

Project Established

Project Manager Assigned

PM Develops **Mission Statement**
(e.g. Bldg #105B to be removed)

PM determines
if D&D project requires
NFPA Arc Flash

PM consults with **SME's Discipline's**
- Shares mission statement
- Conducts Walk down tour
- Develops initial Project Scope

YES **SME Reports
AIR GAP(s)
REQUIRED** NO

PM & Chief Engineer
or Eng. Manager
Assign project to
Discipline Specific
Engineer

ENGINEER
(Author of Work Instruction)

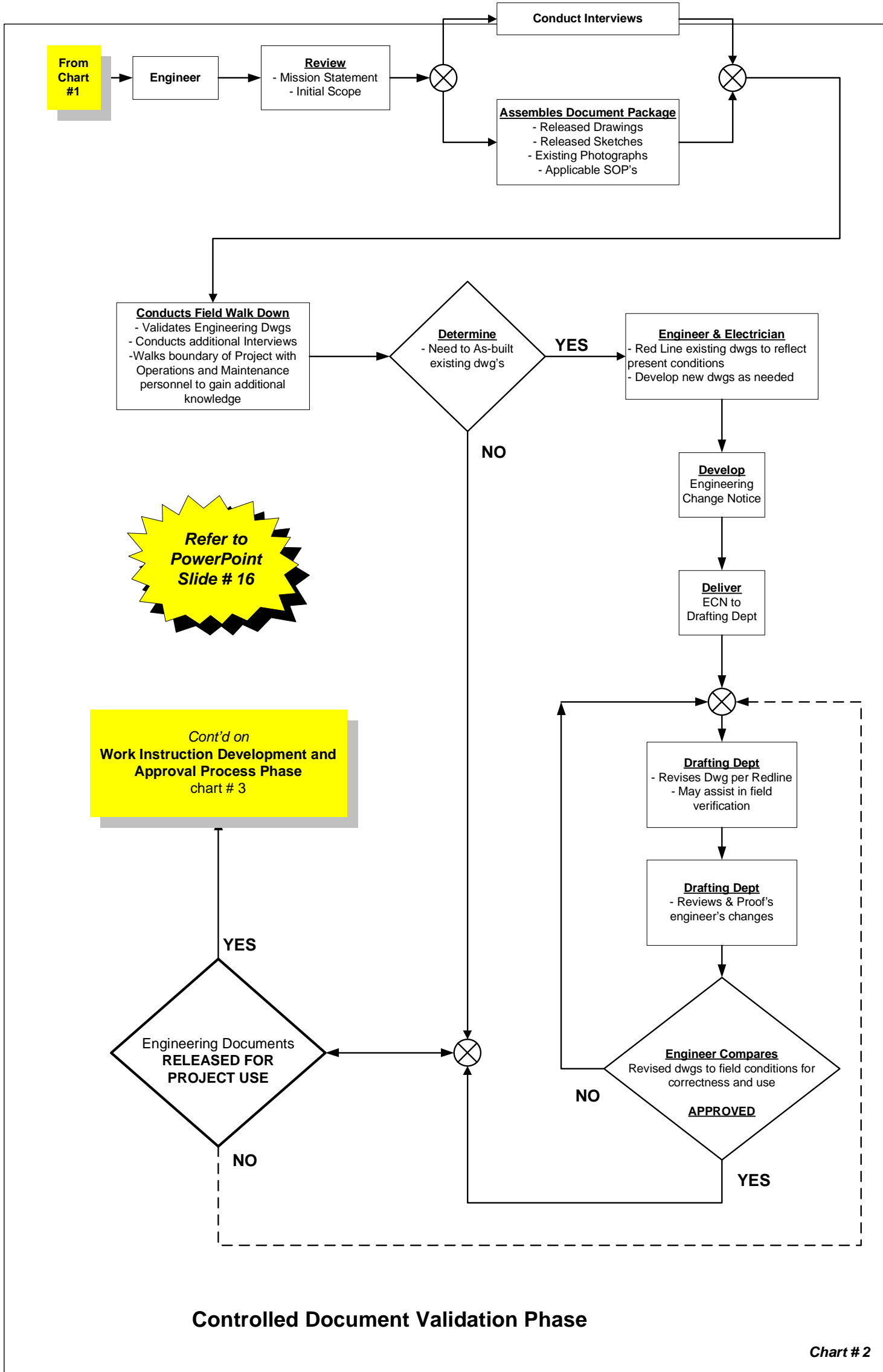
Non-Electrical Project
No Further Action Required

