

## APPENDIX G: EXAMPLE FORMS

The following example forms and permits were reproduced from AIChE-CCPS, *Guidelines for Process Safety Documentation*, 1995:

- Hot-work permit, Figure 18-1, p. 305;
- Lockout of power-driven equipment safety permit, Figure 18-3, pp. 308-309;
- Pipeline breaking safety permit, Figure 18-4, pp.312-313;
- Incident/Accident investigation form, Figure 15-1, pp.260-263;
- Notification of process change checklist, Figure 10-1, p.184; and
- Change authorization form, Figure 10-1, p.185.

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The final documents are examples of prestartup review checklists. The first example is a three page checklist for startup following a change, a maintenance shutdown, or construction of new or modified unit. It is most suitable for larger stationary sources with established departmental standards. The second example is a simplified prestartup review checklist.

## HOT WORK PERMIT

REQUIRED FOR WELDING, CUTTING, BURNING OR OTHER HOT WORK  
IN ANY LOCATION OTHER THAN ESTABLISHED SHOPS.  
THIS PERMIT TO BE ISSUED ONLY AFTER WORK SITE HAS BEEN INSPECTED.  
THIS PERMIT IS SUSPENDED IN THE EVENT OF PLANT ALERT OR EVACUATION.

DATE \_\_\_\_\_ FROM A.M. TO A.M. WORK AREA \_\_\_\_\_  
P.M. P.M.

JOB DESCRIPTION \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### SITE PREPARATION

- Equipment Preparation  
Steamed  Washed  Purged with \_\_\_\_\_
- Has equipment been checked for linings, deposits, or pockets  
that could be flammable, corrosive, or toxic?  Yes  No
- Explosimeter check performed?  
If yes:  
Time area was checked \_\_\_\_\_  
Name of person who made check \_\_\_\_\_
- Have hazards of nearby areas been checked?  
Other Floor Levels  Yes  No  
Neighboring Bldgs  Yes  No  
Sewers  Yes  No  
Other Equipment  Yes  No  
Radiation  Yes  No  
Welding Machines  Yes  No  
Properly Grounded

### SAFETY EQUIPMENT

- Protective equipment needed  
Fire Protection  Clothing  Ventilation   
Respirator  Ear  Other \_\_\_\_\_

### WORK PROCEDURES

- Will an operating representative or fire watch be present?  Yes  No
- Is a Vessel Entry Permit required?  Yes  No
- Special Procedures \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ADDITIONAL SPACE ON BACK

SIGNATURE OF PERSON \_\_\_\_\_  
AUTHORIZING PERMIT

DEPARTMENT OR GROUP \_\_\_\_\_  
ASSIGNED JOB

SIGNATURE OF EMPLOYEES \_\_\_\_\_  
ASSIGNED TO JOB

Space for additional signatures  
on back

SAFETY  
STANDARD \_\_\_\_\_

FIGURE 18-1. Example Hot-Work Permit

**LOCKOUT OF POWER-DRIVEN EQUIPMENT SAFETY PERMIT**

This permit covers locking out of electrically driven equipment prior to maintenance work. It also should apply when equipment is being inspected, providing inspection requires disassembly or removal of guards, etc. The permit must be filled out and posted at the work site before the work begins. Employees performing the work should report unusual conditions not covered by this permit to their supervisor immediately. On completion of work, sign and leave permit at work site. Owner returns permit to the Safety Department.

**BUILDING OWNER'S RESPONSIBILITIES**

- |  |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|
|  | Yes                      | No                       | N/A                      |
| 1. Equipment and processing are at a point where power can be cut off safety.        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|  | Yes                      | No                       | N/A                      |
| 2. Turned starter box switch off and attached multiple lockout bar and building lock | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|  | Yes                      | No                       | N/A                      |
| 3. Electrician pulled fuses.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|  | Yes                      | No                       | N/A                      |
| 4. Tried to operate switch to insure main switch is locked out                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**LOCATION**

Bldg. # and Equipment to be locked out \_\_\_\_\_

Bldg. Foreman's Signature \_\_\_\_\_

Date & Time \_\_\_\_\_

If any Items checked NO, please explain \_\_\_\_\_

**COMPLETION OF JOB**

BLDG. OWNER: Check that all equipment guards are in place and secure.

