BWXT Pantex

Non Nuclear Hazard Analysis at Pantex

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Pantex History

- Authorized in February 1942-completed in November 1941

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- 1949 the entire installation (16,000 Acres) sold to Texas Technological College (Texas Tech)

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Pantex Back in Business

AEC Obtains Pantex Land

Texas Technological College of Lubbock officially handed over a portion of the Pantex acreage to the Atomic Energy Commission yesterday during a meeting of representatives from both sides at Pantex. Approximately 8,000 acres were retained by the college to continue its experimental agricultural projects. The entire tract is made up of approximately 17,000 acres.

Acting in the official transaction were Walter W. Stagg, AEC project engineer; Harry Gose, a member of the AEC engineering division at Los Alamos; Chanslor Weymouth, Amarillo cattleman who is chairman of the college board; and Dr. D. M. Wiggins, president of Texas Tech.

The transaction was made yesterday morning at the site of the project. The group then adjourned to the Herring Hotel for lunch and further discussion of the matter.

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Pantex History

- Proctor and Gamble 1st M & O

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- Mason Hanger-Silas Mason Co. M & O 1956-2001

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- Proctor and Gamble 1st M & O
- Mason Hanger-Silas Mason Co. M & O 1956-2001
- BWXT 2001-?

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Pantex History

- Proctor and Gamble 1st M & O
- Mason Hanger-Silas Mason Co. M & O 1956-2001
- BWXT 2001-?
- Pantex is currently involved with retrofitting/repairing weapons, dismantling weapons

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Non Nuclear Safety Analysis

- DOE O 5481.1 et seq

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Non Nuclear Safety Analysis

- DOE O 5481.1 et seq
- DOE O 420.1

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Non Nuclear Safety Analysis

- DOE O 5481.1 et seq
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- DOE O 5481.1 et seq
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Non Nuclear Safety Analysis

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- 10 CFR 851

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Non Nuclear Safety Analysis

- ESM CHECK LIST

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Non Nuclear Safety Analysis

- ESM CHECK LIST
- WHAT-IF CHECKLIST

ESM CHECKLIST

No: 21	**Method:** ESM Checklist	**Type:** Chapter VII /Operating Procedures	**Name:** Operating Procedures	
Item	**Topic**	**Response**	**Safeguard**	**Action Items**
21.14	Are operations prohibited from being performed with a superseded, inactive, or unapproved procedure? Reference section 2.5.a	Yes, operations are not performed without up to date procedures	STD-XXXX-AC	
21.15	Are files of active procedures maintained? Reference Section 2.5.b	Yes, procedures are in the plant document control system.	STD-XXXX-AC	
21.16	Has an audit system been established that will evaluate routinely the adequacy, availability, and currency of procedures: Reference Section 2.6.a	Yes	STD-XXXX-AC	

No: 22	**Method:** Checklist	**Name:** Materials and Flow Sheet		
Item	**Topic**	**Response**	**Safeguard**	**Action Items**
22.83	What is the potential for external fire?	High, this is the intended process in the trays and chambers. High, to areas within burning ground (i.e. grass fires)	Firebreaks – EC Procedures –AC Training – AC Process Design -EC	
22.84	How much experience do the facility and company have with the process? If limited, is there substantial industry experience?	Diesel, from 1952, some 47 years Gas since 1997	Procedures – AC Training - AC	
22.85	Is the company a member of industry groups that share experience with particular chemicals or processes?	Share with laboratories as a board member of the safety committee	DOE-Manual M440.1 - AC	

Current Operations

Added information to the checklist approach

- Similar to 3009

Current Operations

Added information to the checklist approach

- Similar to 3009
- Process flow

Current Operations

Added information to the checklist approach

- Similar to 3009
- Process flow
- Hazards Analysis Table

Current Operations

Added information to the checklist approach

- Similar to 3009
- Process flow
- Hazards Analysis Table
- Control Effectiveness Table

Current Operations

Added information to the checklist approach

- Similar to 3009
- Process flow
- Hazards Analysis Table
- Control Effectiveness Table
- Engineered/Administrative Control Table