**Cont'd on
Chart #2**

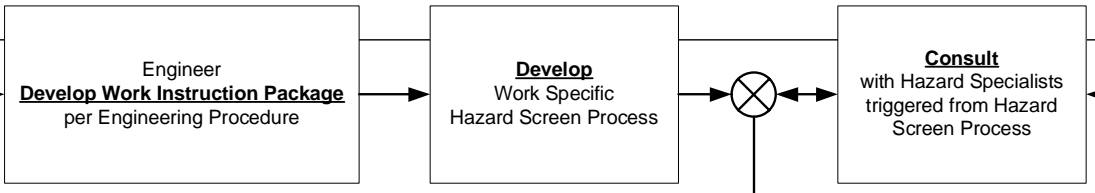
**Refer to
PowerPoint
Slide # 16**

MANAGEMENT & ASSESSMENT PHASE

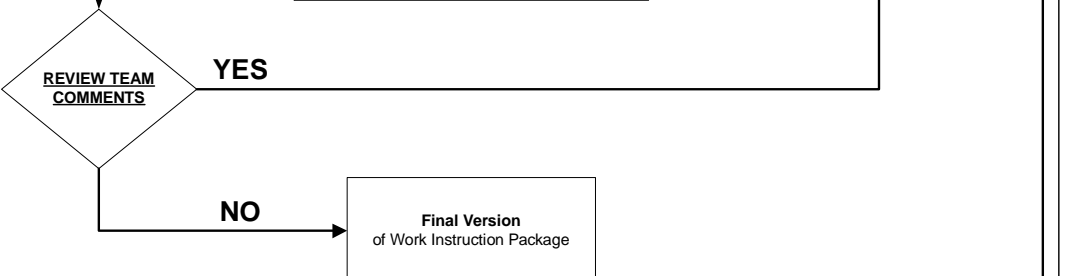
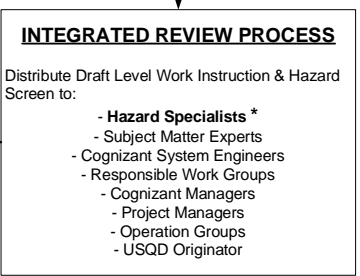
Chart #1



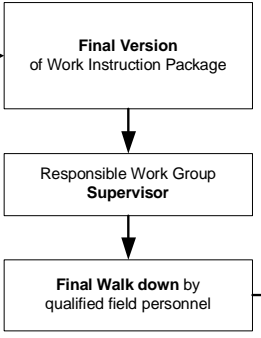
Cont'd from Chart # 2



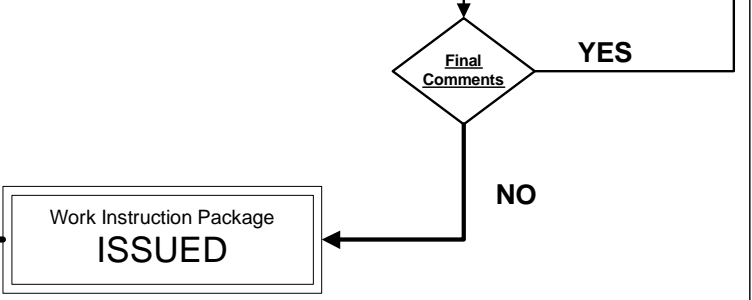
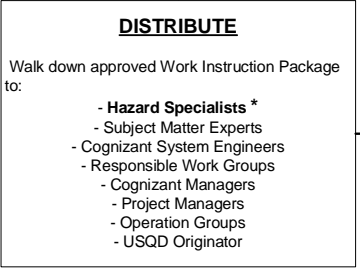
- Hazard Specialists ***
- Safety Engineer
 - Environmental Affairs
 - Emergency Management
 - Facility Manager's
 - Fire Protection Engineer
 - Radiation Protection
 - Operations Supervisor
 - USQD Originator
 - Waste Management



Refer to PowerPoint Slides # 17 & 18



Cont'd on Pre-job Preparation's Chart # 4



**Cont'd from
Chart # 3**

Work Instruction Package
ISSUED

WORK GROUP SUPERVISOR (WGS)
- Receives package
- Log's package
- Assign's & schedules work to appropriate field personnel (usually assigned to "walk down" Crew)

Work Group Supervisor
... is **FORMAL** pre-job briefing required ?