- |                   |                          |                          |                          |
|-------------------|--------------------------|--------------------------|--------------------------|
|                   | Yes                      | No                       | N/A                      |
| Remove Bldg. Lock | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

\_\_\_\_\_  
 SIGNATURE

\_\_\_\_\_  
 DATE & TIME

**CRAFTSMAN(S) RESPONSIBILITIES**

- |  |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|
|  | Yes                      | No                       | N/A                      |
| 1. Talked to Bldg. Foreman/Lead Operator to discuss job. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

	Yes	No	N/A
2. Placed a lockout tag on main breaker.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Placed own lock on main starter box switch or checked that fuse was pulled.

	Yes	No	N/A
Craftsman 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Yes	No	N/A
Craftsman 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Yes	No	N/A
Craftsman 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Yes	No	N/A
Craftsman 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Tried to operate the control switch to ensure main switch is out.

	Yes	No	N/A
Craftsman 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Yes	No	N/A
Craftsman 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Yes	No	N/A
Craftsman 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Yes	No	N/A
Craftsman 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature of Craftsmen

Date & Time

1.		
2.		
3.		
4.		

ON COMPLETION OF WORK - CRAFTSMAN

	Yes	No	N/A
Replace guards on equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No	N/A
Remove lock and tag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\_\_\_\_\_  
Signature of Last Craftsman

\_\_\_\_\_  
Date & Time

FIGURE 18-3. Example Lockout Permit

## PIPELINE BREAKING SAFETY PERMIT

This permit covers Process, Hazardous, and Flammable lines. The permit must be filled out and posted at the work site before the work begins. Employees performing the work covered by this permit will wear proper personal protective equipment for the job and know the location of exits, fire extinguishers, safety showers, and eye wash fountains in the area. Employees performing the work should also report unusual conditions not covered by this permit to their immediate supervisor. On completion of work, maintenance personnel must sign permit and leave at work site. Owner returns permit to the Safety Department.

### BUILDING OWNER'S RESPONSIBILITIES

- |   | Yes                      | No                       | N/A                      |
|---|--------------------------|--------------------------|--------------------------|
| 1. Lines have been drained and vented.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Lines have been flushed and cleaned.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Identify last contents _____   | Yes                      | No                       | N/A                      |
| 4. All valves and pumps have been positively locked out. (Danger Tag attached.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Check gauges, sight glasses, etc. to verify that lines are empty.            | Yes                      | No                       | N/A                      |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Flammable vapor check.   | Yes                      | No                       | N/A                      |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Area around work site needs to be roped off.                                 | Yes                      | No                       | N/A                      |
|   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Explain it any item is checked NO \_\_\_\_\_  
 \_\_\_\_\_

8. \_\_\_\_\_  
 Location & Pipelines to be broken (include Building No.)

### 9. PROTECTIVE EQUIPMENT REQUIRED

- |   |   |
|---|---|
| <input type="checkbox"/> Acid Suit                | <input type="checkbox"/> Safety Glasses |
| <input type="checkbox"/> Acid Hood                | <input type="checkbox"/> Face Shield    |
| <input type="checkbox"/> Rubber or Plastic Gloves | <input type="checkbox"/> Airpack        |
| <input type="checkbox"/> Safety Goggles           | <input type="checkbox"/> Air Line Hood  |
| Other (Specify) _____                             |   |

_____	_____	_____
Date	Time	Bldg. Foreman

**CRAFTSMEN RESPONSIBILITIES**

1. Obtained permission to work on line from Building Representative.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
2. Piping traced out and verified as being in sale condition. Insured pumps and valves are positively locked out or otherwise secured.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
3. Secured area by roping off or setting up barricades.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
4. Back-up man present.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
5. Know the location of safety showers, eye wash, and fire extinguisher.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
6. I will wear the protective equipment listed in Step 9 on the other side.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
7. Explain it any item is checked NO _____			

