

# Introduction to Building Procedures with the SOP Toolkit

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## In this workshop we will...

- Share perspectives on what constitutes an effective SOP
- Analyze participants' current SOPs
- Determine how to effectively organize an SOP
- Plan a SOP development process
- Develop SOP prototypes
- Learn about some tools and resources
- Share some SOP creation tips and techniques

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## What is an SOP?

- Here's one definition:

"An accurate, approved document that provides steps for accomplishing a task according to established standards and formats."

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## What is an SOP?

- Accurate:
  - Above all, an SOP is a procedure that works.
  - It achieves the goal specified in its title.
  - All aspects of the procedure have been verified by the appropriate subject matter experts (SME)
  - The SOP has been checked and (whenever possible) tested to ensure it is accurate

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## What is an SOP?

- Approved:
  - The appropriate levels of authority have checked the SOP to ensure it conforms to organizational policy
  - It has been accepted as the approved method of performing the task
  - It has been adopted into the organization's systems

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## What is an SOP?

- A document:
  - Typically an SOP is a paper document, for portability
  - Increasingly SOPs are both paper and electronic documents, which adds functionality AND complexity to its creation and maintenance
  - An SOP is a LIVING document...must be seen as something that can evolve.

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## What is an SOP?

- Standards:
  - SOPs must be written in a consistent, accessible style to ensure they are useable
  - Document structure must be predictable so that information is easy to find and simple to follow
  - Language must be understandable by all personnel (experienced/inexperienced, ESL, techie/non-techie, etc)

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## What is an SOP?

- Formats:
  - All SOPs must look the same
  - All headings must be consistent
  - Formats must be established and documented in style guides.

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## What is the purpose/importance of an SOP?

- Keep personnel safe
- Protect infrastructure investment
- Ensure work is done to a consistent standard
- Ensure work is done according to organization's policies
- A resource for training and updating personnel

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## What is the purpose/importance of an SOP?

- Capture tacit knowledge (experience and knowledge of staff, that is not recorded anywhere)
- Conform to regulatory requirements
- A reference for day to day guidance in performing work

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## Who uses the SOPs and how are they used?

- Many questions about what should be in an SOP and how it will be used depends on who is using it.
- Varies depending on the situation

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## Who uses the SOPs?

- Operations personnel?
- Maintenance personnel?
- Engineering personnel?
- Administrative personnel?
- Outside consultants?
- Some combination of the above?
- Potentially all of the above?

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## How will the SOPs be used?

- On the job site?
- Toolbox meetings?
- Pre-planning procedures?
- Training?
- To prove regulatory compliance?

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## Comments?

What do you think?

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## What types of procedures are considered SOPs?

- Depends on your preferences (sometimes the definition is broad)
- SOPs may include:
  - Safe work practices
  - Routine operating procedures (plant operation)
  - Contingency plans
  - Emergency plans
  - Unplanned maintenance procedures
  - Scheduled pre-maintenance or upgrading procedures

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## What content/format should be in an effective SOP?

- Depends on Who and How
- If the SOP is primarily used by trained, experienced personnel on the job it could be a fairly simple guideline or checklist
- If it is used to train new personnel it must be comprehensive and detailed

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## What content/format should be in an effective SOP?

- Depends on the type of SOP:
  - Safe work practices must focus on detailed safety procedures, PPE, etc
  - Routine procedures may focus primarily on major steps
  - Contingency plans may require several possible scenarios and options for each
  - Emergency procedures must be complete but accessible

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## What content/format should be in an effective SOP?

- Best to focus on the “lowest common denominator”
- It is possible to provide comprehensive detail but incorporate features to simplify for experienced personnel
  - E.g. checklists, etc

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## What content/format should be in an effective SOP?

- Our list...
  - Purpose
  - General Information
  - Locations
  - Hazards and Safety
  - Environmental Impact
  - Equipment and Resources
  - Additional Information
  - Personnel
  - Training
  - Preparation
  - Detailed Procedures
  - Checklist

## What content/format should be in an effective SOP?

- Photographs
- Diagrams
- Flow charts
- Tables
- Colour
- Checklists
- Descriptive title
- Document numbering
- Document type
- Version date
- File name and path
- Page numbers and total pages
- Verification/Validation signoff

## What do you think?

- Let's have group discussions about the topics on the next slide
- Appoint someone in your group to take some notes
- After a few minutes we will get feedback from some or all groups

## In your group...

- Individually do the SOP Assessment
- Compare and discuss the SOPs you currently have
- Based on the information we have been considering, what types of SOPs, content, format, etc would you implement in upgrading or creating new SOPs

## Discussion Group Feedback

- Who will use your SOPs?
- How will they use them?
- What should/should not go into an SOP?
- How should the SOP be organized?

