary

## Utility Surveyors Review and Field Work (Continued)

- **Radio frequency devices (Cable/Pipe/Fault/marker ball Locator )**
  - Ditch witch 950 receiver with transmitter
  - Ditch witch 830 receiver with transmitter (pipes and cable only)
  - 3M Dynatel 2250/2273 Series Other equipment needed
- **Other equipment used**
  - PS20 rebar locator
  - PS200 rebar locator
  - GPR (ground penetrating radar)
  - Metal fish tape
  - Manhole pullers
  - String line
  - Colored Pin flags/Colored survey chasers
  - Measuring tape
  - Rebar locator
  - Metal locator
  - Aervoe paint

# Y-12's Program Summary

## Utility Surveyors Review and Field Work (Continued)

- **Access the work area**
- **Visually reviews the area**
  - **Compares the discipline sketches to the field located features**
    - Fire hydrants
    - Valves
    - Manholes
    - Pipe supports
    - Utility Poles
- **Uses equipment to properly locate and mark each of the utilities within the work area.**
  - Makes field notes
  - Makes field sketches
  - Notifies the permit coordinator if a utility was located in the field but not shown on discipline attachments
  - Notifies engineering disciplines and/or plant utilities if a utility cannot be located in the field

# Y-12's Program Summary

## Utility Surveyors Review and Field Work (Continued)

- **Returns to the office**
- **Reviews field information**
- **Prepares a field report addressing**
  - Utilities of concern
    - Overhead utility
- **Finishes a field drawing or sketch**
  - Document utility and utility features
  - Hydrant, valves, manholes, etc.
- **Opens the web site**
  - Attaches Field report
  - attaches Field sketch or drawing
  - Marks scan completed and submits information

# Y-12's Program Summary

## Permit Coordinator Final Review

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- **Reviews the final permit prior to release from Engineering**
  - Reviews the discipline attachments
  - Reviews the utility surveyors information for accuracy and compares to the discipline attachments
- **Contacts the disciplines if there are any discrepancies found so they may update their electronic utility base maps**
- **Document any comments concerning field information if needed**
- **Have entire permit packaged reviewed for Classification**
- **Check off complete and released permit from Engineering (automated email will be send to requester)**

# Y-12's Program Summary Requester

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- **Accesses the website through automated email link**
- **Prints all attachments and form**
- **Obtains reviews and signatures from the following**
  - Mechanical Supervisor
  - Electrical Supervisor
  - Radcon
- **Reviews the entire permit contents with the Section Manager/Responsible Field Engineer and obtains his signature**

# Y-12's Program Summary

## Section Manager/Responsible Field Engineer

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- **Reviews Permit**
  - with field personnel
  - against the utility markings
    - Contacts the permit coordinator if discrepancies are found.
- **Ensures work starts within 60 days of the release date from Engineering**
  - If work has not started within 60 days the permit coordinator shall be notified and asked to update the permit
- **Ensures utility markings remain clear and visible prior to start of work**
  - If markings are not clearly visible due to weather and time laps prior to start of work contact the permit coordinator to schedule remarking

# Y-12's Program Summary

## Section Manager/Responsible Field Engineer (Continued)

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- **Contacts the City of Oak Ridge if work is located near the city's waterline**
- **Contacts Tennessee One Call**
  - Documents ticket numbers and dates

# Y-12's Program Summary

## Section Manager/Responsible Field Engineer (Continued)

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- **Start work**
- **Documents the excavation/penetration start date**
- **Documents any unexpected discoveries during construction**
  - Unknowns utilities discovered
    - Contacts permit coordinator
  - Obstructions
- **After commencement of work documents the excavation/penetration completion date**
  - Sign the permit
- **Returns the permit to the requester for closeout**

# Y-12's Program Summary

## Requester Closeout

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- **Permit Closeout**
- **Logs into the permit website**
  - Enters the closeout section
  - Selects the appropriate permit
    - Enters page 2 the permit
    - Completes all the information obtained during construction to match the field hard copy of the permit
    - Checks off that permit is complete
- **Submits closeout of permit**
- **Automated email is sent to Permit Coordinator**