_____	_____	_____
Date	Time	Craftsman Signature

**COMPLETION OF JOB**

Bldg. Foreman		Craftsman	
	Yes    No	Yes    No	
1. Job has been checked for completion.	<input type="checkbox"/> <input type="checkbox"/>	1. Work completed.	<input type="checkbox"/> <input type="checkbox"/>
	Yes    No		Yes    No
2. Lockout can be removed.	<input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/>

_____	_____	_____	_____
Date	Time	Date	Time
_____		_____	
Signature of Bldg. Foreman		Signature of Craftsman	

**FIGURE 18-4.** Example Pipeline Breaking Permit

**Incident/Accident Investigation**

Name	Last	First	Initial	Incident Date	Date Reported	Division Code
Site	Plant		Incident Location		Incident Time	
Job Title	Supervisor		Occupational	<input type="checkbox"/>	Undetermined	<input type="checkbox"/>
			Non-occupational	<input type="checkbox"/>	Precautionary	<input type="checkbox"/>

How did incident occur?	Classification:
	<input type="checkbox"/> 1. First Aid
	<input type="checkbox"/> 2. Medical
	<input type="checkbox"/> 3. Restricted Duty
	<input type="checkbox"/> 4. Days Away
	From Work
	<input type="checkbox"/> 5. Near Miss
	<input type="checkbox"/> 6. Fire
	<input type="checkbox"/> 7. Contractor
	Complete Reverse Side.
	<input type="checkbox"/> 8. Overexposure
	<input type="checkbox"/> 9. Illness
	<input type="checkbox"/> 10. Spill
	<input type="checkbox"/> 11. Release
	<input type="checkbox"/> 12. Property Loss
	<input type="checkbox"/> 13. Permit Excursion
	<input type="checkbox"/> 14. off-Site
	<input type="checkbox"/> 15. Other

Chemical or substance involved:	Exposure above I.H. Limit Value:
---------------------------------	----------------------------------

Amount discharged to air:	CERCLA or SARA reportable quantity exceeded?
---------------------------	--

Amount discharged to land:	Agencies notified:
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Amount discharged to sewer:	Disposition of material:
-----------------------------	--------------------------

Describe injury/property loss:

\_\_\_\_\_

Estimated cost of property loss:	Estimated remedial cost:
----------------------------------	--------------------------

Why did it happen?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Immediate corrective action(s):

\_\_\_\_\_

Corrective action(s) to prevent recurrence:	Responsibility	Target Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____



Investigator/Employee	Date	Supervisor	Date
Safety & Loss Prevention	Date	Department Head	Date
Ecology	Date	Plant/Site Manager	Date

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FIGURE 15-1. Typical Accident/Incident Investigation Form (Sheet 1 of 2)  
Target Date

**Instructions**

Complete all sections on the front page. The Accident/Incident Investigation Report is not complete until the appropriate signatures are obtained. Copies of all injury and illness investigations, except first aids, must be sent to Corporate Safety and Loss Prevention and environmental incident investigation.

This investigation, is "open" until corrective action has been completed. The following, is for the purpose of maintaining computerized Statistics. Complete each block A" through "V" using the appropriate code number assigned for each entry from the data below. When applicable complete the below, section for number of restricted days and/or number of restricted days and/or number of days away from work.

Industrial Injuries Code

A.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Employee Soc. Sec. No.					
B.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	SIC Code										
C.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Division	M.	<input type="text"/>	<input type="text"/>	Time in that job						
D.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Site	N.	<input type="text"/>	<input type="text"/>	Accident type						
E.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Plant	O.	<input type="text"/>	<input type="text"/>	Accident agency						
F.	<input type="text"/>	<input type="text"/>	Age	P.	<input type="text"/>	<input type="text"/>	Nature of								
G.	<input type="text"/>	<input type="text"/>	Sex	Q.	<input type="text"/>	<input type="text"/>	Body part affected								
H.	<input type="text"/>	<input type="text"/>	Hours Worked	R.	<input type="text"/>	<input type="text"/>	Primary cause								
I.	<input type="text"/>	<input type="text"/>	Overtime	S.	<input type="text"/>	<input type="text"/>	Contrib. cause								
J.	<input type="text"/>	<input type="text"/>	Employee Status	T.	<input type="text"/>	<input type="text"/>	Contrib. cause								
K.	<input type="text"/>	<input type="text"/>	Occupation	U.	<input type="text"/>	<input type="text"/>	Contrib. cause								
L.	<input type="text"/>	<input type="text"/>	Time Employed	V.	<input type="text"/>	<input type="text"/>	Unsafe act condition								