NO

YES

Work Group Supervisor
- Conducts informal pre-job briefing and scope review with electricians only. No other parties affected.

Work Group Supervisor
- Formal PreJob Brief form issued
- Schedules Pre-Job Brief with parties involved with project, including originating engineer



WGS - REVIEWS
- Review Scope
- Review Precautions
- Review Limitations
- Review Permit (s) Requirements
- Review Schedule
- Review training qualifications
- Review Hazards
- Review required PPE
- Review Impact of Work

Coordinate Source Shut Down with Client

QUALIFIED ELECTRICIANS
- Files Proper LOTO Forms
- Don PPE
- Secure authorization to begin
- Performs Steps in Work Instruction Package

Cont'd on
Lock, Tag & Confirm
Chart # 5

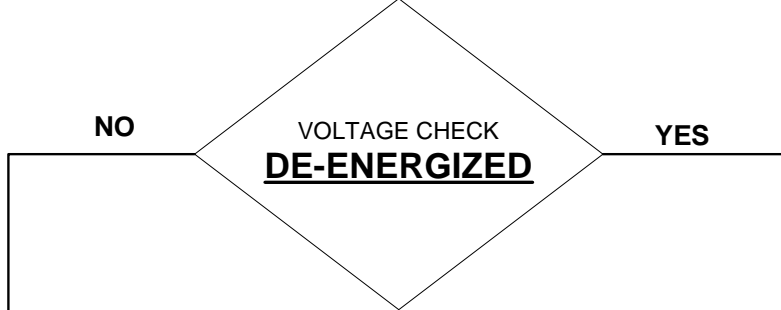
**Refer to
PowerPoint
Slide # 18**

**Refer to
PowerPoint
Slide # 18**

**Cont'd from
Chart # 4**

Perform LOCK, TAG & CONFIRM per Procedure
- Circuit check to prove source control
- Donned in NFPA 70E PPE
- LOTO Installed
- Performs steps in Work Instruction Package

ACCESS SOURCE LOCATION
- Open Panel Board
- Open Motor Control Center



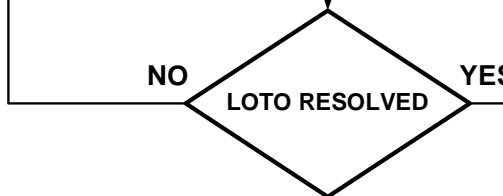
STOP THE JOB !
- Notify the Work Group Supervisor

WGS NOTIFIES Engineer
to evaluate and resolve

WGS, Engineer and
Electrician troubleshoot per
site procedures & resources

RESOURCES
- Operation Personnel
- Electrical Documents:

1-Liners
Panel Schedules
Wiring Schematics
Control Wiring Diagrams
Job Cards



**LOTO
CONFIRMED**

Cont'd on
Cold & Dark / AIR GAP
Chart # 6

**Refer to
PowerPoint
Slides # 18
& 19**

**Cont'd from
Chart # 5**

**LOTO CONFIRMED
SOURCE DE-ENERGIZED**

QUALIFIED ELECTRICIANS

Following instruction steps in Work Package:

1. Checks for zero volts **AGAIN**
2. Disconnects cable/wire from source
3. Physically marks the Air-Gap "Cut Point" locations along the conduit run:
 - at the source enclosure
 - at the field equipment location
 - where subject conduit penetrates walls/floor/ceiling
4. Calls for **Independent Verification** of cut point MARKS

INDEPENDENT VERIFIER

Following instruction steps in Work Package:

1. "**RETRACES STEPS**" from Work Instruction.
2. "**RE-WALKS**" conduit run for correct mark locations.
3. **SIGN'S OFF** Work Instruction as correctly marked.