## The SOP Creation Process

- Create an SOP team
- Assess needs
- Design the document
- Create document plan
- Plan the project
- Gather resources
- Assign personnel
- Gather data
- Write
- Verify the content
- Edit
- Phase 1 production
- Draft release
- Usability testing
- Validation
- Final edit
- Production
- Release
- Maintain

## Create an SOP Team

- Need a group of people who can...
  - Create a list of needed SOPs
  - Determine priorities
  - Establish policies
  - Determine what should be included
  - Design the style/format
  - Gather the data
  - Write the content
  - Produce the SOP
  - Provide verification/validation
  - etc

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## Create an SOP Team

- Project Manager
- Project Lead
- Subject Matter Experts (SME)
  - Operations
  - Maintenance
  - Engineering
  - Supervisory
  - Management
- Technical Communicator
- Training Coordinator
- Safety Coordinator
- Clerical
- IT Support



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## Assess needs

- Make a list of existing SOPs
- Evaluate the usefulness of existing SOPs
- Make a list of needed SOPs
- Prioritize SOPs to create or upgrade
- Determine who will use the SOPs and how they will use them
- Determine what should go into the SOPs

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## Design the Document

- Determine whether the SOP will be:
  - A simple set of procedural steps (only used by the person doing the SOP, in the field)
  - A comprehensive description of the procedure (used in training and other situations)
  - A combination (comprehensive SOP with a tear off simple checklist)

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## Design the Document

- Decide on naming and numbering conventions for the SOPs
- Determine how version control will be accomplished (version number, version date, master copy, web-based versions...)

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## Design the Document

- Select the sections that will be included in the document (e.g. locations, background info, personnel, etc)
- Decide whether the SOP will be available in hardcopy only, or if web-based documents will also be created

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## Design the Document

- Decide what the doc will look like (headings, body text fonts, pagination, etc)
- Determine writing style, sentence and paragraph structures
- Design table styles, graphics sizes and file types

## Create a Document Plan

- Details your decisions, goals, limits, etc
- Includes:
  - List and describe the required documents
  - Who will use the documents?
  - What are the deliverables?
  - What resources are available?
  - Defines styles and formats
  - Describes how the process should work



## Document Plan (cont'd)

- What tools will be used (hardware, software, etc)
- Schedule (phases, benchmarks, completion)
- Identifies and defines roles of internal and external personnel
- Defines limitations and procedures if changes are required
- Defines contractual arrangements with contractors and consultants



## Plan the Project

- Set goals, timelines and benchmarks
- Set priorities:
  - Which SOPs do you need first?
  - Which SOPs will be easiest to write?
  - Which SOPs will the regulators want first?
- Assign tasks and roles to team members
- Determine whether outside assistance is needed (if so, find help)

## Gather Resources

- Assemble all existing SOPs, O&M Manuals, temporary procedures, etc
- Identify primary SME for each SOP to be written
- Identify appropriate verifiers and validators for each SOP
- If planned for outside assistance, retain tech writer/editor, consultant, etc
- Confirm management and budgetary support for the project

## Assign the Personnel

- It is critically important that...
  - SMEs are allocated enough time to work on the SOPs
  - The logistics are organized so that the SMEs are not called away from SOP work
  - All relevant management personnel understand and agree with placing a high priority on the SOP project

## Assign the Personnel (cont'd)

- It is critically important that...
  - Every member of the SOP team understands that the project is a priority and has management support
  - Every member of the SOP team is available to assist the personnel working directly on the project
  - Every member of the SOP team attends every team meeting

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## Assign the Personnel (cont'd)

- It is also critically important that...
  - Adequate personnel are assigned to the task of verifying the SOP contents
  - Verifiers are mandated to provide verification within a reasonable time frame
  - An appropriate management person is available to rule on policy questions
  - A management person is available to validate the SOP (sign off the SOP as complete)

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## Gather the Data

- Set up a filing system for raw data
- Find existing documents, diagrams, photos, etc
- Set up and conduct interviews
- Take notes, record audio/video
- Take photos
  - Try to "situate" the reader (location, concept)
  - Visual that helps reader attach information to a real world situation

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## Write

- Use the standard heading structure to organize information
- Write simple, short sentences / short paragraphs
- Write at about a Grade 8 level
- Explain technical terms if they are not commonly used by personnel
- Refer to photos and diagrams

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## Write

- Use active voice:
  - Incorrect: "Passive voice is avoided."
  - Correct: "Avoid passive voice."
- Use present tense:
  - Incorrect: "Good writers will use present tense."
  - Correct: "Good writers use present tense."

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## Write

- Procedures:
  - Number sequential steps (not bullets).
  - One action per procedural step.
  - Use imperative tense (start with a verb).
    - E.g. "Press the start button."
  - Avoid adverbs / Use measureable qualifiers
    - Incorrect: "Close the valve carefully."
    - Correct: "Close the valve, decreasing the flow by 10 gallons per minute."