Number of restricted days: \_\_\_\_\_ Final   
 Est.   
 Number of days away from work: \_\_\_\_\_ Final   
 Est.

- A. Employee Social Security Number
- B. SIC code
- C. Division
- D. Site            Site Code
- E. Plant           Plant Code
- F. Age  
Age in years at time of incident
- G. Sex  
M-Male    F-Female
- H. Hours worked before incident  
01-1    04-4    07-7    10-10    13- > 12  
02-2    05-5    08-8    11-11  
03-3    06-6    09-9    12.12
- I. Overtime  
Y-Yes    N-No
- J. Employee status  
1-Reg full time                    3-Temporary  
2-Reg part time                    4-Non-employee



- K. Occupation
- 1-Warehouse, shipping & receiving
  - 2-Production/utilities worker
  - 3-Maintenance/construction worker
  - 4-Plant services, janitors, guards
  - 5-Vehicle driver
  - 6-Foreman/Supervisor
  - 7-Lab-OC, R&D & pilot plant
  - 8-Sales, marketing, technical services
  - 9 Administrative, clerical
- L. Time employed. years
- 01-less than 1      04-10-20
  - 02-1 to 5          05->20
  - 03-5 to 10
- M. Time in that job years
- 01-less than 1      04-10 to 20
  - 02-1 to 5          05.>20
  - 03-5 to 10
- N. Accident type
- 01-Fall from elevation
  - 02-Fall. same level
  - 03-Slip or trip without tall
  - 04-Struck against object
  - 05-Struck by object
  - 06.Caught in, under, between
  - 07.Overexertion, strain
  - 08-Public or contracted transportation
  - 09-Motor vehicle (employee's or company's)
  - 10-Drowning, buried
  - 11-Explosion, implosion
  - Contact by:
  - 12 -Chemicals
  - 13-Electricity
  - 14-Temperature extremes
  - 15-Noise
  - 16-Radiation
  - 17-other physical agents
  - 18.Animal, insect, plant
  - 88-other
- O. Accident agency/involved equipment
- 01-Fired vessels-boiler, incin., etc.
  - 02-Reaetors, columns, vessels. etc. >15 psig
  - 03-Proeess eqpt. tanks, bins <15 psig
  - 04-Gas or liquid handling (into)
  - 05-Solids handling (into)
  - 06-Mechanical power transmission-gears. couplings, belts, pulleys
  - 07-Portable eqpt. machinery
  - 08-Hoists, cranes, etc.
- 09-Over-the-road automobiles, and trucks, incl. tank trucks
- 10-Industnal trucks, forklifts, end loaders, tractors, bicycles
- 11-Railroad rolling stock, incl. tank cars
- 12-Piping, hoses, valves and fittings
- 13-Containers-drums, boxes, pails. cylinders etc.
- 14-Ladders, scaffold
- 15-Floors, working/walking surfaces
- 16-Tods-hand (wrenches, etc.)
- 17-Knives, scissors
- 18-Tools-powered (elec., air, etc.)
- 19-Electrical distrib. sys/apparatus
- 20-Office equipment
- 21-Laboratory equipment
- 22-Fabrication, assembly or machine shop equipment
- 23-Chemieals
- 24-Hot liquids/gas
- 88-Other
- 99-Unknown
- P. Nature of injury/illness
- 01-Amputation, avulsion
  - 02-Fracture. dislocate crush
  - 03-Cut, scrape. Puncture, sting bite
  - 04-Bruise, contusion
  - 05-Irritation
  - 06-Hernia, rupture
  - 07-Sprain, strain
  - 08-Burn-chemical
  - 09-Burn-thermal or electrical
  - 10-Heat stress, exhaustion. sunstroke
  - 11-Suffocate, drown. asphyxiate (lack of oxygen)
  - 12-Concussion, unconscious
  - 13-Poisoning-acute
  - 14 -Other
  - 21-Skin disease or disorder
  - 22-Dust disease of the lung
  - 23-Respiratory-toxie agents
  - 24-Poisoning-chronic
  - 25-Physical agents-radiation etc.
  - 26-Repeated trauma-noise etc.
  - 29-Other illness, heart cont., etc.
  - 00-No injury
- Q. Body part affected
- 10-Head
  - 11-Eyes
  - 12-Ear(s)
  - 13-Face
  - 14-Neck
  - 30-Upper Extremeties
  - 31-Upper arm