CRITICAL STEP

Qualified Electrician - following instruction steps in Work Package -

1. **Still Donned** in 70E PPE
2. **Uses** Double Insulated or Battery Powered Sawsall
3. **Makes** a 12" to 24" Cut in conduit/cable
4. **Installs** Wrap-Around Labels to both sides of "Air-Gapped" system

NOTE

LABELS: Burgundy Color with Large White Arrow
White Arrow:

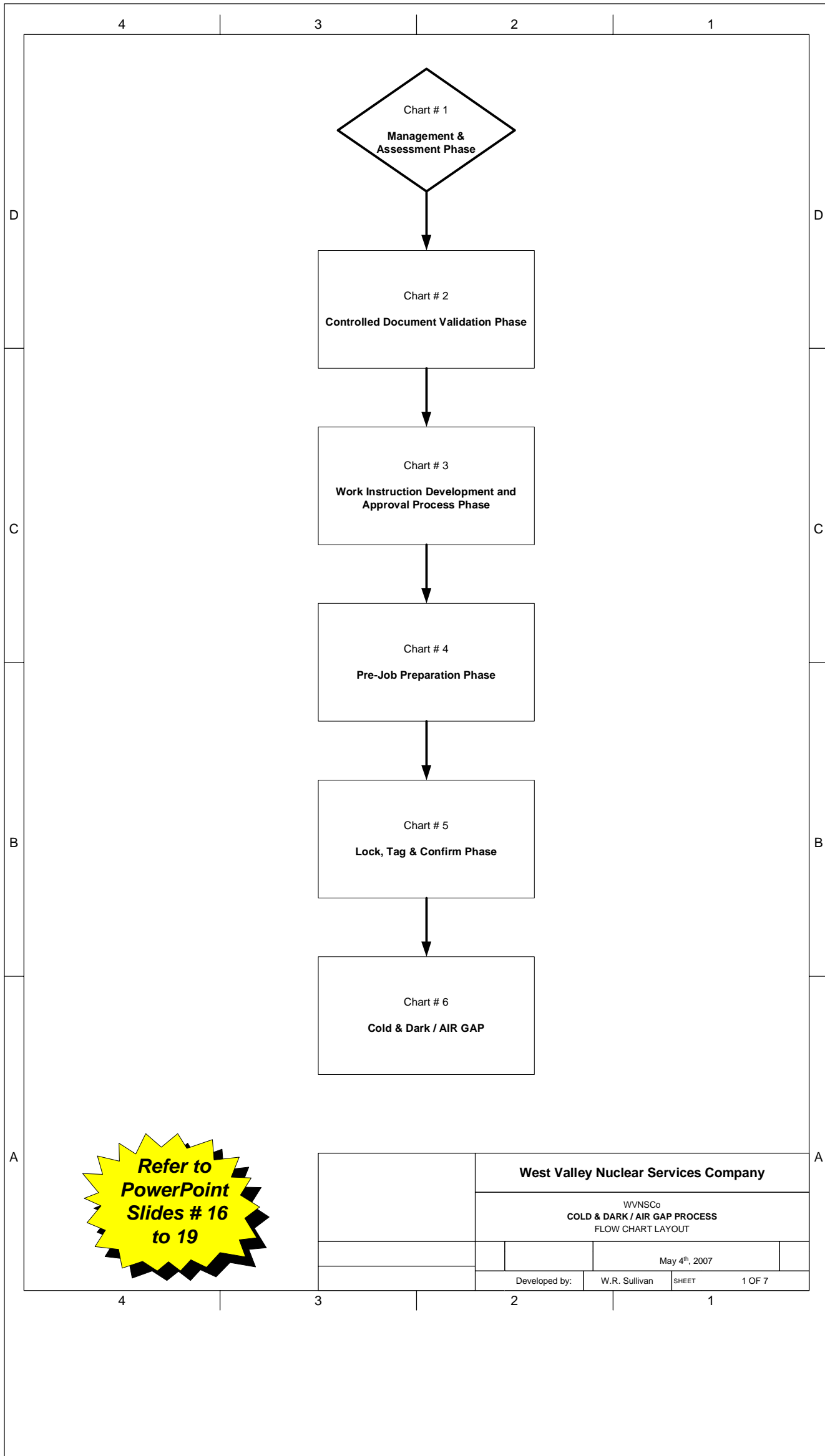
1. White area used for writing Work Instruction number as record.
2. Arrow points in the direction of "Approved Dismantlement"

**FINAL Walk Down by Safety, WGS, Engineer to
verify isolation and
"COLD & DARK / AIR GAP COMPLETE"**

**Turn Over to
D & D**

COLD & DARK AIR GAP

Chart # 6



**Refer to
PowerPoint
Slides # 16
to 19**

				West Valley Nuclear Services Company			
				WVNSCo COLD & DARK / AIR GAP PROCESS FLOW CHART LAYOUT			
				May 4 th , 2007			
		Developed by:		W.R. Sullivan		SHEET	1 OF 7