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## Verify the Content

- Try to get the information right when gathering
- Verify that it is correct after writing a rough draft
- Ideally, verify with the original SME and at least one other SME
  - If there is a difference of opinion check with their supervisor for a policy decision
- Designated SME should initial the doc

## Edit

- Make changes and updates as soon as possible to avoid losing or forgetting
- Sometimes editing is best done by marking up hardcopy
- Read the draft critically...think "How could this be misinterpreted or confused?"
- If in doubt, add more information to clarify.

## Phase 1 Production

- Do any necessary formatting to bring the draft close to what it should look like
- Add photos, diagrams, tables
- Make sure content looks right on the page
- If necessary add a "Draft" watermark
- Print a draft and check it for errors, then re-edit if necessary
- Print the required number of copies

## Draft Release

- You must have a well understood process for personnel to review the SOP
- Distribute copies to designated personnel

## Usability Testing

- If possible, implement a test run of the document, using it to perform the procedure.
- If not possible, have reviewers implement a "virtual" test, stepping through mentally to determine whether the document is useable

## Validation

- Designated validator is a management person with authority to define policy and approve the document as adopted.
- Validator should initial the document

## Final Edit

- Final edit should not change content
- All edits at this stage must be cosmetic only
- “Do no harm”

## Production and Release

- Produce the document:
  - In colour (if colour is being used)
  - On the appropriate paper
- Print and distribute the docs to individuals and documentation stations (control room, training room, etc)

## Maintain the Document

- Encourage and receive change requests and feedback from personnel
- Need a filing system to accumulate change requests
- Make changes periodically
- Keep track of last version number/date
- Record updates and what was changed
- Record status of distribution of hardcopy

## Design and Create an SOP

- In your group, and using a simple example from your own experience, work through the process steps outlined in the previous section
- Focus on:
  - Who will be on your team
  - Determining what resources you have
  - Gathering and organizing the data
  - Writing some procedures
- But keep in mind the other steps and how they affect those four areas

## Design and Create an SOP

- For your particular SOP:
  - **Team: Who should be on the SOP team (roles, expertise, etc)**
  - **Assess:** priority, who will use it, how will it be used, identify general content
  - **Design:** simple/comprehensive, hardcopy/electronic, name/number
  - **Doc Plan:** see handout

## Design and Create an SOP

- For your particular SOP:
  - **Project plan:** How will you develop it
  - **Resources: Take stock**
  - **Personnel:** who should be responsible, writer, SMEs, verifiers, validators
  - **Gather data: get it down in rough form**

## Design and Create an SOP

- For your particular SOP:
  - **Write: get the procedure, etc on paper**
  - Verify: simulate this step
  - Edit: as a group tweak the content
  - Phase 1 production: talk through this
  - Release: who gets the draft

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## Design and Create an SOP

- For your particular SOP:
  - Usability: analyze how usable it is
  - Validation: who validates
  - Final edit: any final changes?
  - Final production and release: distribution, version control
  - Maintain: come up with a plan

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## Discussion Group Feedback

- Report on your planning process
- What decisions did you make and why?
- Read from your draft SOP
- Can you provide other groups with feedback on their decisions?

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## Tools and Resources

- The SOP Toolkit:
  - A selection of tools that will assist you in the process of creating standard operating procedures
  - A list of typical SOPs you will need
  - A SOP development process checklist
  - SOP data gathering questions
  - SOP data gathering forms
  - Miscellaneous other resources

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## Tools and Resources

- Hardware:
  - Computers
  - Monitors
  - Backup drives
  - Printers
  - Cameras
  - Video

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## Tools and Resources

- Software:
  - Word processors
  - Desktop publishing
  - Authoring software
  - Content management
  - Graphics tools

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## Tools and Resources

- Style Guides
- Internet

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## Tools and Resources

- Outside Assistance
  - Technical Communicators
  - Tech writers
  - Consultants
  - Desktop publishers
  - Printers
  - Graphics designers
  - IT/Web support

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## Tips and Techniques

- More on writing/editing:
  - Get Microsoft Manual of Style, Canadian Style Guide, etc
  - Develop a list of imperative verbs
  - Use a well written document as an example
  - Develop a vocabulary list, list of acronyms, etc for reference
  - Use equipment numbers and consistent naming to identify equipment

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## Tips and Techniques

- Set goals
- Find resources
- Dedicate personnel
- Avoid pitfalls
- Get help

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## Tips and Techniques

- Need workspace for:
  - Interviews
  - Writing
  - Meetings
- Need access to plant areas for:
  - Photographs
  - Verifying locations, info, etc

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## Questions and Answers

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