- |                         |                      |
|-------------------------|----------------------|
| 32-Elbow                | 21.Shoulder          |
| 33-Forearm              | 22-Chest             |
| 34-Wrist                | 23-Back, spine       |
| 35-Hand                 | 24-Abdomen, groin    |
| 36-Finger(s)            | 25-Hip               |
| 50-Body Systems         | 40-Lower Extremities |
| 51-Circulatory          | 41-Thigh             |
| 52-Respiratory          | 42-Knee              |
| 53-Neurological         | 43-Shin, calf        |
| 54-Reproductive         | 44-Ankle             |
| 00-No body part injured | 45-Foot              |
| 20 Trunk, Torso         | 46-Toe(s)            |

R-U. Causal factors (primary and contributory causes)

Supervision

- 10-Incorrect/incomplete procedures, instructions
- 11-Rules, procedures, work methods not enforced
- 12-inadequate training of employee(s)
- 13-Proper tools, equipment not provided
- 14-Deficient storage/material handling practices
- 15-Inadequate housekeeping, area inspections
- 16.Too much rush on job by supervisor

Employee

- 20-Physical limitation
- 21.Deficient in skill or ability
- 22-Influence of drugs or alcohol
- 23-Lack of alertness
- 30-Failure to follow written procedures or rule
- 31-Confined space entry procedure
- 32-Hot work procedure
- 33-Line breaking procedure
- 34-Lockout/tagout procedure
- 35-Maintenance, adjustment or cleaning on moving/pressurized equipment/line
- 40-Failure to follow oral instructions
- 50-Failure to use personal protective equipment
- 51-Operating without authority
- 52-Taking an unsafe Position
- 53.Unsafe speed, haste, short cut
- 54-Improper use of tool, equipment, material
- 55-Use of incorrect tool/equipment/material
- 56-Improper manual material handling

Equipment

- 60-Defective equipment, tool material
- 61-Inadequate or missing guards
- 62-inadequate or bypassed safety devices
- 63-Inadequate maintenance equipment inspections
- 64-Inadequate lighting
- 65-Inadequate ventilation
- 66-Inadequate design/layout (congestion)
- 67-Inadequate fabrication/installation

Environment

- 70-Horseplay/distraction by fellow employee
- 71-Error by fellow employee
- 72-Unsafe eqpl./mat'l's./actions of 3rd party
- 73-Upset conditions-tire/explosion/spill, etc.
- 74-Exposure to chem /phys/biological agents
- 75-Weather-rain, snow, ice, wind, etc
- 99-No other causes

V. Unsafe act/condition

1-Unsafe act      2-Unsafe condition

FIGURE 15-1. Typical Accident/Incident Investigation Form (Sheet 2 of 2)

## Notification of Process Change Checklist

### Information about the Change:

Originator \_\_\_\_\_ Date of Origination \_\_\_\_\_  
 Proposed Date of Change \_\_\_\_\_ Area \_\_\_\_\_  
Permanent Temporary From \_\_\_\_\_ To \_\_\_\_\_  
 Description and Location of Change (Scope) \_\_\_\_\_  
 Technical Basis for Change \_\_\_\_\_

