Best Practice for Requesting Excavation/ Penetration Permits, Data Management and Client Relations

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Introduction

This best practice covers the automated web-based permitting system that allows excavation/penetration permits to be requested, and the data to be stored and trackable throughout the life of the permit. Web-based permitting allows access from anywhere throughout the Y-12 complex giving flexibility to the requester for printing the original permit for field use. The data base created with the web-base permitting system is available to access historical information for new requests.

Why this process was developed

This system provides a formal location for storage of the electronic data collected during the permit process. Prior to the automated web-base permitting system hard copies were used. There would be a hard copy of each of the permits submitted was provided to the engineering disciplines and one original hard copy permit by the coordinator. The engineering disciplines would review the copies of the permit and the permit coordinator would hand carry the original permit after three business days to each of the engineering discipline for them to sign off. This caused permits to get lost and made it difficult to schedule the utility tracing. This method was very time consuming for the permit coordinator and others (Secretaries, group leaders, etc...)

The initial walk down became an important tool to the disciplines providing information about the permit site. This eliminated areas not being marked prior to the engineering disciplines walk down. The initial walk down would also make sure each of the reviewers was looking at the same area. The person doing the initial walk down would review each of the site/areas for the requested permit. The initial walk down would number the sites/areas and provide a sketch with the site numbers reflected. The sketch and walk down write-up would be submitted to the disciplines as the initial walk down report.

There are several benefits to having this process available

- The system can be accessed anywhere throughout the Y-12 complex with the use of a computer.
- The cost object is checked at time of the permit request to ensure it is valid (automated)
- The requester can track the permit process through a search query
- The process cuts down on valuable time with initial walk downs ensuring the areas are marked in the field according to the requesters drawing. (areas are cleared and ready for the utility tracing.

- The system encourages Y-12 complex wide communication
- Organizations outside Engineering, i.e. Environmental Compliance have been added to the automated distribution in order to facilitate an Environmental Review of the proposed excavation activity
- Electronic signatures are used
- Reaction to issues in the field for an unearthed object or utility. The system enables the permit coordinator to contact the corresponding person(s). This allows quick response time with minimum field hold ups.
- Each permit's attachments are saved to the data base which can be accessed through the search query. The search query has several options to use when doing the search (cost object, requester's UID, permit request number, permit number, plant block grid, building numbers, etc...).
- Requesting a scope change revision is just a matter of having a new drawing provided by the requester and placing the permit back into the disciplines queue for review. The process at that point is the same but the review time would be minimal due to the fact the same persons would be reviewing the revision to the permit that did the original permit.

There were a few problems
- The automated permit process, when first developed, did not provide a permit request number. This was added to aide in tracking the permit request throughout the permit process.
- The Requester needs to understand the reason for the marked drawing matching the areas laid out in the field.
- Ensuring no new area had been added to the permit boundaries prior to the utility scanning.
- When the automated permit process was first adapted at the complex UCNI permits were not allowed to be attached. These permits would still be submitted on the web but the disciplines would need to pick up the requesters drawings at the permit coordinators office. If the disciplines had attachments that were UCNI they would also need to bring those to the permit coordinators office.

How the success of the automated permitting system was measured
Use of a comparison metric for one year after the transition to the web-base system was kept to document the improvement in days required to complete the permitting process and release the permit to the requester. This was performed by using a spread sheet that was created prior to the web-base system and then compared with the data collected using automated system.

Description of the Process
The automated permit system is used as a vehicle to formally document and store information from all phases of the excavation/penetration permit work effort. The system lends itself to be available to anyone at the Y-12 complex with access to a computer, user id and cost object for the work effort. The user is able to request, track and explore historical information for a future excavation/penetration. When the requester submits a

permit request it is assigned an ID number. This number allows the requester to track their permit at anytime using a search query.

When a requester is ready to request a permit he/she will access the automated permit web site. They will be prompted for their UID and password. Requesters can upload design drawings with a brief description of the work to be done. This triggers an automatic email to the permit coordinator and to the environmental group contact (only if it is excavation permit).

The permit coordinator then contacts the requester to ensure the area(s) are properly marked for excavation/penetrations and it matches the uploaded drawing and detail of the work described on the permit request. Once this is confirmed the permit coordinator will schedule an initial walk down. This is to review the drawings and the marked area and if needed to give further direction to the discipline reviewers and utility tracers (how the area is marked, what PPE is to be worn, if there is any special training needed to access area, etc…). Once the initial walk down is complete an initial walk down report is written and submitted on the permit request.

Environmental Compliance will review the area for any environmental concerns and issues. This is accomplished with support from a web based Geographic's GIS application. When the review is completed, they respond directly to the requester with a drawing showing concerns (i.e. contamination areas) and direction when needed. This activity satisfies recently implemented Land Use Controls as prescribed in Federal Facility Agreements between NNSA, DOE-EM, the US Environmental Protection Agency and the Tennessee Department of Environment and Conservation.

Within the complex we have several engineering discipline groups corresponding with the different classification of facilities and/or projects. These engineering groups are considered the SME (subject matter expert) for that facility or project covering their particular discipline (Electrical Engineering, Mechanical Engineering, Fire Protection Engineering, Structural engineering, and Civil Engineering). Once the permit coordinator selects the correct engineering discipline group for the review the permit request is then submitted as a permit.