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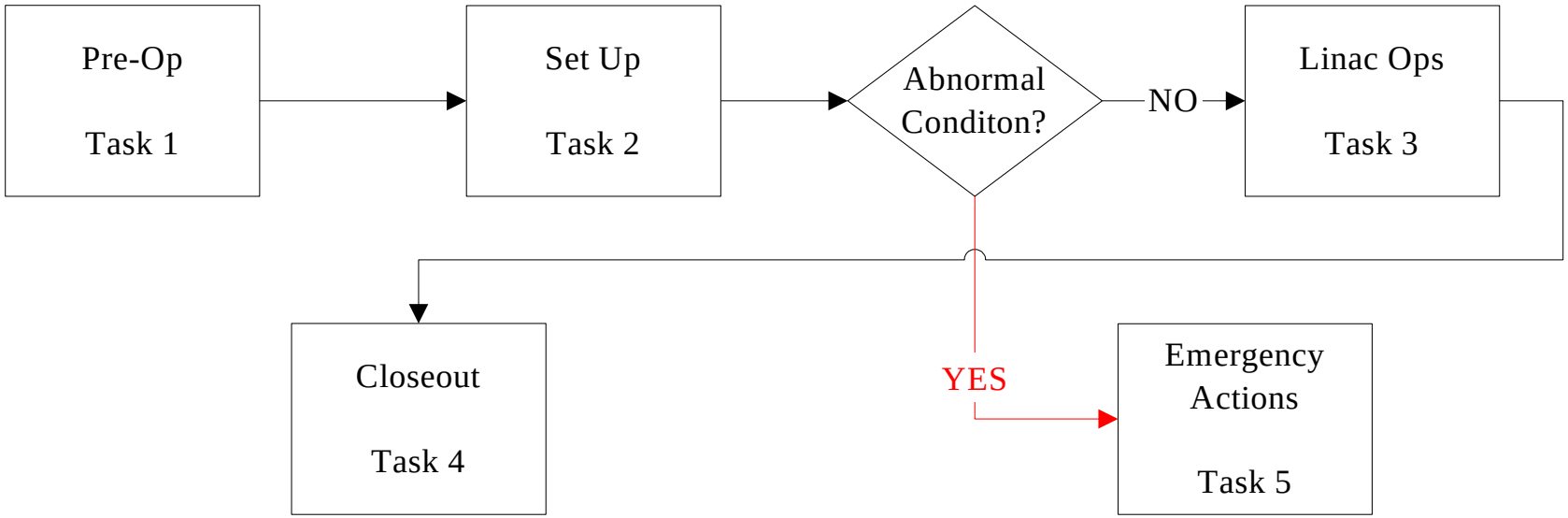
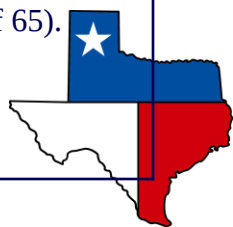
Simplified Process Flow



Item	Event	Potential consequences	Operational Safety Controls	Discussion
		GENERAL		
G-1	An electrical insult caused by radiography equipment electrical part contacting an explosive component during the radiography process results in an explosive response.	Personnel Serious Injury/Fatality Significant Equipment/Facility Damage	**Prevention** Procedures Qualification **Mitigation** Facility Structure	Procedures: Procedures (Ref. 10) prevents the event by use of the move right system that assures the facility is can receive the amount of explosives being shipped, and the receiver knows and approves the explosive shipment. Reference 11 prevents the event by specifying the quantities of HE. Qualification: NDE Personnel prevent the event through training and qualification/certification to perform neutron radiography on explosive components and qualified to handle explosive components. Facility Structure: The Facility was originally constructed as a radiography facility for explosive components.

Table 3-2 Control Effectiveness Table				
Engineered Controls				
Facility Structure	Fires in the facility Facility overpressure Fragment penetration Spalling Missiles	General deterioration of building Lack of preventive maintenance or maintenance Lack of skilled inspectors during construction of building Lack of routine scheduled preventive maintenance Inadequate / improper materials used in construction or repair Inadequate design Unauthorized repair Range Fires, Electrical fires Internal blast, external blast, tornado, straight line winds	Routine scheduled preventative maintenance Scheduled Condition Assessment Surveys (CAS) Facility construction and materials used in construction Changes to facility under change control Facility design / construction requirements Training Hazards and Controls Evaluation (HCE) Process Procedures	CAS performed on a scheduled interval to assure the structural integrity of the building (Ref. 65 & 66). Craft personnel provide the facility condition assessments described in both the site maintenance plan (Ref. 66) and the Ten Year Comprehensive Site Plan (Ref. 67). Ongoing training for both craft personnel and facility occupants is important to the long-term success of the maintenance program (Ref 65).



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Section	Operational Safety Control	Process Task (Ch 3 Table 3-1)
4.2.1.1	Facility Structure	General G-1, G-2, G-3, G-4, G-5, G-6, G-10 Radiography Task 1- 1.1, Task 2 – 2.0, 2.1 Task 3 – 3.0, 3.1 Task 5 –5.0 Task 6 – 6.0 Natural Phenomena N-1, N-2, N-4, N-5 External Events E-2, E-3, E-5
4.2.1.2	Lightning Protection System	General Events G-6 Natural Phenomena N-2

Summary Remember When?

Plutonium Fires

Massive plutonium metal is not easily ignited in air. However, finely divided plutonium is pyrophoric, and adequate precautions should be taken to see that it will not ignite combustible material in the dry boxes.

Cuts to Personnel

Because of the possibility for contaminating wounds, special precautions are necessary to prevent them. All sharp edges and corners should be eliminated.

Explosions

The rubber glove dry boxes are totally enclosed steel cases with glass or lucite windows. An explosion in a dry box besides spreading contamination is very apt to injure personnel by flying lucite or glass. It is planned that no solvents except CCl_4 will be in the boxes at any time.

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Summary

QUESTIONS???????