### Nature of the Change:

Change affects: Safety Loss Prevention Environment Health

Type of Change: Alarm Shutdown Point Addition or Removal of Equipment  
Piping Modification Chemical Process Computer Control  
Job Procedure Instrument Equipment/Material Modification  
Other \_\_\_\_\_

### Premodification Checklists:

Applicable	NA	Initials	
<input type="checkbox"/>	<input type="checkbox"/>	_____	Consult piping and equipment specifications.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Perform reactive chemicals testing. <input type="checkbox"/> In process?
<input type="checkbox"/>	<input type="checkbox"/>	_____	Add involved materials to Toxic Substance Control Act (TSCA) inventory.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Calculate impact on F&EI and CEI.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Comply with Engineering Practices.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Comply with Technology Center guidelines.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Comply with Dow Environmental Protection Guideline for Operations.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Comply with Safety and Loss Prevention requirements.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Consult Maintenance (name)_____.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Consult instrument and electrical technician (name)_____.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Consult parts technician (name)_____.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Evaluate and modify relief system (name)_____.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Consult Industrial Hygiene (name)_____.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Consult Process Engineering (name)_____.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Complete required reviews (name reviews)_____.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Other_____.

### Postmodification Checklist (Before Startup).

Applicable	N/A	Initials	
<input type="checkbox"/>	<input type="checkbox"/>	_____	Performed prestartup audit.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Completed or updated training program.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Wrote and obtained approval for job procedures.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Updated P&IDs process flow sheets and plot plans.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Trained personnel on the change.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Updated critical instrument checklist.
<input type="checkbox"/>	<input type="checkbox"/>	_____	Changed computer code and documentation.

### Approvals:

	Name	Date
Originator	_____	_____
First Reviewer	_____	_____
Department Head/Superintendent	_____	_____

**FIGURE 10-1.** Change Authorization Form-Example 2

**Change Authorization Form**

**Initiation:**(to be completed by originator)

Originator: \_\_\_\_\_ Date: \_\_\_\_\_

Description of Project: (attach sketch, P&ID, etc.) \_\_\_\_\_

\_\_\_\_\_

Process fluid: \_\_\_\_\_ Operating press: \_\_\_\_\_ Temp: \_\_\_\_\_

**Approval:** (to be submitted by field supervisor)

Ticket No.: \_\_\_\_\_

1. Operations assistant \_\_\_\_\_ Date \_\_\_\_\_  
2. Maintenance assistant \_\_\_\_\_ Date \_\_\_\_\_  
3. Technical team leader \_\_\_\_\_ Date \_\_\_\_\_

cc: TSTL for files TSO assigned \_\_\_\_\_

**Process Review:** (to be completed by TSO) TSO \_\_\_\_\_ Date \_\_\_\_\_

- Construction package completed
- Process impacts
- Scope defined (attach marked-up or revised P&IDS)
- Product quality impacts
- P&ID review (interdisciplinary)

**Mechanical Review:** (to be completed by PST/MEG/I/E as needed)

PST \_\_\_\_\_ MEG \_\_\_\_\_ I/E \_\_\_\_\_ Date \_\_\_\_\_

- MEG requirements
- Painting/insulation \_\_\_\_\_
- Materials of construction
- Relief protection review
- I/E requirements
- Special inspection required
- Pipe spec: \_\_\_\_\_
- Gasket material: \_\_\_\_\_
- Testing requirements:
  - Hydrostatic test pressure: \_\_\_\_\_ (hold at least 10 min)
- In-service test
- Visual
- Radiography
- MAWP

**Construction:** (to be completed by field supervisor and inspector)

- Construction drawings prepared
- Equipment folder updated
- P&IDs updated
- On-lines updated
- Car seal list updated
- Loop diagrams/folders updated
- RV list updated
- Fugitive emissions list updated
- Spare parts stocked
- Painting/insulation
- Steam tracing installed/pist updated
- Appropriate bleeds/vents/drains
- Blind list updated
- SOME review
- Operating procedures
- HAZCOM updated
- Construction/testing complete and per design

Field supervisor \_\_\_\_\_ Date \_\_\_\_\_

Inspector \_\_\_\_\_ Date \_\_\_\_\_

Forward completed form to technical support team leader.