When the permit request is submitted to the disciplines it is assigned a permit number. The permit number corresponds with the year (FY9, FY10, etc…) and will be followed by a number that is assigned in chronicle order throughout that year. (FY10-01E, FY10-02P, etc...) The last part of the permit number represents the type of permit (E represents excavation and P represents penetration. See figure one.
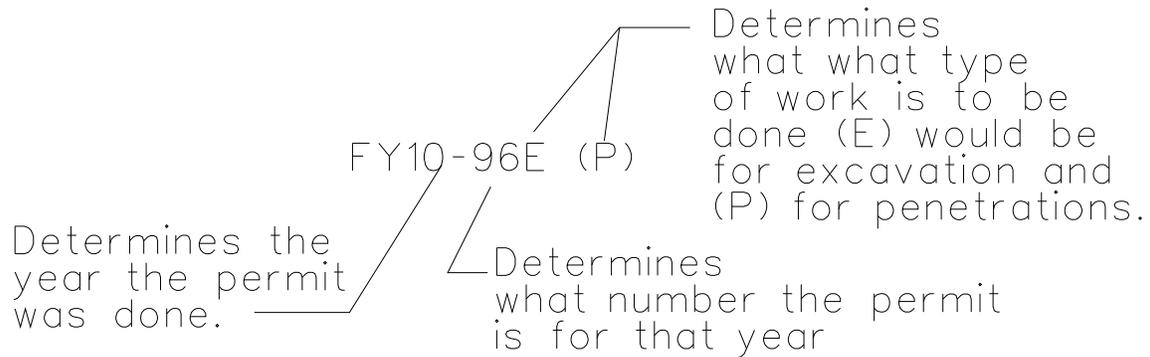
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                                              ┌─── Determines
                                              │    what what type
                                              │    of work is to be
                                        ┌─────┘    done (E) would be
                     FY10-96E (P)       │          for excavation and
                                 ╱      │          (P) for penetrations.
Determines the      ╱          │
year the permit    ╱           └─Determines
was done. ────────┘              what number the permit
                                 is for that year
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Figure One

When the permit request is submitted to its permit form it will send an automated email to each of the engineering disciplines giving them a link to the permit they are assigned. The engineering disciplines are allowed a three business day review period by default. When each of the engineering disciplines access the web site they are required to login. This allows the system to verify who is accessing the permit and meets the qualification of electronic signature. The system allows the engineering discipline users to upload field walk down reports along with drawings and any puritan information needed to do the utility tracing and possibly any concerns they might have to pass to the person/persons doing the excavation/penetrations.

The permit coordinator will then schedule the utility tracing and assign the person(s) best qualified for the permitted area (beryllium area, beryllium buffer area, MAA, Rad area, training etc…). The scheduling is done for the utility tracing through Microsoft Outlook as a meeting notice. The requester and utility tracer will be on the meeting notice. This will allow the requester time to set up the utility tracer on the POD (Plan of the Day), contact Radcon and have a lift or ladder available at the time of the utility tracing if needed.

Once each engineering discipline has completed their review they will sign off on the web site. When all engineering disciplines have signed off the web site an automated email will be sent to the permit coordinator and to the utility tracers.

The utility tracers are able to access the web site through a link in their automated email. When the utility tracers access the web site they are also prompted to login. They print the engineering discipline attachments for their use utility tracing effort. They review all attachments prior to performing the field work. The utility tracers will ensure they have the proper equipment needed to locate all utilities that were supplied during the engineering review process. (The utility tracer effort and the equipment used are covered in another "Best Practice" submittal from Idaho National Laboratory). The utility tracers are trained on each of the pieces of equipment they use (The training effort is covered in

a separate "Best Practice" submittal from the Savannah River Site.) Once the utility tracing has been completed the utility tracer will write a field report stating what equipment they used and a description of their utility survey. They will also draw a utility scan sketch showing the utilities traced in the field and their locations. Once these are complete the utility tracer will log into the permit web site and attach their report and sketch electronically. The utility tracer will then sign out of the web site. The utility tracer will then give the original hard copy of the permit with all his/her attachments and the engineering attachments to the permit coordinator. When the utility tracers have signed off an automated email will be sent to the permit coordinator.

The permit coordinator can access the permit web site using the link within the automated email. Upon receipt of the hard copy of the permit, the permit coordinator will do a final review. The permit coordinator will compare the disciplines reviews with the utility tracer's field report and field sketch to ensure all utilities have been located and documented. If there is any question or concerns the permit coordinator can send the permit back to the either the disciplines or scanners queue. Once all issues of concern are addressed the permit coordinator will sign off on the permit. This will release the permit from engineering and an automated email will be sent to the requester that engineering is complete. The requestor's email will also provide direction for printing out their permit and a link to the web site.

The requester will then take the hard copy of excavation/penetration permit to the Y-12 complex utility owners or (if a penetration) the facility utility owners. This gives each of these groups and opportunity to review all the engineering attachment and reports. They will make comments and ensure all known utilities have been addressed. This will also provide information to these persons of potential work being done around their systems. Each of these persons are required to sign off on the permit. Also, Radcon is contacted and required to review and sign off on the permit.

When all the excavation/penetrations work on the permit has been complete and the permit has been signed off in the field the original is brought back to the permit coordinator. The coordinator will access the electronic permit on the web and transpose the field information to the electronic permit to document the field process and archive the data. This will complete the permit.

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

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