**FIGURE 10-1.** Change Authorization Form-Example 1



PRESTART-UP REVIEW CHECKLIST – PAGE 1

MOC Number \_\_\_\_\_  
Action Date \_\_\_\_\_  
Date Completed \_\_\_\_\_  
Person Responsible \_\_\_\_\_

You have been assigned a Prestart-up Review (PSR).  
This checklist is a guide to ensure that all CalARP requirements are met

PROJECT/EQUIPMENT DESCRIPTION \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

A PSR is required for new facilities and for modified facilities for which the modification necessitates a change in the Process Safety Information. This review must be completed prior to the start-up of all new, modified or relocated equipment, machinery, plant, or facilities.

1. \_\_\_\_\_ Prestart-up Review for Maintenance Shutdown. This must be completed prior to every initial start-up after a scheduled maintenance shutdown of a facility (Complete page 3 checklist)
2. \_\_\_\_\_ Prestart-up Review for New or Modified Facilities. Used for new installations or major process unit changes (Complete page 2 checklist)
3. \_\_\_\_\_ MOC generated Prestart-up Review. Used for most jobs of a typical nature handled using the MOC form. (Complete the following checklist)

Initial each one upon completion

- a. \_\_\_\_\_ Construction and equipment are in accordance with design specifications (built as designed).
- b. \_\_\_\_\_ All reviews required prior to start-up of the change have been completed as defined by Management of Change.
- c. \_\_\_\_\_ The Prestart-up Review has been performed by employee(s) with expertise in process operations and engineering, based upon their experience and understanding of the process system being evaluated.

Reviewers Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

PRESTART-UP REVIEW FOR NEW OR MODIFIED FACILITIES – PAGE 2

Plant \_\_\_\_\_  
MOC No. \_\_\_\_\_  
Description of change: \_\_\_\_\_

The PSR Team Leader (assigned by the MOC Section 2 Reviewer) convenes a meeting of a PSR Team prior to start up of the stationary sources covered by this MOC-PSSR. The Team Leader chooses team members based on their understanding of the MOC (use the list below as a memory jogger). This team conducts a walkthrough if there is altered or additional equipment. The team verifies the MOC review-is complete and confirms the change is ready to start up. The team generates a list of incomplete items identifying item owner and timetable for completion. Representatives acknowledge below their organization's work is complete (except as noted on the list below), that current QA programs were followed and that records will be retained for audit purposes. See Section 5.0 for other team member responsibilities.

Operating Unit Rep:	_____	Date:	_____
Maintenance Rep:	_____	Date:	_____
Project Engineering Rep:	_____	Date:	_____
Process Engineering Rep:	_____	Date:	_____
Integ. Mach. Inspect. Rep:	_____	Date:	_____
Environmental and Safety Rep):	_____	Date:	_____
Certified Boiler Inspector:	_____	Date:	_____
Electrical Inspector:	_____	Date:	_____
Utilities Rep:	_____	Date:	_____
Fire Dept. Rep:	_____	Date:	_____
_____	_____	Date:	_____
_____	_____	Date:	_____

Incomplete items showing owner and timetable for completion (attach additional pages as necessary):

- 1.
- 2.
- 3.

I recommend this facility be placed in operation:  
PSR Team Leader: \_\_\_\_\_  
Date: \_\_\_\_\_

Approved for operation:  
Operating Division Manager: \_\_\_\_\_  
(or designate)  
Date: \_\_\_\_\_

PRESTART-UP REVIEW FOR MAINTENANCE SHUTDOWN – PAGE 3

Facilities \_\_\_\_\_

MOC Nos. \_\_\_\_\_

(Attach MOC log if necessary.)

The PSSR Team Leader (assigned by the Operating Division Manager) convenes a meeting of a PSSR Review Team prior to start up of the facilities covered by this PSSR. The Team Leader chooses team members based on their understanding of the work done during this shutdown. This team conducts a walkthrough, unless they judge it to be unnecessary. The team confirms the MOC process has captured all the changes made during this shutdown. All MOCs have been cleared for start-up and the facility is ready to start up. The team generates a list of incomplete items identifying item owner and timetable for completion. Representatives acknowledge (below) their organization's work is complete (except as noted on the list below), that current QA programs were followed and that records will be retained for audit purposes. See Section 5.0 for other team member responsibilities.

Operating Unit Rep: \_\_\_\_\_ Date: \_\_\_\_\_

- Determines all MOCs associated with this facility area approved for start-up.

Maintenance Shutdown Supervisor \_\_\_\_\_ Date: \_\_\_\_\_

- Certifies that all planned and unplanned work required for start-up is complete, except as noted on the list below.
- Verifies that existing quality assurance programs (e.g., Positive Material Identification, Metal Craft Quality Assurance, VOC valves, loop checks) were followed.
- Puts maintenance checklists and records in files for audit purposes.

OTHER PSR REVIEW TEAM MEMBERS(include organization and name):

Examples of other organizational groups that may be included for shutdowns where they have significant input: Engineering, Fire Department, Utilities, Environmental and Safety, Integrated Machinery Inspection or Inspectors.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Organization

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name and date

Operating Division Business Manager Responsibilities:

- Verifies that operating procedures are in place for this particular start-up
- Verifies that affected operating personnel are trained for this particular start-up
- Confirms start-up checklists (i.e., initialed start-up/prestart-up sections of Operating Procedures, and referenced checklists such as blind lists) will be completed and put in files for audit purposes.

Incomplete items showing owner and timetable for completion (attach additional pages as necessary):

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

I recommend this facility be placed in operation:  
PSR Team Leader: \_\_\_\_\_

Date: \_\_\_\_\_

Approved for operation:  
Operating Division Manager: \_\_\_\_\_  
(or designate)

Date: \_\_\_\_\_

### Prestart-up Review Checklist

This checklist is required for all new stationary sources or modified stationary sources when the modification is significant enough to require a change in the process safety information. This checklist is necessary to ensure that all Process Safety Management and CalARP regulatory requirements are met. The prestart-up review (PSR) must be completed prior to the start-up of all new, modified or relocated equipment, machinery, plant, or facilities. The PSR coordinator is responsible for ensuring that the checklist is completed and that the checklist and copies of all supporting documentation are provided to the Health, Safety, and Environment Coordinator for filing.

MOC Number: \_\_\_\_\_ (If the checklist is required for a turnaround, enter T/A)  
Date: \_\_\_\_\_  
Department: \_\_\_\_\_  
Unit Area: \_\_\_\_\_  
Project/Equipment Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Initial each upon completion

- a. \_\_\_\_\_ Construction and equipment is in accordance with design specifications
- b. \_\_\_\_\_ Safety, operating, maintenance, and emergency procedures are in place and are adequate
- c. \_\_\_\_\_ For new stationary sources, a PHA has been performed and recommendations resolved
- d. \_\_\_\_\_ For modified stationary sources, the requirements of the management of change (MOC) program have been met (e.g., Process Safety Information is updated accordingly)
- e. \_\_\_\_\_ Training of all applicable operations, maintenance, and contract personnel has been completed
- f. \_\_\_\_\_ A walkthrough of the unit was conducted by employee(s) with expertise in process operations and engineering, ensuring the following:
  - \_\_\_\_\_ Temporary piping, hoses, connections, and utility connections are removed
  - \_\_\_\_\_ Blinds are pulled
  - \_\_\_\_\_ Drains are plugged
  - \_\_\_\_\_ Low points are drained
  - \_\_\_\_\_ PSVs are inspected
  - \_\_\_\_\_ Pressure test

Construction Rep: _____	Date: _____
Engineer Rep: _____	Date: _____
Operations Area Manager Rep: _____	Date: _____
PSR Coordinator _____	Date: _____
_____	Date: _____
_____	Date: _____
_____	Date: _____

Examples of other PSR team members who should sign off on the PSR are Boiler Inspectors, Electrical Inspectors, and Environmental and Safety Representatives.